RIX'S CREEK NORTH MODIFICATION 10

SUBMISSIONS REPORT
Bloomfield Collieries Pty Ltd
October 2024

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Document Issue Approval			
Title	RIX'S CREEK NORTH MODIFICATION 10 SUBMISSIONS REPORT		
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1. Introduction

This section provides the background to the proposed Modification and outlines the purpose of this Submissions Report.

1.1 Background

Bloomfield Collieries Pty Ltd (Bloomfield) owns and operates Rix's Creek Mine (RCM) located in the Hunter Valley of New South Wales (NSW). RCM is a coal mining operation located approximately 5 kilometres (km) north of Singleton at its closest point and both east and west of the New England Highway (NEH) (see **Figure 2**).

RCM is the collective name for Rix's Creek North (RCN) (previously Integra Open Cut) and Rix's Creek South (RCS) (the original Rix's Creek Mine).

RCN operates in accordance with Project Approval (MP) 08_0102 granted 26 November 2010 under the *Environmental Planning and Assessment Act 1979* (EP&A Act). MP 08_0102 has been modified on nine occasions to date. Under MP 08_0102 (as modified), the Proponent can conduct open cut mining operations on-site until 31 December 2035.

MP 08_0102 (as modified) facilitates the extraction of approximately 30 Million tonnes (Mt) of Run of Mine (ROM) coal from the 'Camberwell Pit' and the 'Falbrook Pit'. MP 08_0102 also enables the processing of up to 8.7 Mt per annum (Mtpa) of ROM coal from the RCN and the neighbouring Integra Underground Mine (now owned and operated by Glencore) at the RCN Coal Handling and Preparation Plant (CHPP).

Bloomfield is seeking approval to modify MP 08_0102 for an upgrade to the CHPP facilities, additional ROM stockpiles, continued disposal of waste tyres in pit, in pit rock crushing facility and a number of other minor infrastructure changes including a workshop extension, and substation replacement (the Modification).

The Modification Application and supporting 'Rix's Creek North Modification 10' (Modification Report) (James Bailey and Associates, 2024) were submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) for assessment on 21 June 2024. The Modification Report was placed on public exhibition from 24 July to 6 August 2024 (the exhibition period).

During the exhibition period a total of 65 submissions were received, including four from government agencies and 61 from members of the public who were in support of the Modification. On 9 August 2024, DPHI formally requested a written response to issues raised in the submissions, including the matters and recommendations raised in the agency advice.

1.2 Document Purpose and Structure

This Submissions Report responds to matters raised in the regulatory and public submissions received during the exhibition period.

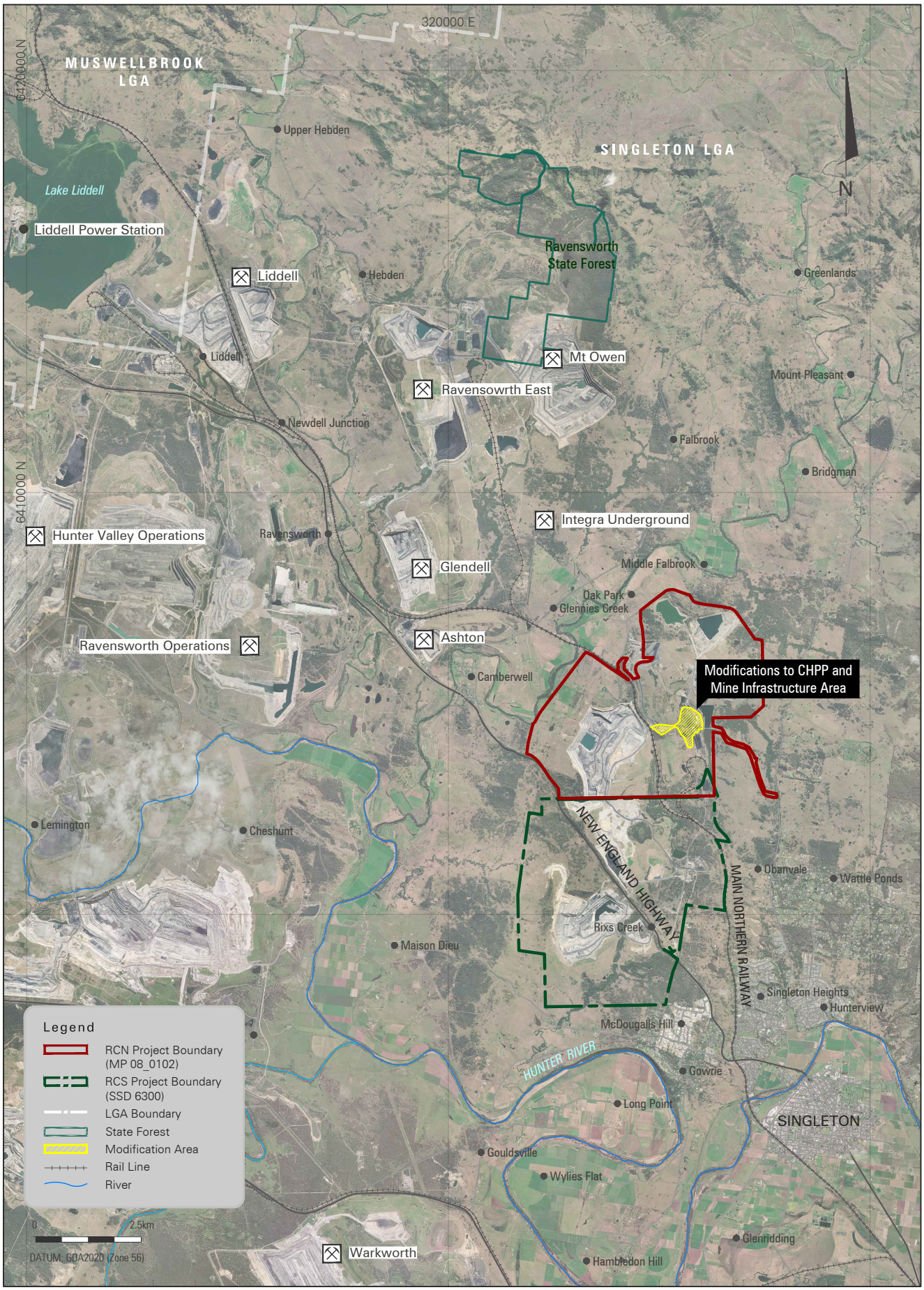
This document has been prepared with reference to the '*State significant development guidelines – preparing a submissions report'* (DPHI, 2024) and is accordingly structured as follows:

- **Section 2** identifies the stakeholders that provided a submission on the Modification and characterises the issues raised in these submissions;
- **Section 3** outlines any actions undertaken since exhibition of the Modification including refinements, additional assessments and stakeholder engagement;
- **Section 4** provides comprehensive responses to the issues, matters and recommendations raised in submissions;
- **Section 5** provides an updated justification for the Modification;

- **Section 6** outlines all referenced materials relevant to the Submissions Report; and
- **Section 7** lists the abbreviations used throughout the Submissions Report.

Appendix A provides a register identifying the stakeholders who made submissions over the Modification and the relevant environmental or socio-economic issue(s) raised by each stakeholder.

Appendix B includes the Biodiversity Development Assessment Report (BDAR) Waiver Report (EcoReslove, 2024) which has been completed for the minor levels of disturbance proposed by the Modification.

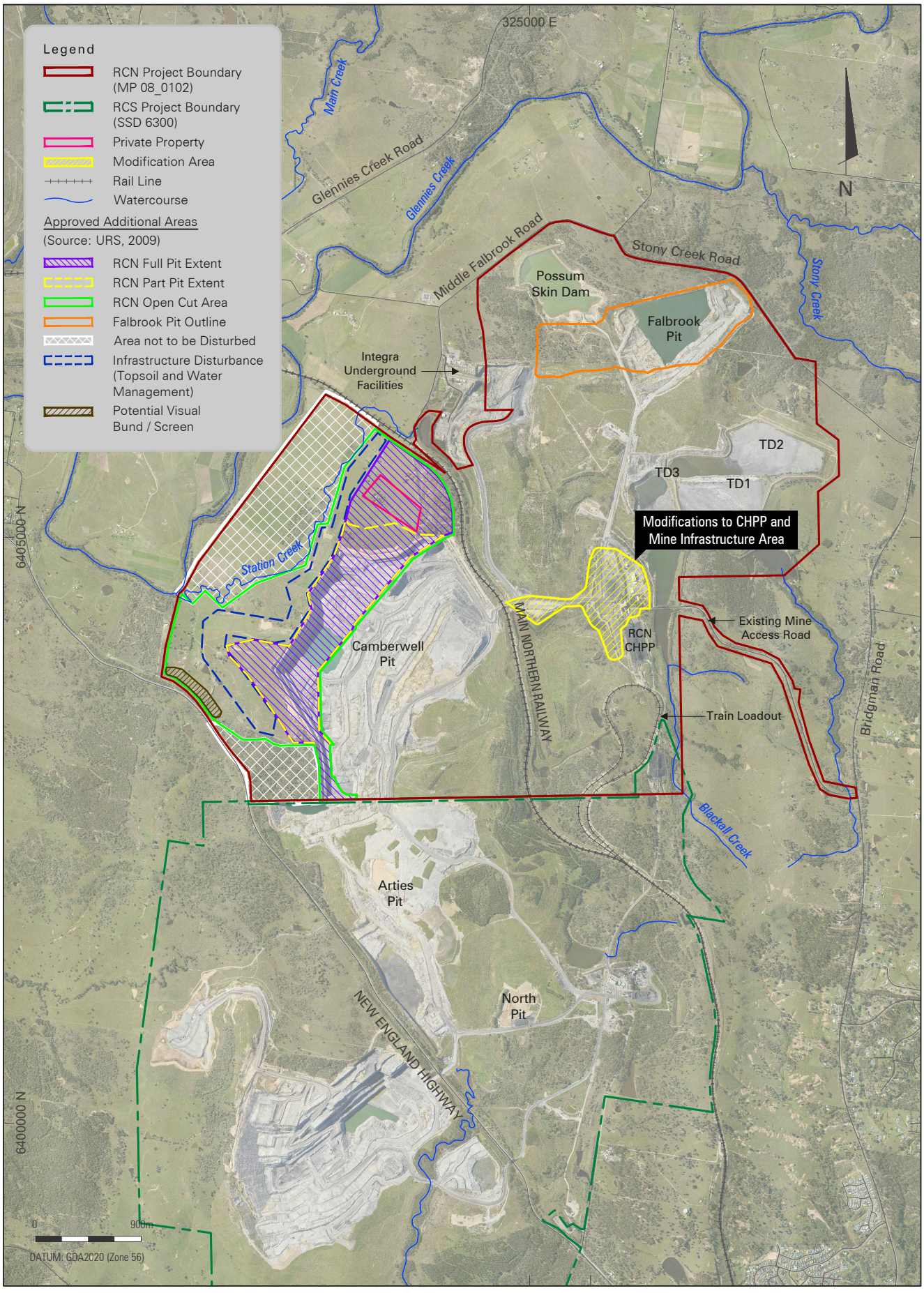


JBA 2341 - RCN (CHPP Mod) - Regional Locality (26/05/2024)

RIXS CREEK NORTH MODIFICATION

Regional Locality

FIGURE 1



JBA 2341 - RCN (CHPP Mod) - Approved Project Layout (27/05/2024)

RIXS CREEK NORTH MODIFICATION

Existing Project Layout

FIGURE 2

2. Analysis of Submissions

This section provides an analysis and summary of the submissions received from stakeholders in relation to the Modification.

2.1 Breakdown of Submissions

2.1.1 Agency Submissions

During the exhibition period, submissions were received from the following NSW regulatory agencies:

- NSW Resources;
- DPHI;
- Environment Protection Authority (EPA); and
- The NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) Water Group.

It is noted that a late submission was received from Subsidence Advisory NSW (SA) on 10 October 2024 and will be dealt with in a separate letter response.

There were no government agencies who objected to the Modification. Submissions generally commented on the proposed components of the Modification, seeking clarification and/or additional information or recommended approval conditioning to meet their requirements. A response to each submission received from Regulatory Authorities is provided in detail in **Section 4**.

2.1.2 Public Submissions

A total of 61 public submissions were received in relation to the Modification. Each of the 61 public submissions provided support for the Modification with responses identifying the following:

- Improved operational efficiency;
- Improved site water management and waste disposal practices; and
- Ongoing employment opportunities for local residents, business opportunities for local businesses and royalties for the State of NSW.

The distribution of these submissions according to location is as follows:

Six submissions were from the local area (located within 5 km from RCM); and

The remaining 55 submissions were from the region (defined as being 5-100 km from the development).

2.2 Categorisation of Submissions

The issues raised in submissions have been categorised across the following environmental aspects:

- Greenhouse gas emissions generated from the Modification;
- Disposal of waste generated from the Modification and overall RCM operations;
- Noise impacts from the additional infrastructure proposed as part of the modification;
- Impacts to and management of surface water resources at RCM; and
- Ecological impacts associated with vegetation clearing for the proposed Modification.

Table 1 summarises the key issues raised by stakeholders during the exhibition period. Further detail over each matter is reproduced in **Appendix A**.

Table 1 Categorisation of Issues

Category	Area of Interest	Sub-category	Specific Issue or Concern	Stakeholder IDs	Where Addressed
Environment	GHG emissions	Monitoring and reporting requirements	Measures to manage and mitigate GHG emissions are broad and lack detail about specific criteria.	*EPA*	**Section 4.1.1**
		Gaps in GHG Assessment	Estimated emissions values have been calculated using a superseded version of the Australian National greenhouse Accounts factors. No historical annual quantities of materials have been provided to demonstrate the reflective worst-case scenarios.	*EPA*	**Section 4.1.2**
	Waste disposal	Disposal of concrete waste	Disposal of waste concrete within the OEA is less favourable than resource recovery.	*EPA*	**Section 4.2.1**
		Disposal of waste heavy plant off-the-road tyres	A variation is required to EPL 3391 to include the area of RCN, additional to RCS.	*EPA*	**Section 4.2.2**
	Noise impacts	Mobile rock crushing plant	A condition of consent that restricts the operation of the mobile rock crushing plant to the day period only should be included to minimise noise impacts.	*EPA*	**Section 4.3.1**
		Evaporative fans	Confirm if the evaporative fans were included in the intrusive noise criteria used for the Modification noise modelling or demonstrate the fans can be managed to comply with existing noise criteria	*DPHI*	**Section 4.3.2**

Category	Area of Interest	Sub-category	Specific Issue or Concern	Stakeholder IDs	Where Addressed
	Surface water management	Water Management Plan	The water balance should be updated to reflect the additional site demands and decreases in water loss.	*DCCEEW Water*	**Section 4.4.1**
		Haul road widening	Impacts upon the existing dam and the resulting changes to the surface water management system associated with the road widening to the west of the CHPP.	*DPHI*	**Section 4.4.2**
	Ecology	Ecologically Sustainable Development	Evaluation of the Modification against the principles of ESD.	*DPHI*	**Section 4.5.1**
		Vegetation clearing	Confirm the extent of vegetation clearing required for the modification and address the potential impacts on "biodiversity values" as required by s7.17(2)(c) of the *Biodiversity Conservation Act 2016* (BC Act).	*DPHI*	**Section 4.5.2**

3. Actions Taken Since Exhibition

This section provides a summary of the actions taken since the exhibition of the Modification, including any stakeholder consultation undertaken and any refinements to the Modification in response to the submissions received.

3.1 Modification Refinements

The Modification initially proposed to seek approval to dispose concrete materials from activities at RCM into the mining areas at RCN. In response to the issues raised by the EPA, the Modification now proposes to utilise the mobile rock crushing plant to prepare the waste concrete material for reuse on site at RCM. This is discussed further in **Section 4.2.1**.

3.2 Additional Assessments

The infrastructure upgrades proposed as part of the Modification are located within areas that have previously been disturbed and limited ecological values were expected to be impacted as a result of the Modification. DPHI has requested confirmation of the extent of vegetation clearing and associated impacts proposed by the Modification on biodiversity values.

An ecological assessment of the Modification Area has been undertaken by EcoResolve Pty Ltd (EcoResolve) to identify the biodiversity values of the proposed disturbance areas for the Modification (EcoResolve, 2024). Further details over this assessment are included in **Section 4.5.1**. The BDAR Waiver Report prepared by EcoResolve is included as **Appendix B**.

3.3 Stakeholder Engagement

3.3.1 Regulatory Agency Consultation

The proponent has consulted with several government agencies to clarify and respond to issues raised in submissions. Although none of the government agencies who provided a submission have objected to the Modification, several have sought additional information or have recommended specific conditioning should the Modification be granted.

Further consultation has been undertaken with government agencies as summarised in **Table 2** to clarify and agree upon the appropriate way forward as discussed in **Section 4**.

Table 2 Submissions Report - Government Agency Consultation

Government Agency	Meeting Date	Key Discussion Points
EPA	Email correspondence only	Feasibility for waste concrete to be reused onsite at RCM as opposed to direct disposal within the open cut mine.
Singleton Council	24/09/24	Description of the activities proposed as part of MOD 10

3.3.2 Community Consultation & Engagement

Since exhibition of the Modification, Bloomfield has continued to engage with the community through the distribution of a community newsletter in September 2024 to provide a description and progress update on the Modification. Representatives from RCM attended the Singleton Show in September 2024 where they shared information about the Modification and allowed community members to ask questions and provide feedback. No negative responses towards the Modification were received from community members.

4. Response to Submissions

This section responds to the issues raised in submissions regarding the Modification.

4.1 Greenhouse Gas

4.1.1 Monitoring and Reporting Requirements

Issue

Submissions addressed: EPA

The EPA raised concerns with the broad nature of the management and mitigation measures for GHG emissions presented within the Air Quality and GHG Assessment. EPA has recommended that the existing AQGHGMP (Bloomfield, 2021) could be improved by including more specific monitoring and reporting requirements such as:

1. Ongoing monitoring and recording of energy and fuel consumption. This information can be reported to benchmark annual GHG emissions against estimations provided for assessment purposes;
2. Specific criteria and timeframes to assess the proposed equipment fuel efficiency evaluation;
3. Specific criteria and timeframes to assess avenues to minimise electricity usage;
4. Specific criteria and timeframes to investigate alternatives to reduce diesel consumption; and
5. Reduction targets.

Response

The AQGHGMP will be reviewed and updated by a suitably qualified person following the grant of the Modification, which will consider the inclusion of more specific monitoring and reporting requirements recommended by the EPA.

Periodic revisions of the AQGHGMP will be undertaken following the update to ensure the criteria remains consistent with current guidelines and requirements of Schedule 5 Condition 5 of MP 08_0102.

4.1.2 Gaps in Greenhouse Gas Assessment

Issue

Submissions addressed: EPA

The EPA identified the following gaps in the Air Quality and GHG Assessment for the Modification:

- A superseded version of the National Greenhouse Accounts Factors (NGA Factor) was used to estimate Scope 1 GHG emissions. The EPA determined that using the correct emissions factor did not significantly alter the estimated emissions value; and
- The analysis of historical annual quantities of materials should be included in future GHG assessments to demonstrate that assumptions are reflective of the reasonable worst-case scenario.

No further additional information was requested; however the EPA recommended the above be considered and addressed during any future assessments and/or if any significant amendments are made to the proposed Modification.

Response

The GHG assessment completed for the Modification (refer to Appendix A of the Modification Report) was finalised in May 2024. The NGA Factors 2024 was published on 3 September 2024 and hence the NGA Factor 2023 was used to assess the GHG emissions associated with the Modification.

As part of any subsequent significant amendments to MP 08_0102, the current version of the NGA Factor will be utilised to estimate the GHG emissions generated by RCM. The GHG assessment for the Modification estimated emissions based on conservative upper limit of annual material quantities such as diesel and electricity, to provide a reasonable worst-case approximation of the potential GHG emissions.

In the event that future assessments and/or if any significant amendments are made to the proposed Modification, then these potential future assessments will present and analyse historical annual quantities of material to better demonstrate that the values and assumptions utilised within the assessment are reflective of worst-case operating conditions.

4.2 Waste Disposal

4.2.1 Disposal of Concrete Waste

Issue

Submissions addressed: EPA

The EPA submission noted that it did not support the disposal of waste concrete material in the Overburden Emplacement Area (OEA) as proposed by the Modification.

The submission noted that Bloomfield's preference to dispose of waste concrete generated onsite within the OEA needed further consideration. EPA noted that insufficient information was provided within the Modification Report to justify that offsite disposal of the waste concrete would generate additional environmental impacts and costs.

The waste hierarchy outlined within the *Waste Avoidance and Resource Recovery Act 2001* prioritises resource recovery over disposal. The EPA noted that waste concrete can be recycled safely and effectively and used for other purposes under a Resources Recovery order, and therefore do not support the disposal of waste concrete within the OEA is not supported.

Response

Concrete materials will be generated from ongoing operation of the RCM including the construction associated with the Modification. As noted within the Modification Report, Bloomfield had identified that it preferred the disposal of this inert waste concrete material within the OEAs to reduce the costs and potential environmental impacts associated with off-site disposal. In response to the concerns raised by the EPA, Bloomfield provides the following information.

Bloomfield has identified that there may be other beneficial uses of the concrete waste materials at RCM. The proposed mobile rock crushing plant may be able to be used to crush concrete waste materials for reuse on site. The crushed concrete material could be used in the construction of haul roads, access roads and hardstand areas. The reuse of the concrete waste materials will be undertaken in accordance with an EPA Recovered Aggregate Order and Exemption 2014. Recycling of waste concrete at RCM will be undertaken where this is feasible. If the recycling of these materials is not feasible, Bloomfield will dispose of the concrete at an offsite licenced waste facility.

There will be no changes to the proposed operation of the mobile rock crushing plant, as detailed in the Modification Report. The production rates of the mobile crushing plant will not be impacted by the additional processing of the waste concrete material. The mobile rock crushing facility will continue to be operated during the day period only, seven days a week for the life of the RCM as described within the Modification Report.

4.2.2 Disposal of Waste Heavy-Plant Off-the-Road Tyres

Issue

Submissions addressed: EPA

The EPA acknowledged the processing of waste heavy-plant off-the-road (OTR) tyres into their core elements is not currently viable across Australia. The EPA noted that RCS is already approved to dispose waste OTR tyres within the mining area as described by EPL 3391 Condition O6.1. This Condition would need to be varied to include the area of RCN, if the Modification is approved. The EPA also requested that Bloomfield continue to investigate and report on options for disposal of waste OTR tyres.

Response

A variation to Condition O6.1 of EPL 3391 will be sought to include disposal of waste OTR tyres within the RCN mining area, if the Modification is approved.

As RCN has a current mine life of approximately 11 years (until 31 December 2035), disposal and recycling of waste OTR tyres will be investigated and reported on to identify any improvements that can be made to the disposal methods as proposed by this Modification. This investigation will include a review of the following information:

- Current capacity of waste OTR tyre recycling facilities;
- Pre-treatment options to reduce costs associated with transport and recycling; and
- A cost benefit analysis of continued disposal of waste OTR tyres within the RCN mining areas compared to the transport to offsite recycling facilities.

The findings of these investigations will be presented to the EPA and DPHI at least every two years.

4.3 Noise Impacts

4.3.1 Mobile Rock Crushing Plant

Issue

Submissions addressed: EPA

The EPA noted that RCM propose to utilise the mobile rock crushing plant during the daylight hours only and recommended a condition of consent be included to reflect this to ensure noise impacts are minimised.

Response

The Noise Impact Assessment completed for the Modification (refer to Appendix B of the Modification Report) identified that minimal increases in operational noise are expected from the Modification. The Noise Impact Assessment concluded that there were no predicted exceedances of the existing intrusive noise criteria with the implementation of exiting management and mitigation controls during all periods. As such, the mobile rock crushing plant, to be operated during the daylight hours only, will not impact upon RCM noise levels.

4.3.2 Evaporative Fans

Issue

Submissions addressed: DPHI

DPHI requested confirmation that the evaporative fans were included within the intrusive noise criteria used for the noise modelling for the Modification. DPHI requested further information to demonstrate whether the fans can be managed to comply with existing noise criteria if not included within the intrusive noise criteria.

Response

The evaporative fans were previously approved to be utilised at RCN (in 2014) and are therefore considered to be part of the existing operational noise managed within the intrusive noise criteria. The modelling completed for the Modification related to new or altered components to the RCN mine. The approved RCN mine operations (including the evaporative fans) were assumed to be operating at noise levels in line with the intrusive noise criteria.

4.4 Surface Water Management

4.4.1 Water Management Plan

Issue

Submissions addressed: DCCEEW Water Group

The DCCEEW Water Group recommended the RCM WMP's water balance be updated to reflect the sites water demands for additional dust suppression associated with the mobile rock crushing plant and decreased water loss from the additional infrastructure, if the Modification is approved.

Response

The Surface Water Impact Assessment completed for the Modification (Appendix C of the Modification Report) predicted that RCM will need to manage an additional 185 megalitres of water per annum with the inclusion of the tailings dewatering facility within the CHPP. Bloomfield has proposed several methods to manage the additional water including the commissioning of the approved evaporation fans and the delivery of surplus water to the Greater Ravensworth Area Water and Tailings Scheme. Dust suppression for the mobile rock crushing plant will utilise water from the existing RCM water management system and will not create any significant additional site water demands.

Bloomfield will commission a suitably qualified person to update the site water balance within the RCM WMP following the grant of the Modification. Schedule 5 Condition 5 of MP 08_0102 requires the RCM WMP to be updated within three months of a modification. The water balance will be reviewed and updated as part of this review.

4.4.2 Haul Road Widening

4.4.2.1 Issue

Submissions addressed: DPHI

DPHI requested a description of the proposed road widening to the west of the CHPP and details of the impacts to the surface water management system from the proposed road widening.

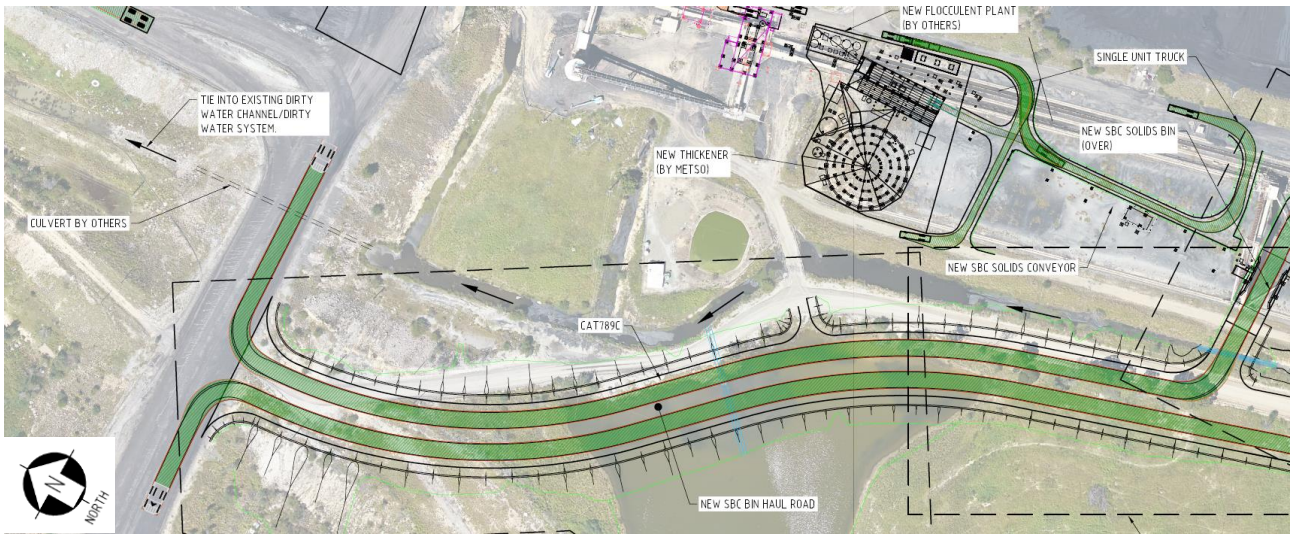
4.4.2.2 Response

The haul road to the west of the CHPP is proposed to be widened to accommodate the additional infrastructure and ROM Pad proposed as part of this Modification. The road is proposed to be an additional 16 m wider than the existing haul road allow two way haul truck traffic.

The proposed haul road widening will encroach into the footprint of and reduce the capacity of Dam 2 (D2), located to the west of the existing haul road. D2 catches runoff from the existing roadways and disturbed areas surrounding the CHPP facility. Water from D2 is currently transferred to the dirty water channel that reports to Dam 1 (D1). Whilst the D2 capacity will be reduced, the proposed haul road will not significantly impact upon the operability of this dam in conjunction with the dirty water channel.

A drainage system will be implemented involving a combination of culverts and pumps to direct the water that can no longer be stored within D2, directly into the dirty water channel and into D1 as illustrated in **Figure 3**.

Figure 3 Proposed Surface Water Management Layout



4.5 Ecology

4.5.1 Ecologically Sustainable Development

Issue

Submissions addressed: DPHI

DPHI requested an evaluation of the Modification against the principles of Ecologiaclly Sustainable Development (ESD).

Response

The principles of ESD are described in Section 6(2) of the *Protection of the Environment Administration Act 1991*. **Table 3** lists the four principles of ESD and explains how the Modification satisfies these principles

Table 3 Principles of Ecologically Sustainable Development

Principle	Application of the Modification
The precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.	The potential environmental impacts of the Modification have been assessed using the best scientific methods available and has demonstrated that no significant impacts are likely. Existing environmental management measures and controls will continue to be implemented to minimise any potential environmental impacts.
Inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.	The Modification will result in improved operational efficiencies for the approved RCN mining operations whilst resulting in no material environmental impacts. The environmental assessments completed for the Modification have not identified any significant environmental impacts which would lead to impacts to the health, diversity and productivity of the environment for future generations.
Conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration.	Disturbances proposed by the Modification are generally located within previously disturbed land. There will be disturbance to approximately 0.29 hectares of native vegetation. Biodiversity assessment (**Appendix B**) has confirmed that this disturbance will not result to significant impacts to any threatened ecological community or threatened species.
Improved valuation, pricing and incentive mechanisms—namely, that environmental factors should be included in the valuation of assets and services	The Modification is seeking to optimise the processing of product coal from its operations at RCM. This results in material improvements in processing costs to achieve an optimal product. In considering the processing upgrades which were required, Bloomfield considered numerous options prior to determining the optimal approach. The Modification proposes the use of a Mobile Rock Crushing Facility to process rock materials encountered in the course of mining operations to provide materials used in the construction of haul roads, in rehabilitation and water drainage structures. This Submissions Report has also proposed the use of this Mobile Rock Crushing Facility to process waste concrete materials for alternate uses across the site rather than immediate disposal within the mining area. This represents a material cost saving to Bloomfield (and the environment) by reusing these materials for a beneficial use.

As described in **Table 3**, the Modification will align with the principles of ESD as outlined by the *Protection of the Environment Administration Act 1991.*

4.5.2 Vegetation Clearing

Issue

Submissions addressed: DPHI

DPHI requested that the extent of vegetation clearing proposed as part of the Modification and potential impacts on biodiversity values are described in accordance with Section 7.17(2)(c) of the BC Act. DPHI acknowledged that a BDAR may not be required for a modification where it can be demonstrated that there will not be an increased impact on biodiversity values.

Response

Bloomfield commissioned EcoResolve to conduct an ecological assessment of the Modification Area to assess the impacts of the Modification on biodiversity values. The ecological field survey determined that the Modification would disturb approximately 0.29 hectares of native vegetation regrowth and that this is unlikely to have a significant impact upon biodiversity values. Accordingly, a BDAR Waiver Report (EcoResolve, 2024) has been developed to support an application to confirm that a BDAR under the BC Act is not required for the Modification.

Table 4 lists the biodiversity values defined in the BC Act and the *Biodiversity Conservation Regulation 2017* and considers the potential effects of the Modification upon each of the values.

Table 4 Potential Impacts to Biodiversity Values

Biodiversity Value	Meaning	Consideration
Vegetation abundance	Occurrence and abundance of vegetation at a particular site	Vegetation mostly comprised of regrowth of exotic species
Vegetation integrity	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near-natural state	Vegetation persists within largely cleared and highly disturbed condition
Habitat suitability	Degree to which the habitat needs of threatened species are present at a particular site	The Modification Area is located within highly disturbed and degraded areas and contains no habitat features
Threatened species abundance	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	BC Listed Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions is present in a highly degraded form
Threatened species movement	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	Due to the highly disturbed nature of the Modification Area and isolated remnant vegetation, the Modification is not expected to create any impacts.
Flight path integrity	Degree to which the flight paths of protected animals over a particular site are free from interference	Protected species flight paths are not expected to occur over the Modification Area.

Biodiversity Value	Meaning	Consideration
Water sustainability	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site	A Surface Water Impact Assessment was completed for the Modification (HydroBalance, 2024) and concluded that the Modification would have negligible or no residual impacts on surface water resources

The field surveys undertaken to inform the BDAR Waiver Report (EcoResolve, 2024) did not identify any threatened flora or fauna species within the Modification Area. A small area of degraded habitat was identified however considered unlikely to constitute significant habitat for threatened species. Vegetation clearing within the Modification Area first commenced in 1990 to facilitate the infrastructure associated with the Camberwell Coal Project which was approved under DA 51/90. Accordingly, the native vegetation which has been identified within the Modification Area is low quality and is regrowth since the original infrastructure was constructed.

Two Plant Community Types (PCTs) were identified during the field surveys and are listed in **Table 5** and illustrated in **Figure 4**. The PCTs were deemed to be in low condition with the presence young of native canopy that illustrates historic disturbance and the dominance of exotic flora.

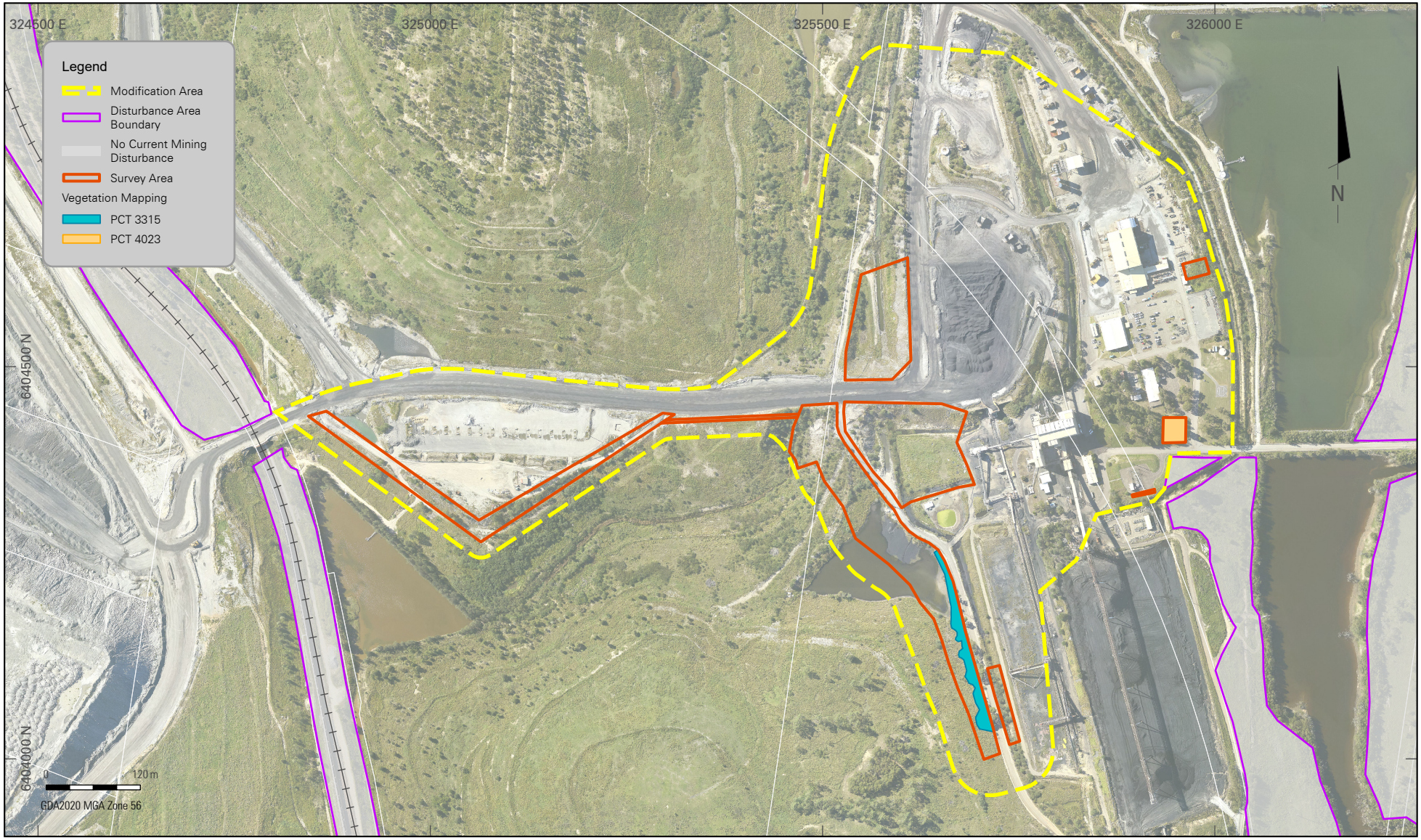
The small area of PCT 4023 is associated with *Swamp Oak Floodplain of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions*, listed as an Endangered Ecological Community (EEC) under the BC Act. Assessment of this PCT identified that it was not commensurate with the EEC listing criteria. The area of PCT 4023 is also associated with the *Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland.*

However, it was determined that the vegetation did not meet the minimum conditional thresholds. The small area of PCT 3315 is associated with *Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions*, an EEC listed under the BC Act. A 5-Part Test was undertaken as part of the assessment that determined the vegetation was highly degraded and the Modification was unlikely to have any significant impacts. The area of native regrowth vegetation assigned to PCT 3315 is also associated with the EPBC Act Critically Endangered Ecological Community (CEEC) *Central Hunter Valley eucalypt forest and woodland*. The path of vegetation is less than 0.5 ha and therefore does not meet the minimum condition thresholds for the CEEC.

The disturbed and isolated nature of the vegetation within the Modification Area indicates that the vegetation clearing associated with the Modification is not expected to result in any material additional impacts to biodiversity values. The proposed infrastructure will not impact upon any native fauna movement and the absence of habitat features within the Modification Area negates concerns about potential impacts to habitat elements for native fauna.

Table 5 Plant Community Types

Plant Community Type	Area (ha)	BC Act listed	EPBC Act listed
3315 – Central Hunter Ironbark-Spotted Gum Forest	0.2	Yes	No
4023 – Coastal Valleys Riparian Forest	0.09	No	No



JBA 2341 - RCN (CHPP Mod) - Vegetation Mapping.aprx

RIXS CREEK NORTH MODIFICATION

Vegetation Mapping

FIGURE 4

5. Updated Modification Justification

The Modification will facilitate the following improvements to operations at RCN:

- Upgrades to the RCN CHPP to improve the efficiency of processing ROM coal extracted from RCN and RCS mines;
- The installation of a thickener and an SBC Plant to reduce the water content of the tailings materials allowing for tailings to be conveyed with reject material to the new reject bin for co-disposal with overburden. The implementation of this process will lead to a reduced reliance on the requirement to dispose tailing within tailings storage facilities in the future;
- The extension of an existing ROM coal stockpile and the further construction of an additional ROM coal stockpile to maintain uninterrupted CHPP operations and provide desired capacities;
- Additional workshop bays to allow greater numbers of plant and machinery to be maintained within the workshop. The underground hydrocarbon piping system will also further increase maintenance efficiency and reduce the potential for spills entering the environment;
- The introduction of a mobile rock crushing plant to allow RCM to process rock materials gathered during mining activities into various sizes for various uses around site;
- The replacement of the existing substation (that has reached its end-of-life) to support current and future operations at RCN;
- The disposal of waste OTR tyres in-pit to reduce waste clutter and the associated risks and hazards attributed to the storage of OTR tyres on-site;
- The beneficial reuse and recycling of waste concrete materials encountered during operations at the RCM for use in the construction of haul roads, hardstand areas and in mine rehabilitation;
- Administrative changes to conditions to MP 08_0102 which will have minimal environmental impact.

The changes sought by the Modification have the potential of increasing operational efficiency at RCN, whilst staying within approved criterion specified in MP 08_0102. As such greater benefits can be achieved from improved efficiency of operations.

The potential environmental impacts of the Modification are summarised in Section 6 of the Modification Report and responses to agency submissions in relation to these potential impacts are provided in **Section 4** of this Submission Report. The environmental impact assessments conducted for the Modification have determined that any impacts resulting from the Modification will be minor, align with the principles of ESD and not have additional material impacts beyond those currently approved for RCN under MP 08_0102.

Bloomfield has consulted with the relevant regulatory authorities during the preparation of this Modification Application and has considered their feedback and comments during the preparation of this Modification Report and Submissions Report. The findings presented confirm that the Modification will involve minimal environmental impacts and therefore can appropriately be granted under Section 4.55(1A) of the EP&A Act.

The key aspects of the approved RCN will remain unchanged by the Modification, including (but not limited to):

- Fleet numbers;
- Size of the workforce;
- Project Boundary and Disturbance Area Boundary;
- Negligible impacts to biodiversity values;
- No change to mining methods, mining rates, processing rates, transport rates and hours of operation; and
- Duration of mining operations.

Given the Modification will not significantly increase the environmental impacts of the approved development, the potential benefits of the Modification therefore outweigh its environmental costs. Furthermore, as the key aspects of the approved development are unaffected by the Modification, the Modification can therefore be acknowledged as being in the public interest and will not affect the merits of the approved development.

6. References

- Bloomfield (2021), Rix's Creek Mine Water Management Plan.
- Bloomfield (2021), *Rix's Creek Mine Air Quality and Greenhouse Gas Management Plan.*
- Department of Planning, Housing and Infrastructure (2024), *State significant development guidelines – preparing a submissions report*.
- EMM Consulting Pty Limited (2024), *Rix's Creek North Modification 10 Noise Impact Assessment*.
- HydroBalance (2024), *Rix's Creek North Mine – Modification 1o Surface Water Assessment*.
- James Bailey & Associates (2024), *Rix's Creek North Modification 10: Modification Report.*
- Todoroski Air Sciences (2024), *Air Quality and Greenhouse Gas Assessment – Rix's Creek North Modification.*

7. Abbreviations

Term	Definition
AQGHGMP	Air Quality and Greenhouse Gas Management Plan
BDAR	Biodiversity Development Assessment Report
Bloomfield Collieries Pty Ltd	Bloomfield
CEEC	Critically Endangered Ecological Community
CHPP	Coal Handling and Preparation Plant
D1	Dam 1
D2	Dam 2
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
DPHI	NSW Department of Planning, Housing and Infrastructure
EEC	Endangered Ecological Community
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environmental Protection Authority
ESD	Ecologically Sustainable Development
GHG	Greenhouse Gas
km	Kilometre
Modification Report	The Modification Application and supporting Rix's Creek North Modification 10
MP	Project Approval
Mt	Million tonnes
Mtpa	Million tonnes per annum
NEH	New England Highway
NGA Factor	National Greenhouse Accounts Factor
OEA	Overburden Emplacement Area
OTR	Off-the-road
RCM	Rix's Creek Mine
RCN	Rix's Creek North
RCS	Rix's Creek South
ROM	Run of Mine
SA	NSW Subsidence Advisory

Term	Definition
SC	Singleton Council
the Modification	Modification 10 to MP 08_0102
WMP	Water Management Plan

Appendix A Submissions Register

Table A.1: Submissions Register

Stakeholder/Name	Ref	Matters Raised	Where Addressed
New South Wales Environment Protection Authority	EPA	**Proposed Disposal of Concrete Material** The Modification Report details the proponent's preference to dispose waste concrete, generated onsite for the remaining life of the mine, within the Overburden Emplacement Area (OEA), citing additional environmental impacts and costs with off-site disposal; however no further information is provided justifying these statements. The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) promotes waste avoidance and resource recovery to achieve a continual reduction in waste generation in NSW. The WARR Act is underpinned by the waste hierarchy, which is a set of priorities for the efficient use of resources. Under the waste hierarchy, disposal is the least favourable option and should only be considered where alternate higher order options, such as resource recovery, are not viable. Given the potential to for the waste concrete to be recycled and safely and effectively use for other purposes (i.e. under a Resource Recovery Order and Exemption), the EPA does not support its disposal in the OEA.	**Section 4.2.1**
		Proposed Disposal of Waste Heavy-Plant Off-the-Road Tyres The Modification Report details the proposed disposal of waste heavy-plant off-the road (OTR) tyres in the mining area at Rix's Creek North (as is currently approved for Rix's Creek South). The EPA acknowledges that the processing of large mining tyres into their core elements is not an operation that is currently readily available across Australia. The Licence contains a condition (Licence condition O6.1) regarding requirements around the end to-life heavy plant	**Section 4.2.2**

Stakeholder/Name	Ref	Matters Raised	Where Addressed
		waste tyres disposal and records at Rix's Creek South. If the Modification is approved the licensee would need to vary this condition to include the area of Rix's Creek North. Given the proposed life of the mine, if approved, the EPA recommends the conditions of approval at Attachment B requiring the proponent continue to investigate and report on options for end-of life heavy-plant tyres.	
		Mobile Rock Crushing Plant The Modification Report outlines the proposed use of a mobile rock crushing plant to process rock materials encountered during mining operations to various size fractions for use within the Rix's Creek mine complex at a rate of around 1,800 tonnes per day and around 25,000 tonnes of gravel production per month (at various size grades). The mobile rock crushing facility will be operated during the day period only, seven days a week for the life of the Rix's Creek mine complex. If approved, the EPA recommends including a condition of consent that restricts the use of the mobile rock crushing plant to the day period (Attachment A) to ensure noise impacts are minimised	**Section 4.3.1**
		Greenhouse Gas Emissions The EPA considers there are some gaps in the information provided. However, given the nature of the proposal, requesting additional information is not likely to demonstrate that the modification will result in estimated scope 1 and scope 2 emissions larger than 25,000 CO2-e. No additional requirements under the Draft NSW EPA Guide for large emitters are triggered.	**Section 4.1**

Stakeholder/Name	Ref	Matters Raised	Where Addressed
		Greenhouse Gas Emissions The existing Air Quality Greenhouse Gas Management Plan (AQGHGMP) can be improved by including specific information regarding monitoring and reporting requirements. Section 6.1.3 in the Modification Report includes measures to manage and mitigate GHG emissions; however, they ate broad and lack detail about specific criteria to evaluate their implementation. The AQGHGMP can be improved by including monitoring and reporting requirements. Considerations should be given but not necessarily limited to the following: a. Ongoing monitoring and recording of energy and fuel consumption. This information can be reported to benchmark annual GHG emissions against estimations provided for assessment purposes. b. Specific criteria and timeframes to assess the proposed equipment fuel efficiency evaluation. c. Specific criteria and timeframes to assess avenues to minimise electricity usage. d. Specific criteria and timeframes to investigate alternatives to reduce diesel consumption. e. Reduction targets. The above will help inform and evaluate specific actions to implement reasonable and feasible measures to reduce GHG emissions. **Recommendation** The existing AQGHGMP should be updated to address items a -e above. A recommended condition of approval is provided in Attachment B.	**Section 4.1.1**

Stakeholder/Name	Ref	Matters Raised	Where Addressed
		Greenhouse Gas Emissions Gaps in the GHG assessment must be considered and addressed in the preparation of future assessments. The following is a non-exhaustive list of gaps identified during the EPA's review of the GHG assessment. This list is provided for the proponent to consider when preparing future assessments. a. The N2O emissions factor (0.1 kg CO2-e/GJ) used to estimate the scope 1 CO2-e emissions is not reflective of the latest version of the Australin National Greenhouse Accounts factors (0.2 kg CO2-e/GJ). In these circumstances, the EPA's calculations show that using the correct factor does not significantly change the estimated emissions. b. The analysis of historical annual quantities of materials should be provided to transparently demonstrate that input data and assumptions are reflective of a reasonable worst-case as indicated in the GHG assessment. **Recommendation** No additional information is requested at this stage. However, this recommendation must be revised if significant amendments are made to the proposal. The proponent should be made aware of the gaps identified during the EPA's review. These must be considered and addressed during the preparation of future assessments.	**Section 4.1.2**
		Recommended Conditions of Consent L1 Mobile Rock Crushing Plant L1.1 The proponent may only operate the mobile rock crushing plant during the "day" period (i.e. between7 am and 6 pm).	**N/A**

Stakeholder/Name	Ref	Matters Raised	Where Addressed
		Recommended Conditions of Consent E1 Waste Tyre Recycling Review E1.1 The proponent must undertake a review of available recycling options for end-of-life heavy-plant waste tyres at least every two years and provide a report (Waste Tyre Recycling Review Report) to the Department of Planning, Housing and Infrastructure and the EPA that contains, but is not limited to, the following: a. analysis of the current capacity of recycling facilities that can accept end-of-life heavy-plant waste tyres for processing in NSW and other neighbouring states; b. Evidence of enquiries made by the proponent in the previous 24 months to actively seek recycling options for end-of-life heavy-plant waste tyres generated at the premises; c. Analysis of any pre-treatment options that can be performed at the premises to reduce the costs associated with the transporting and recycling of end-of-life heavy-plant waste tyres; d. Analysis of the specific costs to the proponent associated with the transport and delivery/acceptance of site generated end-of-life heavy-plant waste tyres at the nearest capable recycling facilities; e. The current costs associated with the continued on-site burial of end-of-life heavy-plant waste tyres; and f. A full cost benefit analysis of continued on-site burial of end-of-life heavy-plant waste tyres compared to their transport from the premises and their recycling/processing.	**N/A**

Stakeholder/Name	Ref	Matters Raised	Where Addressed
		E1.2 The Waste Tyre Recycling Review Report, required by the above condition, must be provided by 31 March 2027, and every two years thereafter.	
		Recommended Conditions of Consent G1 Greenhouse Gas Management G1.1 Prior to the commencement of the modification operations, the proponent must update the existing Air Quality Greenhouse Gas Management Plan (AQGHGMP). As a minimum, it must be updated to include: a. GHG emissions estimates for the proposal; b. GHG emissions targets for the proposal; c. Measures to avoid and reduce GHG emissions; d. Monitoring and reporting GHG emissions and performance evaluation. e. Review of the plan. The updated AQGHGMP must consider recommendations and advice on monitoring and reporting GHG emissions performance provided by the EPA.	**N/A**
New South Wales Department of Climate Change, Energy, the Environment and Water (DCCEEW) Water Group	DCCEEW Water	**Post approval recommendation** The Water Management Plan's water balance should be updated to reflect the additional water requirements to meet site water demands (7.3 ML/year for dust suppression for the Mobile Rock Crushing Plant) and decrease in water losses (take) from tailings dewatering plant (185 ML/year).	**Section 4.4.1**
New South Wales Resources Regulator	NSW RR	The Resources Regulator advises that it has no specific comments regarding mine safety or mine rehabilitation matters in relation to the proposals. If approved, the proponent will be required to comply with rehabilitation requirements under the mining authorisations	**N/A**

Stakeholder/Name	Ref	Matters Raised	Where Addressed
		prior to the commencement of the works associated with the proposal. The Regulator requests the opportunity to review a copy of the draft development consent prior to any approval of the project.	
NSW Department of Planning, Housing and Infrastructure (DPHI)	DPHI	The Department requests the inclusion of the following information in the Submissions Report for RCN North – Modification 10: 1. An evaluation of the modification against the principles of Ecologically Sustainable Development.	**Section 4.5.1**
		2. Confirmation that the evaporative fans were included in the intrusiveness noise criteria (representing existing operations) used in the noise modelling. If the fans were not included in the intrusiveness noise criteria, could you please provide further information to demonstrate whether the fans can be managed to comply with the existing noise criteria.	**Section 4.3.2**
		3. A description of the proposed road widening to the west of the CHPP (as shown in Figure 6 of the Modification report), and details on how the road widening has been considered in the impact assessment (e.g. impacts on the existing dam and the resulting changes to the surface water management system).	**Section 4.4.2**
		4. Could you please confirm the extent of vegetation clearing required for the modification and address the potential impacts on "biodiversity values" as required by s7.17(2)(c) of the Biodiversity Conservation (BC) Act. Section 7.17(2)(c) of the BC Act states that a BDAR is not required to be submitted for a modification where it is demonstrated that the modification will not increase the impact on "biodiversity values". Noting that "biodiversity	**Section 4.5.2**

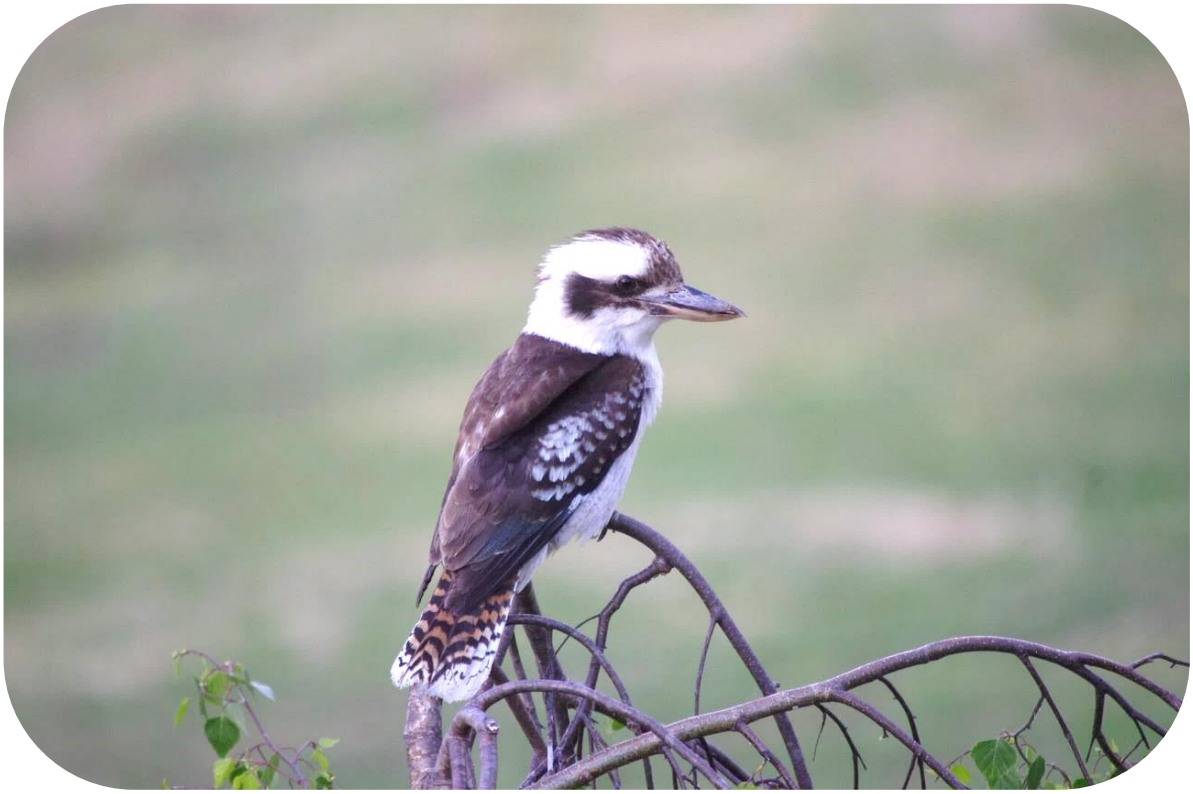
Stakeholder/Name	Ref	Matters Raised	Where Addressed
		values" are defined in s1.5 of the BC Act and s1.4 of the BC Regulation.	

Appendix B
BDAR Waiver Report

EcoResolve

BDAR Waiver Report

Rix's Creek North (RCN) - Modification 10



Prepared for: **The Bloomfield Group**
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Date: 10 October 2024

Project no: ER245

Document Control

Version - date	Purpose	Author	Reviewer	Approved by
V1 - 30/09/2024	Draft for Client review	Bryce Dedal Toneya Smith	Brea Heidke & Arne Bishop	Arne Bishop
V2 - 09/10/2024	Final for Client issue	Bryce Dedal Toneya Smith	Brea Heidke & Arne Bishop	Arne Bishop
V3 – 10/10/2024	Final for Client issue	Bryce Dedal Toneya Smith	Brea Heidke & Arne Bishop	Arne Bishop

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Abbreviations

Term	Definition
BAM	Biodiversity Assessment Method 2020
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BDAR	Biodiversity Development Assessment Report
DBH	Diameter at breast height over bark
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
EEC	Endangered Ecological Community
IBRA	Interim Biogeographic Regionalisation for Australia
MNES	Matters of National Environmental Significance
NSW	New South Wales
PCT	Plant Community Type
SAII	Serious and Irreversible Impact
TEC	Threatened Ecological Community

1 Introduction

Bloomfield Collieries Pty Limited (Bloomfield), a subsidiary of The Bloomfield Group, is the owner and operator of Rix's Creek Mine (RCM) located in the Hunter Valley of NSW (Project Approval (MP) 08_0102). The mine site is located approximately 5 km north of Singleton at its closest point. RCM's mining operations occur on either side of the New England Highway. RCM is made up of Rix's Creek North (RCN) (formerly Integra Open Cut) and Rix's Creek South (RCS) (the original Rix's Creek Mine) (**Figure 1**).

This BDAR Waiver Report has been prepared to assess the impacts on the biodiversity values of the proposed disturbance areas associated with Modification 10 (MOD 10) of MP 08_0102 and to support a waiver of a Biodiversity Assessment Report under the *Biodiversity Conservation Act 2016* (BC Act) (hereafter referred to as the 'proposed modification'). This BDAR Waiver has been prepared with reference to the DPIE (2019) guideline; '*How to apply for a biodiversity development assessment report waiver for a Major Project Application*'.

2 Project description

RCN currently operates under PA 08_0102 which permits Bloomfield to conduct open cut mining operations until 31 December 2035. Bloomfield has lodged an application to modify PA 08_0102 (MOD 10) to facilitate the following activities:

- Coal handling and process changes; including installation of new processing equipment on the ROM stockpile areas and RCN CHPP
- Additional ROM coal stockpiles to provide additional stockpiling capacity within the approved area of disturbance at RCN
- Upgrade to the RCN CHPP to include tailings dewatering facilities and thickener capacity to enable the co-disposal of partially dried tailings materials with overburden within the mining area
- Workshop extension
- In pit crusher for the processing of rock materials for internal road base and other onsite purposes
- Substation replacement and installation of a switching station
- Disposal of heavy vehicle waste tyres in-pit
- Administrative changes to conditions of MP 08_0102 which have minimal environmental impacts.

2.1 Proponent name and contact details

Proponent Name: The Bloomfield Group – Rix's Creek North

Proponent Contact: Steven Vickers (Project Manager)

Proponent Contact Number: 02 4932 3766

Proponent Address: Bridgman Road, Bridgman NSW 2330

Project ID: Rix's Creek North Mine – Modification 10

Application Number: MP08_0102-Mod-10

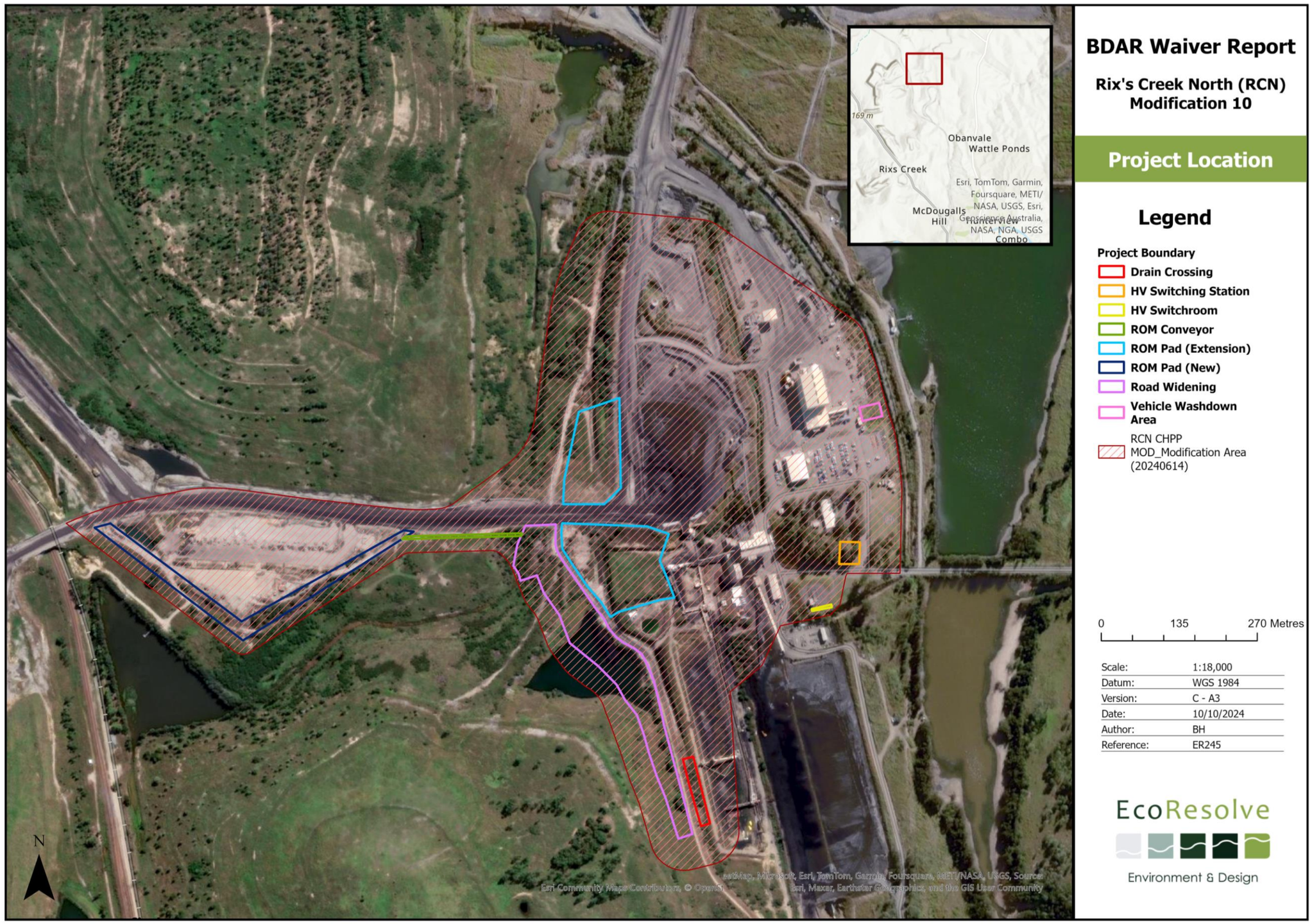

Figure 1 – Proposed modification Location

2.2 Site Details

Street Address: Bridgman Road, Bridgman NSW 2330

Lot/Section/Plan no: 2/-/DP1111102, 3/-/DP1111102 and 221/-/DP1171746

LGA: Singleton

2.3 Description of existing development site

The proposed development is situated at RCN within a heavily disturbed and cleared Mining Area. (**Figure 1**)

The proposed disturbance will be undertaken within and immediately adjoining existing mining infrastructure.

2.4 Impacts on Biodiversity Values

Impacts on biodiversity values are addressed in the following section of this report, as detailed in **Table 1.**

Table 1 Impacts on biodiversity values from the proposed development

Biodiversity Value	Meaning	Relevance	Section addressed
Vegetation abundance	Occurrence and abundance of vegetation at a particular site	N/A	Section 2.5
Vegetation integrity	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near-natural state	N/A	Section 2.6
Habitat suitability	Degree to which the habitat needs of threatened species are present at a particular site	N/A	Section 2.7
Threatened species abundance	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	BC Listed *Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions* is present in a highly degraded form.	Section 2.7
Habitat connectivity	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of	N/A	Section 2.8

Biodiversity Value	Meaning	Relevance	Section addressed
	those species across their range		
Threatened species movement	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	N/A	Section 2.8
Flight path integrity	Degree to which the flight paths of protected animals over a particular site are free from interference	N/A	Section 2.8
Water sustainability	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site	N/A	Section 2.9

2.5 Occurrence and abundance of vegetation within the modification area

The various areas of modification are presented in **Figure 2** and each specific area is addressed below.

2.5.1 ROM Pad (New)

The proposed modification areas lie within a previously cleared and heavily disturbed area consisting of mining infrastructure. Vegetation is comprised of regrowth of exotic species, primarily *Acacia saligna* (Golden Wreath Wattle)*, Chloris gayana* (Rhode's Grass) and *Galenia pubescens* (Galenia).

2.5.2 ROM Pad (Extension)

The proposed modification area is located within previously cleared and heavily disturbed vegetation. Vegetation is comprised of *Acacia saligna, Chloris gayana, Galenia pubescens.* No native vegetation is present within this area.

2.5.3 ROM Conveyor

The proposed modification area is part of a roadside running parallel to a section haul road. The vegetation present contains a mixture of exotic groundcover species including *Chloris gayana, Setaria spp.* and *Galenia pubescens.*

2.5.4 Road Widening and Drain Crossing

The proposed modification area covers varying vegetation conditions. The northern part of area is dominated by an assemblage of exotic species of shrubs and groundcover.

The southern section includes a degraded mix of endemic and planted canopy and midstory species including *Corymbia maculata* (Spotted Gum), *Eucalyptus crebra* (Narrow Leaved Ironbark), *Melaleuca ericifolia* (Swamp Paperbark) and *Acacia saligna.* The ground cover is highly degraded, dominated by exotic species. Further assessment of the vegetation has determined that this linear area of vegetation is a highly degraded form of Plant Community Type (PCT) *3315 Central Hunter Ironbark-Spotted Gum Forest.* This PCT was identified to be potentially commensurate with a Threatened Ecological Community (TEC). Accordingly, a more detailed assessment of this vegetation has been included in **Section 2.7**.

2.5.5 HV Substation and HV Switching Station

The proposed modification area 'HV Switchroom', is devoid of any native vegetation, comprised of exotic grass species that is maintained.

The 'HV Switching Station' is comprised of a mix of planted/regrowth endemic trees and shrub species, including *Casuarina glauca* (Swamp She-oak), *Corymbia maculata, Callistemon rigida* (Stiff Bottle Brush), Grevillea robusta and *Melaleuca ericifolia.* The assemblage of plants has been assessed with reference to BAM (2020) and the rule of best fit has determined it as being commensurate with PCT 4023 *Coastal Valleys Riparian Forest.* This PCT is potentially commensurate with a TEC. Accordingly, a more detailed assessment of this vegetation has been included in **Section 2.7**.

2.5.6 Vehicle Washdown Area

The proposed modification area is a previously cleared, highly degraded area adjacent to existing mining infrastructure. Vegetation present is a mix of exotic ground cover species including *Axonopus spp.* (Carpet Grass), *Cynodon dactylon* (Couch Grass) and *Chloris gayana.*

2.6 Vegetation Integrity

The composition, structure and function within the proposed modification areas and adjacent areas has been subject to a history of disturbance and land clearing largely altering it from a natural state.

RCN has been operated by Bloomfield since 2015, formerly operated by Vale for the Integra Open Cut Project. Mining around the Rix's Creek area has occurred since the 1850's with various operations taking place in that time.

As such, a large portion of the surrounding land has been subject to land degradation for over 100 years including, but not limited to:

- Land clearing and fragmentation for mining infrastructure
- Undermining and related subsidence and erosion impacts
- Erosion and water table alteration and contamination
- Surface water flow obstruction and alteration

As a result, the vegetation within the RCN persists in a largely cleared and highly disturbed condition with varying amounts of native regrowth, weed invasion and indications of some areas being planted and managed in landscaped areas with exotic grasses dominating the ground layer. The proposed removal of vegetation does not contain hollow bearing trees (HBT) and where there is canopy present it is less than 300 mm diameter at breast height (DBH).

2.7 Habitat Suitability and Threatened Species Abundance

The proposed modification areas are located within disturbed and highly degraded areas within the existing mine. However, where some disturbed areas of PCTs are present they have been assessed against relevant listings of TECs to determine if they're likely to be commensurate as outlined in **Table 2** below.

2.7.1 Karsts, cliffs, rocks and other geological habitat features

The area does not contain karsts, cliffs, rocks and other geological habitat features of significance. As such, there are no anticipated potential impacts on these habitat features.

Impacts of the proposed modification will be limited to:

- Clearance of native and non-native vegetation
- Minor land and disturbance during construction
- Minor dust emissions during construction
- Vehicle and plant access to and within the site proximity.

2.8 Habitat Connectivity and Threatened Species Movement

Protected species flight paths are not likely to occur over the RCN Modification 10 area.

Due to the disturbed nature and isolation from remnant native vegetation and associated foraging habitat, it is not expected that the RCN constitutes an active flyway or flight path for avifauna or bat species.

2.9 Water Sustainability

A Surface Water Assessment of the Rix's Creek North Mine – Modification 10 conducted by Hydro Balance (2024) concluded the following:

This report assesses the potential surface water impacts of the proposed modification. The assessment has concluded the following:

• The potential impact of the Modification on stream flows in the receiving waters would be negligible.

• The potential impact of the Modification on receiving water quality would negligible.

• The changes to the tailings dewatering and disposal strategy may result in a potential reduction in site water usage of around 185 ML/a (i.e. there may be up to 185 ML/a of additional water to manage within the mine water management system).

• The proposed mitigation measures (reinstating evaporator technology and the (approved) ability to transfer water into the GRAWTS) is more than sufficient mitigate the reduction in losses associated with the proposed CHPP upgrade works.

Therefore, it is our view that the Modification will have negligible or no residual impacts on surface water resources.

3 Field Investigation

3.1 Methodology

3.1.1 Desktop Assessment

EcoResolve has performed a combination of desktop and field-based tasks to address the relevant regulatory context. Desktop research tasks performed included a review of online databases and spatial datasets to broadly characterise the landscape scale biodiversity values of the proposed development. As a minimum, this review has considered the following resources:

- IBRA regional and subregional mapping.
- Mitchell Landscapes mapping and associated literature.
- Latest available high-resolution imagery.
- BioNet Atlas data threatened species record searches within the locality (i.e., 10km buffer of the site).
- Regional vegetation mapping to identify Plant Community Types (PCTs) that may be occurring within the site.

3.1.2 Field Surveys

A site inspection was conducted by EcoResolve Ecologist Julian Carson and Field Ecologist Bryce Dedal on the 13 September 2024. Their purpose was to identify the potential for occurrence of threatened species, ecological communities or their habitats as listed under the BC Act and/or the *Environment Protection and Biodiversity Act 1999* (EPBC Act).

Rapid Data Points (RDPs) were undertaken across the subject land to assist vegetation classification and refine the boundaries and distribution of PCTs (Appendix D). In total, 10 RDPs were undertaken. Information recorded at each RDP included:

- Dominant canopy species.
- Main associated species.
- Landscape position.
- Characteristic mid-storey species.
- Characteristic groundcover species.

Opportunistic fauna surveys including any secondary indications of fauna and important habitat features such as hollow-bearing trees, habitat logs and rocky outcrops were also recorded.

3.2 Limitations

This assessment is based on a meander of the site on one (1) diurnal visit only, with the potential for threatened flora and fauna detection limited to opportunistic surveys and habitat analysis.

Given the above, the precautionary principle has been applied in circumstances where scientific uncertainty exists (i.e., assumed presence for a threatened flora, fauna species or populations which are likely to occur).

4 Results

4.1 Desktop

The desktop assessment identified seventy-three (73) threatened flora and fauna species as being likely to occur. Of these seventy-three (73) species, twenty-five (25) were considered to have a moderate – high likelihood of occurrence (LoO) and required further assessment.

Species listed as Marine under the EPBC Act were not assessed further than the LoO analysis because they were unlikely to be impacted by the proposed modification as these habitats do not occur in the locality.

4.1.1 BC Act 5-part-test of significance

Of the twenty-five (25) species with a moderate or higher LoO (consisting of sixty-four (64) BC Act listed species) two (2) species and one (1) ecological community were considered to warrant further assessment in **Appendix B**. The Assessments of Significance (AoS) (**Appendix B**) concluded that the proposed modification is unlikely to have a significant impact upon any threatened species or communities listed under the BC Act.

4.1.2 EPBC Act Assessments of Significance

Two (2) EPBC Act listed species were considered likely to occur and have potential to be significantly impacted by the proposed development. Consequently, a self-assessment prepared in accordance with the Significant Impact Guidelines 1.1 (DoE 2013) was prepared in **Appendix C**. This assessment resulted in a significant impact being considered unlikely as a result of the proposed development.

4.2 Field Survey

4.2.1 Flora and fauna

During the site visit, there were no threatened flora or fauna species detected on site. The small area (0.29 ha) of degraded habitat is unlikely to constitute significant habitat for threatened flora and/or fauna.

4.2.2 Vegetation communities

The Plant Community Types (PCTs) on site are listed in **Table 4**. This vegetation was deemed to be in low condition due to the level of disturbance evidenced by the young age cohort of native canopy species and the dominance of exotic flora species including listed weeds. Areas that form part of the proposed modification but were not surveyed due to a lack of native vegetation are also depicted in **Figure 2**.

Table 2 – Plant Community Types and their Extent in the proposed modification Site

PCT	Area (ha)	Commensurate with BC Listed/EPBC TEC?
3315- *Central Hunter Ironbark-Spotted Gum Forest*	0.2	Yes
4023 - *Coastal Valleys Riparian Forest*	0.09	No

4.2.3 Threatened Ecological Communities

4.2.3.1 Swamp Oak Floodplain of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions

A small area (0.09 ha) of PCT 4023 *Coastal Riparian Forest* present within the 'HV Switching Station' is associated with the BC Act Listed EEC; *Swamp Oak Floodplain of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions.* Assessment has determined that the vegetation is not commensurate with the Endangered Ecological Community (EEC). A review of the EEC's Final Determination (2021), determined that due to the elevation of the vegetation being higher than 20m and the location not representing a river flat that the vegetation is not commensurate with the EEC.

4.2.3.2 Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland

This same (in **Section 4.2.3.1**) small area (0.09 ha) of PCT 4023 *Coastal Riparian Forest* present within the 'HV Switching Station' is also associated with the EPBC Act 1999 listed EEC; *Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland.* However, it was determined that the vegetation did not meet the minimum conditional thresholds as per the Conservation Advice (2018).

4.2.3.3 Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions

The vegetation present in the Road Infrastructure area has been identified as a small area (0.2 ha) of disturbed PCT 3315. This PCT is associated with the BC Act listed EEC; *Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions*. This tract of vegetation has been determined as being a highly degraded form of the EEC. Consequently, a 5-Part Test (**Appendix B**) was undertaken, and it was determined that the proposed modification is unlikely to result in a significant impact.

4.2.3.4 Central Hunter Valley eucalypt forest and woodland

This same (in **Section 4.2.3.3**) small area (0.2 ha) of PCT 3315 identified within the Road Infrastructure area is also associated with the EPBC Act listed Critically Endangered Ecological Community (CEEC); *Central Hunter Valley eucalypt forest and woodland.* However, it has been determined with reference to the Conservation Advice (2015), that the degraded vegetation does not meet the minimum condition thresholds, in that the patch size is not at least 0.5 ha.

4.2.4 Habitat Features

No habitat features for the threatened fauna known to occur within the region were identified within the proposed modification areas.

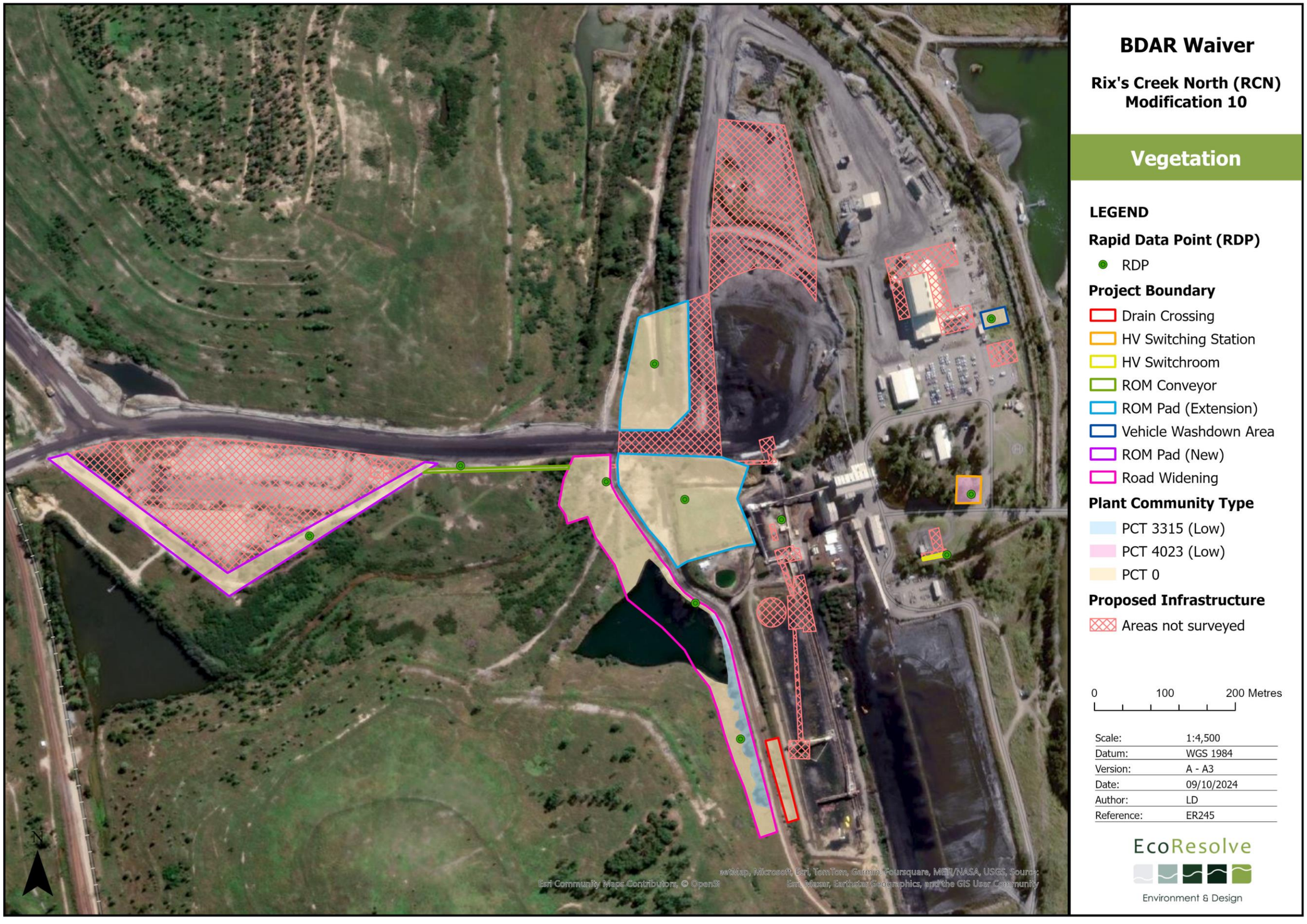

Figure 2 – Vegetation mapping

5 Conclusion

The proposed modification is expected to result in the clearing of approximately 0.29 hectares of native vegetation. Field surveys revealed that the areas designated for the modification are primarily devoid of native vegetation. A small tract of scattered trees was identified along the road verge, which is proposed for removal as part of the haulage road widening and associated road infrastructure works. Although none of these trees are hollow-bearing, they are part of BC Act listed EEC; *Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions*. However, the assessment indicates that their removal is unlikely to result in significant impacts.

Two (2) EPBC Act and BC Act listed species were considered for further assessment which concluded that the proposed modification is unlikely to have significant impacts to any threatened species or communities potentially present within the proposed modification area.

Given the isolated and disturbed nature of the site and the absence of significant vegetation, the proposed minor disturbances are not expected to contribute to a loss of habitat connectivity for remnant vegetation or fragment the movement of threatened species across their range. The planned minor disturbances include the widening of the haul road, slight alterations to a dam related to mining infrastructure, development of high-voltage power infrastructure, and expansion of existing cleared mining areas. The low-lying nature of the proposed infrastructure is not anticipated to pose a barrier to the movement of native fauna or disrupt potential flight paths.

Additionally, the proposed modification areas do not contain karsts, cliffs, rocks, or other significant geological features, thus negating concerns about impacts to these potential habitat elements.

References

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Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions - endangered ecological community listing (2021)

https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2004-2007/swamp-oak-floodplain-forest-endangered-ecological-community-listing

Conservation advice (incorporating listing advice) for the Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community (2018)

https://www.environment.gov.au/biodiversity/threatened/communities/pubs/141-conservation-advice.pdf

Appendix A – Likelihood of Occurrence

Stage 1 involved a preliminary desktop 'likelihood of occurrence' (LoO) assessment, which identified 68 threatened species as having a moderate – high likelihood of occurring within the proposed proposed modification area **(Table 5).** NSW BioNet records, habitat requirements and breeding and foraging behaviour were considered in relation to the habitat and location of the proposed action. The classifications were assigned to each threatened species based on the criteria set out in **Table 6**.

Stage 2 involved assessing the potential for impact on moderate or high LoO species that are listed under the *Environment Protection and Biodiversity Act 1999* (EPBC Act) (**Table 6**). The threatened species list was refined following field observations and further assessment of habitat constraints and the potential impact of the proposed action. The classifications were assigned to each threatened species based on the criteria set out in **Table 4**.

Table 5 - Likelihood of Occurrence criteria

Likelihood of Occurrence	Definition (species specific)
None	Habitat features within the area of interest are unsuitable for the species (e.g., aquatic species within a terrestrial environment).
Low	The area of interest seldom contains suitable habitat for the species and there are no recent records (i.e., NSW BioNet records) within the area of interest.
Moderate	Important habitat features for the species occur within the area of interest. The area of interest may or may not be within the species indicative 'known or predicted mapped distribution'. Species may or may not have been detected recently within the locality (i.e., within NSW BioNet records).
High	High quality habitat features specifically associated with the species generally occur within the area of interest and is within the species known distribution. Recent NSW BioNET records have recently observed the species within the location.
Known	The species, population or ecological community has been recorded onsite during field investigations.

Table 6 - Potential for impact analysis criteria

Survey Outcomes	Definition
None	Habitat analysis only following site inspection. No targeted surveys required.
Potential	Targeted surveys performed outside guideline specifications and/or cryptic nature of the threatened species require further targeted surveys to determine the species presence or absence.
Absent	Targeted surveys performed adhering to guideline specification. No populations or individuals were identified on site.
Present	Targeted surveys performed adhering to guideline specification. Threatened species has been identified on site during field observations.

Table 7 - Threatened Species Likelihood of Occurrence.

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Hirundapus caudacutus **(White-throated Needletail)**	V	MAR, MIG, V	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges.	1	**Moderate.** Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the locality (NSW BioNet records).

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Acacia pendula **(Weeping Myall population in the Hunter catchment)**	EP	-	Occurs on the western slopes, western plains and far western plains of NSW, and south into Victoria and north into Queensland. This Hunter population is known to occur naturally as far east as Warkworth and extends northwest to Muswellbrook and to the west of Muswellbrook at Wybong. Only recorded to date at 6 locations: Jerrys Plains, Edderton, Wybong, Appletree Creek, Warkworth and Appletree Flat. These locations occur within the Muswellbrook and Singleton Local Government Areas, with the population potentially also occurring within the Mid-Western Regional and Upper Hunter LGA's. Within the Hunter catchment the species typically occurs on heavy soils, sometimes on the margins of small floodplains, but also in more undulating locations.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Anthochaera phrygia **(Regent Honeyeater)**	CE	CE	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. The distribution of the species has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).
Aphelocephala leucopsis **(Southern Whiteface)**	-	V	The southern whiteface is endemic to Australia and typically inhabits arid open woodlands with a shrubby or grassy understory, as well as grass plains throughout much of the continents south. Not present in Tasmania or in coastal areas of the mainland, this species prefers Acacia woodlands, particularly those dominated by mulga and drought-resistant chenopod shrub species, including saltbush and bluebush. They are considered sedentary; however, atlas records indicate that individuals may move into wetter areas outside of their normal range during drought years	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the locality (NSW BioNet records).
Aprasia parapulchella **(Pink-tailed Legless Lizard)**	V	V	Inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by kangaroo grass. Sites are typically well-drained, with rocky outcrops or scattered, partially buried rocks.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Asperula asthenes **(Trailing Woodruff)**	V	V	This small herb occurs only in NSW. It is found in scattered locations from Bulahdelah north to near Kempsey, with several records from the Port Stephens-Wallis Lakes area. Damp sites, often along river banks	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Botaurus poiciloptilus **(Australasian Bittern)**	E	E	The Australasian Bitterns is widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spike rushes.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Calidris acuminata **(Sharp-tailed Sandpiper)**	-	V, M	Freshwater or saltwater wetlands- the muddy edges of lagoons, swamps, lakes, dams, soaks, sewage dams or temporary floodwaters.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Calidris ferruginea **(Curlew Sandpiper)**	E	CE, MAR, MIG	The Curlew Sandpiper is distributed around most of the coastline of Australia. It occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes the inland	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Callocephalon fimbriatum **(Gang-gang Cockatoo)**	V	E	In summer, occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Also occur in subalpine snow gum woodland and occasionally in temperate or regenerating forest. In winter, occurs at lower altitudes in drier, more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas. It requires tree hollows in which to breed.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Calyptorhynchus lathami lathami **(Glossy Black-Cockatoo)**	V	V	Inhabits forest with low nutrients, characteristically with key *Allocasuarina* spp. Tends to prefer drier forest types with a middle stratum of *Allocasuarina* below *Eucalyptus* or *Angophora*. Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Chalinolobus dwyeri **(Large-eared Pied Bat)**	V	E	Located in a variety of drier habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Can also be found on the edges of rainforests and in wet sclerophyll forests. This species roosts in caves and mines in groups of between 3 and 37 individuals.	3	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the locality (NSW BioNet records).
Chthonicola sagittata **(Speckled Warbler)**	V	-	The Speckled Warbler lives in a wide range of eucalypt dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy.	12	**Moderate.** Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Circus assimilis **(Spotted Harrier)**	V	-	The Spotted Harrier occurs throughout the Australian mainland, except in densly forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Climacteris picumnus victoriae **(Brown Treecreeper (eastern subspecies))**	V	V	Found in eucalypt woodlands (including box-gum woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and river red gum forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Cryptostylis hunteriana **(Leafless Tongue-orchid)**	V	V	Does not appear to have well defined habitat preferences and is known from a range of communities, including swamp-heath and woodland. The larger populations typically occur in woodland dominated by Scribbly Gum (Eucalyptus sclerophylla), Silvertop Ash (E. sieberi), Red Bloodwood (Corymbia gummifera) and Black Sheoak (Allocasuarina littoralis); appears to prefer open areas in the understorey of this community and is often found in association with the Large Tongue Orchid (C. subulata) and the Tartan Tongue Orchid (C. erecta).	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Cynanchum elegans **(White-flowered Wax Plant)**	E	E	Recorded from rainforest gullies scrub and scree slopes from the Gloucester district to the Wollongong area and inland to Mt Dangar.	0	**None**. Species specific habitat types (i.e. important habitat features) and known vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the investigation area. The investigation area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Daphoenositta chrysoptera **(Varied Sittella)**	V	-	Inhabits wide variety of dry eucalypt forests and woodlands, usually with either shrubby under storey or grassy ground cover or both, in all climatic zones of Australia. Usually in areas with rough-barked trees, such as stringybarks or ironbarks, but also in paperbarks or mature Eucalypts with hollows.	3	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Dasyurus maculatus **(Spotted-tailed Quoll)**	V	E	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).
Dasyurus maculatus maculatus **(Spotted-tailed Quoll (SE population))**	V	E	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Delma vescolineata	TBC	TBC	TBC	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Dichanthium setosum	V	V	Occurs on the New England Tablelands, North West Slopes and Plains and the Central Western Slopes of NSW, as well as in Queensland and Western Australia. It occurs widely on private property, including in the Inverell, Guyra, Armidale and Glen Innes areas. Often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Erythrotriorchis radiatus **(Red Goshawk)**	CE	E	The Red Goshawk occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the locality (NSW BioNet records).
Eucalyptus glaucina **(Slaty Red Gum)**	V	V	Found only on the north coast of NSW and in separate districts: near Casino where it can be locally common, and farther south, from Taree to Broke, west of Maitland. Grows in grassy woodland and dry eucalypt forest. Grows on deep, moderately fertile and well-watered soils.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the locality (NSW BioNet records).
Euphrasia arguta	CE	CE	Occur in eucalypt forest with a mixed grass and shrub understorey within Nundle State Forest. Sites have either been logged in the last few decades or appear to have regrown from past clearing.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).

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Falco hypoleucos **(Grey Falcon)**	V	V	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the locality (NSW BioNet records).
Falsistrellus tasmaniensis **(Eastern False Pipistrelle)**	V	-	Inhabit sclerophyll forests, preferring wet habitats where trees are more than 20 m high. Two observations have been made of roosts in stem holes of living eucalypts. There is debate about whether or not this species moves to lower altitudes during winter, or whether they remain sedentary but enter torpor. This species also appears to be highly mobile and records showing movements of up to 12 km between roosting and foraging sites.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Gallinago hardwickii **(Latham's Snipe)**	-	V, MAR, MIG	Latham's Snipe is a non-breeding migrant to the south east of Australia including Tasmania, passing through the north and New Guinea on passage. Latham's Snipe breed in Japan and on the east Asian mainland. seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Glossopsitta pusilla **(Little Lorikeet)**	V	-	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked eucalypts. Most breeding records come from the western slopes.	2	**Moderate.** Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).

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Grantiella picta **(Painted Honeyeater)**	V	V	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits boree, brigalow and box-gum woodlands and box-ironbark forests.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Haliaeetus leucogaster **(White-bellied Sea-Eagle)**	V	MAR	Inhabits coastal and near coastal areas, building large stick nests, and feeding mostly on marine and estuarine fish and aquatic fauna.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Hirundapus caudacutus **(White-throated Needletail)**	V	MAR, MIG, V	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges.	1	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Lathamus discolor **(Swift Parrot)**	E	CE	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects. The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW. This species is migratory, breeding in Tasmania and also nomadic, moving about in response to changing food availability.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).

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Lepidium aschersonii	V	V	Found on ridges of gilgai clays dominated by brigalow, with wallaby and spear grasses in the understorey. The species grows as a component of the ground flora, in grey loamy clays. Vegetation structure varies from open to dense brigalow, with sparse grassy understorey and occasional heavy litter.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Litoria aurea **(Green and Golden Bell Frog)**	E	V	Inhabits a very wide range of water bodies including marshes, dams and streams, particularly those containing emergent vegetation such as bullrushes or spike rushes. It also inhabits numerous types of man-made water bodies including quarries and sand extraction sites. Optimum habitat includes waterbodies that are un-shaded, free of predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.	0	**Moderate.** Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the locality (NSW BioNet records).
Litoria booroolongensis **(Booroolong Frog)**	E	E	The Booroolong Frog is found along permanent western flowing streams of the Great Dividing Range through most of NSW and down into northern Victorua. Streams range from small slow-flowing creeks to large rivers and the adults are found on or near cobble banks and other rock structures within stream margins and shelter under rocks or amongst vegetation near the ground on the stream edge. The species occurs along streams in both forested areas and open pasture but has been affected by the presence of the introduced willow tree. Booroolong Frogs sometimes basks in the sun on exposed rocks near flowing water during summer.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Melanodryas cucullata cucullata **(Hooded Robin (south-eastern form))**	E	E	Occupy a wide range of eucalypt woodlands, Acacia shrublands and open forests.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the locality (NSW BioNet records).

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Micronomus norfolkensis **(Eastern Coastal Free-tailed Bat)**	V	-	Occur in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures (OEH, 2022)	0	**Moderate.** Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the locality (NSW BioNet records).
Miniopterus australis **(Little Bentwing-bat)**	V	-	Coastal north-eastern NSW and eastern Queensland. Little Bent-wing Bat is an insectivorous bat that roost in caves, in old mines, in tunnels, under bridges, or in similar structures. They breed in large aggregations in a small number of known caves and may travel 100s km from feeding home ranges to breeding sites. Little Bent-wing Bat prefers moist eucalypt forest, rainforest or dense coastal banksia scrub where it forages below the canopy for insects.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Miniopterus orianae oceanensis **(Large Bent-winged Bat)**	V	-	Eastern Bentwing-bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Hunt in forested areas, catching moths and other flying insects above the tree tops (OEH, 2019)	3	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Myotis macropus **(Southern Myotis)**	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. Generally, roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).

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Neophema chrysostoma **(Blue-winged Parrot)**	V	V	The blue-winged parrot is found across southeastern Australia. In eastern South Australia, it is found north to the Flinders Ranges, and across Victoria. It is more sporadic across central and western New South Wales and into Queensland, as far north as Diamantina National Park. It lives in savannah woodland, grasslands, orchards, farmlands, marshes, heath, dunes, and other open habitats up to 1,200 m (3,937 ft) above sea level. It is one of only three species of parrot that make regular yearly migrations over a sea or ocean, with many members of the species flying between Tasmania, where they breed in spring and summer, and the mainland, where they winter. Some birds, however, do remain in Tasmania over the winter and some remain on the mainland to breed in the summer.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Notamacropus parma **(Parma Wallaby)**	V	V	Once occurred from north-eastern NSW to the Bega area in the southeast. Their range is now confined to the coast and ranges of central and northern NSW from the Gosford district to the Queensland border. Preferred habitat is moist eucalypt forest with thick, shrubby understorey, often with nearby grassy areas, rainforest margins and occasionally drier eucalypt forest.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Nyctophilus corbeni **(South-eastern Long-eared Bat)**	V	V	The South-eastern Long-eared Bat has a limited distribution that is restricted around the Murray-Darling Basin in south-eastern Australia. Even in this region its distribution is scattered, and it is rarely recorded. It occurs in far eastern South Australia, in areas north of the Murray River, east of Canegrass Station and south of the Barrier Highway. These areas include the Riverland Biosphere Reserve, Danggali Conservation Park and the Birds Australia Gluepot Reserve. It is distributed throughout inland NSW except in the north-west area which is dominated by treeless plains. It can be found in the Hunter Valley, extending from central NSW to the eastern Hunter Valley coast. Considered *Nyctophilus timorensis south* eastern form under TSC Act.	0	**Moderate.** Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the locality (NSW BioNet records).
Ozothamnus tesselatus	V	V	Grows in eucalypt woodland. Upper Hunter from Ravensworth to Bylong and west of Divide at Bunnan.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).

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Petauroides volans **(Southern Greater Glider)**	E	E	The Southern Greater Glider occurs in eucalypt forests and woodlands. Utilise tree hollows	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Petaurus australis **(Yellow-bellied Glider)**	V	-	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Petaurus australis australis **(Yellow-bellied Glider (South-eastern))**	-	V	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Feed primarily on plant and insect exudates, including nectar, sap, honeydew and manna with pollen and insects providing protein. Extract sap by incising (or biting into) the trunks and branches of favoured food trees, often leaving a distinctive 'V'-shaped scar. Live in small family groups of two - six individuals and are nocturnal. Den, often in family groups, in hollows of large trees. Very mobile and occupy large home ranges between 20 to 85 ha to encompass dispersed and seasonally variable food resources.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Petaurus norfolcensis **(Squirrel Glider)**	V	-	Generally, occurs in dry sclerophyll forests and woodlands but is absent from dense coastal ranges in the southern part of its range. Requires abundant hollow bearing trees and a mix of eucalypts, banksias and acacias. There is only limited information available on den tree use by Squirrel gliders, but it has been observed using both living and dead trees as well as hollow stumps. Within a suitable vegetation community at least one species should flower heavily in winter and one species of eucalypt should be smooth barked. Endangered population in the Wagga Wagga LGA.	2	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Petrogale penicillata **(Brush-tailed Rock-wallaby)**	E	V	Found in rocky areas in a wide variety of habitats including rainforest gullies, wet and dry sclerophyll forest, open woodland and rocky outcrops in semi-arid country. Commonly sites have a northerly aspect with numerous ledges, caves and crevices.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).
Petroica phoenicea **(Flame Robin)**	V	-	Flame Robins are found in a broad coastal band from southern Queensland to just west of the South Australian border. The species is also found in Tasmania. The preferred habitat in summer includes eucalyptus forests and woodland, whilst in winter prefers open woodlands and farmlands. It is considered migratory. The Flame Robin breeds from about August to January.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Phascogale tapoatafa **(Brush-tailed Phascogale)**	V	-	The Brush-tailed Phascogale has a patchy distribution around the coast of Australia. In NSW it is mainly found east of the Great Dividing Range although there are occasional records west of the divide. Prefer dry sclerophyll open forest with sparse groundcover of herbs, grasses, shrubs or leaf litter. Also inhabit heath, swamps, rainforest and wet sclerophyll forest.	19	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).

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Phascolarctos cinereus **(Koala)**	E	E	Inhabits eucalypt forests and woodlands. The suitability of these forests for habitation depends on the size and species of trees present, soil nutrients, climate and rainfall.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Picris evae **(Hankweed)**	V	V	Hawkweed occurs in Eucalyptus open woodland with a grassy understorey composed of Dichanthium spp. Upper stratum species include Eucalyptus melliodora, E. crebra, E. populnea, E. albens, Angophora subvelutina, Allocasuarina torulosa, and Casuarina cunninghamiana.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Pomaderris brunnea **(Brown Pomaderris)**	E	V	The species is expected to live for 10 - 20 years, while the minimum time to produce seed is estimated to be 4 - 6 years. Found in a very limited area around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area. It also occurs at Walcha on the New England Tableland and in far eastern Gippsland in Victoria.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Pomatostomus temporalis temporalis **(Grey-crowned Babbler (eastern subspecies))**	V	-	In NSW, the eastern sub-species occurs on the western slopes of the Great Dividing Range, and on the western plains reaching as far as Louth and Balranald. It also occurs in woodlands in the Hunter Valley and in several locations on the north coast of NSW. It may be extinct in the southern, central and New England tablelands. Inhabits open box-gum woodlands on the slopes, and box-cypress-pine and open box woodlands on alluvial plains.	18	**High.** Habitat values within the investigation area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Number of Records (DPIE 2024)	Likelihood of Occurrence
Potorous tridactylus tridactylus **(Long-nosed Potoroo, Cobaki Lakes and Tweed Heads West population)**	EP	-	Inhabits coastal heath and wet and dry sclerophyll forests. Generally found in areas with rainfall greater than 760 mm. Requires relatively thick ground cover where the soil is light and sandy.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).
Prasophyllum sp. Wybong **(A leek orchid)**	-	CE	Endemic to NSW. It is known from seven populations in eastern NSW near Ilford, Premer, Muswellbrook, Wybong, Yeoval, Inverell and Tenterfield.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the locality (NSW BioNet records).
Prostanthera cineolifera	V	V	Grows in open woodlands on exposed sandstone ridges. Usually found in association with shallow or skeletal sands.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).
Pseudomys novaehollandiae **(New Holland Mouse)**	-	V	The New Holland Mouse currently has a disjunct, fragmented distribution across Tasmania, Victoria, New South Wales and Queensland. Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey, and vegetated sand dunes.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).

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Pteropus poliocephalus **(Grey-headed Flying-fox)**	V	V	This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km.	4	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Pterostylis gibbosa **(Illawarra Greenhood)**	E	E	Grows in open forest or woodland, on flat or gently sloping land with poor drainage. Known from a small number of populations in the Hunter region (Milbrodale), the Illawarra region (Albion Park and Yallah) and the Shoalhaven region (near Nowra).	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the locality (NSW BioNet records).
Pycnoptilus floccosus **(Pilot bird)**	-	V	Pilotbirds are endemic to south-east Australia. Upland Pilotbirds occur above 600 m in the Brindabella Ranges in the Australian Capital Territory, and in the Snowy Mountains in New South Wales and north-east Victoria (Higgins & Peter 2002; Loyn et al. 2021). Lowland Pilotbirds occur in forests from the Blue Mountains west of Newcastle, around the wetter forests of eastern Australia, to Dandenong near Melbourne	0	**Moderate.** Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Rhizanthella slateri	V, EP (Great Lakes)	E	Habitat requirements are poorly understood, and no particular vegetation type has been associated with the species, although it is known to occur in sclerophyll forest.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the locality (NSW BioNet records).

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Rhodamnia rubescens **(Scrub Turpentine)**	CE	CE	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. This species is characterised as highly to extremely susceptible to infection by Myrtle Rust. Myrtle Rust affects all plant parts.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Rostratula australis **(Australian Painted Snipe)**	E	E, MAR	In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the locality (NSW BioNet records).
Saccolaimus flaviventris **(Yellow-bellied Sheathtail-bat)**	V	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).

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Stagonopleura guttata **(Diamond Firetail)**	V	V	Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Eucalyptus pauciflora Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season). Usually encountered in flocks of between 5 to 40 birds, occasionally more. Groups separate into small colonies to breed, between August and January. Nests are globular structures built either in the shrubby understorey, or higher up, especially under hawk's or raven's nests. Birds roost in dense shrubs or in smaller nests built especially for roosting. Appears to be sedentary, though some populations move locally, especially those in the south. Has been recorded in some towns and near farm houses.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the locality (NSW BioNet records).
Syzygium paniculatum **(Magenta Lilly Pilly)**	E	V	Found only in NSW, in a narrow, linear coastal strip from Bulahdelah to Conjola State Forest. On the south coast the species occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral rainforest. On the central coast it occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Thesium australe **(Austral Toadflax)**	V	V	Grows in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia. Occurs in grassland or grassy woodland. Grows on kangaroo grass tussocks but has also been recorded within the exotic Coolatai grass.	0	**Low.** Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).

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Tringa nebularia **(Common Greenshank)**	-	M, E	Habitat is diverse, both inland and coastal. Found inland on both permanent and temporary wetland- billabongs, swamps, lakes, floodplains, sewage, farms and saltwater ponds. On the coast, it uses sheltered estuaries and bays with extensive mudflats, mangrove swamps, muddy shallows of harbours and lagoons and occasionally rocky tidal edges.	0	**Low**. Vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The investigation area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the locality (NSW BioNet records).
Tyto novaehollandiae **(Masked Owl)**	V	-	Inhabits a diverse range of wooded habitat that provide tall or dense mature trees with hollows suitable for nesting and roosting. Mostly recorded in open forest and woodlands adjacent to cleared lands. Nest in hollows, in trunks and in near vertical spouts or large trees, usually living but sometimes dead. Nest hollows are usually located within dense forests or woodlands. Masked owls prey upon hollow-dependent arboreal marsupials, but terrestrial mammals make up the largest proportion of the diet.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).
Vespadelus troughtoni **(Eastern Cave Bat)**	V	-	The Eastern Cave Bat is found in a broad band on both sides of the Great Dividing Range from Cape York to Kempsey, with records from the New England Tablelands and the upper north coast of NSW. The western limit appears to be the Warrumbungle Range, and there is a single record from southern NSW, east of the ACT. A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs; has been recorded roosting in disused mine workings, occasionally in colonies of up to 500 individuals.	0	**Moderate**. Species specific (i.e. important habitat features) and vegetation classification-based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).

Table 8 - Potential for impact analysis of listed Moderate- Known LoO species

Impact Species	BC Act	EPBC Act	SAII Species	Potential for Significant Impact	Assessment of Significance required
Hirundapus caudacutus **(White-throated Needletail)**	E	MAR, MIG, V	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Aphelocephala leucopsis **(Southern Whiteface)**	-	E	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Chalinolobus dwyeri **(Large-eared Pied Bat)**	V	E	Yes	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Chthonicola sagittata **(Speckled Warbler)**	V	-	No	**Unlikely-** The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Delma vescolineata	TBC	TBC	TBC	**Unlikely-** The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Erythrotriorchis radiatus **(Red Goshawk)**	CE	E	Yes	**Unlikely-** The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Falco hypoleucos **(Grey Falcon)**	V	V	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Glossopsitta pusilla **(Little Lorikeet)**	V	-	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Haliaeetus leucogaster **(White-bellied Sea-Eagle)**	V	MAR	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Hirundapus caudacutus **(White-throated Needletail)**	V	MAR, MIG, V	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Litoria aurea **(Green and Golden Bell Frog)**	E	V	No	**Possible** - Hydrological changes to the dirty water dam may modify or remove important areas of suitable habitat.	**Yes -** AoSs is considered necessary under both the BC Act (i.e. 5-Part Test) and the EPBC Act (i.e. Significant impact Guidelines 1.1) Refer to Appendix B**.**
Melanodryas cucullata cucullata **(Hooded Robin (south-eastern form))**	E	E	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Micronomus norfolkensis **(Eastern Coastal Free-tailed Bat)**			No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Miniopterus australis **(Little Bentwing-bat)**	V	-	Yes	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Miniopterus orianae oceanensis **(Large Bent-winged Bat)**			Yes	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Myotis macropus **(Southern Myotis)**	V	-	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Nyctophilus corbeni **(South-eastern Long-eared Bat)**	V	V	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Phascolarctos cinereus **(Koala)**	E	E	No	**Possible**- The proposed action may remove a small area of suitable habitat (~0.29 ha).	**Yes -** AoSs is considered necessary under both the BC Act (i.e. 5-Part Test) and the EPBC Act (i.e. Significant impact Guidelines 1.1) Refer to Appendix B**.**
Pomatostomus temporalis temporalis **(Grey-crowned Babbler (eastern subspecies))**	V	-	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Pteropus poliocephalus **(Grey-headed Flying-fox)**	V	V	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Pycnoptilus floccosus **(Pilot bird)**	-	V	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Saccolaimus flaviventris **(Yellow-bellied Sheathtail-bat)**	V	-	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Stagonopleura guttata **(Diamond Firetail)**	V	V	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.
Tyto novaehollandiae **(Masked Owl)**	V	-	No	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.

Impact Species	BC Act	EPBC Act	SAII Species	Potential for Significant Impact	Assessment of Significance required
Vespadelus troughtoni **(Eastern Cave Bat)**	V	-	Yes	**Unlikely**- The proposed action will only remove a small area of suitable habitat (~0.29 ha).	**No,** it is considered unlikely to be significantly impacted, due to the absence of suitable habitat.

Appendix B – 5 Part Test of Significance (BC Act)

Table 3 BC Act Assessments of Significance (5-Part-Test)

5-Part Test Criteria	*Litoria aurea* (Green and Golden Bell Frog)	*Phascolarctos cinereus* (Koala)	EEC Central Hunter Ironbark-Spotted Gum-Grey Box Forest
a.) In the case of a threatened species, whether the Project or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	There is currently no identified local population of this species within the Proposed modification. Therefore, it is unlikely that the minor impacts (~0.29ha) associated with the Proposed modification will place any potentially occurring local population at risk of extinction	There is currently no identified local population of this species within the Proposed modification. Therefore, it is unlikely that the minor impacts (~0.29ha) associated with the Proposed modification will place any potentially occurring local population at risk of extinction	NA – not relevant to the EEC.
b.) In the case of an endangered ecological community or critically endangered ecological community, whether the Project or activity:			
i.) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	NA – not relevant to threatened species	NA – not relevant to threatened species	The area (~0.29 ha) of the EEC which is to be removed to widen the road is small and therefore, it is unlikely that the minor impacts to the extent of the EEC will place any occurring local population at risk of extinction.
ii.) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction	NA – not relevant to threatened species	NA – not relevant to threatened species	The area (~0.29 ha) of the EEC which is to be removed to widen the road is small and therefore, it is unlikely that the minor impacts to the composition of the EEC will place any occurring local population at risk of extinction.
c.) In relation to the habitat of a threatened species or ecological community:			
i.) The extent to which habitat is likely to be removed or modified as a result of the Project or activity, and	There is only minor impacts to the habitat (~0.29ha) associated with the Proposed modification.	There is only minor impacts to the habitat (~0.29ha) associated with the Proposed modification.	There are only minor impacts to the habitat (~0.29 ha) associated with the Proposed Modification.

5-Part Test Criteria	*Litoria aurea* (Green and Golden Bell Frog)	*Phascolarctos cinereus* (Koala)	EEC Central Hunter Ironbark-Spotted Gum-Grey Box Forest
ii.) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the Project or activity, and	The minor incremental impacts to the habitat (~0.29ha) are unlikely to become fragmented or isolated from other areas of habitat as a result of the Proposed modification.	The minor incremental impacts to the habitat (~0.29ha) are unlikely to become fragmented or isolated from other areas of habitat as a result of the Proposed modification.	No habitat is likely to become fragmented or isolated from other areas of habitat as a result of the Proposed Development, as only a small area of suitable habitat would be removed.
iii.) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality	The minor incremental impacts to the habitat (~0.29ha) are unlikely to be important the long-term survival of the species in the locality.	The minor incremental impacts to the habitat (~0.29ha) are unlikely to be important the long-term survival of the species in the locality.	The small area of low-quality habitat affected (~0.29 ha) is unlikely to be important the long-term survival of the species in the locality.
d.) Whether the Project or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)	There are areas of outstanding biodiversity value mapped within the Proposed modification or within close proximity to it.	There are areas of outstanding biodiversity value mapped within the Proposed modification or within close proximity to it.	NA – not relevant to the EEC
e.) Whether the Project or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The Proposed modification is unlikely to contribute to any key threatening processes provided appropriate mitigation measures and recommendations are adhered to.	The Proposed modification is unlikely to contribute to any key threatening processes provided appropriate mitigation measures and recommendations are adhered to.	NA – not relevant to the EEC

Appendix C – Assessments of Significance (EPBC Act)

It has been determined that, based on habitats present, one (1) nationally threatened species have the potential to occur within the Proposed Development. This species is:

- *Litoria aurea* (Green and Golden Bell Frog)

Vulnerable Species Assessment

Vulnerable species are assessed on the basis of an 'important population', which is defined as a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal;
- populations that are necessary for maintaining genetic diversity; and/or
- populations that are near the limit of the species range.

Whilst it is likely that a number of the vulnerable species listed above would not be considered an 'important population', a precautionary approach has been undertaken in this instance. Therefore, all species have been afforded an Assessment of Significance, in line with the EPBC Act below in the table below. The potential for impact upon the endangered species listed above are assessed individually in the second table below.

These assessments determine if the proposed action will have any significant impact on any MNES. If it is determined that there is a significant impact to any MNES then a referral of the matter to DoE would be recommended.

Litoria aurea (Green and Golden Bell Frog)

Lead to a long-term decrease in the size of an important population;

There is no mapped important population identified in the proposed modification area.

Reduce the area of occupancy of an important population of the species;

As no important population has been identified, the Proposed Development is unlikely to reduce the area of occupancy of an important population.

Fragment an existing important population into two or more populations;

There is currently no identified population of this species within the Proposed Development site. Therefore, the minor modification associated with the Proposed Development are unlikely to lead to the fragmentation of an existing important population into two or more populations.

Adversely affect habitat critical to the survival of a species;

No areas of critical habitat have been identified within the Proposed Development site or surrounding areas.

Disrupt the breeding cycle of an important population;

There is no important population found on site.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;

It is unlikely that the minor modification associated with the Proposed Development will affect its habitat to an extent causing a decline of the species.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat;

The Proposed Development is unlikely to introduce invasive species that are harmful to the species and enable them to become established if proper mitigation measures are followed.

Introduce disease that may cause the species to decline; or

The Proposed Development is unlikely to introduce diseases that may cause this species to decline and appropriate mitigation measures will be taken to further reduce this risk.

Interfere substantially with the recovery of the species.

The proposed modification is unlikely to interfere substantially with the recovery of this species, as no important populations would be affected.

Conclusion: The Proposed Development is unlikely to have any significant impacts upon the species.

Endangered Species Assessment

Phascolarctos cinereus - (Koala)

Lead to a long-term decrease in the size of a population;

It is unlikely that the minor impacts (~0.29ha) associated with the Proposed Development will lead to a long-term decrease in the size of a population.

Reduce the area of occupancy of the species;

It is unlikely that the minor impacts (~0.29ha) associated with the Proposed Development will lead to reduction in the occupancy of a population of this species.

Fragment an existing population into two or more populations;

It is unlikely that the minor impacts (~0.29ha) associated with the Proposed Development will lead to the fragmentation of a population into two or more populations.

Adversely affect habitat critical to the survival of a species;

No areas of critical habitat have been identified within the Proposed Development or surrounding areas.

Disrupt the breeding cycle of a population;

It is unlikely that the minor impacts (~0.29ha) associated with the Proposed Development will disrupt the breeding cycle of a population of this species.

Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;

The small loss of potential habitat from clearing (~0.29ha) would not constitute a decrease in the availability or quality of habitat to the extent that the species is likely to decline.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat;

The Proposed Development is unlikely to introduce an invasive species that are harmful to the species.

Introduce disease that may cause the species to decline; or

The Proposed Development is unlikely to introduce diseases that may cause this species to decline.

Interfere with the recovery of the species.

It is not considered that the proposed modification will interfere substantially with the recovery of this species, as potentially occurring individuals maintain reproduction capability in the broader area of habitat to be retained adjacent to the Proposed Development.

Appendix D – Vegetation Survey Data

Table 4 Rapid Data Point Vegetation Data (RDP's)

RDP ID	Date	PCT	Condition	Dom Canopy	Sub-dom Canopy	Other Canopy	Dom Mid	Sub-dom Mid	Other Mid	Dom Ground	Sub-dom Ground	Other Ground	Comments
BDJC88	13/09/2024	0	-	*Acacia saligna*	-	-	-	-	-	*Chloris gayana*	-	-	-
BDJC89	13/09/2024	0	-	*Casuarina glauca*	*Grevillea robusta*	*Corymbia maculata*	*Callistemon rigidus*	*Melaleuca ericifolia*	-	*Cynodon dactylon*	*Anagallis spp.*	*Cenchrus clandestinus*	-
BDJC90	13/09/2024	0	-	-	-	-	-	-	-	*Cynodon dactylon*	*Axonopus spp.*	*Chloris gayana*	-
BDJC91	13/09/2024	0	-	-	-	-	-	-	-	*Cynodon dactylon*	*Axonopus spp.*	*Chloris gayana*	-
BDJC92	13/09/2024	0	-	-	-	-	*Acacia saligna*	-	-	*Chloris gayana*	*Galenia pubescens*	-	Exotic grass. Highly disturbed and previously cleared.
BDJC93	13/09/2024	0	-	-	-	-	*Acacia saligna*	-	-	*Chloris Gayana*	*Galenia pubescens*	-	Exotic grass. Highly disturbed and previously cleared.
BDJC94	13/09/2024	0	-	-	-	-	*Acacia saligna*	-	-	*Chloris Gayana*	*Galenia pubescens*	-	Exotic grass. Highly disturbed and previously cleared.
BDJC95	13/09/2024	0	-	-	-	-	*Acacia saligna*	-	-	*Chloris Gayana*	*Galenia pubescens*	-	Exotic grass. Highly disturbed and previously cleared.
BDJC96	13/09/2024	0	-	*Eucalyptus citridora*	*Eucalyptus spp.*	-	*Acacia saligna*	-	-	*Chloris Gayana*	*Galenia pubescens*	*Juncus acutus*	Exotic grass. Euc along dirty water dam. Highly disturbed and previously cleared
BDJC97	13/09/2024	3315	Low	*Corymbia maculata*	*Eucalyptus crebra*	-	*Melaleuca ericifolia*	*Acacia saligna*	-	*Chloris Gayana*	*Galenia pubescens*	-	Highly disturbed roadside. Previously cleared and high weed load.