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Sunrise Project

Project Execution Plan Modification

Appendix F

Biodiversity Review

Biodiversity AUSTRALIA

SUSTAINABLE PARTNERSHIPS
DEDICATED TO ACHIEVING
ECOLOGICAL AND ECONOMICAL BALANCE

LEADING THE WAY
IN ENVIRONMENTAL
MANAGEMENT

SUNRISE PROJECT – PROJECT EXECUTION PLAN MODIFICATION - RAIL SIDING BIODIVERSITY REVIEW

TRUNDLE, NSW

JUNE 2021

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Version Control

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Rev 1.0	Draft Report	Will Steggall	Will Steggall	03/12/2020
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Executive Summary

Sunrise Energy Metals Limited (SEM) is the proponent of the approved Sunrise Project (the Project) situated near the village of Fifield, approximately 350 kilometres west-northwest of Sydney in New South Wales (NSW). The Project is a nickel, cobalt and scandium open cut mining and processing project. Development Consent (DA 374-11-00) for the Project was issued under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* in 2001.

The Project Execution Plan Modification (the Modification) includes the implementation of Project changes identified in the Project Execution Plan to optimise the construction and operation of the Project.

Biodiversity Australia Pty Ltd has been engaged by SEM to conduct ecological field surveys and assess biodiversity values at the approved Project rail siding site and the proposed relocated rail siding site (part of the Modification) for the Project near Trundle, NSW. This report provides the results of the surveys at the proposed and approved rail siding sites. Surveys were carried out by two ecologists from 30th October to 2nd November 2020.

The study areas were characterised by a mix of cleared agricultural land, derived native grassland, and patches of woodland. Woodland areas occurred in the eastern portion of each study area. The vegetation surveys identified one Plant Community Type (PCT) within the study areas in woodland and derived native grassland forms, namely PCT 244. The woodland is equivalent to the *Poplar Box Grassy Woodland on Alluvial Plains* endangered ecological community listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Bird surveys identified 25 avian species in the study areas. Two threatened bird species were recorded, namely the Grey-crowned Babbler (*Pomatostomus temporalis*) and Major Mitchell's Cockatoo (*Lophochroa leadbeateri*) (flying overhead). These are highly mobile species and would not be significantly impacted by the Modification.

In general, the vegetation condition and habitat values identified within the approved and proposed rail siding site are considered similar, based on species diversity, structural diversity and non-endemic species invasion.

In conclusion, the Modification:

- would not increase impacts on biodiversity values as defined by the NSW *Biodiversity Conservation Act 2016* as there would be a reduction in native vegetation/habitat clearance, and therefore, if the Department of Planning, Industry and Environment is satisfied, a Biodiversity Development Assessment Report is not required;
- would not impact core Koala habitat under *State Environmental Planning Policy (Koala Habitat Protection) 2021* as the proposed rail siding site does not represent core Koala habitat;

- would not significantly affect threatened species, populations or ecological communities listed under the NSW *Fisheries Management Act 1994*, or their habitats as no waterbodies are present in the proposed rail siding site; and
- would not significantly impact threatened species, threatened ecological communities or migratory species listed under the EPBC Act (and would result in a reduction to the clearance of the *Poplar Box Grassy Woodland on Alluvial Plains* endangered ecological community).

1. Introduction

1.1 Background

The Sunrise Project (the Project) is a nickel, cobalt and scandium open cut mining and processing project situated near the village of Fifield, approximately 350 kilometres (km) west-northwest of Sydney, in New South Wales (NSW) (Figure 1).

SRL Ops Pty Ltd owns the rights to develop the Project. SRL Ops Pty Ltd is a wholly owned subsidiary of Sunrise Energy Metals Limited (SEM)[1].

Development Consent (DA 374-11-00) for the Project was issued under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) in 2001.

SEM has continued to review and optimise the Project design, construction and operation as part of preparations for Project execution. The outcomes of this review are outlined in the Project Execution Plan (Clean TeQ Sunrise Pty Ltd 2020).

The Project Execution Plan identified a number of changes to the approved mine and processing facility, accommodation camp, rail siding and road transport activities.

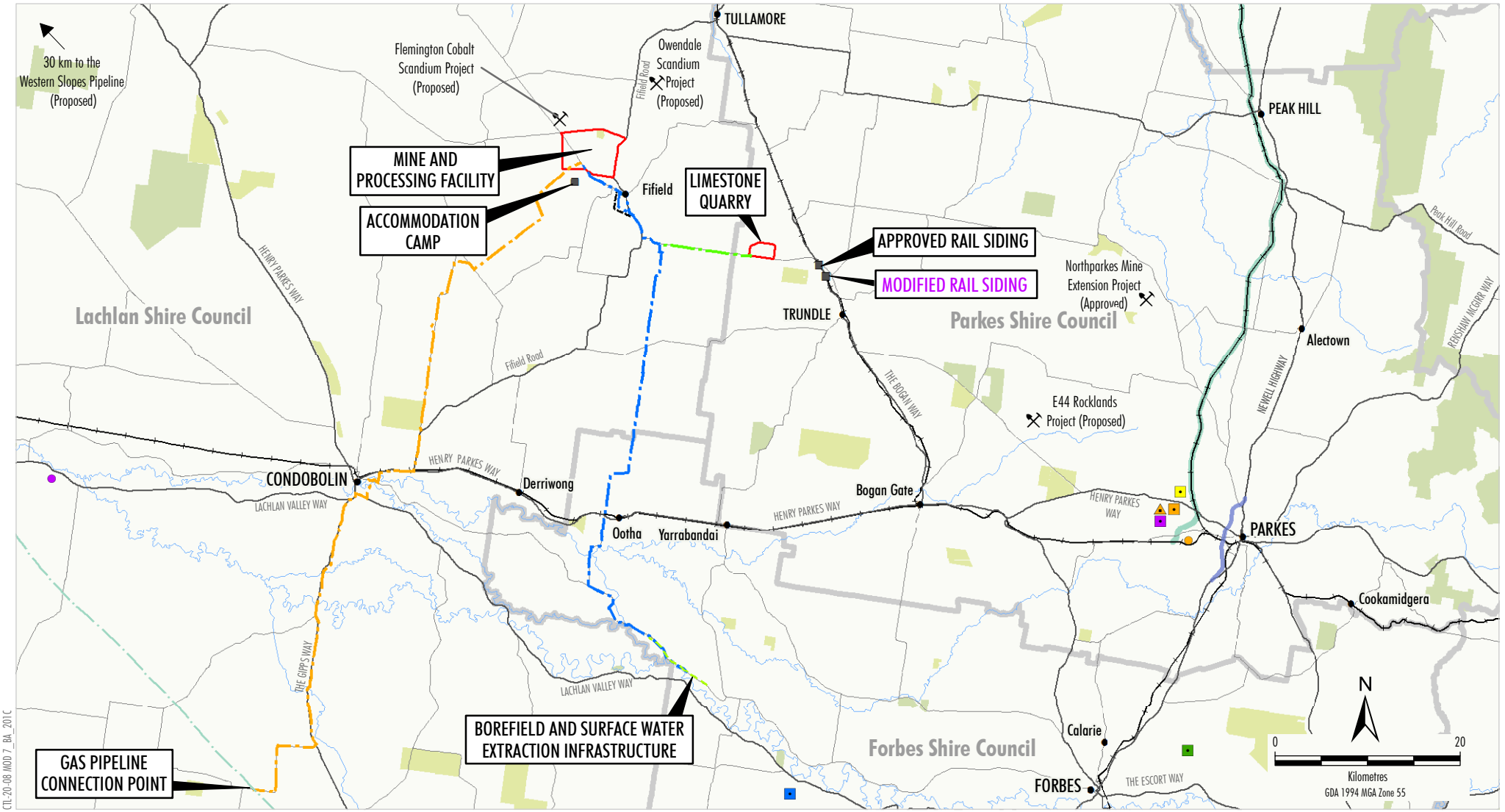
The Project Execution Plan Modification (the Modification) includes these Project Execution Plan changes to allow for the optimisation of the construction and operation of the Project.

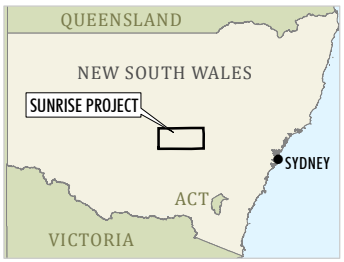
The Modification would include the following changes to the rail siding:

- revised rail siding location and layout;
- addition of an ammonium sulphate storage and distribution facility to the rail siding;
- extension of the Scotson Lane road upgrade;
- addition of a 22 kilovolt electricity transmission line (subject to separate approval) to the rail siding power supply; and
- increased peak operational phase workforce from approximately five to approximately 10 personnel

Changes associated with the rail siding would require an additional surface development area. SEM would relinquish (forgo clearance in) the approved rail siding surface development area as part of the Modification. The other changes included in the Modification would not require additional surface development areas and therefore have not been considered further in this Biodiversity Review.

[1] SEM was previously Clean TeQ Holdings Limited.





LEGEND

- National Park/Conservation Area
- State Forest
- Local Government Boundary
- Railway
- Existing Gas Pipeline

Project Components

- Mining Lease Boundary (ML)
- Fifield Bypass
- Gas Pipeline
- Water Pipeline
- Limestone Quarry Water Pipeline
- Borefield Infrastructure Corridor

Other Relevant Projects

- Parkes Bypass (Approved)

Other State Significant Projects

- Mine Site
- Daroobalgie Solar Farm (Proposed)
- Goonumbla Solar Farm (Approved)
- Jemalong Solar Farm (Approved)
- Parkes Solar Farm (Approved)
- Quorn Park Solar Farm (Approved)
- Parkes Peaking Power Plant (Approved)
- Cattle Feedlot and Quarry (Approved)
- Parkes Special Activation Precinct
- Inland Rail (Parkes to Narromine) (Approved)

Source: Black Range Minerals (2000); Clean TeQ (2017, 2018, 2020); NSW Spatial Services (2020)

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Regional Location

Figure 1

Biodiversity Australia Pty Ltd has been engaged by SEM to conduct ecological field surveys and assess biodiversity values at the approved rail siding site and a proposed rail siding site for the Project near Trundle, NSW (Figure 2). This Biodiversity Review provides the results of these surveys and has been prepared to support an application by SEM to modify Development Consent (DA 374-11-00) for the Project, which would be sought under section 4.55(2) of the EP&A Act.

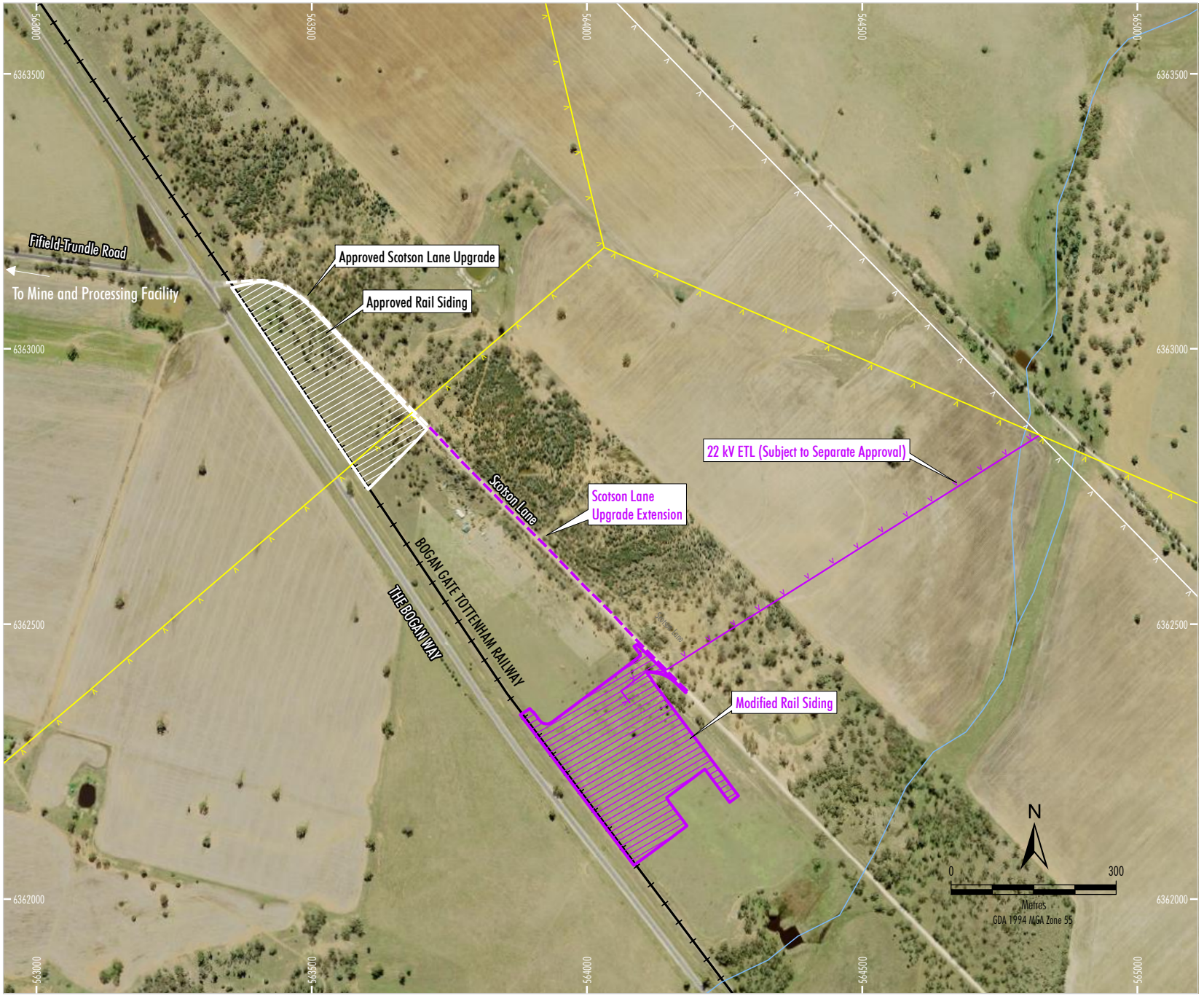
1.2 Location of the Study Areas

The study areas for this assessment are shown on Figure 3 and comprises the following:

- Study Area 1 – the approved rail siding site which is approximately 7.1 hectares (ha) in area and is accessed from Scotson Lane; and
- Study Area 2 – the proposed rail siding site which is approximately 9.2 ha in area and is located 500 metres south of the approved site on Scotson Lane.

1.3 Scope of Works

Detailed field surveys were undertaken from 30th October to 2nd November 2020. This scope of works for the rail siding study areas covered vegetation surveys as per the *Biodiversity Assessment Method* (BAM) (Department of Planning, Industry and Environment [DPIE] 2020a), threatened flora searches as per the *Surveying Threatened Plants and their Habitats: NSW Survey Guide for the Biodiversity Assessment Method* (DPIE 2020b), habitat assessments and mapping of Plant Community Types (PCTs).



LEGEND

- Railway
- Existing 11 kV Electricity Transmission Line
- Existing 22 kV Electricity Transmission Line
- Drainage Feature

Approved Project

- Surface Development Area
- Scotson Lane Upgrade

Modified Project

- Surface Development Area
- Scotson Lane Upgrade Extension
- 22 kV Electricity Transmission Line (Subject to Separate Approval)

Source: Black Range Minerals (2000); Clean Teq (2020, 2021); NSW Spatial Services (2020, 2021).

Orthophoto: © NSW Department of Finance, Services & Innovation (2021)

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Approved and Modified Rail Siding Location

Figure 2

CTL-20-08 MOD 7_BA_202B

LEGEND
Railway
Study Area

Source: Black Range Minerals (2000); Clean Teq (2020, 2021); NSW Spatial Services (2020, 2021).

Orthophoto: © NSW Department of Finance, Services & Innovation (2021)

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Approved and Modified Rail Siding Study Areas

Figure 3

CTL-20-08 MOD 7_BA_203A

2. Methods

2.1 Desktop Study and Literature Review

A review of government databases and Geographic Information System (GIS) layers relevant to the study areas was initially undertaken. Database searches included:

- Department of Agriculture, Water and the Environment (DAWE) *EPBC Act Protected Matters Search Tool* (DAWE 2020a);
- DPIE *BioNet Atlas* (DPIE 2020c) records within 5 kilometres of the study areas;
- DPIE *Threatened Biodiversity Data Collection* (DPIE 2020d); and
- NSW *State Vegetation Type Map* (Lachlan/Riverina region) (Office of Environment and Heritage [OEH] 2016).

The *Syerston Nickel-Cobalt Project Flora Report* (Bower and Kenna 2000) describes the vegetation that occurred at the approved rail siding site in 1999, but this report does not include any vegetation mapping for the site.

2.2 Vegetation Mapping

Vegetation mapping was undertaken using data collected in the field and checked against existing PCT mapping for the region (OEH 2016) and aerial imagery.

Mapping was undertaken in QGIS 3.10 on desktop and in the field using a GIS capable tablet. As per the BAM (DPIE 2020a) methodology, vegetation zones were assigned to each community based on PCT and condition (e.g. woodland and derived native grassland [DNG]).

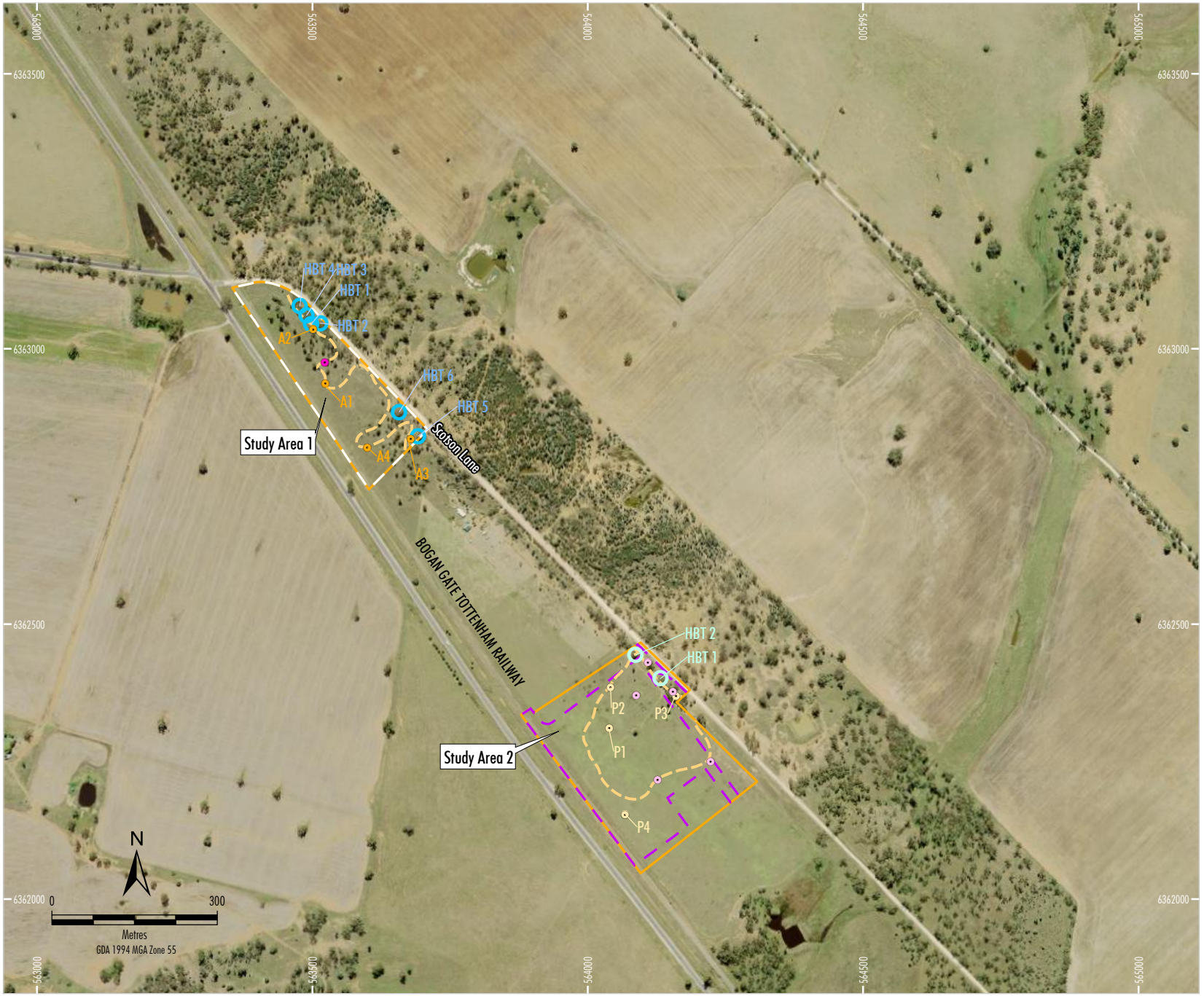
2.3 Field Surveys

2.3.1 Vegetation Surveys

Surveys were carried out by two ecologists from 30th October to 2nd November 2020. The following survey methods were undertaken to address current standards:

- Survey of vegetation communities (vegetation plots and transects as per the BAM [DPIE 2020a]);
- Review of vegetation against listings of Threatened Ecological Communities;
- Targeted searches for threatened plants within the study areas; and
- Collation of a site flora species list.

A total of four vegetation integrity plots as per the BAM (DPIE 2020a) were undertaken in each of the study areas. The location of these is shown in Figure 4 (Study Area 1: A1-A4; Study Area 2: P1-P4). Rapid data points were also undertaken across the study areas to assist with vegetation mapping. A total of six rapid data points were undertaken in the study areas (Figure 4).



Source: Black Range Minerals (2000); NSW Spatial Services (2020); Clean Teq (2021); Biodiversity Australia (2021).
Orthophoto: © NSW Spatial Services (2020)

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Survey Sites

Figure 4

CTL-20-08 MOD 7_BA_204A

Targeted surveys for the following potentially occurring threatened flora species were undertaken in suitable habitat in the study areas:

- Pine Donkey Orchid (*Diuris tricolor*).
- A Spear grass (*Austrostipa wakoolica*).
- Silky Swainson-pea (*Swainsona sericea*).

Surveys were undertaken by Will Steggall (Assessor Number BAAS17107) with expertise and experience undertaking threatened plant surveys in accordance with the *Surveying Threatened Plants and their Habitats: NSW Survey Guide for the Biodiversity Assessment Method* (DPIE 2020b).

The field survey was undertaken in accordance with the above guideline (DPIE 2020b) using parallel transverses within each study area. Additionally, the survey was continued between the beginning and end of each parallel transect. Opportunistic searches for threatened plants were also undertaken during vegetation plot surveys. The location of threatened flora survey transects is shown in Figure 4.

2.3.2 Fauna Surveys

2.3.2.1 Habitat Evaluation

Habitat evaluation was used to assess the suitability of habitats in the study areas for potentially occurring fauna species by two ecologists from 30th October to 2nd November 2020. Habitats in the study areas were defined and assessed according to parameters such as:

- Structural and floristic characteristics of the vegetation e.g. understorey type and development, crown depth, groundcover density, etc.
- Degree and extent of disturbance e.g. fire, logging, weed invasion, modification to structure and diversity, etc.
- Presence of water in any form e.g. rivers, dams, creeks, drainage lines, soaks.
- Size and abundance of hollows and fallen timber.
- Availability of shelter e.g. rocks, logs, hollows, undergrowth.
- Wildlife corridors, refuges and proximate habitat types.
- Presence of mistletoe, nectar, gum, seed, sap, etc. sources.
- Any other specific habitat features listed in the *Threatened Biodiversity Data Collection* (DPIE 2020d) relevant to the target species.

In addition to the above, large hollow-bearing trees in the study areas were identified and GPS located (Figure 4).

2.3.2.2 Diurnal Bird Survey

Bird surveys involved passive surveys (e.g. listening for bird calls) and active observation/binocular searches. Point counts were undertaken for half an hour with two observers; and birds were also surveyed while walking around the study areas. Two dedicated bird surveys were undertaken across the study areas.

2.4 Data Entry and Credit Calculations

Flora data collected in the field was entered into the BAM Calculator (BAM-C) by Hanna Reid (Assessor Number BAAS18114). This was used to generate a vegetation integrity score for each vegetation zone. Output reports from the credit calculator are provided in Appendices E and F, respectively, for the proposed and approved rail siding sites.

3. Results

3.1 Flora and Vegetation

The field surveys recorded 62 flora species (50 native and 12 exotic) at the approved rail siding site (Study Area 1) and 55 flora species (44 native and 11 exotic) at the proposed rail siding site (Study Area 2). The full flora list for each study area is provided in Appendix A.

The *Syerston Nickel-Cobalt Project Flora Report* (Bower and Kenna 2000) describes the vegetation that occurred at the approved rail siding site in 1999 as follows:

> *The proposed rail siding at the eastern end of Route 64 has lost nearly all its former native tree cover and is now a native grassland with a wide diversity of native grasses and herbs. The adjoining roadside trees and few remaining paddock trees suggest the area was predominantly a grassy, open Poplar Box (Eucalyptus populnea) woodland.*

Consistent with those past observations, a single PCT was identified at each study area (PCT 244 - Poplar Box Grassy Woodland), in woodland and DNG forms (Photos 1 to 3). The PCT mapping is provided in Figure 5.

3.1.1 Plant Community Types

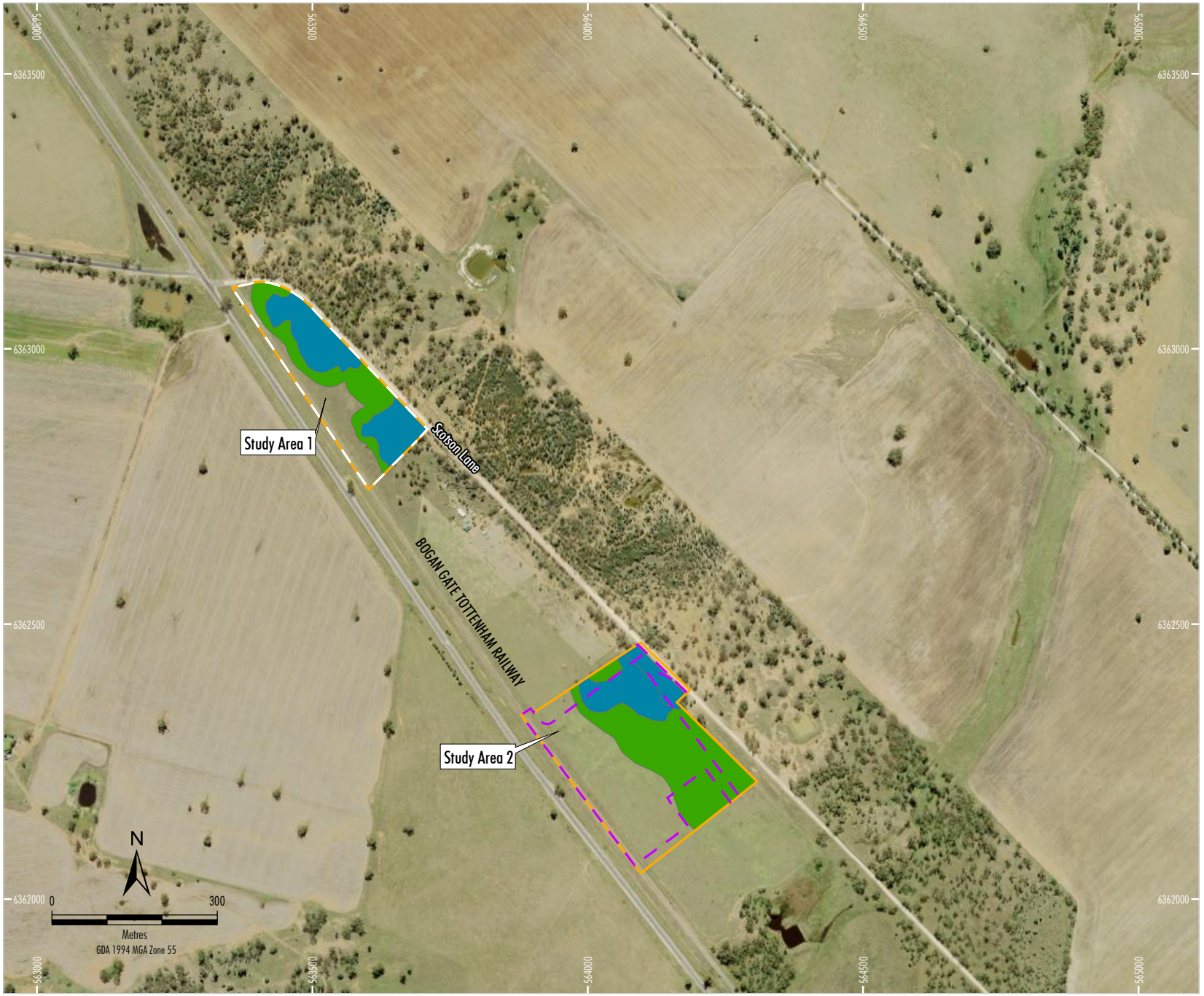
The details of PCTs recorded within the surface development areas of the approved and proposed rail siding (Figure 5) are provided in Table 1.

Table 1: Native Vegetation at the Approved and Proposed Rail Siding Sites

Vegetation Zone	PCT	PCT Name	Condition	Clearance (ha)		Modification
				Approved Rail Siding Surface Development Area within Study Area 1	Proposed Rail Siding Surface Development Area within Study Area 2	
1	244	Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of Central NSW	Woodland (Good)*	1.95	1.02	0.93 ha less clearance
2	244	Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of Central NSW	DNG	1.38	1.97	0.59 ha greater clearance
			Total	**3.33**	**2.99**	**0.34 ha less clearance**

* *Poplar Box Grassy Woodland on Alluvial Plains* listed under the EPBC Act.

The remainder of the study areas shown on Figure 5 are comprised of cleared land. In these areas, trees have been cleared and the groundcover is dominated by non-native plant species (Photo 4).



LEGEND

Modified Rail Siding Surface Development Area

Approved Rail Siding Surface Development Area

Study Area

Vegetation Communities

Poplar Box Grassy Woodland (Good) (PCT 244)*

Derived Native Grassland (PCT 244)

*Note: * Endangered Ecological Community listed under the EPBC Act.*

Source: Black Range Minerals (2000); NSW Spatial Services (2020); Clean Teq (2021); Biodiversity Australia (2021).
Orthophoto: © NSW Spatial Services (2020)

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Plant Community Type Mapping

Figure 5

CTL-20-08 MOD 7_BA_205B

Photo 1: PCT 244 Woodland at the Approved Rail Siding Site BAM Plot 2

Photo 2: PCT 244 Woodland at the Proposed Rail Siding Site BAM Plot 1

Photo 3: PCT 244 DNG at the Approved Rail Siding BAM Plot 3

Photo 4: Cleared Land with Paterson's Curse (Echium plantagineum) at the Proposed Rail Siding Site BAM Plot 3

3.1.2 Vegetation Condition

As shown in Table 1, the approved rail siding site (Study Area 1) contains a greater area of extant woodland than the proposed rail siding site (Study Area 2). The approved rail siding site (Study Area 1) was predominantly cleared during the biodiversity surveys conducted for the Project Environmental Impact Statement (after Bower and Kenna 2000), and the proposed rail siding site (Study Area 2) is likely to have been cleared for a similar period of time.

Flora data collected in the field was entered into the BAM-C to generate a Vegetation Integrity (VI) score for each vegetation zone. Table 2 provides a comparison of the VI scores for the approved (Study Area 1) and proposed rail siding (Study Area 2) sites.

Table 2: Vegetation Integrity of the Native Vegetation at the Approved and Proposed Rail Siding Sites

Vegetation Zone	PCT	PCT Name	Condition	VI Score	
				Approved Rail Siding Site (Study Area 1)	Proposed Rail Siding Site (Study Area 2)
1	244	Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of Central NSW	Woodland (Good)*	70.4	78.0
2	244	Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of Central NSW	DNG	38.9	40.3

* *Poplar Box Grassy Woodland on Alluvial Plains* listed under the EPBC Act

Output reports from the credit calculator are provided in Appendices E and F, respectively, for the proposed and approved rail siding sites.

In general, the vegetation condition and habitat values identified within the approved and proposed rail siding sites are considered similar, based on species diversity, structural diversity and non-endemic species invasion.

The apparent differences in the calculated VI scores between the approved and proposed rail siding sites is likely natural variation and not an actual measure that the vegetation is in better condition in the approved rail siding site. The reasons for this are:

- the quantities of vegetation clearance are so small such that the BAM (DPIE 2020a) only requires minimal plots to be sampled; and
- the vegetation is subject to the same agricultural practises and thus has been subject to the same disturbances such as grazing, introduction of non-native vegetation and clearing.

3.1.3 Threatened Ecological Communities

The woodland form of PCT 244 (Vegetation Zone 1) is equivalent to the *Poplar Box Grassy Woodland on Alluvial Plains* endangered ecological community (Poplar Box EEC) listed under the EPBC Act. The DNG form of PCT 244 (Vegetation Zone 2) is not considered Poplar Box EEC because it does not meet the Key Diagnostic Characteristics outlined within the EBPC Conservation Advice (DAWE 2020b).

The Conservation Advice outlines the following Key Diagnostic Characteristics for identification of Poplar Box EEC.

Location and Physical Environment:

- Occurs on soils associated with ancient and recent depositional alluvial plains with clay, clay-loam, loam and sandy loam, non-sodic soils.

Structure:

- A grassy woodland to grassy open woodland with a tree crown cover of 10% or more at patch scale.
- A canopy (tree) layer, capable of reaching 10 m or more in height and dominated by *Eucalyptus populnea* (poplar box) or co-dominated with *E. populnea* hybrids.
- Mid layer (1-10 m) crown cover of shrubs to small trees of 20% or less.
- A ground layer (<1 m) mostly dominated across a patch by native grasses, other herbs and occasionally chenopods, ranging from sparse to thick (in response to canopy development, soil moisture, disturbance and/or management history).

Thresholds for assessing quality of Poplar Box EEC are presented in Table 3 of the EPBC Conservation Advice (DAWE 2020b). Based on this, table data from across the two study areas was assessed, as well as taking into account the presence of the Poplar Box EEC community connected immediately to the north-east of the study areas (which is a continuous patch with a size of greater than five hectares).

The Poplar Box EEC in the approved rail siding site (Study Area 1) is considered *Class A3 Category. A Large Patch with low perennial weeds and a diverse native understory*. Based on the thresholds of;

- ≥ 10 trees per ha with ≥ 30 cm diameter at breast height (dbh) (and/or with hollows); and
- smaller trees, saplings or seedlings suggestive of periodic recruitment; and
- ≥ 20 native plant spp. per ha in ground layer.

The Poplar Box EEC in the proposed rail siding site (Study Area 2) is considered *Class B Moderate Quality. A large patch with moderate quality native understorey*, based on;

- ≥ 50% of perennial vegetation cover in ground layer is native; and
- ≥ 20 perennial native plant species per ha in ground layer; or
- ≥ 10 trees per ha with ≥ 30 cm dbh (or hollows).

The Modification would result in 0.93 ha less clearance of Poplar Box EEC (Table 1).

3.1.4 Threatened Plants

No threatened plants were recorded in the study areas.

3.2 Fauna Species and Habitats

The fauna surveys recorded 25 fauna species which were all avian species. The full fauna list is provided in Appendix B.

3.2.1 Hollow-bearing Trees

Field surveys identified and mapped six hollow-bearing trees within the approved rail siding site (Study Area 1) (HBT 1-6) and two within the proposed rail siding site (Study Area 2) (HBT 1-2). Only larger hollow-bearing trees with multiple hollows or single large hollows were recorded. The location of hollow-bearing trees is shown in Figure 4. Photo 5 shows an example of a hollow-bearing tree in the approved rail siding site (Study Area 1). Hollow-bearing tree data is provided in Appendix C.

3.2.2 Threatened Fauna

Field surveys recorded two threatened bird species comprising the following:

- Grey-crowned Babbler (*Pomatostomus temporalis*) - Vulnerable under the BC Act.
- Major Mitchell's Cockatoo (*Lophochroa leadbeateri)* - Vulnerable under the BC Act.

The Grey-crowned Babbler was only heard calling from adjacent habitats, however would be likely to use the habitats within the study areas for foraging. The Major Mitchell's Cockatoo was observed flying overhead in the proposed rail siding site and no breeding sites were found.

Photo 5: Example of Large Hollow-bearing Tree in Approved Rail Siding Site (HBT 3)

4. Impact Assessment

Table 3 provides an assessment of the impacts of the Modification on biodiversity values. The Modification would not increase impacts on biodiversity values as defined by the BC Act, as there would be a reduction in native vegetation/habitat clearance, and therefore a Biodiversity Development Assessment Report is not required.

Table 3: Evaluation of Impacts on Biodiversity Values

Biodiversity Value	Meaning	Relevant (✓ or N/A)*	Explanation
Vegetation abundance – 1.4(b) BC Regulation	Occurrence and abundance of vegetation at a particular site	✓	The Modification would not result in an increased impact on vegetation abundance. As shown in Table 1, the Modification would result in 0.34 ha less clearance of native vegetation overall and a 0.93 ha reduction in the clearance of PCT 244 woodland.
Vegetation integrity 1.5(2)(a) BC Act	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	✓	The Modification would not result in an increased impact on vegetation integrity. Vegetation integrity scores are presented in Table 2. In general, the vegetation condition and habitat values identified within the approved and proposed rail siding site are considered similar, based on species diversity, structural diversity and non-endemic species invasion. As shown in Table 1, the approved rail siding site (Study Area 1) contains a greater area of extant woodland than the proposed rail siding site (Study Area 2).
Habitat suitability 1.5(2)(b) BC Act	Degree to which the habitat needs of threatened species are present at a particular site	✓	The Modification would not result in an increased impact on habitat suitability. The habitat present in the approved and proposed rail siding sites provide marginal habitat for threatened fauna (e.g. Grey-crowned Babbler) due to the past disturbance and lack of suitable tree hollows. No threatened flora species were recorded in either site. The Modification has been designed to avoid impacts on habitat by predominantly locating the supporting infrastructure in previously cleared exotic grassland and DNG (rather than woodland). The Modification would not impact rocks, karst, caves, crevices, cliffs, human made structures or non-native vegetation known to be associated with any threatened species. The Modification is unlikely to cause a greater impact on any adjacent habitat due to noise, dust or light spill during construction or operation.

Biodiversity Value	Meaning	Relevant (✓ or N/A)*	Explanation
Threatened species abundance 1.4(a) BC Regulation	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	✓	The Modification would not impact the occurrence and abundance of threatened species, or their habitat, in the locality. As shown in Table 1, the Modification would result in 0.34 ha less clearance of native vegetation overall and a 0.93 ha reduction in the clearance of PCT244 woodland. No threatened flora species were recorded in either site. The habitat in the approved and proposed rail siding sites provide marginal habitat for threatened fauna.
Habitat connectivity 1.4(c) BC Regulation	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	✓	The Modification would not result in an increased impact on habitat connectivity. The woodland to be cleared is on the edge of a larger patch of woodland and therefore does not provide a connection between two woodland habitats.
Threatened species movement 1.4(d) BC Regulation	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	N/A	The Modification is not likely to impact a well-defined movement pattern for any particular species, given the majority of clearance would be of previously cleared exotic grassland and DNG. As described above, the woodland to be cleared is on the edge of a larger patch of woodland and therefore does not provide a connection between two woodland habitats.
Flight path integrity 1.4(e) BC Regulation	Degree to which the flight paths of protected animals over a particular site are free from interference	N/A	The Modification would not interfere with any flight paths of protected animals.
Water sustainability 1.4(f) BC Regulation	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site	N/A	The Modification would not impact water quality, water bodies or hydrological processes that are known to sustain a threatened species or threatened ecological community.

* A biodiversity value is not relevant to a proposed development if the value is not present on the development site and there is no potential for direct or indirect impacts on the biodiversity value if it occurs off-site (Department of Planning and Environment 2018).

Overall, the proposed rail siding site is located in an area of lower quality habitat compared to the approved rail siding site due to a lesser area of extant woodland than the approved rail siding site.

State Environmental Planning Policy (Koala Habitat Protection) 2021

The proposed rail siding site is located in the Parkes Local Government Area which is listed in Schedule 1 of the *State Environmental Planning Policy (Koala Habitat Protection) 2021* (Koala SEPP 2021).

Poplar Box (*E. populnea*) is a recognised Koala use tree species listed in Schedule 2 of the Koala SEPP 2021, however no core Koala habitat is present as there is no evidence of a resident population or records of Koalas at the site. Further, the Koala SEPP 2021 does not apply to Part 4 development applications which are determined by a consent authority other than a local council.

NSW *Fisheries Management Act, 1994*

The Modification would not significantly affect threatened species, populations or ecological communities listed under the NSW *Fisheries Management Act, 1994*, or their habitats. No waterbodies are present in the proposed rail siding site (Study Area 2).

Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999*

The Modification would not significantly impact threatened species, threatened ecological communities or migratory species listed under the EPBC Act.

As described in Section 3.1.3, the woodland form of PCT 244 in the approved (Study Area 1) and proposed (Study Area 2) rail siding sites is equivalent to Poplar Box EEC listed under the EPBC Act. The Modification would result in 0.93 ha less clearance of Poplar Box EEC (Table 1).

No threatened species or migratory species listed under the EPBC Act are known to occur in the proposed rail siding site (Study Area 2).

5. Conclusion

This report has provided the results of the surveys at the proposed (Study Area 2) and approved (Study Area 1) rail siding sites. Surveys were carried out by two ecologists from 30th October to 2nd November 2020.

The study areas were characterised by a mix of cleared agricultural land, DNG and patches of woodland. Woodland areas occurred in the eastern portion of each study area. The vegetation surveys identified one PCT within the study areas in woodland and DNG forms, namely PCT 244. The woodland in each study area is equivalent to the Poplar Box EEC listed under the EPBC Act.

Bird surveys identified 25 avian species in the study areas. Two threatened bird species were recorded, namely the Grey-crowned Babbler (*Pomatostomus temporalis*) and Major Mitchell's Cockatoo (*Lophochroa leadbeateri*) (flying overhead). These are highly mobile species and would not be significantly impacted by the Modification.

In general, the vegetation condition and habitat values identified within the approved and proposed rail siding site are considered similar, based on species diversity, structural diversity and non-endemic species invasion.

In conclusion, the Modification:

- would not increase impacts on biodiversity values as defined by the BC Act as there would be a reduction in native vegetation/habitat clearance, and therefore, if DPIE is satisfied, a Biodiversity Development Assessment Report is not required;
- would not impact core Koala habitat under the Koala SEPP 2021 as the proposed rail siding site (Study Area 2) does not represent core Koala habitat;
- would not significantly affect threatened species, populations or ecological communities listed under the NSW *Fisheries Management Act, 1994*, or their habitats as no waterbodies are present in the proposed rail siding site (Study Area 2); and
- would not significantly impact threatened species, threatened ecological communities or migratory species listed under the EPBC Act (and would result in a reduction to the clearance of the Poplar Box EEC).

6. References

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APPENDIX A: FLORA SPECIES LIST

Table A1: Flora list – Proposed Rail Siding Site (Study Area 2)

Common Name	Scientific Name	Plot P1 % cover	Plot P2 % cover	Plot P3 % cover	Plot P4 % cover
Canopy Trees					
White Cypress	*Callitris glaucophylla*	2			
Poplar Box	*Eucalyptus populnea*	30			
Small Trees/Shrubs					
False Sandalwood	*Eremophila mitchellii*	0.5			
Wilga	Geijera parviflora	5			
Western Boobialla	*Myoporum montanum*	2			
Spiny Saltbush	*Rhagodia spinescens*	0.1			
-	*Senna artemisioides* subsp. *zygophylla*	0.2			
Ferns					
-	*Cheilanthes sieberi*	0.2	3	1	0.7
Grasses					
Bunch Wiregrass	*Aristida behriana*	2	0.6		
Jericho Wiregrass	*Aristida jerichoensis*		0.5		
Tall Speargrass	*Austrostipa bigeniculata*	10			1
Speargrass	*Austrostipa scabra*	10	1	1	5
Bearded Oats	*Avena barbata*	0.2	1	0.5	
Curly Windmill Grass	*Enteropogon acicularis*	10	40	20	15
-	*Juncus sp.*	0.1			
Perennial Ryegrass	*Lolium perenne*	30		5	1
Hairy Panic	*Panicum effusum*	0.2			
Two-colour Panic	*Panicum simile*	1.5	0.5	1	
Wallaby Grass	*Rytidosperma fulvum*	5			1
Wallaby Grass	*Rytidosperma sp.*	3	0.3	2	20
Squirrel Tail Fescue	*Vulpia bromoides*		5		
Groundcovers					
Purple Burr-daisy	*Calotis cuneifolia*	1	0.5	0.2	5
Yellow Burr-daisy	*Calotis lappulacea*	5	2	2	2
Saffron Thistle	*Carthamus lanatus*	0.2		0.3	0.3
-	*Convolvulus recurvatus*	0.5	1	1	2
Blueberry Lily	*Dianella revoluta*	0.7			
Kidney Weed	*Dichondra repens*		0.8	0.5	1
Patterson's Curse	*Echium plantagineum*	0.2	15	60	
Fishweed	*Einadia trigonos*			0.1	1
Winter Apple	*Eremophila debilis*	0.2			
Blue Storksbill	*Erodium crinitum*			5	
-	*Euchiton sphaericus*		0.2		
Spotted Spurge	*Euphorbia maculata*	0.1			
-	*Goodenia pinnatifida*	0.1			
Burr Medic*	*Medicago polymorpha**		3	15	5
Red-flowered Mallow*	*Modiola caroliniana**			0.1	

Common Name	Scientific Name	Plot P1 % cover	Plot P2 % cover	Plot P3 % cover	Plot P4 % cover
-	*Oxalis perennans*	0.1			
-	*Plantago debilis*	0.2			
Cockspur Flower	*Plectranthus parviflorus*			0.1	0.5
Common White Sunray	*Rhodanthe floribunda*	0.1			
Grey Copperburr	*Sclerolaena diacantha*	0.1	0.1		
Corrugated Sida	*Sida corrugata*	0.2	0.5	0.8	2
Quena	*Solanum esuriale*		0.1		
Common Sowthistle	*Sonchus oleraceus*	0.1			
Haresfoot Clover	*Trifolium arvense*	1	30	10	10
Fuzzweed	*Vittadinia cuneata*	5	1	5	1
Dissected New Holland Daisy	*Vittadinia dissecta*	0.2			
Wooly New Holland Daisy	*Vittadinia gracilis*		0.3	1	0.2
Tufted Bluebell	*Wahlenbergia communis*	0.2	0.7	0.3	
Sprawling Bluebell	*Wahlenbergia gracilis*		0.5		
Golden Everlasting	*Xerochrysum bracteatum*	0.3	0.3		
-	*Asperula* sp.	0.7			
-	*Dodonaea viscosa* subsp. *spatulata*	0.1			
Ruby Saltbush	*Enchylaena tomentosa*	0.1			
-	*Glycine tabacina*	0.1			
Key: Denotes exotic species (*).					

Table A2: Flora list –Approved Rail Siding Site (Study Area 1)

Common Name	Scientific Name	Plot A1 % cover	Plot A2 % cover	Plot A3 % cover	Plot A4 % cover
Canopy Trees					
White Cypress	*Callitris glaucophylla*	0.2	1		
Poplar Box	*Eucalyptus populnea*	15	10		
Shrubs/small trees					
Western Silver Wattle	*Acacia decora*	7	10		0.2
-	*Dodonaea viscosa* subsp. *spatulata*		0.5		
Ruby Saltbush	*Enchylaena tomentosa*		0.5		
False Sandalwood	*Eremophila mitchellii*	0.5			
Wilga	*Geijera parviflora*	1	1		
Western Boobialla	*Myoporum montanum*	0.1	0.1		
Ferns					
-	*Cheilanthes sieberi*		1	5	1
Grasses					
Bunch Wiregrass	*Aristida behriana*	0.5	2		
Tall Speargrass	*Austrostipa bigeniculata*	0.5	10	25	15
Foxtail Speargrass	*Austrostipa densiflora*		30		
Speargrass	*Austrostipa scabra*		25	15	5
Bearded Oats	*Avena barbata*	0.2		0.2	0.5
Prairie Grass	*Bromus catharticus*	0.5			
Windmill Grass	*Chloris truncata*		5		
Curly Windmill Grass	*Enteropogon acicularis*	1	5	5	15
Weeping Grass	*Microlaena stipoides*	0.5			
Perennial Ryegrass	*Lolium perenne*	70	0.5		0.2
Hairy Panic	*Panicum effusum*		0.1		
Two-colour Panic	*Panicum simile*	0.5			
Wallaby Grass	*Rhytidosperma fulvum*			1	
Wallaby Grass	*Rhytidosperma* sp.			2	2
Groundcovers					
Creeping Saltbush	*Atriplex semibaccata*			0.2	
Purple Burr-daisy	*Calotis cuneifolia*	1	0.5		
Yellow Burr-daisy	*Calotis lappulacea*		2	2	2
Saffron Thistle	*Carthamus lanatus*	0.5		0.5	0.5
Maltese Cockspur	*Centaurea melitensis*	0.1			
-	*Convolvulus recurvatus*	0.3	0.5	2	
Blueberry Lily	*Dianella revoluta*	0.5	0.1		0.1
Kidney Weed	*Dichondra repens*	0.5		0.5	1
Paterson's Curse	*Echium plantagineum*	15	0.5	30	60
Climbing Saltbush	*Einadia nutans*		0.3		
Fishweed	*Einadia trigonos*		0.5	1	
Winter Apple	*Eremophila debilis*	0.1	0.1		
Blue Storksbill	*Erodium crinitum*		0.5	10	3
-	*Euchiton sphaericus*	0.1		0.5	

Common Name	Scientific Name	Plot A1 % cover	Plot A2 % cover	Plot A3 % cover	Plot A4 % cover
Mat Spurge	*Euphorbia dallachyana*		0.3		
Spotted Spurge	*Euphorbia maculata*			0.5	
Prickly Lettuce	*Lactuca serriola*				0.1
Slender Wire Lily	*Laxmannia gracilis*		0.5		
Burr Medic*	*Medicago polymorpha**	1		2	1
-	*Plantago debilis*	0.2			
Common White Sunray	*Rhodanthe floribunda*		10		
Small White Sunray	*Rhodanthe corymbiflora*		10		
Swamp Dock	*Rumex brownii*	0.2			
Grey Copperburr	*Sclerolaena diacantha*		1	0.1	
Corrugated Sida	*Sida corrugata*		0.5	0.5	1
Quena	*Solanum esuriale*		0.2		
Common Sowthistle	*Sonchus oleraceus*	0.1			
Haresfoot Clover	*Trifolium arvense*	0.5	0.5	1	2
Fuzzweed	*Vittadinia cuneata*	0.5	1	10	5
Dissected New Holland Daisy	*Vittadinia dissecta*		1	1	
Tufted Bluebell	*Wahlenbergia communis*		0.8	0.1	
Golden Everlasting	*Xerochrysum bracteatum*	1	0.5	0.5	1
Sedges, Rushes, Aquatics					
-	*Carex inversa*	0.5			
Wattle Mat-rush	*Lomandra filiformis*	0.2			
Vines and Scramblers					
Blushing Bindweed	*Convolvulus erubescens*				2
-	*Glycine tabacina*	0.5			

Key: * Denotes exotic species.

APPENDIX B: FAUNA SPECIES LIST

Table B1: Fauna species list

Common Name	Scientific Name	Detection Method	Approved Rail	Proposed Rail
Aves				
Quail (Unidentified)		Vis	X	
Buff-rumped Thornbill	*Acanthiza reguloides*	Vis	X	
Red Wattlebird	*Anthochaera carunculata*	HC		X
Grey Shrike-thrush	*Colluricincla harmonica*	HC	X	
White-winged Chough	*Corcorax melanorhamphos*	Vis	X	
Australian Raven	*Corvus coronoides*	HC	X	X
Pied Butcherbird	*Cracticus nigrogularis*	HC	X	
Australian Magpie	*Cracticus tibicen*	Vis	X	X
Galah	*Eolophus roseicapilla*	Vis	X	X
Brown Gerygone	*Gerygone mouki*	HC	X	
White-throated Gerygone	*Gerygone olivacea*	HC	X	X
Magpie Lark	*Grallina cyanoleuca*	HC		X
Major Mitchell's Cockatoo	***Lophochroa leadbeateri***	**Vis**		X
Rufous Songlark	*Megalurus mattewsi*	HC	X	
Brown Songlark	*Megalurus cruralis*	HC		X
Cockatiel	*Nymphicus hollandicus*	Vis		X
Rufous Whistler	*Pachycephala rufiventris*	Vis	X	
Striated Pardalote	*Pardalotus striatus*	HC	X	X
Grey-crowned Babbler	***Pomatostomus temporalis***	HC	X	
Red-rumped Parrot	*Psephotus haematonotus*	Vis	X	
Willie Wagtail	*Rhipidura leucophrys*	Vis	X	
Weebill	*Smicrornis brevirostris*	HC		X
Apostlebrid	*Struthidea cinerea*	Vis	X	
Double-barred Finch	*Taeniopygia bichenovii*	Vis	X	

Key: Species listed as threatened under the BC Act and/or EPBC Act (bold), Introduced species (*)
Observation Key: PIR Camera (Cam), Elliot Traps (Elliot), Heard Calling (HC), Hair Tube (HT), Nest/Bower (NE), Scats (Scat), Scratchings (SC), Visual Observation (Vis).

APPENDIX C: HOLLOW-BEARING TREE DATA

Table C1: Hollow-bearing tree data

Name	Species	Height	DBH	Small Hollows	Medium Hollows	Large Hollows	Comments	Latitude	Longitude
Proposed Rail Siding									
HBT 1	Grey box	13	110			1	Trunk chimney, low value	-32.8746	147.6856
HBT 2	Grey box	18	80,75	3				-32.8743	147.6851
Approved Rail Siding									
HBT 1	Poplar box	17	100	2	3			-32.8689	147.6787
HBT 2	Poplar box	15	80		3			-32.8689	147.6789
HBT 3	Poplar box	13	150	4	3	3	Very large old tree many hollows	-32.8687	147.6786
HBT 4	Poplar box	15	90			1	Trunk chimney	-32.8686	147.6785
HBT 5	Poplar box	17	100	2	2			-32.8707	147.6808
HBT 6	Poplar box	18	130	6	3			-32.8703	147.6804

APPENDIX D: VEGETATION INTEGRITY DATA

Table D1: Vegetation Integrity Data

plot	pct	area	patchsize	Condition Class	zone	easting	northing	bearing	compTree	compShrub	compGrass	compForbs	compFerns	compOther	strucTree	strucShrub	strucGrass	strucForbs	strucFerns	strucOther	funLargeTrees	funHollowtrees	funLitterCover	funLenFallenLogs	funTreeStem5to9	funTreeStem10to19	funTreeStem20to29	funTreeStem30to49	funTreeStem50to79	funTreeRegen	funHighThreatExotic
P1	244	1.02	125	Woodland	55	564039.3	6362310.7	325	2	8	9	13	1	2	32	8.2	41.8	13.3	0.2	0.6	4	1	50	1	0	0	0	0	0	1	0.2
P2	244	1.02	125	Woodland	55	564041.4	6362384.7	318	0	1	6	12	1	1	0	7	42.9	7	3	1	0	0	24	0	0	0	0	0	0	1	15
P3	244	1.97	125	DNG	55	564160.4	6362369	87	0	0	4	11	1	1	0	0	24	15.3	1	1	0	0	25	0	0	0	0	0	0	1	60
A1	244	1.95	125	Woodland	55	563524	6362937	15	2	5	8	10	0	2	15.2	8.7	4.7	4.6	0	0.8	3	3	2	0	1	1	1	0	0	1	15
A2	244	1.95	125	Woodland	55	563502	6363036	265	2	7	7	17	1	1	11	13.2	77.1	29.7	1	0.5	0	0	3.2	0	1	1	1	0	0	1	0.5
A3	244	1.38	125	DNG	55	563679	6362837	315	0	0	5	13	1	1	0	0	48	56.9	5	2	0	0	20	0	0	0	0	0	0	1	30

APPENDIX E: BAM CALCULATOR REPORTS – PROPOSED RAIL SIDING SITE

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id

00024431/BAAS17107/21/00024432

Proposal Name

Sth West Lindfield Prelim

BAM data last updated *

22/02/2021

Assessor Name

Will Steggall

Assessor Number

BAAS17107

BAM Data version *

37

Proponent Name(s)

Report Created

11/03/2021

BAM Case Status

Open

Assessment Revision

0

Assessment Type

Part 4 Developments (Small Area)

Date Finalised

To be finalised

BOS entry trigger

BOS Threshold: Biodiversity Values Map

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Nil

Additional Information for Approval

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

BAM Biodiversity Credit Report (Variations)

Name
Amaurornis moluccana / Pale-vented Bush-hen
Petaurus australis / Yellow-bellied Glider

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
690-Blackbutt - Tallowwood dry grassy open forest of the central parts NSW North Coast Bioregion	Not a TEC	0.2	5	0	5.00

690-Blackbutt - Tallowwood dry grassy open forest of the central parts NSW North Coast Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Northern Hinterland Wet Sclerophyll Forests This includes PCT's: 690, 1281, 1558, 1845, 1846, 1847, 1914	Northern Hinterland Wet Sclerophyll Forests >=50% and <70%	690_Moderate	Yes	5	Macleay Hastings,Carrai Plateau, Coffs Coast and Escarpment, Comboyne Plateau, Karuah Manning, Macleay Gorges, Mummel Escarpment and Upper Manning. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 3 or higher threat status	690_Moderate	Yes (including artificial)	5	IBRA Region: NSW North Coast, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Variations)

Species Credit Summary

No Species Credit Data

Credit Retirement Options

Like-for-like options

BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00023200/BAAS17107/20/00023201	Clean TeQ Proposed Rail siding	22/02/2021
Assessor Name	Report Created	BAM Data version *
Will Steggall	11/03/2021	37
Assessor Number	BAM Case Status	Date Finalised
BAAS17107	Open	To be finalised
Assessment Revision	Assessment Type	BOS entry trigger
1	Part 4 Developments (General)	BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	BC Act Listing status	EPBC Act listing status	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).											
1	244_Good	Not a TEC	78	78.0	1			High Sensitivity to Potential Gain	2.00		40
2	244_Poor	Not a TEC	40.3	40.3	2			High Sensitivity to Potential Gain	2.00		40
										Subtotal	**80**
										Total	**80**

BAM Credit Summary Report

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Species credits

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00023200/BAAS17107/20/00023201	Clean TeQ Proposed Rail siding	22/02/2021
Assessor Name	Report Created	BAM Data version *
Will Steggall	11/03/2021	37
Assessor Number	Assessment Type	BAM Case Status
BAAS17107	Part 4 Developments (General)	Open
Assessment Revision	BOS entry trigger	Date Finalised
1	BOS Threshold: Area clearing threshold	To be finalised

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Diamond Firetail	Stagonopleura guttata	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Dusky Woodswallow	Artamus cyanopterus cyanopterus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Grey Falcon	Falco hypoleucos	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Grey-headed Flying-fox	Pteropus poliocephalus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Koala	Phascolarctos cinereus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Major Mitchell's Cockatoo	Lophochroa leadbeateri	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Scarlet Robin	Petroica boodang	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Speckled Warbler	Chthonicola sagittata	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Superb Parrot	Polytelis swainsonii	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
White-bellied Sea-Eagle	Haliaeetus leucogaster	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
Glossy Black-Cockatoo	Calyptorhynchus lathami	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Glossy Black-Cockatoo	Calyptorhynchus lathami	Refer to BAR

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00023200/BAAS17107/20/00023201

Proposal Name
Clean TeQ Proposed Rail siding

BAM data last updated *
22/02/2021

Assessor Name
Will Steggall

Assessor Number
BAAS17107

BAM Data version *
37

Proponent Names

Report Created
11/03/2021

BAM Case Status
Open

Assessment Revision
1

Assessment Type
Part 4 Developments (General)

Date Finalised
To be finalised

BOS entry trigger
BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Nil

Additional Information for Approval

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
Calyptorhynchus lathami / Glossy Black-Cockatoo

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).	Not a TEC	3.0	40	40	80

BAM Biodiversity Credit Report (Like for like)

244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Floodplain Transition Woodlands This includes PCT's: 56, 74, 76, 80, 81, 82, 237, 244, 248, 251, 628	Floodplain Transition Woodlands >=70% and <90%	244_Good	Yes	40	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Floodplain Transition Woodlands This includes PCT's: 56, 74, 76, 80, 81, 82, 237, 244, 248, 251, 628	Floodplain Transition Woodlands >=70% and <90%	244_Poor	No	40	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

No Species Credit Data

Like-for-like credit retirement options

Credit Retirement Options

BAM Vegetation Zones Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00023200/BAAS17107/20/00023201	Clean TeQ Proposed Rail siding	22/02/2021
Assessor Name	**Report Created**	**BAM Data version ***
Will Steggall	11/03/2021	37
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS17107	Part 4 Developments (General)	Open
Assessment Revision	**Date Finalised**	**BOS entry trigger**
1	To be finalised	BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones

1	244_Good	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).	Good	1.02	1	
2	244_Poor	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).	Poor	1.97	1	

BAM Candidate Species Report

Proposal Details

Assessment Id 00023200/BAAS17107/20/00023201	Proposal Name Clean TeQ Proposed Rail siding	BAM data last updated * 22/02/2021
Assessor Name Will Steggall	Report Created 11/03/2021	BAM Data version * 37
Assessor Number BAAS17107	Assessment Type Part 4 Developments (General)	BAM Case Status Open
Assessment Revision 1	Date Finalised To be finalised	BOS entry trigger BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Austrostipa metatoris A spear-grass	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Austrostipa wakoolica A spear-grass	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Burhinus grallarius Bush Stone-curlew	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?

Cercartetus nanus Eastern Pygmy-possum	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Eleocharis obicis Spike-Rush	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Lepidium monoplocoides Winged Peppercress	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Lophochroa leadbeateri Major Mitchell's Cockatoo	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Lophoictinia isura Square-tailed Kite	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?

Phascolarctos cinereus Koala	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Polytelis swainsonii Superb Parrot	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Pteropus poliocephalus Grey-headed Flying-fox	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona murrayana Slender Darling Pea	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Glossy Black-Cockatoo	Calyptorhynchus lathami	Refer to BAR
White-bellied Sea-Eagle	Haliaeetus leucogaster	Habitat constraints

APPENDIX F: BAM CALCULATOR REPORTS – APPROVED RAIL SIDING SITE

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00023213/BAAS17107/20/00023214

Proposal Name
Clean TeQ Approved Rail siding

BAM data last updated *
22/02/2021

Assessor Name
Will Steggall

Assessor Number
BAAS17107

BAM Data version *
37

Proponent Names

Report Created
11/03/2021

BAM Case Status
Open

Assessment Revision
1

Assessment Type
Part 4 Developments (General)

Date Finalised
To be finalised

BOS entry trigger
BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Nil

Additional Information for Approval

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).	Not a TEC	3.3	69	27	96

BAM Biodiversity Credit Report (Like for like)

244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Floodplain Transition Woodlands This includes PCT's: 56, 74, 76, 80, 81, 82, 237, 244, 248, 251, 628	Floodplain Transition Woodlands >=70% and <90%	244_Good	Yes	69	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Floodplain Transition Woodlands This includes PCT's: 56, 74, 76, 80, 81, 82, 237, 244, 248, 251, 628	Floodplain Transition Woodlands >=70% and <90%	244_Moderate	No	27	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

No Species Credit Data

Like-for-like credit retirement options

Credit Retirement Options

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00023200/BAAS17107/20/00023201

Proposal Name
Clean TeQ Proposed Rail siding

BAM data last updated *
22/02/2021

Assessor Name
Will Steggall

Assessor Number
BAAS17107

BAM Data version *
37

Proponent Name(s)

Report Created
11/03/2021

BAM Case Status
Open

Assessment Revision
1

Assessment Type
Part 4 Developments (General)

Date Finalised
To be finalised

BOS entry trigger
BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Nil

Additional Information for Approval

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

BAM Biodiversity Credit Report (Variations)

Name
Calyptorhynchus lathami / Glossy Black-Cockatoo

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).	Not a TEC	3.0	40	40	80.00

244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Floodplain Transition Woodlands This includes PCT's: 56, 74, 76, 80, 81, 82, 237, 244, 248, 251, 628	Floodplain Transition Woodlands >=70% and <90%	244_Good	Yes	40	Lower Slopes,Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Floodplain Transition Woodlands This includes PCT's: 56, 74, 76, 80, 81, 82, 237, 244, 248, 251, 628	Floodplain Transition Woodlands >=70% and <90%	244_Poor	No	40	Lower Slopes,Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region

	Grassy Woodlands	Tier 2 or higher threat status	244_Good	Yes (including artificial)	40	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 2 or higher threat status	244_Poor	No	40	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

No Species Credit Data

Credit Retirement Options

Like-for-like options

BAM Candidate Species Report

Proposal Details

Assessment Id 00023213/BAAS17107/20/00023214	Proposal Name Clean TeQ Approved Rail siding	BAM data last updated * 22/02/2021
Assessor Name Will Steggall	Report Created 11/03/2021	BAM Data version * 37
Assessor Number BAAS17107	Assessment Type Part 4 Developments (General)	BAM Case Status Open
Assessment Revision 1	Date Finalised To be finalised	BOS entry trigger BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Austrostipa metatoris A spear-grass	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Austrostipa wakoolica A spear-grass	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Burhinus grallarius Bush Stone-curlew	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?

Calyptorhynchus lathami Glossy Black-Cockatoo	No (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☑ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Eleocharis obicis Spike-Rush	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Lepidium monoplocoides Winged Peppercress	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?

Lophochroa leadbeateri Major Mitchell's Cockatoo	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Lophoictinia isura Square-tailed Kite	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Polytelis swainsonii Superb Parrot	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona murrayana Slender Darling Pea	No (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☐ Oct ☐ Nov ☐ Dec ☑ Survey month outside the specified months?

Swainsona sericea Silky Swainson-pea	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Tyto novaehollandiae Masked Owl	No (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☑ Survey month outside the specified months?

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Glossy Black-Cockatoo, Riverina population	Calyptorhynchus lathami - endangered population	Refer to BAR
Grey-headed Flying-fox	Pteropus poliocephalus	Habitat constraints

BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00023213/BAAS17107/20/00023214	Clean TeQ Approved Rail siding	22/02/2021
Assessor Name	Report Created	BAM Data version *
Will Steggall	11/03/2021	37
Assessor Number	BAM Case Status	Date Finalised
BAAS17107	Open	To be finalised
Assessment Revision	Assessment Type	BOS entry trigger
1	Part 4 Developments (General)	BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	BC Act Listing status	EPBC Act listing status	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).											
1	244_Good	Not a TEC	70.4	70.4	2			High Sensitivity to Potential Gain	2.00		69
2	244_Moderate	Not a TEC	38.9	38.9	1.4			High Sensitivity to Potential Gain	2.00		27
										Subtotal	**96**
										Total	**96**

BAM Credit Summary Report

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Species credits

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00023213/BAAS17107/20/00023214	Clean TeQ Approved Rail siding	22/02/2021
Assessor Name	Report Created	BAM Data version *
Will Steggall	11/03/2021	37
Assessor Number	Assessment Type	BAM Case Status
BAAS17107	Part 4 Developments (General)	Open
Assessment Revision	BOS entry trigger	Date Finalised
1	BOS Threshold: Area clearing threshold	To be finalised

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Barking Owl	Ninox connivens	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Corben's Long-eared Bat	Nyctophilus corbeni	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Diamond Firetail	Stagonopleura guttata	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Dusky Woodswallow	Artamus cyanopterus cyanopterus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Glossy Black-Cockatoo	Calyptorhynchus lathami	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Grey Falcon	Falco hypoleucos	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Grey-headed Flying-fox	Pteropus poliocephalus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Koala	Phascolarctos cinereus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Little Eagle	Hieraaetus morphnoides	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Little Pied Bat	Chalinolobus picatus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Major Mitchell's Cockatoo	Lophochroa leadbeateri	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Masked Owl	Tyto novaehollandiae	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Painted Honeyeater	Grantiella picta	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Pied Honeyeater	Certhionyx variegatus	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Scarlet Robin	Petroica boodang	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Speckled Warbler	Chthonicola sagittata	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Spotted Harrier	Circus assimilis	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Square-tailed Kite	Lophoictinia isura	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Stripe-faced Dunnart	Sminthopsis macroura	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Superb Parrot	Polytelis swainsonii	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Turquoise Parrot	Neophema pulchella	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Varied Sittella	Daphoenositta chrysoptera	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
White-bellied Sea-Eagle	Haliaeetus leucogaster	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00023213/BAAS17107/20/00023214	Clean TeQ Approved Rail siding	22/02/2021
Assessor Name	**Report Created**	**BAM Data version ***
Will Steggall	11/03/2021	37
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS17107	Part 4 Developments (General)	Open
Assessment Revision	**Date Finalised**	**BOS entry trigger**
1	To be finalised	BOS Threshold: Area clearing threshold

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones

1	244_Good	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).	Good	1.95	1	
2	244_Moderate	244-Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).	Moderate	1.38	1	

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