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Environmental & Social Consultants

RYE PARK WIND FARM – FINAL LAYOUT

Confirmation of Credit Liabilities

FINAL

October 2023

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Confirmation of Credit Liabilities

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Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Tilt Renewables Pty Ltd

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V2	Bill Wallach	24/10/2023	Bill Wallach	24/10/2023

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1.0 Executive Summary

This report provides the finalised biodiversity credit requirement for the Rye Park Wind Farm project (the Project) by Rye Park Renewable Energy Pty Ltd (RPRE) in accordance with Schedule 3 Condition 20 and 21 of the NSW Approval (SSD 6693-MOD 2) detailed in **Section 2.0**. Furthermore, these calculations will form an attachment to the Offset Strategy prepared to meet the requirements of Condition 14 of EPBC 2020/8837, detailed in **Section 2.0**.

The updated calculations have been prepared following completion of the post-clearance inspection of the Project in accordance with Section 5.4 of the approved Rye Park Wind Farm Biodiversity Management Plan. The surveyed disturbance areas from the post-clearance inspections have formed the basis of the calculations of the overall final project disturbance.

The updated biodiversity credit requirements outlined in this report has been prepared using the same methodology employed in the updated biodiversity credit requirements report prepared in October 2021 for MOD 1 (Umwelt 2021a) and a previous revision of this report (Revision 2), which supported MOD 2 (Umwelt 2022). This revised design of the Project subject to the MOD 2 was referred to as the 'revised pre-construction final development footprint', with this terminology being maintained in this report to further include the additional public road upgrade disturbance.

The pre-construction final development footprint is shown on the final layout plans prepared in accordance with Schedule 2 Condition 10 of the Development Consent and Condition 12 of EPBC 2020/8837, with RPRE advising that these plans were re-submitted following the approval of MOD2 to reflect the revised pre-construction final development footprint.

Umwelt has completed a detailed review of the final footprint including GIS analysis to ensure the Project is in accordance with impact thresholds identified in Condition 19 of the NSW Approval (SSD 6693-MOD 2) and Condition 3 of EPBC 2020/8837.

This review has confirmed that the final development footprint has reduced impacts on the BC Act and EPBC Act CEECs and four species-credit species (striped legless lizard, squirrel glider, superb parrot, and golden sun moth) when compared against the MOD 2 Confirmation of Credit Liabilities Report (Umwelt 2022).

When compared against the MOD 2 Confirmation of Credit Liabilities (Umwelt 2022), the final impacts of all PCTs and species credit species have been reduced. The final footprint reduced golden sun moth impacts by 11.1 ha, striped legless lizard impacts by 3.43 ha, superb parrot impacts by 3.36 ha, squirrel glider impacts by 16.92 ha, while southern myotis impacts were avoided completely. A summary of the comparison of impacts is provided below:

- Striped legless lizard:
    - 37.57 ha of impact has occurred in the final development footprint, a **reduction of 3.43 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).
- Superb parrot:
    - 15.88 ha of impact has occurred in the final development footprint, a **reduction of 3.36 hectares** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).
    - Removal of two suitable breeding trees along Cooks Hill Road associated with the required public road upgrades. No breeding or use of the trees by superb parrot was observed.

- Golden sun moth:
    - 65.22 ha of impact has occurred in the final development footprint, a **reduction of 11.1 hectares** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2021a).
- Squirrel glider:
    - 67.67 ha of impact has occurred in the final development footprint, a **reduction of 16.92 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).

With comparison to the MOD2 Confirmation of Credit Liabilities (Umwelt 2022), all PCTs have reduced impacts. Further, impacts to the two threatened ecological communities have also had reduced impacts when compared to the MOD2 Confirmation of Credit Liabilities (Umwelt 2022), a summary is provided below:

- White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland') CEEC under the BC Act.
    - 27.82 ha of impact has occurred within the final development footprint, a **reduction of 5.18 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2021a).
- White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act.
    - 27.08 ha of impact has occurred within the final development footprint, a **reduction of 4.02 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2021a).

The additional Biodiversity Assessment undertaken for MOD2 and the additional public road upgrade disturbance within the revised pre-construction final development footprint did not identify new Matters of National Environmental Significance (MNES) applicable to the Project. MOD2 and the additional public road upgrades propose to impact the same MNES identified, assessed, and approved through the EPBC Approval (EPBC 2020/8837) as varied on 30 June 2022. This is consistent with the assessment of the final footprint of the Project.

It is understood that the Project has completed all necessary construction and will not require any further design changes. The final development footprint is considered to have been completed as per Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837. Further detail on micro-siting is provided in **Section 7.0**.

Prior to the commencement of operations (or following any upgrades of any wind turbines or ancillary infrastructure), executed plans showing the comparison to the revised pre-construction final development footprint will be prepared in accordance with Schedule 5 Condition 6 of the Development Consent and Condition 15 of the EPBC 2020/8837, and will be submitted to the relevant departments. This report has been prepared to support this process.

2.0 Introduction

Rye Park Renewable Energy Pty Ltd (RPRE) is developing the Rye Park Wind Farm Project (the Project) in southern NSW broadly between Yass and Boorowa (**Figure 2.1**).

The Project was granted a Development Consent (SSD 6693) (the Development Consent) by the NSW Planning Assessment Commission (PAC, now known as the Independent Planning Commission), subject to conditions, under the *Environmental Planning & Assessment Act 1979* (EP&A Act) on 22 May 2017 and a modification (MOD 1) approved 15 April 2021. A further modification to the Development Consent (MOD 2) was approved by a delegate of the Minister on 23 September 2022.

The Commonwealth approved the Project (EPBC 2020/8837) under the *Environment, Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 1 June 2021[1], subject to conditions, following assessment by preliminary documentation under Section 87 of the EPBC Act. A variation to the EPBC Approval was approved by a delegate of the Minister on 30 June 2022.

This report was initially prepared to support the Modification Application 2 Report being prepared by Tilt Renewables to request to modify Development Consent State Significant Development (SSD) 6693 – Modification 1 (Development Consent, or SSD 6693-MOD 1) under the *Environment Planning and Assessment Act 1979* (EP&A Act). Following approval of MOD 2, this report has been varied to also consider the disturbance considered as part of the additional public road upgrade requirements within Cooks Hill Road. Due to the multiple purposes of this report, information has been presented as relevant to the assessment of MOD2 and the additional public road upgrade requirements following the approval of MOD2.

This report provides a finalisation to the areas of impact and credit requirements for the Project using the Biodiversity Assessment Method – Credit calculator (BAM CC) following completion of detailed design and construction of the Project. This will be made available on www.ryeparkwf.com.au.

The information provided in this report relates to the detailed assessment completed for the Project in accordance with the Biodiversity Assessment Method (2017), specifically the Biodiversity Development Assessment Report (BDAR) exhibited in August 2020 (Umwelt 2020a), the Impact Assessment Addendum lodged in November 2020 (Umwelt 2020b) and the previous MOD 1 Confirmation of Credit Liabilities report (Umwelt 2021a) and the MOD 2 Confirmation of Credit Liabilities report (Umwelt 2022).

This report has been prepared in accordance with the requirements of Schedule 3 Condition 20 of the NSW Approval (SSD 6693-MOD 2) which requires:

> *20. Prior to the commencement of construction, unless the Planning Secretary agrees otherwise, the Applicant must:*
>
> *a) update the baseline mapping of the vegetation and key habitat within the final disturbance area; and*
>
> *b) calculate the biodiversity offset credit liabilities for the development in accordance with the Biodiversity Assessment Method under the NSW Biodiversity Offsets Scheme,*

[1] Note. the Rye Park Wind Farm was originally granted approval (EPBC 2014/7163) on 6 December 2017, however due to a number of proposed modifications to the action a new referral was made in 2020.

in consultation with BCS, and to the satisfaction of the Department.

Furthermore, these calculations will form an attachment to the Offset Strategy prepared to meet the requirements of Condition 14 of EPBC 2020/8837, specifically to address Condition 14(b):

14. The Offset Strategy must be prepared by a suitably qualified expert(s), and must:

b) based on the areas of habitat for protected matters, including HBTs, to be impacted in the final layout, propose offsets to compensate for impacts to:

i. Box Gum Woodland;

ii. Superb Parrot habitat, including HBTs;

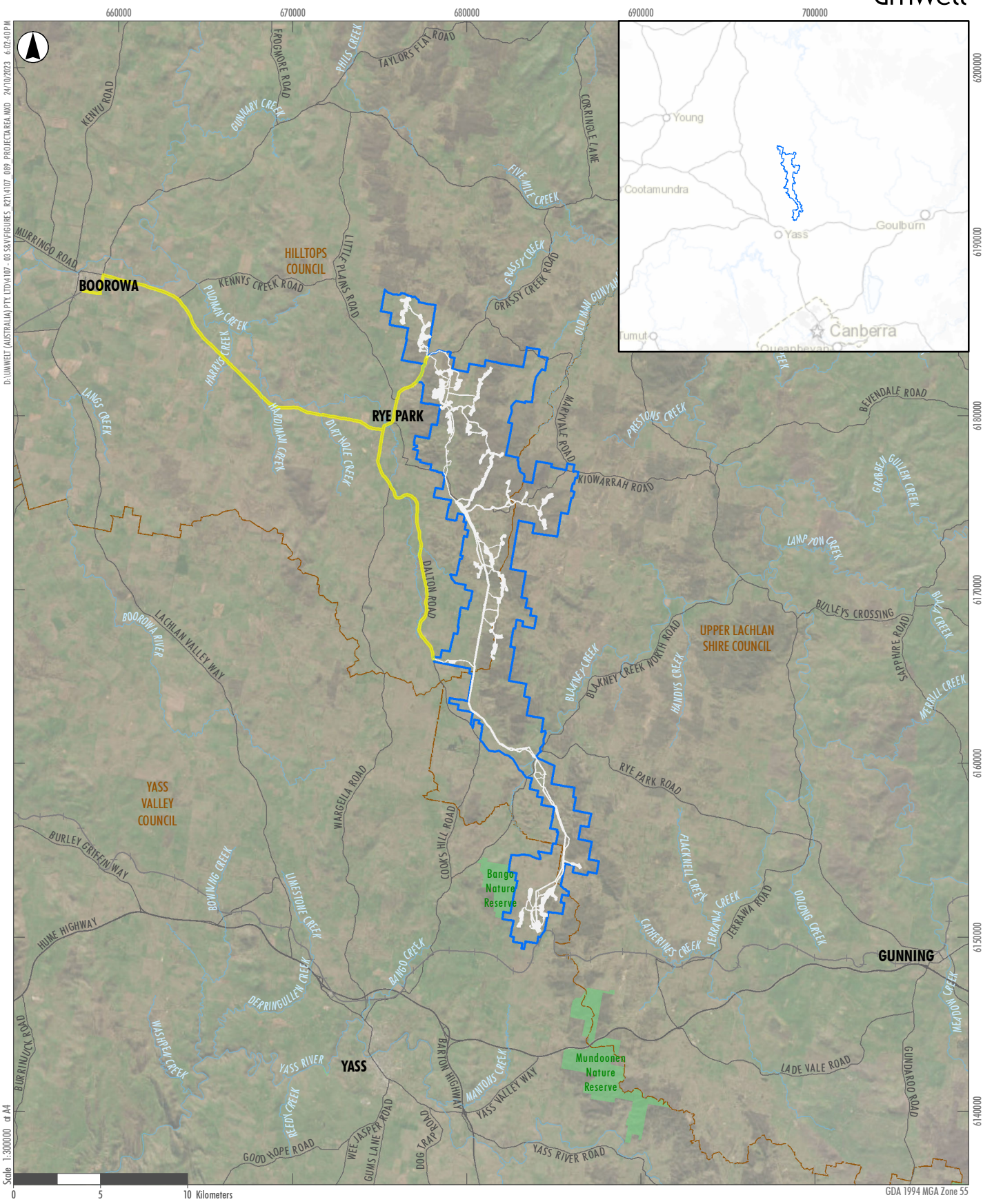
iii. Golden Sun Moth habitat;

iv. Striped Legless Lizard habitat;

in accordance with clauses 6.2 and 6.6A of the Biodiversity Conservation Regulation 2017 (NSW); and

c) provide the Biodiversity Assessment Method credit calculations used to determine the required number of like-for-like biodiversity credits to be retired to compensate for impacts to protected matters.

This report aims to provide the necessary information to support statements from Section 4.55(1A) of the EP&A Act and Part 7, Division 4, Section 7.17(2c) of the BC Act.



Legend

- Rye Park Wind Farm Project Area
- Rye Park Wind Farm Development Corridor
- Transport Route (Boorowa to Wind Farm Site)
- Local Government Area (LGA)
- Road
- Railway
- Watercourses

FIGURE 2.1

Rye Park Wind Farm
Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

2.1 The Final Project

Since the Development Consent was granted and EPBC 2020/8837 obtained, the Project has undergone further optimisations as part of the progression of the Project's detailed design, and to ensure the Project complies with the conditions of consent/approval and other key requirements.

The main components of the final Project are as follows:

- 66 wind turbines (Vestas V162), each with:
    - a capacity to generate up to approximately 6 MW
    - three blades mounted on a tubular steel tower, with a combined height of blade and tower limited to a maximum tip height of 200 m
    - crane hardstand area, and related turbine lay down area
- a new 33 kV wind farm collection substation in the northern section of the Project site
- a new 330 kV wind farm connection substation located adjacent to the existing TransGrid 330 kV transmission line in the southern section of the Project site
- a temporary construction compound at the northern section of the Project site
- a temporary construction compound to facilitate the upgrades on the TransGrid owned existing 330kV Transmission Line at the southern section of the Project site
- a new overhead powerline approximately 30km in length, rated at up to 330 kV (nominal) capacity, running north-south along the length of the wind farm between the two substations. The powerline would be mounted on a single pole type structure and will either be single-circuit or double-circuit as required
- underground and overhead 33 kV electrical cabling linking the wind turbines to the on-site collection substations and connection substation
- operation and maintenance facility incorporating a control room and equipment storage at the southern section of the Project site
- temporary concrete batching plants and construction facilities
- access tracks required for each wind turbine and the related ancillary facilities above
- minor upgrades to local roads, as required for the delivery of the wind turbines
- three temporary meteorological masts and two permanent monitoring masts for wind speed verification, weather, and general monitoring purposes. The permanent monitoring masts are static guyed structures and are the height of the wind turbine hubs (119 m).

The final development footprint is shown on the final layout plans that are to be prepared in accordance with Schedule 5 Condition 6 of the Development Consent and Condition 15 of EPBC 2020/8837. These plans consider both the changes to the project design as a result of the approval of MOD 2, the as-built wind farm infrastructure layout and completion of the post-clearance survey inspections of the civil disturbance of the wind farm.

Prior to the commencement of operations (or following any upgrades of any wind turbines or ancillary infrastructure), executed plans showing the comparison to the revised pre-construction final development footprint will be prepared in accordance with Schedule 5 Condition 6 of the Development Consent and Condition 15 of the EPBC 2020/8837, will be submitted to the relevant departments. This report has been prepared to support this process.

3.0 Methods

The sections below describe the work undertaken to determine the impact and credit calculations.

3.1 Previous Assessments

All biodiversity values assessed have been identified and described in full as part of the extensive reports prepared, submitted, and exhibited for the Development Modifications (MOD1 and MOD 2). This includes:

- Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a).
- Rye Park Wind Farm – Biodiversity Attachment, Environment Protection and Biodiversity Conservation Act 1999 Referral (November 2020) (Umwelt 2020b).
- Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b).
- Rye Park Wind Farm – Confirmation of Credit Liabilities (October 2021) (Umwelt 2021a).
- Rye Park Wind Farm – MOD 2 Confirmation of Credit Liabilities (September 2022) (Umwelt 2022).

The most recent impact assessment which impact thresholds are compared to throughout this document is the Rye Park Wind Farm – MOD 2 Confirmation of Credit Liabilities (September 2022) (Umwelt 2022).

All necessary surveys, analyses and descriptions are provided within these reports. Biodiversity values considered as part of this final assessment include Plant Community Types (PCTs), vegetation zones, Threatened Ecological Communities (TECs) and species-credit species. A summary of work completed is however provided below.

3.1.1 Previous Ecological Surveys

Extensive ecological surveys have been completed for the Project across multiple years between 2011 and 2021. This included surveys that were completed as part of the original approval (SSD 6693), that occurred in October and November 2011, April and November 2012, July, November and December 2013, March and October 2014, June 2015, and September 2016. These surveys including vegetation community identification and mapping, TEC analysis, habitat surveys, Bird and Bat Utilisation Surveys (BBUS) and threatened flora and fauna surveys. They were not completed in accordance with BAM (2017).

Since 2017, Umwelt completed all surveys on the Project in accordance with BAM (2017). Surveys were completed in September, October and December 2017, January, February, March, October and November 2018, January, February, March, April, July, August, September, November and December 2019, January, February and July 2020. Surveys have included vegetation community identification and mapping, TEC analysis, habitat surveys, Bird and Bat Utilisation Surveys (BBUS) and threatened flora and fauna surveys.

Full detail and dates of surveys completed for the Project which has facilitated the process of determining the impact and credit calculations is provided in Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a).

3.1.2 GIS Mapping

The identification, classification, assessment, and subsequent GIS mapping of vegetation (including TEC) and threatened species was completed in accordance with BAM (2017). Full detail of the work completed is presented in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a). The Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) presents the updated assessments for two threatened species, being Golden Sun Moth (*Synemon plana*) and striped legless lizard (*Delma impar*).

The MOD2 Confirmation of Credit Liabilities (Umwelt 2022) used the previously prepared GIS mapping to assess the impacts of the revised pre-construction final development footprint.

3.1.3 Prescribed Impact Assessments

In accordance with Section 9.3.3 of BAM (2017) a number of prescribed impacts were considered for the Project, being impacts of threatened microbat species associated with caves, impacts from risk of vehicle strike, impacts of turbine strikes, removal of non-native vegetation supporting threatened species and the interruption and fragmentation to connectivity of native vegetation and associated habitat corridors.

Full detail of the prescribed impact assessments completed is presented in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a). The Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) presents an updated assessment relating to the removal of non-native vegetation supporting golden sun moth.

The MOD2 Confirmation of Credit Liabilities (Umwelt 2022) documented the final analysis relating to the removal of non-native vegetation supporting golden sun moth within the revised pre-construction final development footprint.

3.1.4 Direct Partial Impacts

The finalisation of the Project's design has confirmed the extent of impact associated with the transmission line for the Project, including 132 kV and 33 kV. Specifically, the revised pre-construction final development footprint confirmed where the proposed transmission line easement would impact on vegetation identified for the Project due to electrical clearance. This was presented in the MOD2 Confirmation of Credit Liabilities (Umwelt 2022). Impacts were identified in vegetation that is currently or can grow equal to or greater than four metres tall. Vegetation zones 1, 3, 5, 7 and 9 were considered to meet these characteristics. Where these vegetation zones occur within the proposed transmission line easement electrical clearance, direct partial impacts were assessed for the Project.

In our original assessment of partial impacts for the Project, a proportion of biodiversity values was considered likely to remain within these areas. The BAM – CC was operated to manually edit the future integrity scores for the Composition, Structure and Function components of the applicable Vegetation Zones.

Canopy species, understorey and ground stratum flora species will persist and also provide substantial cover. Section 5.1.1.2 of the BDAR exhibited for the Project (Umwelt 2020a) details the process of considering, assessing and calculating impacts associated with direct partial impacts. Specifically, Table 5.4 of this BDAR presents the values of reduction assessed for each of the Composition, Structure and Function components (Umwelt 2020a).

3.2 Additional Assessment

3.2.1 Additional Ecological Surveys

Umwelt have undertaken an additional ecological survey for MOD 2 focussing entirely on components of the revised pre-construction final development footprint that are located beyond the previously approved MOD 1 Development Corridor.

The additional survey was undertaken in accordance with BAM (2020) for ecosystem credits. However, targeted species credit surveys were not undertaken in accordance with BAM (2020) in that multiple seasonal survey programs were not undertaken specifically for MOD 2. Rather the approach applied for MOD 2 is to utilise the previous extensive survey effort completed as part of the approved MOD 1.

The additional ecological survey in the internal wind farm components of MOD 2 were undertaken across four days, 5 – 8 October 2021, by two Umwelt Accredited BAM Assessor ecologists, Bill Wallach and Travis Peake.

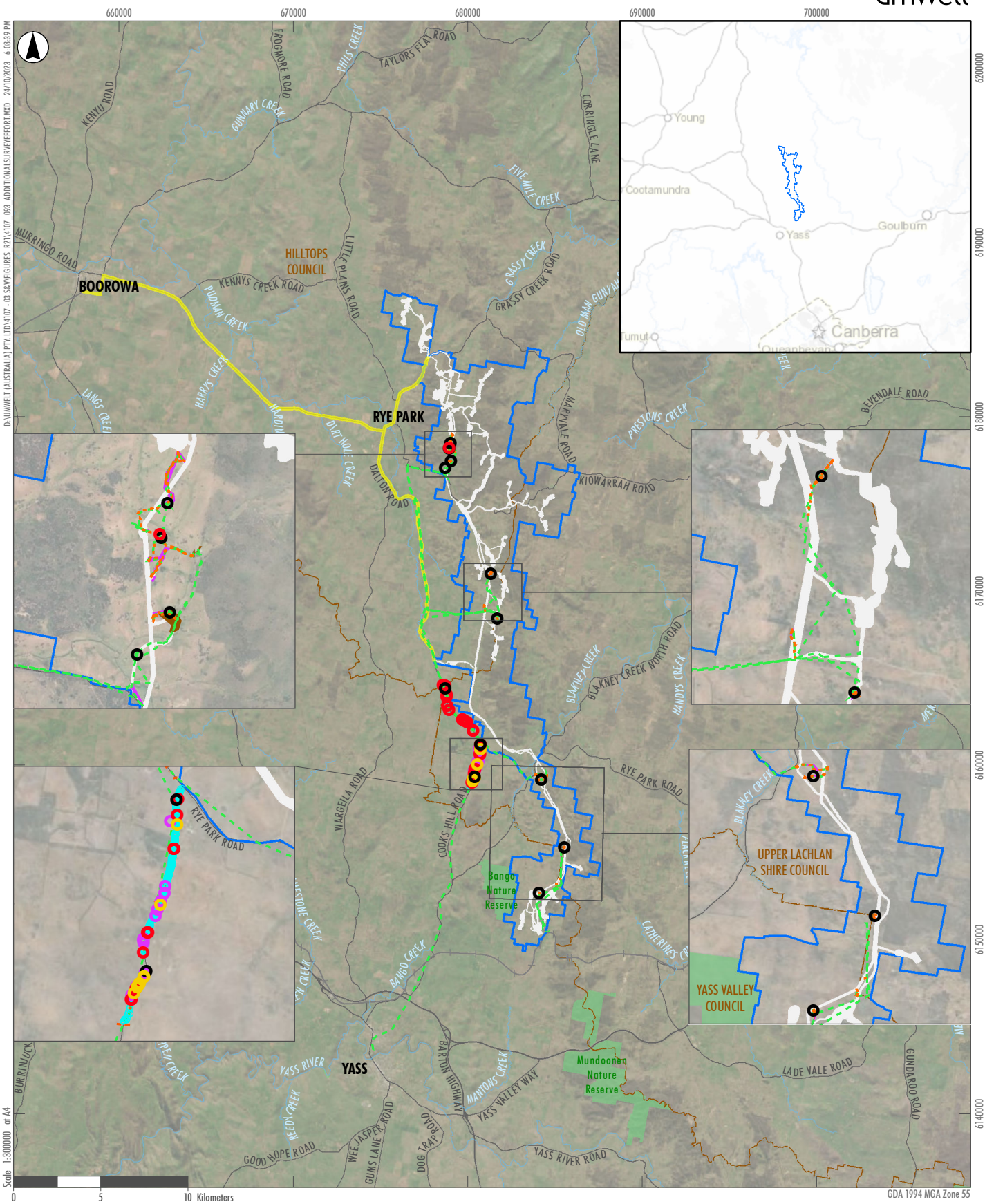
The methodology of the additional ecological survey included:

- 9 BAM Vegetation Integrity Plots
- walked parallel transects for threatened flora species
- rapid vegetation assessments
- habitat assessments for threatened flora and fauna species.

Additional ecological surveys specifically along Cooks Hill Road were undertaken on 12 and 13 January 2022 by two Umwelt ecologists: then 5 and 6 April 2022, 2 – 4 May 2022 and 29 November 2022 by one Umwelt ecologist. The methodology of the additional ecological surveys along this aspect of the proposed public road upgrades included:

- rapid vegetation assessments
- walked parallel transects for threatened flora species
- habitat assessments and surveys for threatened flora and fauna species
- individual tree assessments
- hollow bearing tree assessment of 11 trees proposed to be removed
- targeted assessment of hollow bearing tree suitability for superb parrot breeding habitat during breeding season 2022.

The additional ecological survey undertaken within the revised pre-construction final development footprint which occurred beyond the previously approved MOD 1 Development Corridor are presented in **Figure 3.1**.



Legend

- Rye Park Wind Farm Project Area
- Rye Park Wind Farm Development Corridor
- Transport Route (Boorowa to Wind Farm Site)
- Local Government Area (LGA)
- Road
- Railway
- Watercourses
- Hollow Bearing Tree Assessments
- Habitat Assessments
- BAM - Vegetation Integrity Plots
- Rapid Vegetation Assessments
- Tree Assessments
- Walked parallel threatened flora transects
- General Transects
- Habitat Assessments
- Rapid Vegetation Assessment Polygons

FIGURE 3.1

Additional ecological surveys within the final development footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

3.2.2 Additional GIS Mapping

The identification, classification, assessment, and subsequent GIS mapping of vegetation (including TEC) and threatened species was completed in accordance with BAM (2020). Importantly however, all GIS mapping completed for the revised pre-construction final development footprint was done consistently with the approaches taken in the previous biodiversity assessments for the Project (Umwelt 2020, 2021a and 2021b, 2022). This approach was carefully considered and deemed to be accurate and appropriate given the small nature of the changes extending beyond the Approved Development Corridor.

3.2.3 Prescribed Impact Assessments

As the revised pre-construction final development footprint does not involve any modification to the Developments wind turbines, being number of, location or extent of footprint, there has been no revision to the Prescribed Impact Assessment relating to impacts of turbine strike. Therefore, the prescribed impact assessment relating to turbine strike is within the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b).

An updated assessment relating to the removal of non-native vegetation supporting golden sun moth has been completed for the revised pre-construction final development footprint. This assessment is consistent with the methodology described in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) and Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a). A summary of the methodology is also presented above in **Section 3.1.3**.

The revised pre-construction final development footprint does not involve any modification to the Project that would interact with other Prescribed Impacts considered under BAM (DPE 2020). Therefore, all other prescribed impact assessments are presented within the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b).

3.2.4 Direct Partial Impacts

An updated assessment relating to the direct partial impacts within the transmission line of the revised pre-construction final development footprint has been completed. This assessment has been updated to account for the results of the additional BAM – Vegetation Integrity Plots undertaken on 17 – 19 July 2023 within areas of partial direct impacts of the Project.

The original methodology is described in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) and Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a). A summary of the methodology is also presented above in **Section 3.1.4**.

Following finalised construction of the Project, Umwelt returned to the Project to complete additional BAM – Vegetation Integrity Plots within the partial direct impact areas to confirm the realised extent of impact in these locations. These BAM – Vegetation Integrity Plots were completed within the three vegetation zones where partial direct impacts were assessed, being Vegetation Zones 3, 5 and 7. In total an additional 10 BAM – Vegetation Integrity Plots were completed within the areas of partial direct impacts, these are summarised below in **Table 3.1**.

Table 3.1 Additional BAM – Vegetation Integrity Plots completed within Partial Direct Impacts

BAM – Vegetation Integrity Plots	IBRA Region	PCT	Condition	Vegetation Zone
P_4107D_001	NSW – South Western Slopes IBRA Bioregion	PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Moderate to Good	5
P_4107D_002	NSW – South Western Slopes IBRA Bioregion	PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Moderate to Good	5
P_4107D_003	South Eastern Highlands IBRA Bioregion	PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Acacia Shrubland	7
P_4107D_004	South Eastern Highlands IBRA Bioregion	PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Acacia Shrubland	7
P_4107D_005	South Eastern Highlands IBRA Bioregion	PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Moderate to Good	5
P_4107D_006	South Eastern Highlands IBRA Bioregion	PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	Moderate to Good	3
P_4107D_007	South Eastern Highlands IBRA Bioregion	PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	Moderate to Good	3
P_4107D_008	South Eastern Highlands IBRA Bioregion	PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Moderate to Good	5
P_4107D_009	NSW – South Western Slopes IBRA Bioregion	PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	Moderate to Good	3

BAM – Vegetation Integrity Plots	IBRA Region	PCT	Condition	Vegetation Zone
P_4107D_010	NSW – South Western Slopes IBRA Bioregion	PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	Moderate to Good	5

Following completion of the additional BAM – Vegetation Integrity Plots undertaken within areas of partial direct impacts of the Project, Umwelt has updated the partial direct impacts to modify the Composition, Structure and Function scores within the BAM – CC based on the realised averages as indicated below in **Table 3.2**.

Table 3.2 Original and Updated Partial Impact Parameters

Attribute	Original Method CCS	Realised CCS	Original Method SCS	Realised SCS	Original Method FCS	Realised FCS
Tree	Same as original	Based on additional BAM – Vegetation Integrity Plots, but limited to the original value	5 per cent of original	Based on additional BAM – Vegetation Integrity Plots, but limited to the original value		
Shrub	Same as original		25 per cent of original			
Grass and Grass Like	50 per cent of original		50 per cent of original			
Forb	50 per cent of original		5 per cent of original			
Fern	50 per cent of original		5 per cent of original			
Other	50 per cent of original		5 per cent of original			
Number of Large Trees					Default	Based on additional BAM – Vegetation Integrity Plots, but limited to the original value
Litter Cover					Same as original	
Coarse Woody Debris					Same as original	
Stem Size Class					1	
Regeneration stems <5cm DBH					Present	
High Threat Weed Cover					Same as original	

Full detail of the partial assessment for each of the applicable vegetation zones is presented below, initially for those that occur within the NSW Southern West Slopes IBRA Region (**Table 3.3**) and then for those that occur within the South East Highlands IBRA Region (**Table 3.4**).

Table 3.3 Current, Original Future and Realised Future Score for Partial Impacts in Transmission (SEH IBRA)

	VZ 3			VZ 5		
	Current Score	Original Future Score	Realised Future Score	Current Score	Original Future Score	Realised Future Score
CCS						
Tree	2.4	2.4	1.5	3.4	3.4	1.0
Shrub	1	1	0.0	4.6	4.6	0.0
Grass and Grass Like	6.9	3.5	4.5	6.3	3.2	3.0
Forb	4	2.0	2.0	4.5	2.3	2.5
Fern	0	0	0.0	0.1	0	0.1 (actual score 0.5)*
Other	0.4	0.2	0.0	0.8	0.4	0
SCS						
Tree	35.3	1.8	0.2	43.4	2.2	0.1
Shrub	5.3	1.3	0.0	14.5	3.6	0
Grass and Grass Like	29.6	14.8	7.1	26.7	12.7	26.7 (actual score 43.7)*
Forb	2.4	0.1	0.7	3.6	0.2	0.3
Fern	0	0	0.0	0.1	0	0.1
Other	1	0	0.0	1.3	0	0
FCS						
Number of Large Trees	2	0	0.0	1.9	0	0.0
Litter Cover	59.1	59.1	13.9	54.1	54.1	29.2
Coarse Woody Debris	48.1	48.1	15.5	125.7	125.7	72.5
Stem Size Class	3.1	1	0.0	3.5	1	0.0
Regeneration stems <5cm DBH	1	1	0	0.9	1	1
High Threat Weed Cover	1.7	1.7	1.1	0.1	0.1	0.0

* The BAM-CC does not allow future scores to be entered higher than the original scores. Where higher scores were realised, the original score was entered.

Table 3.4 Current, Original Future and Realised Future Score for Partial Impacts in Transmission (SEH IBRA)

	VZ 3			VZ 5			VZ 7		
	Current Score	Original Future Score	Realised Future Scores	Current Score	Original Future Score	Realised Future Scores	Current Score	Original Future Score	Realised Future Scores
CCS									
Tree	2.4	2.4	2.0	3.4	3.4	1.0	1.4	1.4	1.4 (Actual score is 1.5)*
Shrub	1.3	1.3	1.3 (actual score is 2.5)*	4.6	4.6	1.5	4.5	4.5	3.5
Grass and Grass Like	6.9	3.5	5.0	6.3	3.2	2.5	6.5	3.3	5.0
Forb	4.0	2	2.0	4.5	2.3	2.5	4	2	3.5
Fern	0	0	0.0	0.1	0	0	1	0.5	1.0
Other	0.4	0.2	0.0	0.8	0.4	0	0.8	0.4	0.0
SCS									
Tree	35.3	1.8	2.7	43.4	2.2	0.6	27.6	1.4	22.0 (actual score is 27.6)*
Shrub	4.9	1.2	4.9 (actual score is 10)*	14.5	3.6	3.6	13.1	3.3	1.8
Grass and Grass Like	29.6	14.8	17.8	25.3	12.6	2.7	77.8	38.9	60.7 (actual score is 77.8)*
Forb	2.4	0.1	0.2	3.6	0.2	0.3	1	0	0.4
Fern	0	0	0.0	0.1	0	0	0.3	0	0.3 (actual score is 0.6)
Other	1	0	0.0	1.3	0	0	0.2	0	0.0
FCS									
Number of Large Trees	2	0	0.0	1.9	0	0.0	0.3	0	0.0
Litter Cover	59.1	59.1	28.2	54.1	54.1	22.9	28.2	28.2	28.2 (actual score is 36.4)

	VZ 3			VZ 5			VZ 7		
	Current Score	Original Future Score	Realised Future Scores	Current Score	Original Future Score	Realised Future Scores	Current Score	Original Future Score	Realised Future Scores
Coarse Woody Debris	48.1	48.1	0.0	125.7	125.7	3.5	49.8	49.8	34.0
Stem Size Class	3.1	1	0	3.5	1	0	2.5	1	2.0
Regeneration stems <5cm DBH	1	1	1	0.9	1	1	1	1	1
High Threat Weed Cover	1.7	1.7	0.1	0.1	0.1	0.1	0.1	0.1	0.0

* The BAM-CC does not allow future scores to be entered higher than the original scores. Where higher scores were realised, the original score was entered.

3.3 Final Development Footprint

The calculations are based on the final development footprint which includes both permanent (areas disturbed and required for ongoing operation of the Project) and temporary disturbance (areas disturbed to enable the construction of the Project), including:

- Temporary disturbance: temporary construction compounds, batch plant hardstands, temporary laydown hardstands, stockpile locations, cable routes, and disturbance along the edge of permanent disturbance areas.
- Permanent disturbance: sealed access tracks and turbine hardstands, sealed access tracks and turbine hardstands/engineered batters, clearance to maintain electrical safety, operations and maintenance facility, substations, sealed temporary construction pounds/hardstands which the landowner wishes to keep for their existing agricultural practices, and minor works associated with areas of public road upgrade.

Importantly, all disturbance has been calculated as full loss of biodiversity using the BAM (including the resulting biodiversity offset credits), except for areas where the disturbance is associated with clearance of overstory vegetation within the transmission line easement only. **Section 3.1.4** sets out the details of the methodology used to calculate this partial loss which will be verified in accordance with the process set out in **Section 7.0**.

3.4 BAM – Credit Calculator

In order to update the final credit requirement for the Project, Umwelt revised the Biodiversity Assessment Method (BAM) – Credit Calculator to capture the impacts associated with the final development footprint (the Development Footprints that pertains to the BAM). These revisions were made using the current BAM – Credit Calculator version, V61, that was updated on 22/06/2023. The BAM – Credit Calculator assessments have been re-submitted for agency review. Communication with the Biodiversity and Conservation Division (BCD) of the former Department of Planning, Industry and Environment (DPIE) confirmed this is the suitable approach for the credit finalisation. Specifically, this correspondence was received on 12 May 2022.

In October 2023, the two BAM-CC assessments for MOD 2 were updated with the final impact areas for PCTs and species credit species. The results of the additional 10 BAM – Vegetation Integrity Plots undertaken within the partial direct impact areas to accurately manipulate the future integrity scores in accordance with BAM. These additional BAM – Vegetation Integrity Plots were not imported into the BAM – CC but rather their integrity data was used to edit the future Composition, Structure and Function scores for the three vegetation zones that had been partially directly impacted.

The update, finalisation, and submission of the BAM – Credit Calculator was undertaken by Principal Ecologist and Accredited BAM Assessor, Bill Wallach (BAAS17068).

Prescribed Impact Assessment for the Removal of Non-Native Vegetation Supporting Golden Sun Moth

As described above in **Section 3.1.3**, a number of prescribed impacts were considered for the Project, including the removal of non-native vegetation supporting threatened species. This assessment was completed in accordance with Section 9.2.1.4 of the BAM 2017 (OEH 2017). We note that the prescribed impact assessment criteria for removal of non-native vegetation supporting threatened species is revised within the BAM 2020 (DPIE 2020). Umwelt carefully reviewed the differences in the criteria of the assessment and conclude the changes are marginal and non-consequential for the outcome of the assessment.

Furthermore, due to the extent and nature of the changes of the revised pre-construction final development footprint which extends outside of the Approved Development Corridor, Umwelt believe the approved methodology employed through the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) and Rye Park Wind Farm – MOD2 Confirmation of Credit Liabilities (Umwelt 2022) is appropriate.

As per the Rye Park Wind Farm – MOD2 Confirmation of Credit Liabilities (Umwelt 2022), full detail of this prescribed impact assessment is presented in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a) and the Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b).

4.0 Results

The sections below present the outcomes of the methods undertaken for the revised assessment of the revised pre-construction final development footprint.

4.1 Plant Community Types and Vegetation Zones

The additional detailed ecological surveys that were undertaken in the revised pre-construction final development footprint confirmed that Plant Community Types (PCTs) and Vegetation Zones were consistent with those that were identified for the previously approved MOD 1, assessed, and described in the Biodiversity Development Assessment Report (Umwelt 2020a) and the Impact Assessment Addendum (Umwelt 2021b). The particular PCTs and Vegetation Zones identified specifically in the revised pre-construction final development footprint are listed below:

- PCT 335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion.
    - Moderate to Good (Vegetation Zone 2).
- PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion.
    - Moderate to Good (Vegetation Zone 3).
- PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion.
    - Moderate to Good (Vegetation Zone 5).
    - Derived Native Grassland (Vegetation Zone 6).
    - Acacia Shrubland (Vegetation Zone 7).
    - Sifton Bush Shrubland (Vegetation Zone 8).
    - Non-Native Vegetation (Vegetation Zone 10).

Vegetation zones that occur along the Cooks Hills Road component of the public road upgrades include:

- PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion.
    - Moderate to Good (Vegetation Zone 3).
    - Derived Native Grassland (Vegetation Zone 4).
- PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion.
    - Acacia Shrubland (Vegetation Zone 7).
    - Non-Native Vegetation (Vegetation Zone 10).

Full description and detail on these vegetation zones is provided in Biodiversity Development Assessment Report (Umwelt 2020a).

A summary of impacts to all PCTs and vegetation zones within the revised pre-construction final development footprint is provided in **Section 4.6**.

The extent of PCT and vegetation zones is presented in the **Appendix A** figure set.

Species polygons for the five species-credit species is presented in the **Appendix B** figure set.

The extent of threatened ecological communities is presented in the **Appendix C** figure set.

4.2 BAM – Credit Calculator

The final impact areas and credit requirements for the Project are presented below in **Table 4.1**. Results are presented separately for the NSW – South Western Slopes and South Eastern Highlands IBRA Regions. Similarly, ecosystem-credit and species-credit requirements are presented separately. A comparison is made between the impact areas and credit liabilities of the previously approved MOD 1, from the Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b), Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a), Rye Park Wind Farm – MOD2 Confirmation of Credit Liabilities (Umwelt 2022) and the final development footprint.

The revised vegetation integrity data from all BAM – Vegetation Integrity Plots completed for the Project is provided in **Appendix D**. This package of data includes the original BAM – Vegetation Integrity plots undertaken as part of the Modified Project Approval, the 9 additional BAM – Vegetation Integrity plots completed within revised pre-construction final development footprint and the 10 additional BAM – Vegetation Integrity Plots undertaken within the areas of partial direct impacts.

Table 4.1 Final ecosystem and species-credit credit requirement for the Project (Final Impacts)

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-MOD1) (ha)[1]	Indicative Credits Required	Pre-construction Final Area (ha)[2]	Change from EIS/SSD6693-MOD1 (ha)	Pre-construction Credits Required	MOD2 Indicative Area (SSD6693-MOD2) (ha)[3]	Change from Pre-construction Final Area (ha)	MOD2 Credits Required	Revised Pre-construction Final Area (ha)	Change from MOD2 Indicative Area (ha)	Revised Pre-construction Credits Required	Finalised Impact Area (ha)	Change from MOD2 Indicative Area (ha)	Finalised Credits Required
Ecosystem Credits															
NSW – South Western Slopes IBRA Bioregion															
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.77	**25**	0.73	-0.04	**24**	0.73	-	**24**	0.73	-	**24**	**0.48**	**-0.25**	**16**
	Moderate to Good														
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	4.88	**117**	4.22	-0.66	**101**	4.19	-0.03	**110**	4.19	-	**110**	**2.81**	**-1.38**	**82**
	Moderate to Good														
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	9.76	**305**	8.11	-1.65	**338**	8.13	0.02	**341**	8.13	-	**341**	**4.83**	**-3.3**	**218**
	Moderate to Good														
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	11.9	**204**	10.55	-1.35	**226**	10.42	-0.13	**223**	10.42	-	**223**	**8.46**	**-1.96**	**179**
	Derived Native Grassland														
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	49.7	**1,620**	36.48	-13.22	**1,241**	35.67	-0.81	**1,230**	35.67	-	**1,230**	**27.26**	**-8.41**	**886**
	Moderate to Good														
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	128.49	**1,135**	111.47	-17.02	**985**	112.4	0.93	**908**	112.4	-	**908**	**95.33**	**-17.07**	**799**
	Derived Native Grassland														
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	2.98	**61**	3.51	0.53	**72**	4.15	0.64	**97**	4.15	-	**97**	**2.99**	**-1.16**	**64**
	Acacia Shrubland														

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-MOD1) (ha)[1]	Indicative Credits Required	Pre-construction Final Area (ha)[2]	Change from EIS/SSD6693-MOD1 (ha)	Pre-construction Credits Required	MOD2 Indicative Area (SSD6693-MOD2) (ha)[3]	Change from Pre-construction Final Area (ha)	MOD2 Credits Required	Revised Pre-construction Final Area (ha)	Change from MOD2 Indicative Area (ha)	Revised Pre-construction Credits Required	Finalised Impact Area (ha)	Change from MOD2 Indicative Area (ha)	Finalised Credits Required
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	62.55	**641**	49.36	-13.19	**506**	49.37	0.01	**506**	49.37	-	**506**	**37.59**	**-11.78**	**354**
	Sifton Bush Shrubland														
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	0.93	**28**	1.28	0.35	**38**	1.29	0.01	**39**	1.29	-	**39**	**0.83**	**-0.46**	**23**
	Argyle Apple Forest														
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	76.73	**0**	71.72	-5.01	**0**	73.01	1.29	**0**	73.01	-	**0**	**57.81**	**-15.2**	**0**
	Non-native Vegetation														
South Eastern Highlands IBRA Bioregion															
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	-	-	-	-	**-**	-	-	-	-	-	**-**	**-**	**-**	**-**
	Moderate to Good														
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.84	**13**	1.62	0.78	**25**	1.56	-0.06	**27**	1.56	-	**27**	**0.96**	**-0.6**	**17**
	Moderate to Good														
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	10.16	**271**	11.12	0.96	**386**	11.12	-	**394**	11.22	0.1	**398**	**11.05**	**-0.07**	**409**
	Moderate to Good														
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	5.63	**100**	3.34	-2.29	**74**	3.33	-0.01	**74**	3.34	0.01	**74**	**3.48**	**0.15**	**76**
	Derived Native Grassland														

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-MOD1) (ha)[1]	Indicative Credits Required	Pre-construction Final Area (ha)[2]	Change from EIS/SSD6693-MOD1 (ha)	Pre-construction Credits Required	MOD2 Indicative Area (SSD6693-MOD2) (ha)[3]	Change from Pre-construction Final Area (ha)	MOD2 Credits Required	Revised Pre-construction Final Area (ha)	Change from MOD2 Indicative Area (ha)	Revised Pre-construction Credits Required	Finalised Impact Area (ha)	Change from MOD2 Indicative Area (ha)	Finalised Credits Required
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	33.13	**1,025**	29.29	-3.84	**967**	29.18	-0.11	**976**	29.18	-	**976**	**23.22**	**-5.96**	**799**
	Moderate to Good														
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	46.43	**447**	45.86	-0.57	**441**	45.73	-0.13	**403**	45.73	-	**403**	**36.71**	**-9.02**	**317**
	Derived Native Grassland														
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	5.71	**91**	5.31	-0.4	**90**	5.56	0.25	**106**	5.56	-	**106**	**3.34**	**-2.22**	**69**
	Acacia Shrubland														
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	18.02	**199**	14.72	-3.3	**163**	14.72	-	**163**	14.72	-	**163**	**12.4**	**-2.32**	**136**
	Sifton Bush Shrubland														
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	-	-	-	-	**-**	-	-	**-**	-	-	**-**	**-**	**-**	**-**
	Argyle Apple Forest														
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	34.35	**0**	39.56	5.21	**0**	40.81	1.25	**0**	40.82	0.01	**0**	**33.12**	**-7.69**	**0**
	Non-native Vegetation														
Species Credits															
NSW – South Western Slopes IBRA Bioregion															
-	striped legless lizard (*Delma impar*)	43.07	**326**	41	-2.07	**310**	41	-	**284**	41	-	**284**	**37.57**	**-3.43**	**270**
-	southern myotis (*Myotis macropus*)	<0.01	**1**	<0.01	-	**1**	<0.01	-	**1**	<0.01	-	**1**	**0**	**0**	**0**
-	squirrel glider (*Petaurus norfolcensis*)	60.19	**2,073**	42.47	-17.72	**1,607**	44.45	1.98	**1,702**	44.45	-	**1,702**	**33.40**	**-11.05**	**1,233**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	**305**	8.11	-1.65	**270**	8.12	0.01	**273**	8.12	-	**273**	**4.83**	**-3.29**	**175**
-	golden sun moth (*Synemon plana*)	57.66	**895**	50.73	-6.93	**791**	49.38	-1.35	**702**	49.38	-	**702**	**43.71**	**-5.67**	**322**

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-MOD1) (ha)[1]	Indicative Credits Required	Pre-construction Final Area (ha)[2]	Change from EIS/SSD6693-MOD1 (ha)	Pre-construction Credits Required	MOD2 Indicative Area (SSD6693-MOD2) (ha)[3]	Change from Pre-construction Final Area (ha)	MOD2 Credits Required	Revised Pre-construction Final Area (ha)	Change from MOD2 Indicative Area (ha)	Revised Pre-construction Credits Required	Finalised Impact Area (ha)	Change from MOD2 Indicative Area (ha)	Finalised Credits Required
South Eastern Highlands IBRA Bioregion															
-	squirrel glider (*Petaurus norfolcensis*)	43.04	**1,434**	39.69	-3.35	**1,386**	40.14	0.45	**1,425**	40.24	0.1	**1,429**	**34.27**	**-5.87**	**1,240**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	**271**	11.12	0.96	**309**	11.12	-	**315**	11.22	0.1	**319**	**11.05**	**-0.07**	**327**
-	golden sun moth (*Synemon plana*)	27.56	**489**	25.83	-1.73	**440**	26.94	1.11	**423**	26.94	-	**423**	**21.5**	**-5.44**	**167**

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liability (Umwelt 2021a); [3] Confirmation of Credit Liability (Umwelt 2022)

4.3 Partial Impacts

Consistent in its application with the approved Project and as described above in **Section 3.1.4** and **Section 3.2.4**, Umwelt has operated the BAM-CC to apply a partial impact for vegetation zones 1, 3, 5, 7 and 9. This analysis is provided in **Table 4.2**. For areas identified as complete impact, the future vegetation integrity score is reduced to the default score of '0'. For areas identified as Direct Partial Impact, the Composition, Structure and Function scores have been manually edited in accordance with BAM (2017) to capture the biodiversity values that are assessed as persisting.

Table 4.2 Direct Partial Impacts of the Project

Vegetation Zone	PCT and Condition Zone	Complete Impact (ha)	Direct Partial Impact (ha)	Total Impact (ha)
NSW – South Western Slopes IBRA Bioregion				
Vegetation Zone 3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	3.94	0.89	4.83
Vegetation Zone 5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	25.44	1.82	27.26
South Eastern Highlands IBRA Bioregion				
Vegetation Zone 3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	7.51	3.54	11.05
Vegetation Zone 5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	20.43	2.79	23.22
Vegetation Zone 7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Acacia Shrubland*	2.66	0.68	3.34

4.4 Impacts on Threatened Ecological Communities

The Project has impacted a total of 27.82 hectares of *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (referred to hereafter as 'White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland') CEEC under the BC Act within vegetation zones 3 (15.88 ha) and 4 (11.94 ha) (**Appendix C**).

The Project has impacted a total of 27.08 hectares of White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act within vegetation zones 3 (15.66 ha) and 4 (11.42 ha).

There is a difference of 0.74 hectares between the impacts of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland' CEEC under the BC Act (27.82 hectares), compared to White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act (27.08 ha). This discrepancy relates to a small number of patches of PCT 350 Vegetation Zone 3 and Vegetation Zone 4 not meeting the condition thresholds for the EPBC Act listed community.

Table 4.3 presents a summary of credits generated that align with the BC Act and EPBC Act listed CEECs, as the CEEC boundaries are not entirely consistent with the vegetation zones. Within the BAM – Credit Calculator, it is not possible to differentiate between the extent of vegetation zones which are identified as the BC Act listed CEEC and EPBC Act listed CEEC, or vice versa. In fact, the BAM – Credit Calculator only allows for the BC Act listed CEEC to be selected. In which case, the BAM – Credit Calculator assessment has been finalised and submitted identifying Vegetation Zones 3 and 4 as being the BC Act listed CEEC. Umwelt has then used these vegetation zones as proxies to determine the credit requirement specifically relating to the EPBC Act listed CEEC. Specifically, we used the area of impact and credit requirement to determine a ratio of credits per hectare, which we then applied to the area of impact identified for the EPBC Act listed CEEC to identify its specific credit requirement (**Table 4.3**).

It is important to note that the total proportional number of CEEC credits under the BC Act and/or EPBC Act are not in addition to those credits identified in Section 4.1. Of the total number of credits required for impact to Vegetation Zone 3 and Vegetation Zone 4, **Table 4.3** presents the amount which need to align with the BC Act and EPBC Act listed CEECs.

The extent of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC listed under the BC Act and White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC listed under the EPBC Act associated with the Project is presented in the **Appendix C** figure set.

Table 4.3 Credit Generation from the BC Act and EPBC Listed CEECs

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)		White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)	
	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*
Total Area of Vegetation Zone (ha)	15.88	11.94	15.88	11.94
Total Credits	627	255	627	255
Total Area of CEEC (ha)	15.88	11.94	15.66	11.42
Proportion of Vegetation Zone that is CEEC	100.00%	100.00%	98.61%	95.64%
Proportional Number of CEEC Credits per Vegetation Zone[1]	627	255	618	244
Total Proportional Number of CEEC Credits [1]	**882**		**862**	

[1] Rounded to the nearest whole number.

4.5 Prescribed Impacts Assessment – Non-Native Vegetation Supporting Golden Sun Moth Habitat

Based on the revised analysis of golden sun moth habitat within the final development footprint, a total of 24.92 ha of vegetation zone 10 (Non-native Vegetation) occur within the golden sun moth species polygon (**Appendix B**). This impact on golden sun moth represents a **1.25 ha reduction** compared to that assessed and presented in the Rye Park Wind Farm – MOD2 Confirmation of Credit Liabilities (Umwelt 2022). The combined impact on golden sun moth, being native vegetation assessed as the species polygon addressed (**Section 4.1**) and non-native vegetation assessed in this Section is 90.14 hectares.

As described above in **Section 3.1.3**, the prescribed impact assessment has been updated for the impacts of the Project on non-native vegetation that supports golden sun moth. This updated assessment is presented below in **Table 4.4**. This assessment has been undertaken in accordance with Section 9.2.1.4 of the BAM 2017 (OEH 2017).

Table 4.4 Prescribed Impact Assessment of Non-Native Vegetation Supporting Golden Sun Moth

Criteria	Response
The assessment of the impacts of development on the habitat of threatened species or ecological communities associated with non-native vegetation must:	
a) identify the species and ecological communities likely to use the habitat	The golden sun moth has been recorded at several locations within the Development Footprints during surveys conducted by NGH and Umwelt. Consistent with the impact assessment for this species in the Biodiversity Assessment and Biodiversity Assessment Addendum (NGH Environmental 2014 and 2016), species habitat polygons were developed based on the extent of Vegetation Zones 4 and 6 (i.e., recorded DNGs) that intersect with 200 m buffers of known records for the species. As a result, 24.92 ha of non-native vegetation fall within the species polygon for the species. This non-native vegetation comprises grassland areas have been extensively cleared of native flora species through intensive and historic agricultural land use. They predominantly support exotic grasses and herbs, the most abundant including squirrel tail fescue (*Vulpia bromoides*), soft brome (*Bromus hordeaceus*), silvery hairgrass (*Aira cupaniana*), prairie grass (*Bromus catharticus*), red brome (*Bromus rubens*) and paspalum (*Paspalum dilatatum*). A full description of this mapping unit is provided in Section 3.2.2 of the current BDAR (Umwelt 2020). While these areas occur within the habitat buffers for the golden sun moth, it is noted that the presence of native grass species utilised by the golden sun moth (i.e., *Rytidosperma* spp. and *Austrostipa* spp.) in these areas generally occur in close proximity to the mapped PCT 350 and PCT 351 DNGs. As distances from these PCTs increase, it is likely that so do occurrences of exotic pasture weeds that do not facilitate foraging or breeding for the species. Currently, the species is only known to occur in degraded grasslands when they are dominated by the exotic Chilean needlegrass (*Nassella nessiana*) (DEWHA 2009a), which has not been recorded within any of the areas of Non-native Vegetation occurring in the Development Footprints. Therefore, while this assessment includes the total 24.92 ha of non-native vegetation which occurs within the golden sun moth habitat buffers, it is likely that the area of non-native vegetation with potential to be utilised by the species is considerably lower. Those areas of non-native vegetation used by the species would be based on the sporadic presence of native grass species and are considered sub-optimal habitat.
b) describe the nature, extent, and duration of short and long-term impacts	The Project will result in direct and indirect impacts, which are described in full in Section 5.1 of the current BDAR (Umwelt 2020). Short-term indirect impacts will include non-native vegetation within and surrounding golden sun moth habitat buffers being subject to potential increase in erosion, dust pollution, noise and vibration during construction works. These will occur across the Development Footprints for approximately two years. Much of the Development Corridor is exposed to historical and ongoing disturbances from grazing and other agricultural pressures. The extent and risk of indirect impacts from construction activities associated with the Project is considered to be consistent with those presented, discussed, and assessed as part of the original approval, including Biodiversity Assessment (NGH Environmental 2014) and Biodiversity Assessment Addendum (NGH Environmental 2016). Long-term impacts will include the removal of up to 24.92 ha of non-native vegetation which occurs in areas where the Development Footprints intersect with golden sun moth habitat buffers. This may result in initial species decline due to mortality of adults and larvae during the clearing process. The removal of vegetation may also lead to (additional) feral weed encroachment to adjacent areas over time. Given the occurrence of existing weeds in habitat areas, the

Criteria	Response
	Project is unlikely to introduce invasive species such as weeds that are harmful to the golden sun moth or its habitat. Despite the Project undergoing a modification, the components of indirect and peripheral impacts remain unchanged in nature and extent.
c) describe, with reference to relevant literature and other reliable published sources of information, the importance within the bioregion of the habitat to these species or ecological communities	The Saving Our Species (SOS) report for the golden sun moth (OEH 2020) identifies two key management sites for the species: Site 1 – Upper Lachlan and Site 2 – Gundaroo/Queanbeyan. Areas within the Development Corridor occur in the Upper Lachlan Management Site, which encompasses Rye Park, the town of Kangiara and stretches across to Blakney Creek in the east. This covers a total area of approximately 140,664 ha where objectives for minimising the impacts of commercial activities and maintaining low weed densities are in place. The areas of non-native vegetation forming potential golden sun moth habitat which will be removed by the Project comprise sub-optimal habitat which is not currently being managed in a way that is consistent with the SOS management objectives (i.e., reducing and maintaining weed densities through active weed control at priority sites). Therefore, although some patches of the Development Corridor fall within the Upper Lachlan Priority Site, it is considered unlikely that the removal of non-native vegetation within these areas will significantly affect the SOS objective to secure the species in the long term within this region. The *Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (Synemon plana)* (DEWHA 2009a) specify that the species is only known to occur in degraded grasslands when they are dominated by the exotic Chilean needlegrass (*Nassella nessiana*). This species was not recorded within any of the non-native vegetation areas to be cleared during surveys, and it is likely that these areas would only be used by the species based on the sporadic presence of native grasses. Furthermore, this species has not been recorded through any ecological surveys completed for the Project. There are extensive areas (i.e., several thousand hectares) of suitable habitat for the golden sun moth mapped as Yellow Box-Apple Box Grassy Woodlands in the NSW – South Western Slopes and South Eastern Highlands IBRA bioregions (Gellie 2005). These have groundcovers dominated by the species' preferred native grasses, including wallaby grass (*Rytidosperma racemosum* var. *racemosum*), kangaroo grass (*Themeda australis*), weeping grass (*Microlaena stipoides* var. *stipoides*) and speargrass (*Austrostipa scabra*), and are likely to be similar to golden sun moth habitat areas found in the Development Corridor. These grasses are essential in the maintenance of important life cycle processes for the species, as golden sun moth larvae feed exclusively on the roots of wallaby grasses (DPIE 2019). With this abundance of higher quality foraging and breeding habitat for the species in the wider region, areas of non-native vegetation would likely be utilised only by very small proportion of the species within the local area, and thus a negligible proportion of the species within the wider region. Additionally, there are several areas where the species is found or considered likely to occur within the relevant bioregions which are protected. These include Goorooyarroo Nature Reserve, Bango Nature Reserve, McLeod's Creek Nature Reserve, Oakdale Nature Reserve (OEH 2015) and the Yass River Gorge Council reserve (Yass Valley Council 2017). Taking into account the above information, it is considered that the non-native vegetation to be impacted by the Project may potentially be utilised by local populations of the golden sun moth but is unlikely to constitute important habitat for the species within the relevant bioregions.
d) predict the consequences of the impacts for the local and	The removal of 24.92 hectares of non-native vegetation will potentially have impacts on local populations occurring in these areas due to their limited dispersal ability. Clearing works may lead to mortality of both adults and larvae utilising

Criteria	Response
bioregional persistence of the suite of threatened species and communities likely to use these areas as habitat, with reference to relevant literature and other published sources of information	sporadic native grasses within Non-native Vegetation, as females of the species are generally reluctant to fly and males will not fly greater than 100 m (DPIE 2019). However, the number of individuals utilising non-native vegetation is expected to be a small proportion of the local population due to the species' preference for intact native grasslands (DEWHA 2009). Currently, the species is only known to occur in degraded grasslands when they are dominated by the exotic Chilean needlegrass (*Nassella nessiana*) (DEWHA 2009a), which has not been recorded within any of the areas of non-native vegetation occurring in the Development Footprints or the Project as a whole. It is recognised that one of the major threats to the golden sun moth is the loss of their preferred habitat by vigorous exotic pasture grasses introduced for livestock grazing, nutrient enrichment, and pasture cultivation (O'Dwyer & Attiwill 2000; DEWHA 2009a). As such, the non-native vegetation to be removed provides sub-optimal habitat for the species, and the impacts are not expected to affect the persistence of the golden sun moth in the local area. With regards to the wider ACT/NSW population, the areas of non-native vegetation are surrounded by vast amounts of higher quality native grassland habitat in the NSW – South Western Slopes, and South Eastern Highlands IBRA bioregions (Gellie 2005). These areas have groundcovers dominated by native grasses which are essential in the maintenance of important life cycle processes for the species, as golden sun moth larvae feed exclusively on the roots of wallaby grasses (DPIE 2019). Therefore, these areas would constitute habitat important to the persistence of the species and are likely the ones where minimising impacts and actively managing weeds would be of the most value. Additionally, the area of non-native vegetation to be removed is negligible when viewed in the regional context. Generally larger areas of connected habitat are considered the priority for protection of golden sun moth over the long-term (DEHWA 2009a). As populations separated by distances of greater than 200 m can be considered effectively isolated (DPIE 2019a and 2019b), regional populations are not expected to be affected by the Development. It is not considered likely that the removal of non-native vegetation occurring in golden sun moth habitat buffers will affect any populations in such a way that they will become extinct or have their movement restricted so that existing dispersal patterns are significantly affected. Consequences of the removal of 24.92 ha of non-native vegetation are considered to be minor on both a local and regional scale.

4.6 Result Summary

The tables provided in this section summarise the impacts of the final development footprint against the previous designs as clearly as possible. **Table 4.5** initially summarises the impacts of the Project per Vegetation Zone, **Table 4.6** then summarises the same impacts but for consolidated PCTs. Lastly, **Table 4.7** summarises the impacts for the Project per species-credit species.

Table 4.8 presents the revised pre-construction final impacts of the Project, including a comparison of impacts between the Project approved biodiversity assessments (Umwelt 2020a and Umwelt 2021) and the revised assessment prepared to determine the final credit requirements based on the surveyed post-construction disturbance of the Project.

When compared against the MOD2 Confirmation of Credit Liabilities (Umwelt 2022), the final impacts of all PCTs and species credit species have been reduced. The final footprint reduced golden sun moth impacts by 11.1 ha, striped legless lizard impacts by 3.43 ha, superb parrot impacts by 3.36 ha, squirrel glider impacts by 16.92 ha, while southern myotis impacts were avoided completely. A summary of the comparison of impacts is provided below:

- Striped legless lizard:
    - 37.57 ha of impact has occurred in the final development footprint, a **reduction of 3.43 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).
- Superb parrot:
    - 15.88 ha of impact has occurred in the final development footprint, a **reduction of 3.36 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).
    - Removal of two suitable breeding trees along Cooks Hill Road associated with the required public road upgrades. No breeding or use of the trees by superb parrot was observed.
- Golden sun moth:
    - 65.22 ha of impact has occurred in the final development footprint, a **reduction of 11.1 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2021a).
- Squirrel glider:
    - 67.67 ha of impact has occurred in the final development footprint, a **reduction of 16.92 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).

With comparison to the MOD2 Confirmation of Credit Liabilities (Umwelt 2022), all PCTs have reduced impacts. Further, impacts to the two threatened ecological communities have also had reduced impacts when compared to the MOD2 Confirmation of Credit Liabilities (Umwelt 2022), a summary is provided below:

- White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland') CEEC under the BC Act.
    - 27.82 ha of impact has occurred within the final development footprint, a **reduction of 5.18 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2021a).
- White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act.
    - 27.08 ha of impact has occurred within the final development footprint, a **reduction of 4.02 ha** compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2021a).

Table 4.5 Summary of Impacts per Vegetation Zone

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-MOD1) (ha)[1]	Pre-construction Final Area (ha)[2]	*Pre-construction Final Change to MOD1 (ha)*	Indicative Area (SSD-6693-MOD2) (ha)[3]	*MOD 2 Change to Pre-construction Final (ha)*	Revised Pre-construction Final Area (ha)	*Revised Pre-construction Final Change to MOD2 (ha)*	Finalised Impact Areas (ha)	Finalised Impact Areas to MOD 2 (ha)
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.77	0.73	*-0.04*	0.73	-	0.73	-	0.48	-0.25
	Moderate to Good									
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	5.72	5.84	*0.12*	5.75	*-0.09*	5.75	-	3.76	-1.99
	Moderate to Good									
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	19.92	19.23	*-0.69*	19.25	*0.02*	19.35	*0.1*	15.88	-3.37
	Moderate to Good									
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	17.53	13.89	*-3.64*	13.75	*-0.14*	13.76	*0.01*	11.94	-1.81
	Derived Native Grassland									
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	82.83	65.77	*-17.06*	64.85	*-0.92*	64.85	-	50.48	-14.37
	Moderate to Good									
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	174.92	157.33	*-17.59*	158.13	*0.8*	158.13	-	132.04	-26.09
	Derived Native Grassland									
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	8.69	8.82	*0.13*	9.71	*0.89*	9.71	-	6.33	-3.38
	Acacia Shrubland									
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	80.57	64.08	*-16.49*	64.09	*0.01*	64.09	-	49.99	-14.1
	Sifton Bush Shrubland									
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	0.93	1.28	*0.35*	1.29	*0.01*	1.29	-	0.83	-0.46
	Argyle Apple Forest									
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	111.08	111.28	*0.2*	113.82	*2.54*	113.83	*0.01*	90.93	-22.89
	Non-native Vegetation									

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liabilities (Umwelt 2021a); [3] Confirmation of Credit Liability (Umwelt 2022)

Table 4.6 Summary of Impacts per PCT

PCT Description	Indicative Impacts (SSD6693-MOD1) [1]	Pre-construction Final Impacts [2]	Indicative Impacts (SSD6693-MOD2) [3]	Revised Pre-construction Final Impacts [2]	Comparison of MOD2 / Revised Pre-Construction Final	Final Impacts [2]	Comparison of MOD2 / Final
	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.77	0.73	0.73	0.73	-	0.48	-0.25
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	5.72	5.84	5.75	5.75	-	3.76	-1.99
350- Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	37.45	33.12	33	33.11	0.11	27.82	-5.18
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	459.02	408.56	411.89	411.9	0.01	330.6	-81.29

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liabilities (Umwelt 2021a)

Table 4.7 Summary of Impacts per Species-credit Species

Species-credit Species	Indicative Impacts (SSD6693-MOD1)	Pre-construction Final Impacts	Indicative Impacts (SSD6693-MOD2)	Revised Pre-construction Final Impacts	Comparison of MOD2 / Revised Pre-Construction Final	Final Impacts	Comparison of MOD2 / Final
	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)
Striped legless lizard	43.07	41.00	41	41	-	37.57	-3.43
Superb parrot	19.92	19.23	19.24	19.34	0.1	15.88	-3.36
Golden sun moth	85.22	76.56	76.32	76.32	-	65.22	-11.1
Squirrel glider	103.23	82.16	84.59	84.69	0.1	67.67	-16.92
Southern myotis	<0.01	<0.01	<0.01	<0.01	-	0	<0.01

Table 4.8 Comparison of the indicative and revised pre-construction impact analysis

	Indicative Areas (SSD 6693-MOD1) (ha) [3]	MOD 1 Indicative Credits	Pre-construction Final Areas (ha)[6]	Pre-construction Credits	Area Change to SSD6693-MOD 1 (ha)	Credit Change to MOD 1	Indicative Areas (SSD6693-MOD2) (ha) [7]	MOD 2 Indicative Credits	Area Change to Pre-construction Final	Credit Change to Pre-construction Final	Revised Pre-construction Final Areas (ha)	Revised Area Change (ha)	Revised Credit Liability (ha)	Credit Change (to MOD2)	Final Impact Areas (ha)	Final Area Change (ha)	Final Credit Liability	Credit Change (to MOD2)
Non-listed																		
PCT 289 (Vegetation Zone 1)	0.77	25	0.73	24	-0.04	-1	0.73	24	-	-	0.73	-	24	-	0.48	-0.25	16	-8
PCT 335 (Vegetation Zone 2)	5.72	130	5.84	126	0.12	-4	5.75	137	-0.09	11	5.75	-	137	-	3.76	-1.99	99	-38
PCT 351 – Native (Vegetation Zones 5 - 9)	347.94	5,247	297.28	4,503	-50.66	-744	289.07	4,428	-8.21	-75	298.07	-	4,428	-	239.67	-49.4	3447	-981
PCT 351 – Non-native (Vegetation Zone 10)	111.08	-	111.28	-	0.2	-	113.82	-	2.54	-	113.83	0.01	0	-	90.93	-22.89	0	-
BC Act and EPBC Act Listed																		
Striped Legless Lizard	43.07	326	41	310	-2.07	-16	41	284	-	-26	41	-	284	-	37.57	-3.43	270	-14
Superb Parrot	19.92	576	19.23	579	-0.69	3	19.24	588	0.01	9	19.34	0.1	592	4	15.88	-3.36	502	-86
Golden Sun Moth	85.22	1,384	76.56	1,231	-8.66	-153	76.32	1,125	0.24	-106	76.32	-	1,125	-	65.22	-11.1	489	-636
BC Act Listed																		
Box Gum Woodland CEEC (BC Act) [1]	37.34	878	33.02	1,022	-4.32	144	33	1,032	-0.02	10	33.11	0.11	1,036	4	27.82	-5.18	882	-150
Squirrel Glider	103.23	3,507	82.16	2,993	-21.07	-514	84.59	3,127	2.43	134	84.69	0.1	3,131	4	67.67	-16.92	2473	-654
Southern Myotis	<0.01	1	<0.01	1	-	-	<0.01	1	-	-	<0.01	-	1	-	0	<0.01	0	-1

	Indicative Areas (SSD 6693-MOD1) (ha) [3]	MOD 1 Indicative Credits	Pre-construction Final Areas (ha)[6]	Pre-construction Credits	Area Change to SSD6693-MOD 1 (ha)	Credit Change to MOD 1	Indicative Areas (SSD6693-MOD2) (ha) [7]	MOD 2 Indicative Credits	Area Change to Pre-construction Final	Credit Change to Pre-construction Final	Revised Pre-construction Final Areas (ha)	Revised Area Change (ha)	Revised Credit Liability (ha)	Credit Change (to MOD2)	Final Impact Areas (ha)	Final Area Change (ha)	Final Credit Liability	Credit Change (to MOD2)
EPBC Act Listed																		
Box Gum Woodland (EPBC Act) [2]	35.54	Not calculated at the time [4]	31.23	972	-4.31	Not Possible[5]	31.1	979	-0.13	7	31.21	0.11	983	4	27.08	-4.02	862	-117

[1] White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

[2] White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)

[3] Impact Assessment Addendum (Umwelt 2021b)

[4] The area of impact on the EPBC Act listed CEEC was assessed and presented within the Impact Assessment Addendum (Umwelt 2021b), however the proportion of credits was not calculated at that time.

[5] In the absence of the previous calculation being completed, there is no ability to compare the credit requirements.

[6] Confirmation of Credit Liabilities (Umwelt 2021a)

[7] Confirmation of Credit Liabilities (Umwelt 2022)

5.0 Matters of National Environmental Significance

The additional Biodiversity Assessment undertaken for MOD2 or the additional public road upgrades within the final development footprint did not identify new Matters of National Environmental Significance (MNES) applicable to the Project. In summary, the final development footprint proposes to impact the same MNES identified, assessed, and approved through MOD2 and EPBC 2020/8837. The MNES impacted as part of the Project are listed below:

- White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act: 27.08 ha of impact has occurred within the final development footprint MOD 2, a reduction of 4.02 hectares compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).
- Striped legless lizard (V – EPBC Act): 37.57 hectares of impact has occurred within the final development footprint MOD 2, a reduction of 3.43 hectares compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).
- Superb parrot (V – EPBC Act): 15.88 ha of impact has occurred within the final development footprint MOD 2, a reduction of 3.36 hectares compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022). Removal of two suitable breeding trees along Cooks Hill Road associated with the required public road upgrades. No breeding or use of the trees by superb parrot was observed. These trees will be removed under the strict tree felling criteria stipulated in the BMP.
- Golden sun moth (V – EPBC Act): 65.22 ha of impact has occurred within the final development footprint MOD 2, a reduction of 11.10 ha compared with the MOD2 Confirmation of Credit Liabilities (Umwelt 2022).

6.0 Credit Summary

A summary of the final credit liability for the Project is provided below in **Table 6.1**, including a comparison against the previous assessments. This final confirmation of biodiversity offset credit requirement for the Project has been completed in accordance with the commitments of the Rye Park Wind Farm Offset Strategy to confirm the final biodiversity credits required to be retired for the Project. The final credit requirements specifically relating to the BC Act and EPBC Act listed CEECs is presented above in **Table 4.3**. Those credit requirements specifically relating to those CEECs relate to a proportion of the credits identified for PCT 350 in **Table 6.1** below i.e., the credits are not in addition to.

The biodiversity credit reports for both BAM – Credit Calculator assessments submitted for the Project are provided in **Appendix E** and **Appendix F**. Both appendices include the like-for-like and variation biodiversity credit reports, noting that the variation rules do not apply to those threatened species or ecological communities listed under the Commonwealth EPBC Act.

Table 6.1 Ecosystem and Species-credit Credit Classes

	Indicative Impacts (SSD6693-MOD1) [1]		Pre-construction Final Impacts [2]		Indicative Impacts (SSD6693-MOD2) [3]		Revised Pre-construction Final Impacts		Final Impacts	
	Area (ha)	Total Credits	Area (ha)	Total Credits	Area (ha)	Total Credits	Area (ha)	Total Credits	Area (ha)	Total Credits
SWS IBRA Region										
Ecosystem Credits										
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.77	25	0.73	24	0.73	24	0.73	24	0.48	16
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	4.88	117	4.22	101	4.19	110	4.19	110	2.81	82
350- Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	21.66	509	18.66	564	18.55	564	18.55	564	13.29	397
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion (including Vegetation Zone 10 – Non-native Vegetation)	321.38	3,485	273.82	2,842	275.89	2,780	275.89	2,780	221.81	2,126
Species-credit Credits										
striped legless lizard (*Delma impar*)	43.07	326	41.00	310	41.00	284	41.00	284	37.57	270
southern myotis (*Myotis macropus*)	<0.01	1	<0.01	1	<0.01	1	<0.01	1	0	0
squirrel glider (*Petaurus norfolcensis*)	60.19	2,073	42.47	1,607	44.45	1,702	44.45	1,702	33.40	1,233
superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	305	8.11	270	8.12	273	8.12	273	4.83	175
golden sun moth (*Synemon plana*)	57.66	895	50.73	791	49.38	702	49.38	702	43.71	322
SEH IBRA Region										
Ecosystem Credits										
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	-	-	-	-	-	-	-	-	-	-
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.84	13	1.62	25	1.56	27	1.56	27	0.96	17

	Indicative Impacts (SSD6693-MOD1) [1]		Pre-construction Final Impacts [2]		Indicative Impacts (SSD6693-MOD2) [3]		Revised Pre-construction Final Impacts		Final Impacts	
	Area (ha)	Total Credits	Area (ha)	Total Credits	Area (ha)	Total Credits	Area (ha)	Total Credits	Area (ha)	Total Credits
350- Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	15.79	371	14.46	460	14.45	468	14.56	472	14.53	485
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	137.64	1,762	134.74	1,661	136.00	1,648	136.01	1,648	108.79	1,321
Species-credit Credits										
striped legless lizard (*Delma impar*)	-	-	-	-	-	-	-	-	-	-
southern myotis (*Myotis macropus*)	-	-	-	-	-	-	-	-	-	-
squirrel glider (*Petaurus norfolcensis*)	43.04	1,434	39.69	1,386	40.14	1,425	40.24	1,429	34.27	1,240
superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	271	11.12	309	11.12	315	11.22	319	11.05	327
golden sun moth (*Synemon plana*)	27.56	489	25.83	440	26.94	423	26.94	423	21.5	167

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liabilities (Umwelt 2021a); [3] Confirmation of Credit Liabilities (Umwelt 2022)

7.0 Micro-siting and Confirmation of Impacts

The final layout of the Project was refined through the detailed design and construction of the Project. It is noted that micro-siting of the wind turbines and ancillary infrastructure was permitted under Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837.

The Biodiversity Management Plan for the Project sets out the micrositing requirements for the Project. Relating to biodiversity this includes:

- The micro-sited location must **remain within the Development Corridor** as approved by the Development Consent and project area as approved by EPBC 2020/8837.
- **Compliance with the micro-siting restrictions** described in Schedule 2 Condition 8 of the Development Consent, being:
    - no more than 250 m from the approved location
    - turbine numbers A06, A05, D07, D09, E04, E05, G01, and D06 are micro-sited to minimise (and if possible, avoid) impacts on high conservation value vegetation, including HBTs2
    - the revised location of a wind turbine is at least 50 m from existing HBTs; or, where the approved turbine location is already within 50 m of existing HBTs, the revised location of the turbine is not moved any closer to the existing or nearest HBTs.
- **Avoidance and minimisation of native vegetation clearing**, taking particular consideration of minimising impacts to Box Gum Woodland CEEC (BC Act and EPBC Act), Superb Parrot habitat (BC Act and EPBC Act), Striped Legless Lizard habitat (BC Act and EPBC Act), GSM habitat (BC Act and EPBC Act), Squirrel Glider habitat (BC Act) and Southern Myotis habitat (BC Act). Micro-siting must ensure that the impact of the Project does not exceed the clearing and habitat limits set out in the Development Consent or EPBC 2020/8837.
- Micro-siting during construction process will incorporate an avoidance hierarchy, where micro-siting will firstly prioritise avoidance of threatened ecological communities or habitat of threatened species in order of most to least threatened, and then secondly avoidance of non-listed native vegetation.
- Further consultation with BCD will be completed to confirm that micro-sited impacts are generally in accordance with the EIS (in accordance with Schedule 2 Condition 1 of the Development Consent) if micro-siting results in a movement of disturbance from an area of lower biodiversity (e.g., non-native vegetation, non-threatened species habitat or non-threatened ecological community) to higher biodiversity value (e.g., woodland/forest, threatened species habitat or threatened ecological community) and results in a exceedance beyond the thresholds set out in **Table 6.1** of this document.
- The **location of termite mounds** and avoiding impacts on them.
- **Will not result in any non-compliance with the conditions of consent** and ensure the Project remains generally in accordance with the EIS.

[2] Previously known (and as described within the Development Consent) as 11, 12, 80, 83, 84, 85, 125 and 150. Additionally, note that turbine locations 48 and 143 are not being utilised within the final layout.

Prior to the commencement of operations (or following any upgrades of any wind turbines or ancillary infrastructure), executed plans showing the comparison to the revised pre-construction final development footprint will be prepared in accordance with Schedule 5 Condition 6 of the Development Consent and Condition 15 of the EPBC 2020/8837, will be submitted to the relevant departments and will be available on the Project's website.

The Biodiversity Management Plan for the Project sets a post clearing process to confirm the final micro-sited impact of the Project. This process has included:

- Following civil disturbance (progressively), the final disturbance footprint of the Project was confirmed by a surveyor using sub-metre accuracy GPS equipment.
- Following the disturbance activities associated with clearance of overstory vegetation within the transmission line easement, a suitably qualified ecologist undertook a post clearing assessment of this area to confirm the partial impact assumptions used to inform the revised pre-construction final biodiversity calculations (see **Section 3.1.4** and **Section 4.3**). This included consideration of the Structure, Composition and Function attributes of the remaining vegetation in relation to BAM.

Once all disturbance has been undertaken (using the information captured from the above), a suitably qualified ecologist was required to calculate the final biodiversity impact of the confirmed final disturbance footprint and corresponding biodiversity offset credit liabilities for the Project in accordance with the BAM under the NSW Biodiversity Offset Scheme. This report has been prepared to finalise this process.

Assessing the final development footprint (totalling 374.68 ha) for the Project identified that 1.76 ha (<0.5%) occurred beyond the extent of the previously assessed disturbance areas. This relates to 0.41 ha of disturbance associated with the wind farm outside the Development Corridor as approved by the Development Consent (SSD6693-MOD2 and EPBC 2020/8837) and an additional 1.35 ha of disturbance associated with the public road upgrades within the project area as approved by EPBC 2020/8837 that were not previously assessed as an indicative impact as part of the public road upgrades.

While all micrositing for the Project is required by the Biodiversity Management Plan to remain within this Development Corridor, these impacts have not compromised any of the clearance or impact thresholds identified for the Project relating to PCTs, species credits species or threatened ecological communities. **Table 7.1** provides a total summary of the extent of impacts of the final development footprint occurring beyond the Development Corridor, with **Table 7.2** providing further detail on the impacts with respect to the additional public road upgrades and the works within the wind farm that occurred outside the defined Development Corridor.

Table 7.1 Extent of impacts to PCTs and Vegetation Zones outside of the Development Corridor

PCT Number	Vegetation Zone	Condition	Area (ha)
289	1	Moderate to Good	0.15
350	3	Moderate to Good	0.10
350	4	DNG	0.03
351	5	Moderate to Good	0.09
351	6	DNG	0.05
351	7	Moderate to Good – Acacia Shrubland	0.01
351	8	Moderate to Good – Sifton Bush Shrubland	0.04
351	10	Non-native Vegetation	1.20
Nil	Nil	Access Tracks/Roads	0.10
		Total	**1.76**

Table 7.2 Comparison of the additional disturbance areas – Ecosytem and Species-credit Species

	Areas of Additional Public Road Upgrade (ha)	Area of Disturbance outside Development Corridor – wind farm (ha)	Total (ha)	Percentage of Total Finalised Impact Area (%) [1]
Non-listed				
PCT 289 (Vegetation Zone 1)	0.15	-	0.15	0.04
PCT 335 (Vegetation Zone 2)	-	-	-	-
PCT 351 – Native (Vegetation Zones 5 - 9)	0.17	0.01	0.18	0.05
PCT 351 – Non-native (Vegetation Zone 10)	0.99	0.21	1.2	0.32
BC Act and EPBC Act Listed				
Striped Legless Lizard	-	0.01	0.01	<0.01
Superb Parrot	0.10	-	0.10	0.03
Golden Sun Moth	-	0.10	0.10	0.03
BC Act Listed				
Box Gum Woodland CEEC (BC Act) [2]	0.10	0.03	0.13	0.03
Squirrel Glider	0.25	0.08	0.33	0.09
Southern Myotis	-	-	-	-
EPBC Act Listed				
Box Gum Woodland CEEC (EPBC Act) [3]	0.06	0.03	0.09	0.02

[1] Refer to **Table 4.8** for relevant totals of the Finalised Impact Area

[2] White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

[3] White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)

For the avoidance of doubt, the additional impacts as described in **Table 7.1** and **Table 7.2**, have been considered as part of the final project disturbance and the impacts to these areas are included in the final credit liability for the Project (refer to **Section 6.0**). With respect to the disturbance outside the wind farm Development Corridor, Umwelt considers that these impacts are insignificant when compared to the total disturbance of the Project and have a negligible impact to the relevant environmental values of the additional areas compared to the reduction of disturbance achieved by RPRE as part of the final project layout. The impacts to 1.76 hectares that occur outside the wind farm Development Corridor do not compromise any of the biodiversity impact thresholds approved for the Project. Further, impacts to all biodiversity entities impacted by the Project have been reduced when compared to the MOD2 Confirmation of Credit Liabilities (Umwelt 2022), that is PCTs, vegetation zones, threatened ecological communities and species-credit species.

The final biodiversity calculations will be used to update the Offset Strategy in accordance with Condition 15 of the EPBC 2020/8837 and as evidence when retiring credits pursuant to Schedule 3 Condition 21 of the Development Consent.

8.0 References

Department of the Environment, Water, Heritage and the Arts, 2009a. Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (*Synemon plana*).

Department of the Environment, Water, Heritage and the Arts, 2009b. Background paper to EPBC Act Policy Statement 3.12 – Nationally Threatened Species and Ecological Communities: Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (*Synemon plana*).

Department of Planning, Industry and Environment (DPIE) (2019). Threatened Species profile – Golden Sun Moth (*Synemon plana*).

Gellie, N.J.H. (2005). Native Vegetation of the Southern Forests: South-east Highlands, Australian Alps, South-west Slopes, and SE Corner bioregions. Cunninghamia (2005) 9(2): 219–254.

NGH Environmental, 2014. Biodiversity Assessment Rye Park Wind Farm, prepared on behalf of Epuron, January 2014.

NGH Environmental, 2016. Biodiversity Assessment Addendum – Rye Park Wind Farm (Appendix C), prepared on behalf of Epuron, March 2016.

O'Dwyer C. & Attiwill P. M. (2000) Restoration of a native grassland as habitat for the golden sun moth Synemon plana Walker (Lepidoptera; Castniidae) at Mount Piper, Australia. Restor. Ecol. 8, 170–4.

Office of Environment and Heritage (OEH) (2017) Biodiversity Assessment Method, August 2017.

Office of Environment and Heritage (OEH) (2020). Saving Our Species Report – Golden Sun Moth. Available at https://www.environment.nsw.gov.au/savingourspeciesapp/ViewFile.aspx?ReportProjectID=839&ReportProfileID=10791, accessed July 2020.

Umwelt 2020a. Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020).

Umwelt 2020b. Rye Park Wind Farm – Biodiversity Attachment, Environment Protection and Biodiversity Conservation Act 1999 Referral (November 2020)

Umwelt 2021a. Rye Park Wind Farm – Confirmation of Credit Liabilities (October 2021).

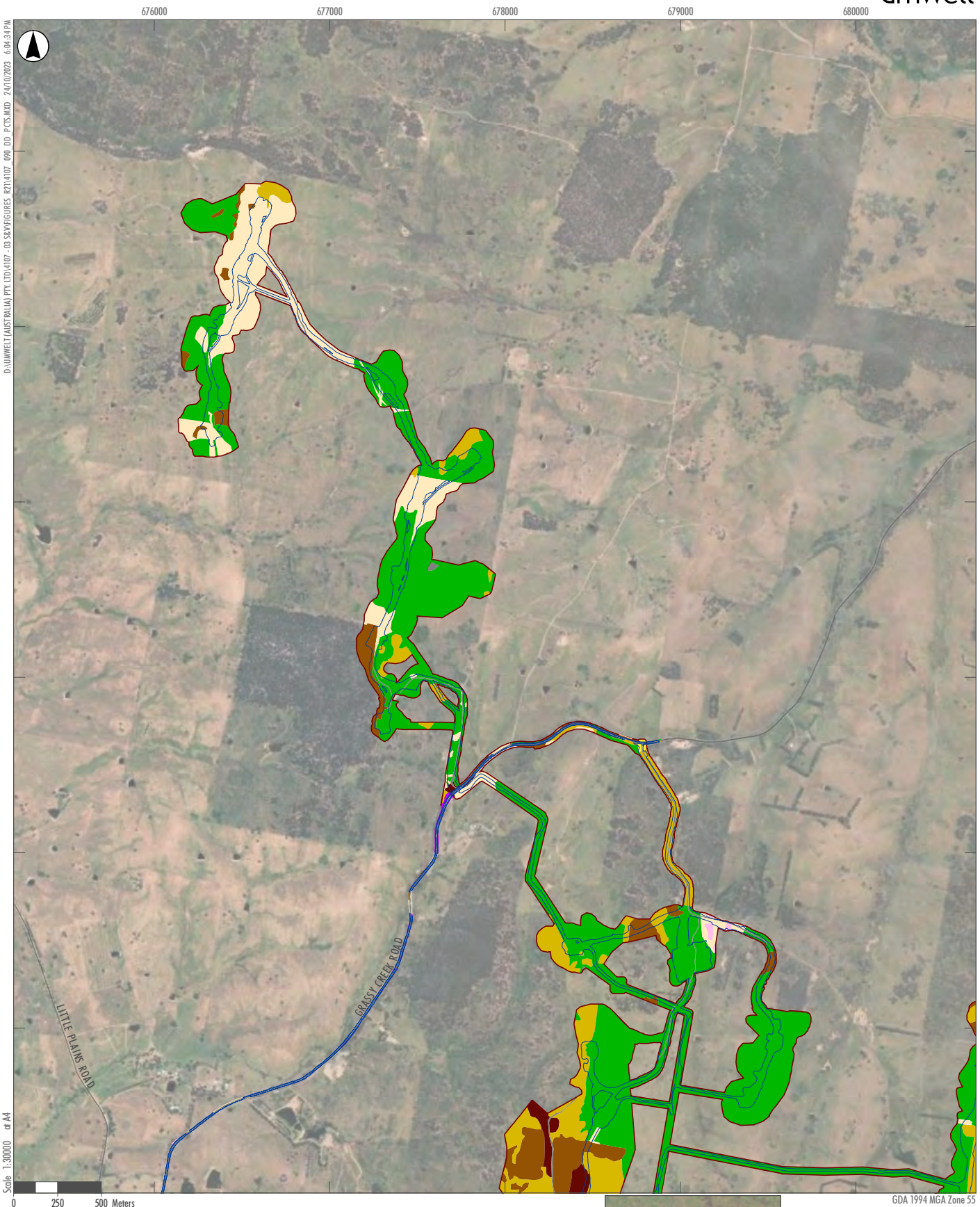
Umwelt 2021b. Rye Park Wind Farm – Impact Assessment Addendum (March 2021).

Umwelt 2022. Rye Park Wind Farm – MOD 2 Confirmation of Credit Liabilities (September 2022).

Yass Valley Council (2017). Plan of Management for Yass Gorge 2017-2027. September 2017.

APPENDIX A

Plant Community Types and Vegetation Zones



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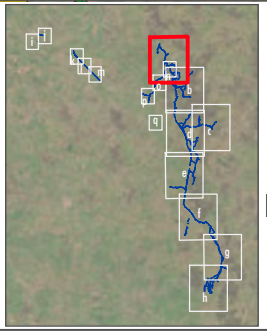
Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

PCT, Condition in the Rye Park Wind Farm

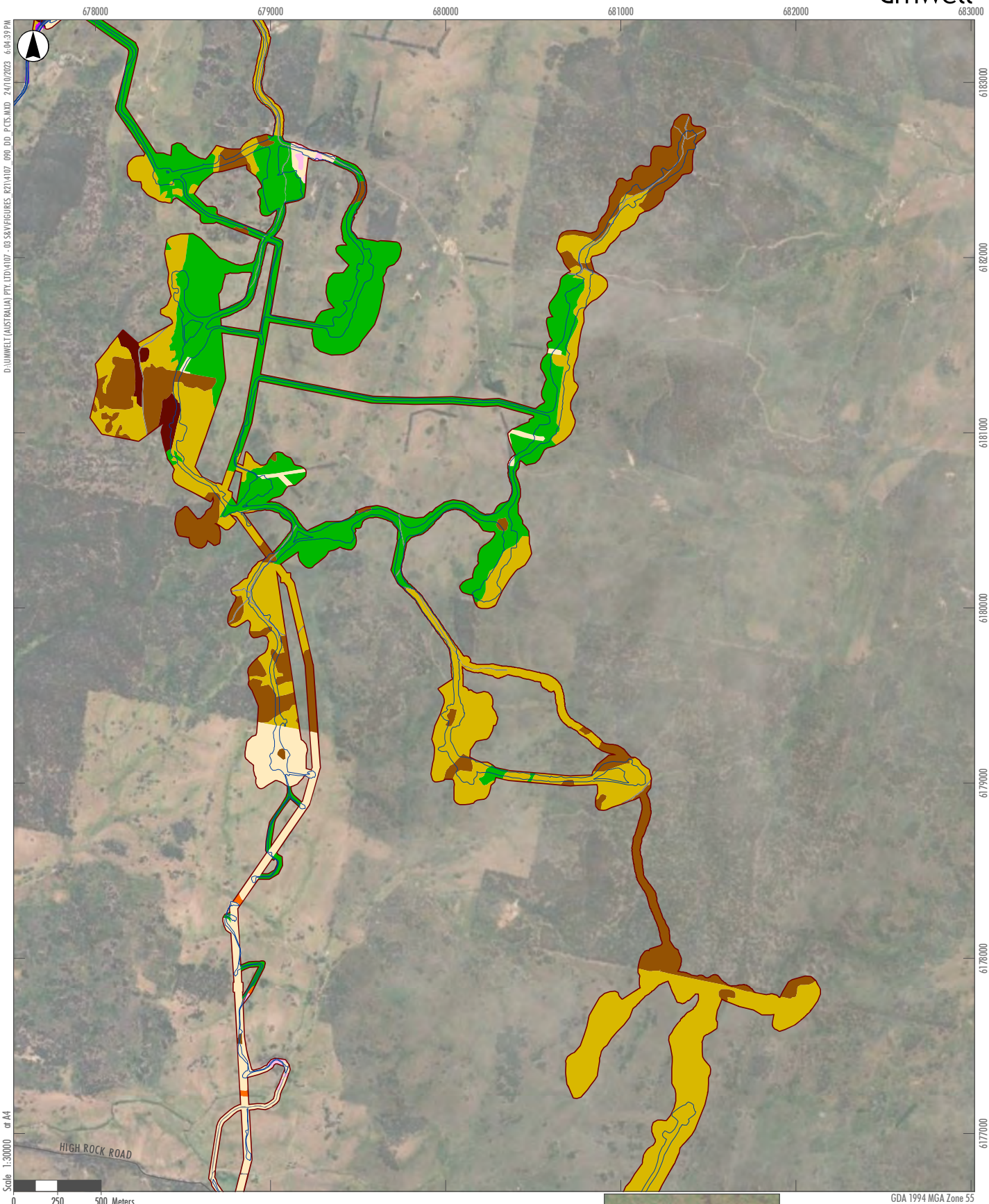
- Zone 1 -289 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.a

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

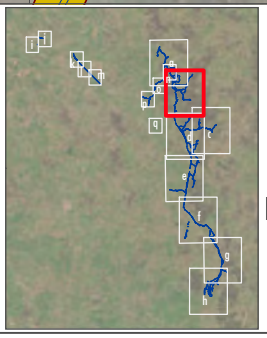


Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

PCT, Condition in the Rye Park Wind Farm

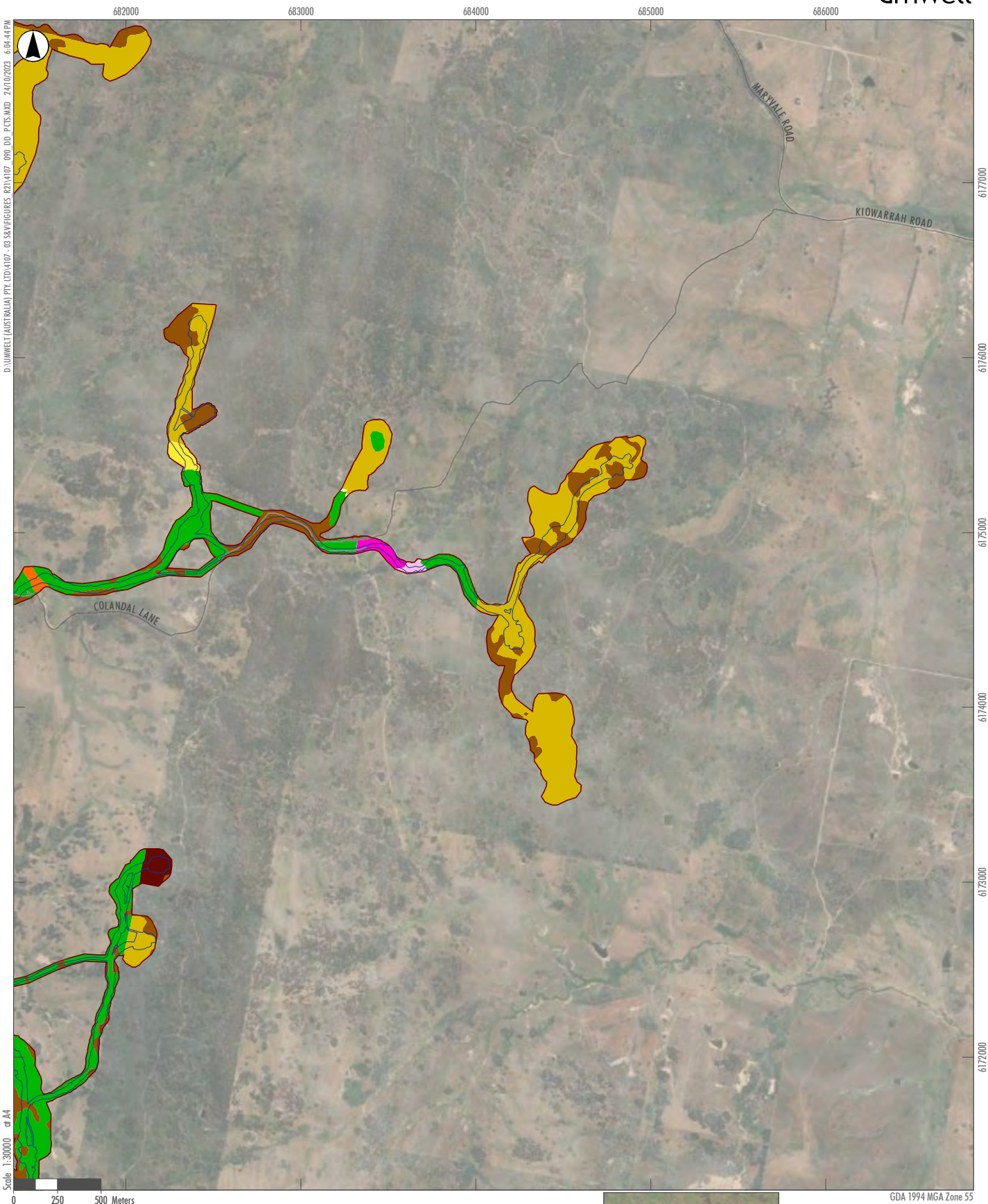
- Zone 1 -289 - Moderate to Good
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.b

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

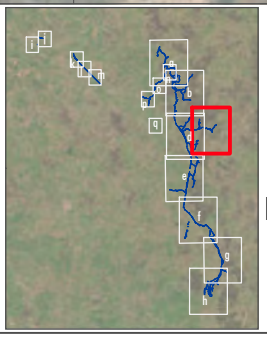


Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

PCT, Condition in the Rye Park Wind Farm

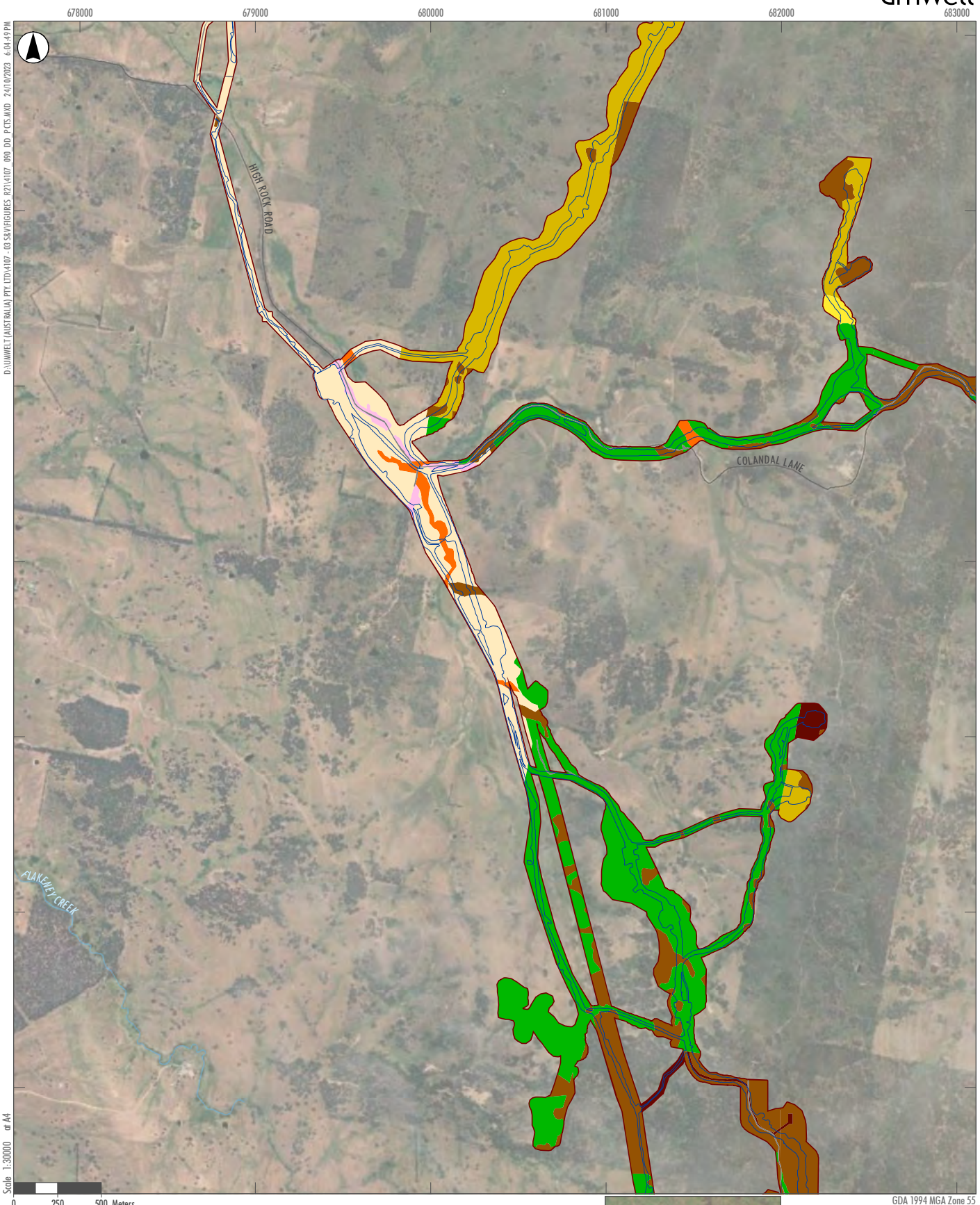
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.c

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

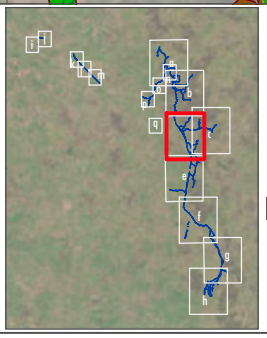


Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

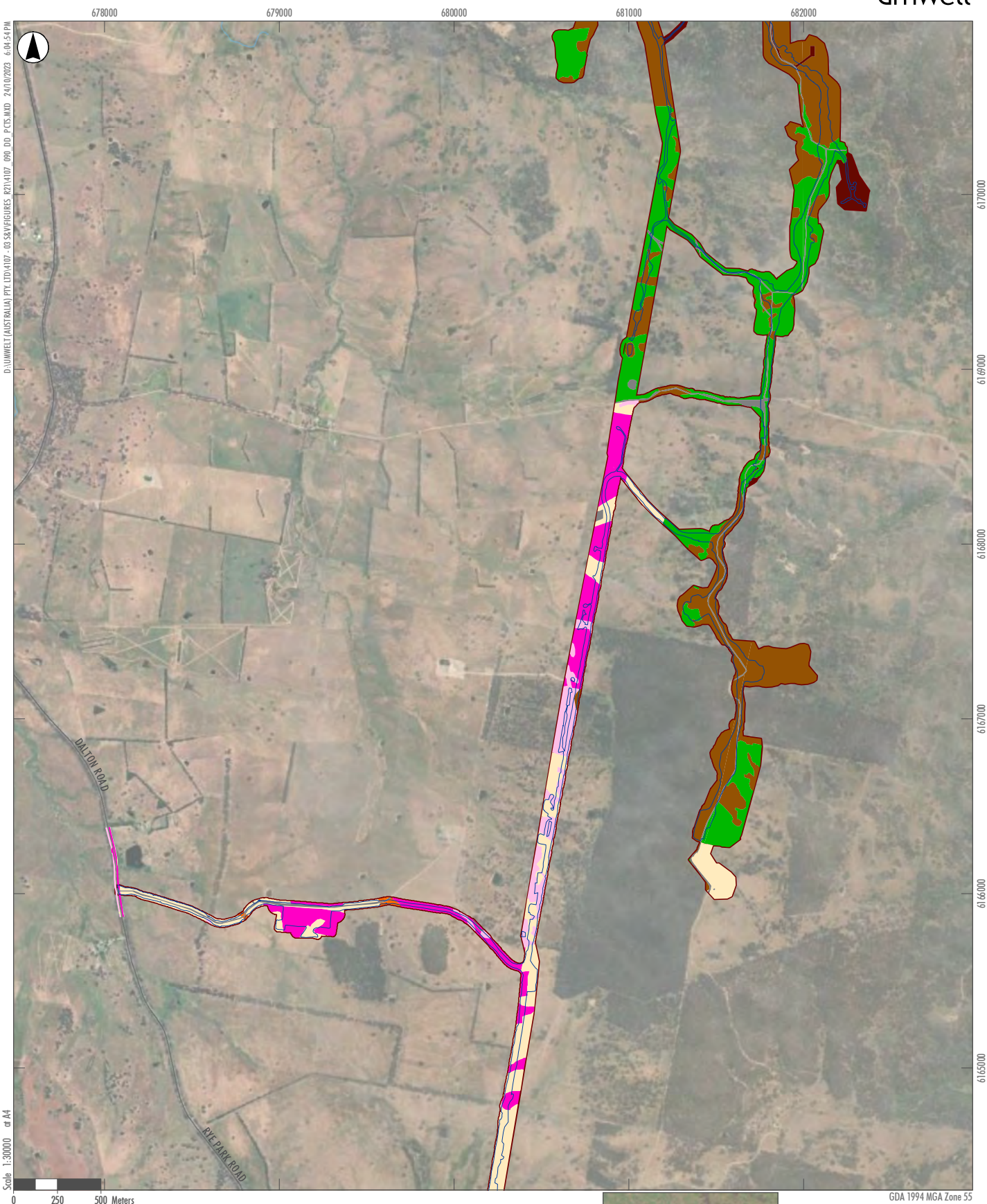
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.d

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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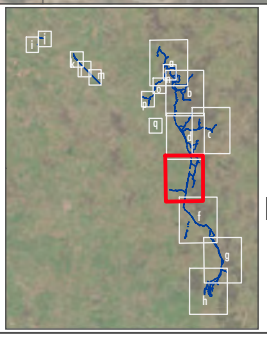
Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads

PCT, Condition in the Rye Park Wind Farm

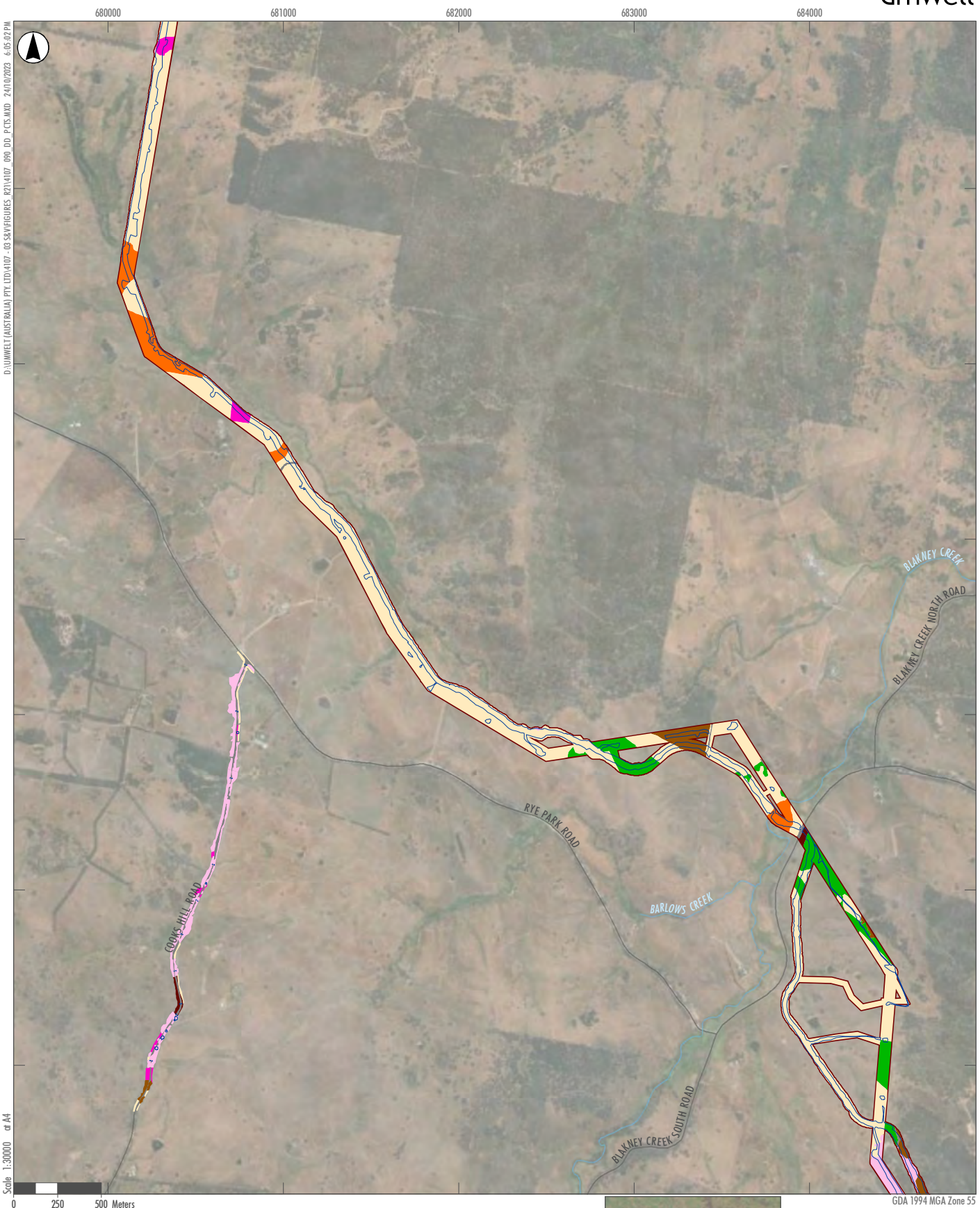
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good



APPENDIX A.e

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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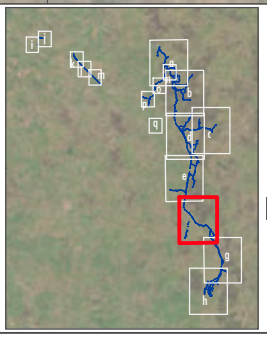
Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

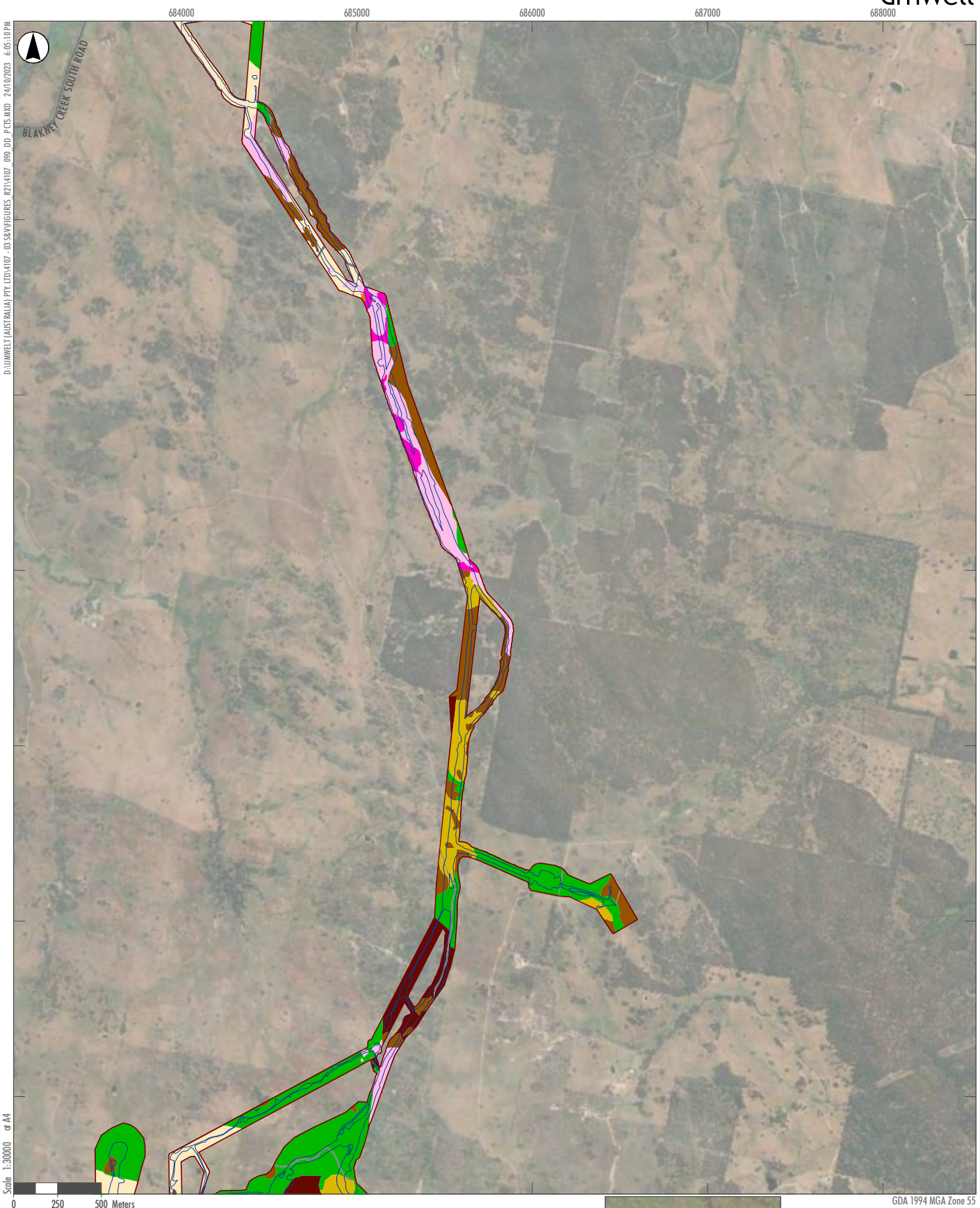
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.f

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

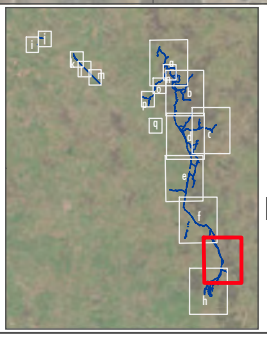


Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

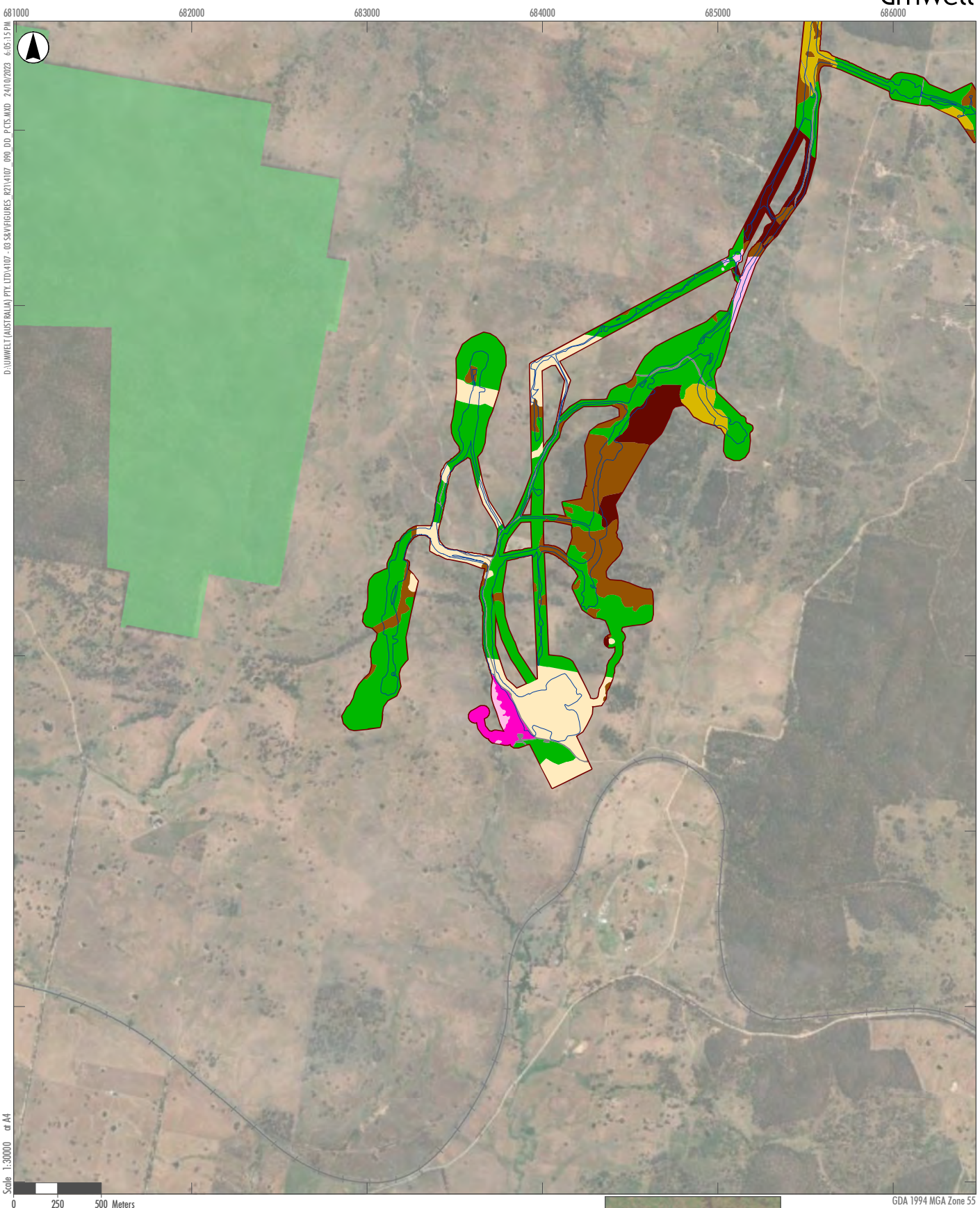
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.g

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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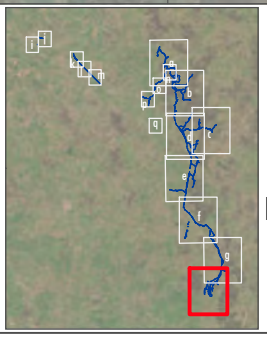
Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Railway
- NPWS Reserve

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.h

Plant Community Types and Vegetation Zones in the Final Development Footprint

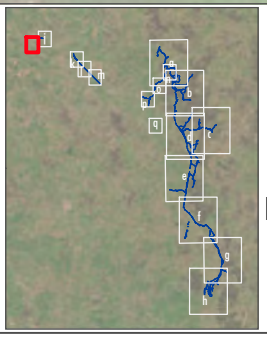
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Railway
- Road

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.i

Plant Community Types and Vegetation Zones in the Final Development Footprint

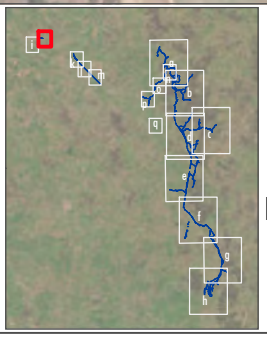
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.j

Plant Community Types and Vegetation Zones in the Final Development Footprint

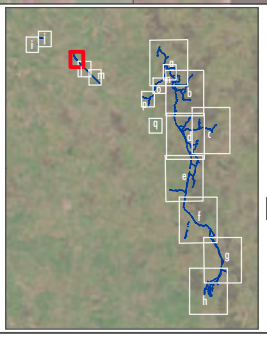
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.k

Plant Community Types and Vegetation Zones in the Final Development Footprint

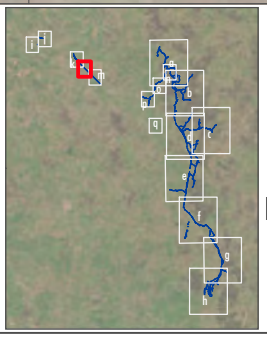
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

- Zone 4 -350 - Moderate to Good - DNG
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.I

Plant Community Types and Vegetation Zones in the Final Development Footprint

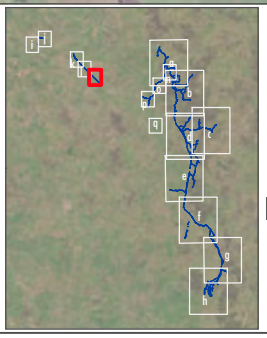
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

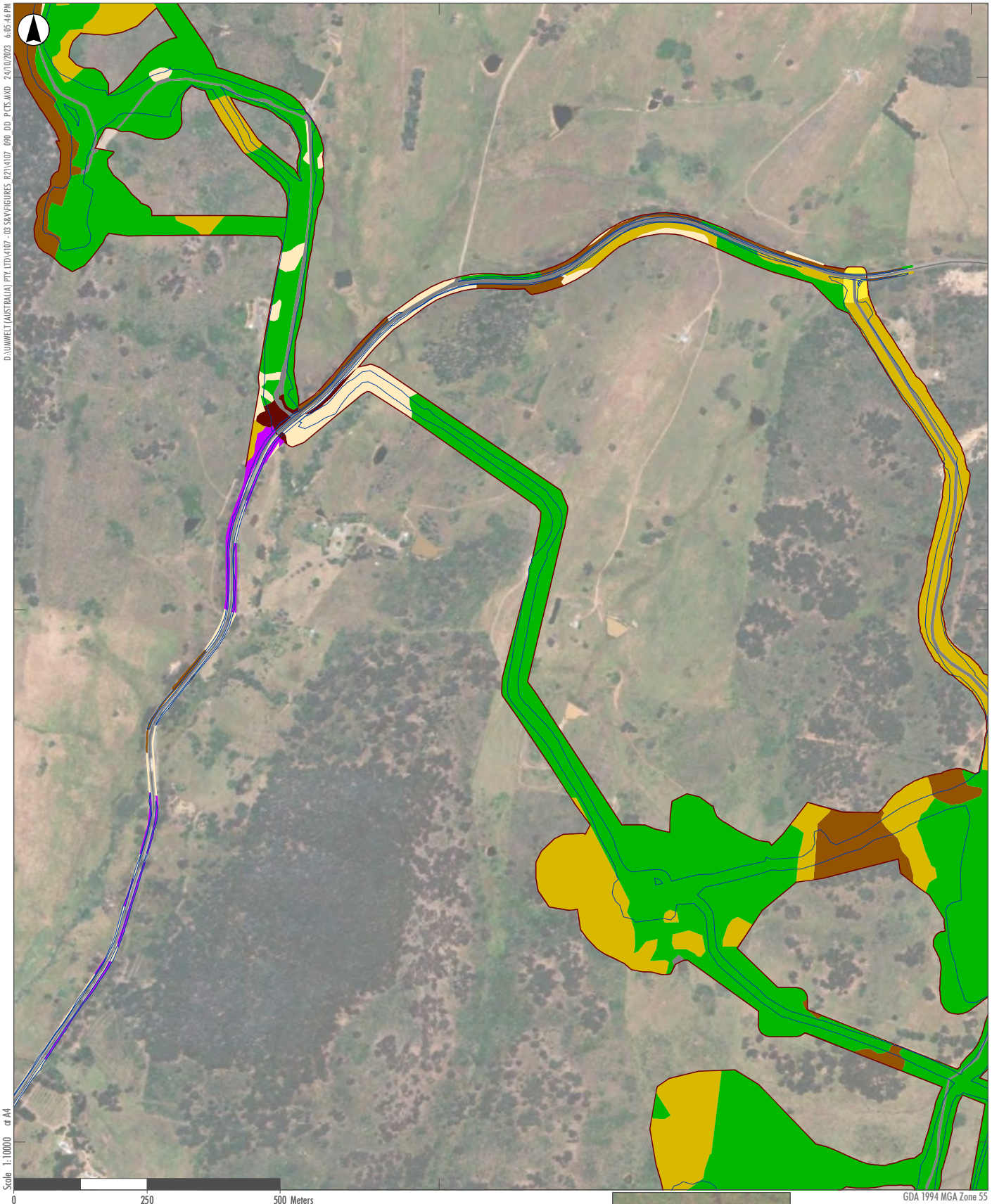
- Zone 3 -350 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.m

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

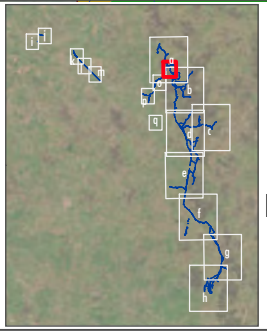


Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

PCT, Condition in the Rye Park Wind Farm

- Zone 1 -289 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.n

Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

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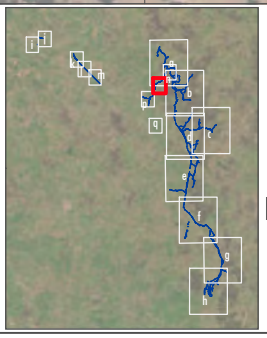
Scale 1:10000 at A4

Legend

- Final Development Footprint
- Road

PCT, Condition in the Rye Park Wind Farm

- Zone 1 -289 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.o

Plant Community Types and Vegetation Zones in the Final Development Footprint

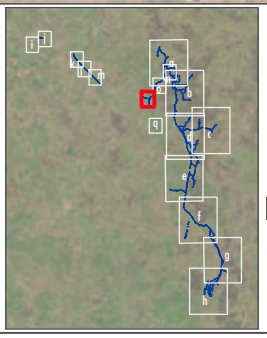
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.p

Plant Community Types and Vegetation Zones in the Final Development Footprint

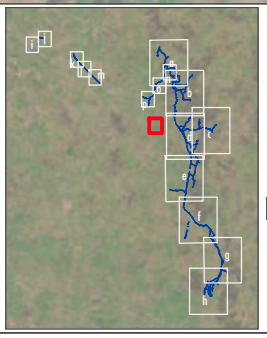
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Watercourses
- Road

PCT, Condition in the Rye Park Wind Farm

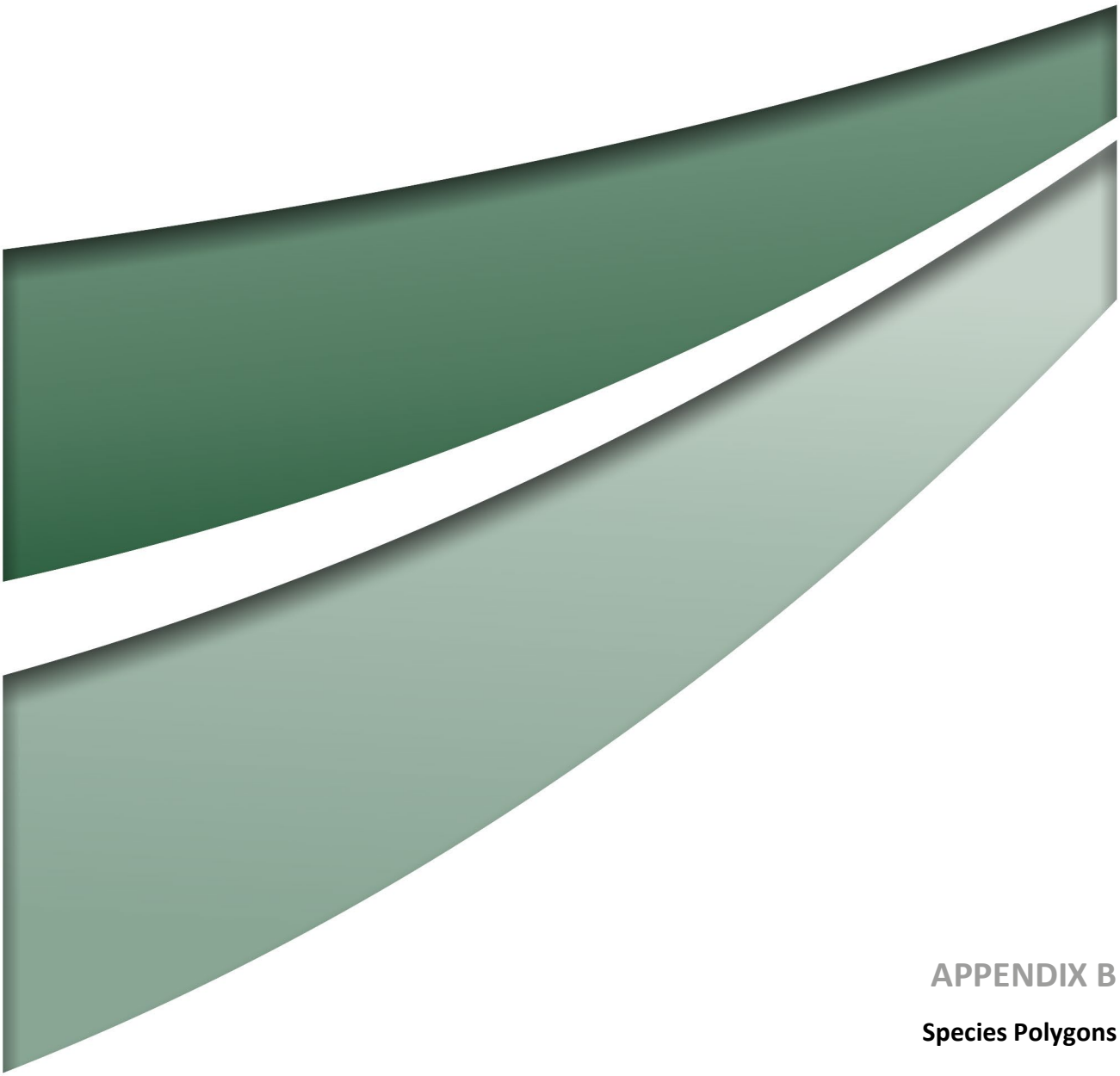
- Zone 3 -350 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.q

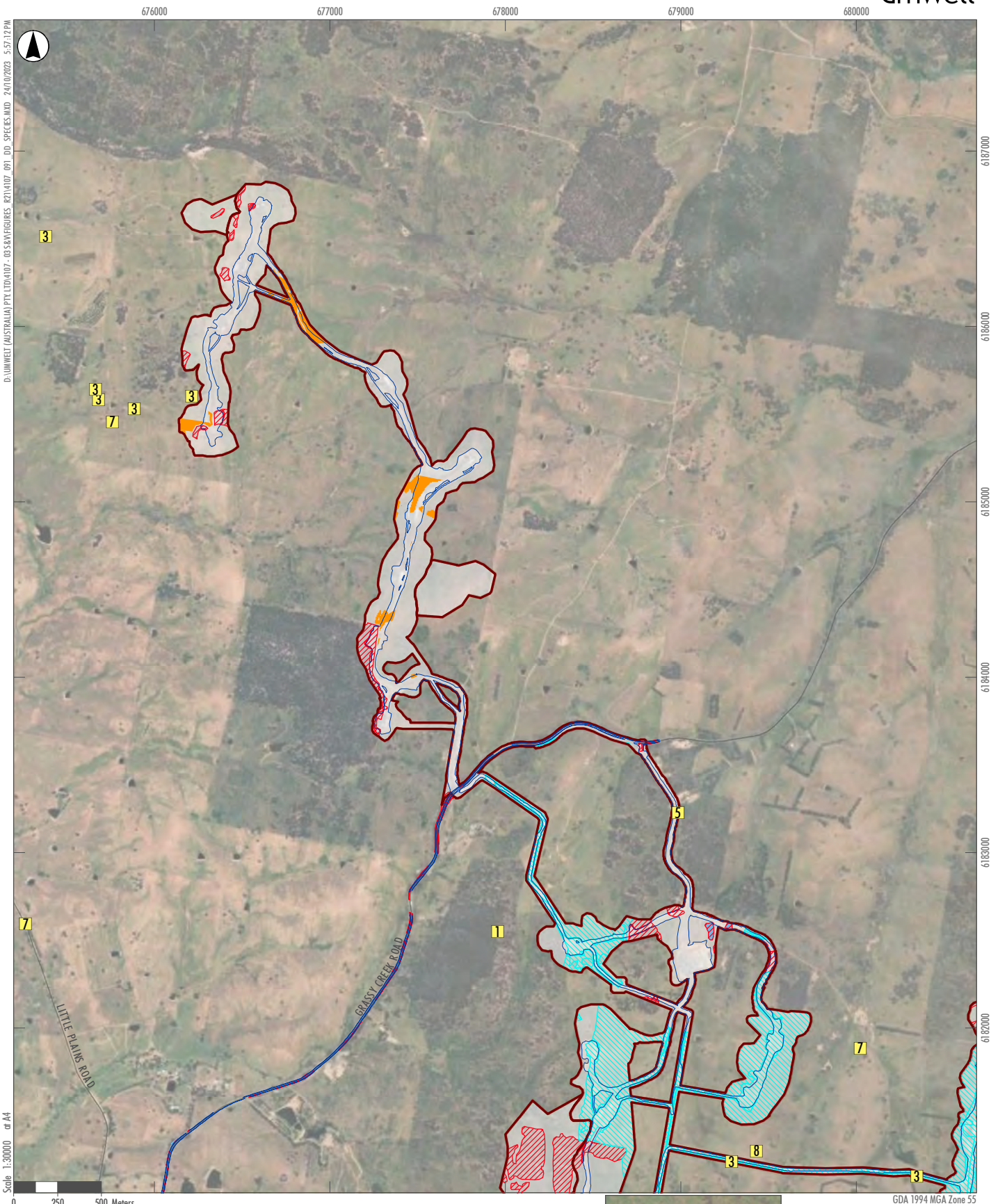
Plant Community Types and Vegetation Zones in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



APPENDIX B

Species Polygons



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Scale 1:30000 at A4

Legend

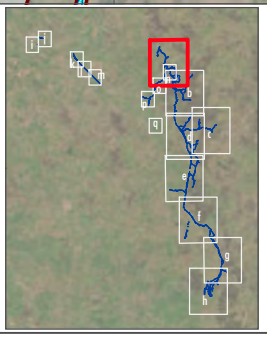
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth
- 5 Little Eagle
- 7 Superb Parrot
- 8 Striped Legless Lizard

Threatened Species Habitat

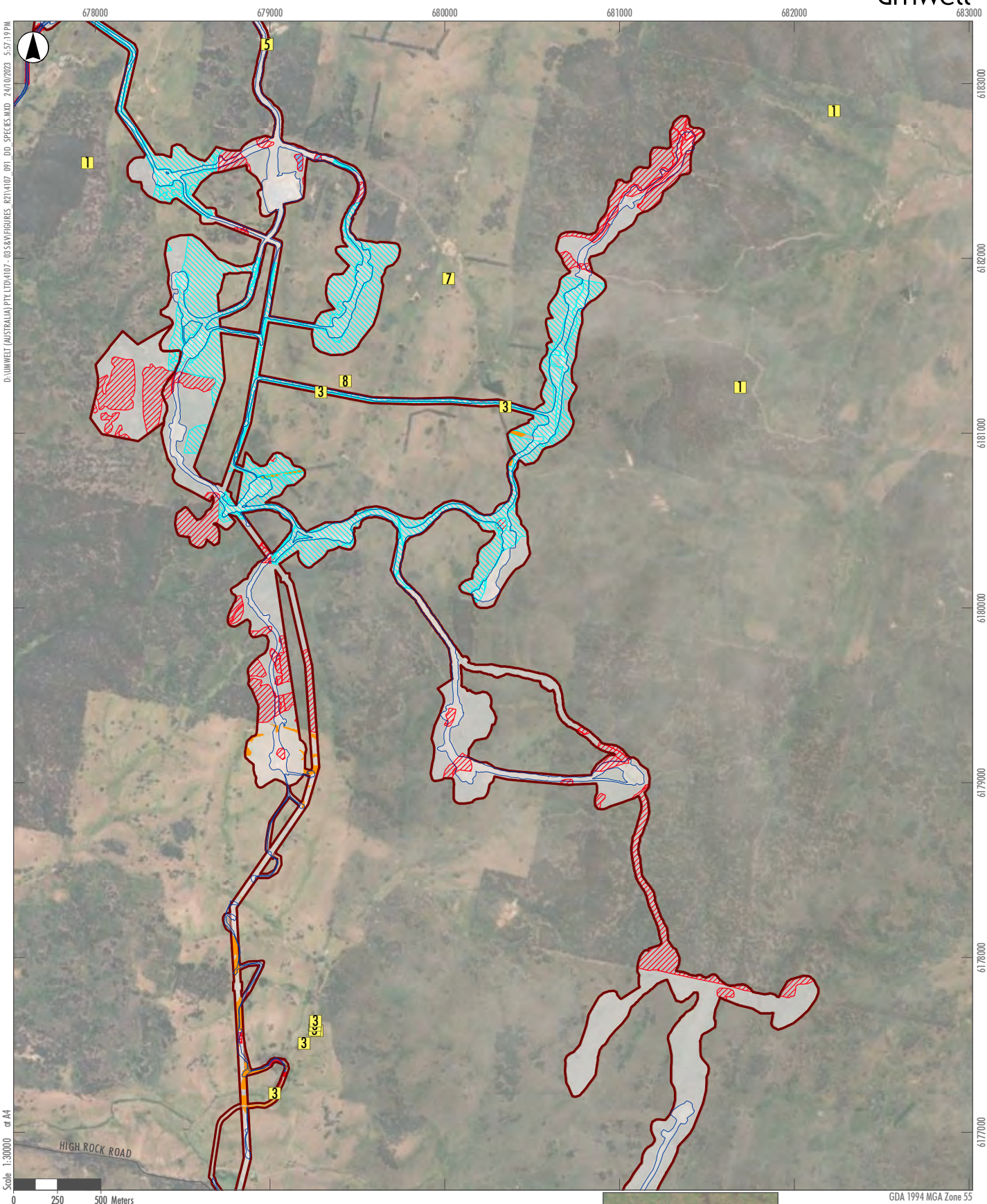
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.a

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



Legend

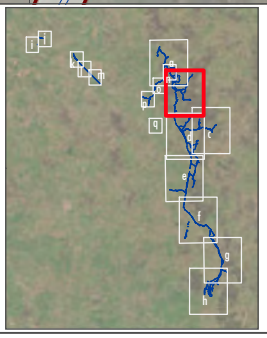
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth
- 5 Little Eagle
- 7 Superb Parrot
- 8 Striped Legless Lizard

Threatened Species Habitat

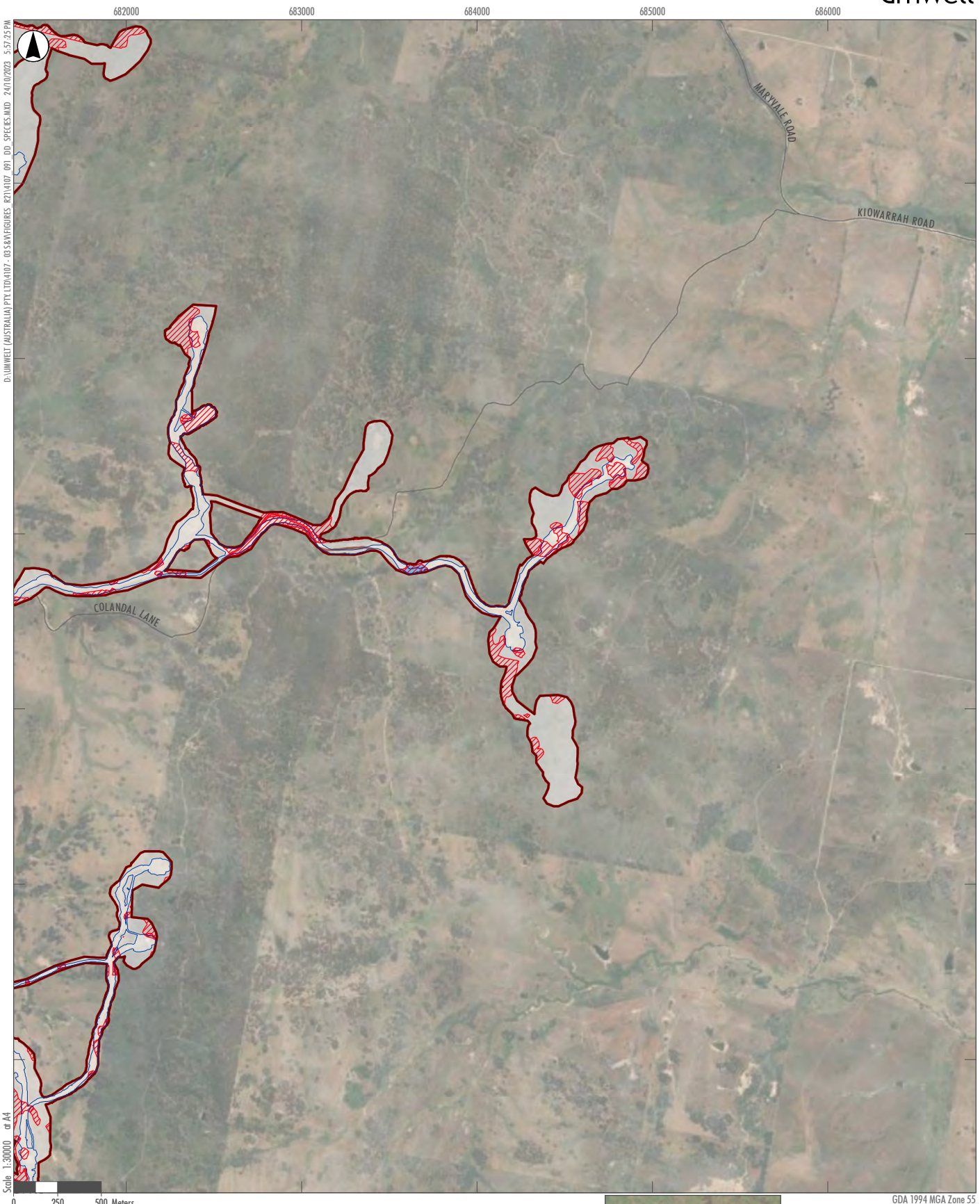
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.b

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

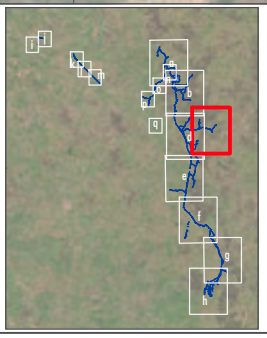


Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

Threatened Species Habitat

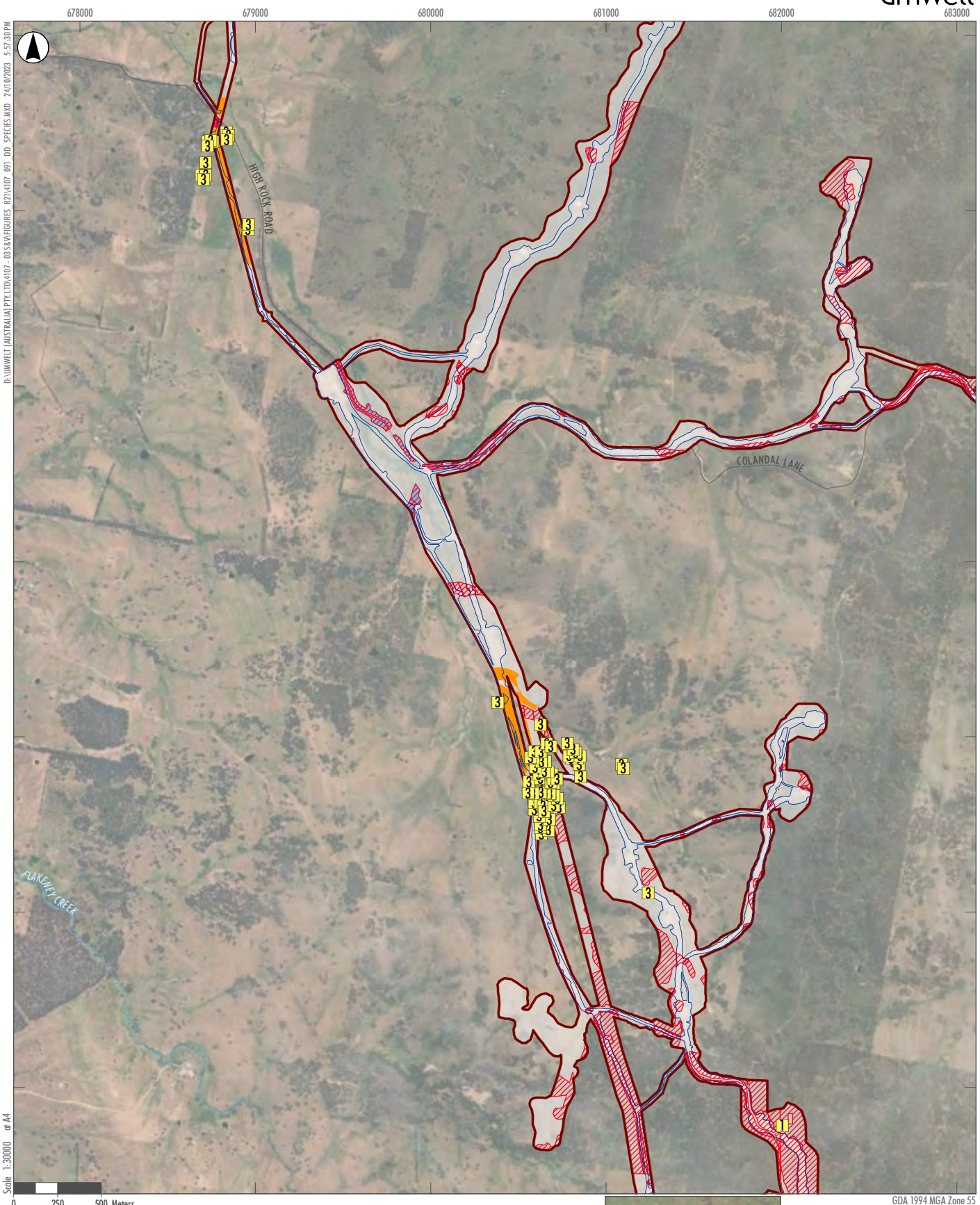
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.c

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



Legend

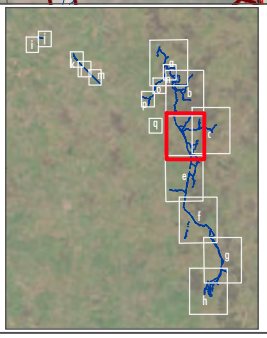
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth

Threatened Species Habitat

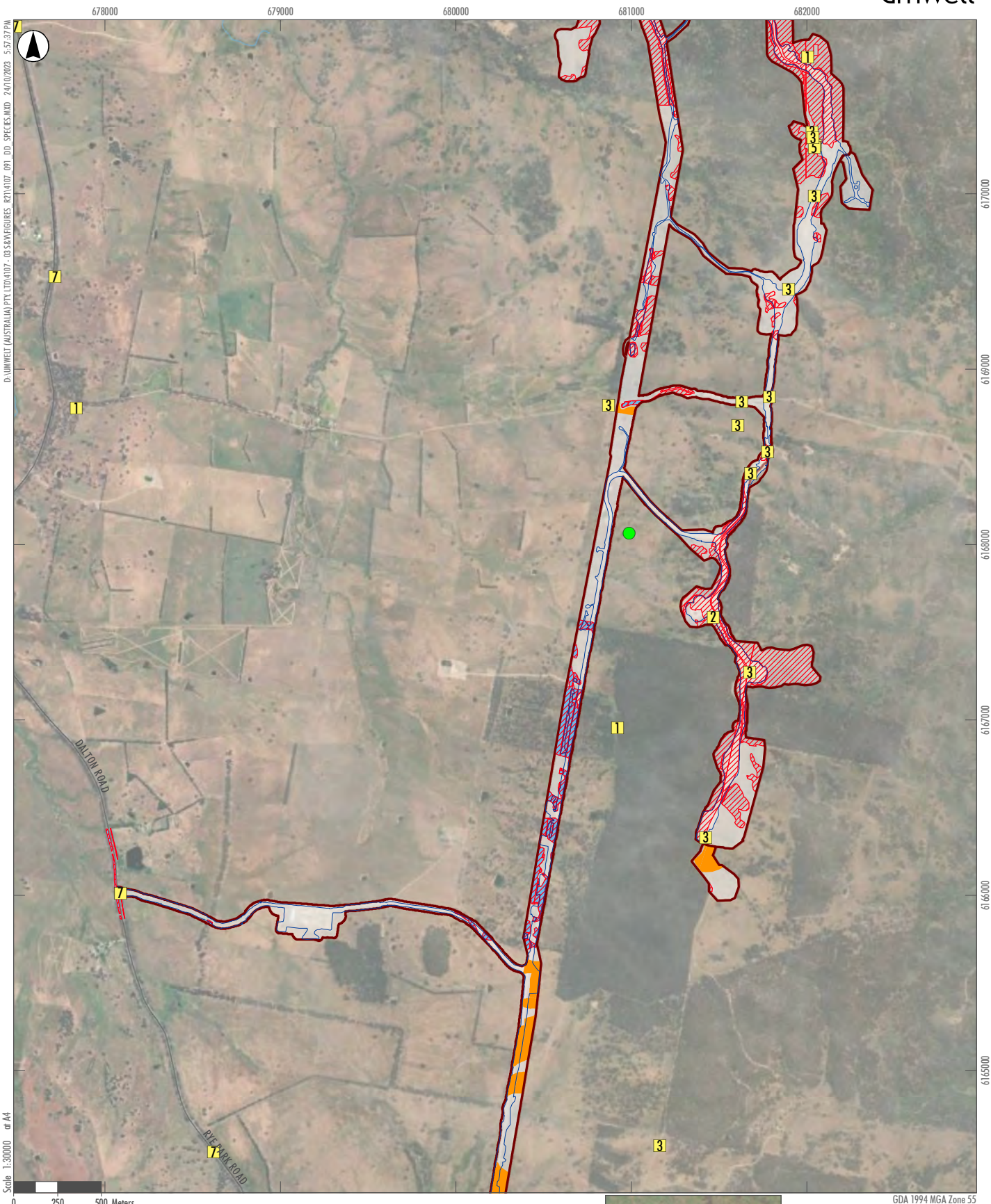
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.d

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



Legend

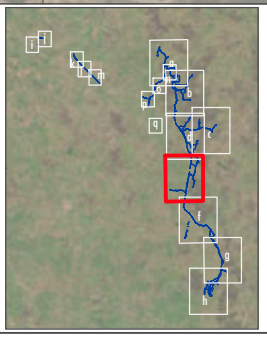
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

Threatened Species Records

- 1 Glider Sp.
- 2 Squirrel Glider
- 3 Golden Sun Moth
- 5 Little Eagle
- 7 Superb Parrot
- Superb Parrot Nest Tree

Threatened Species Habitat

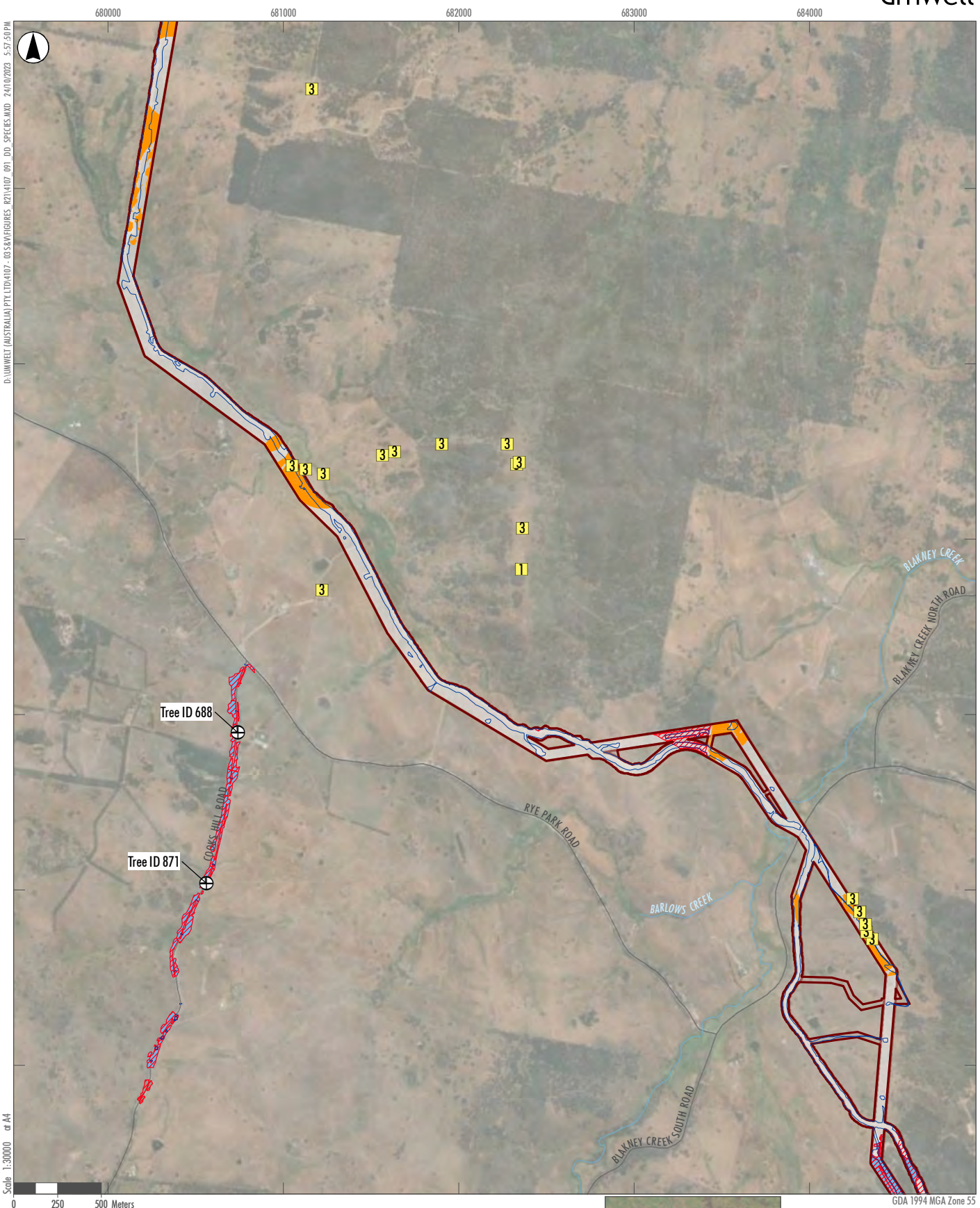
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.e

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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Scale 1:30000 at A4

Legend

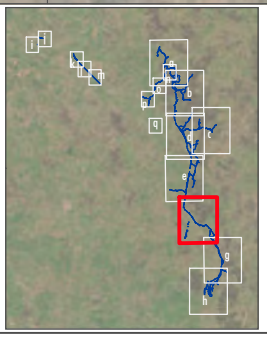
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road
- Suitable Superb Parrot Breeding Trees

Threatened Species Records

- Glider Sp.
- Golden Sun Moth

Threatened Species Habitat

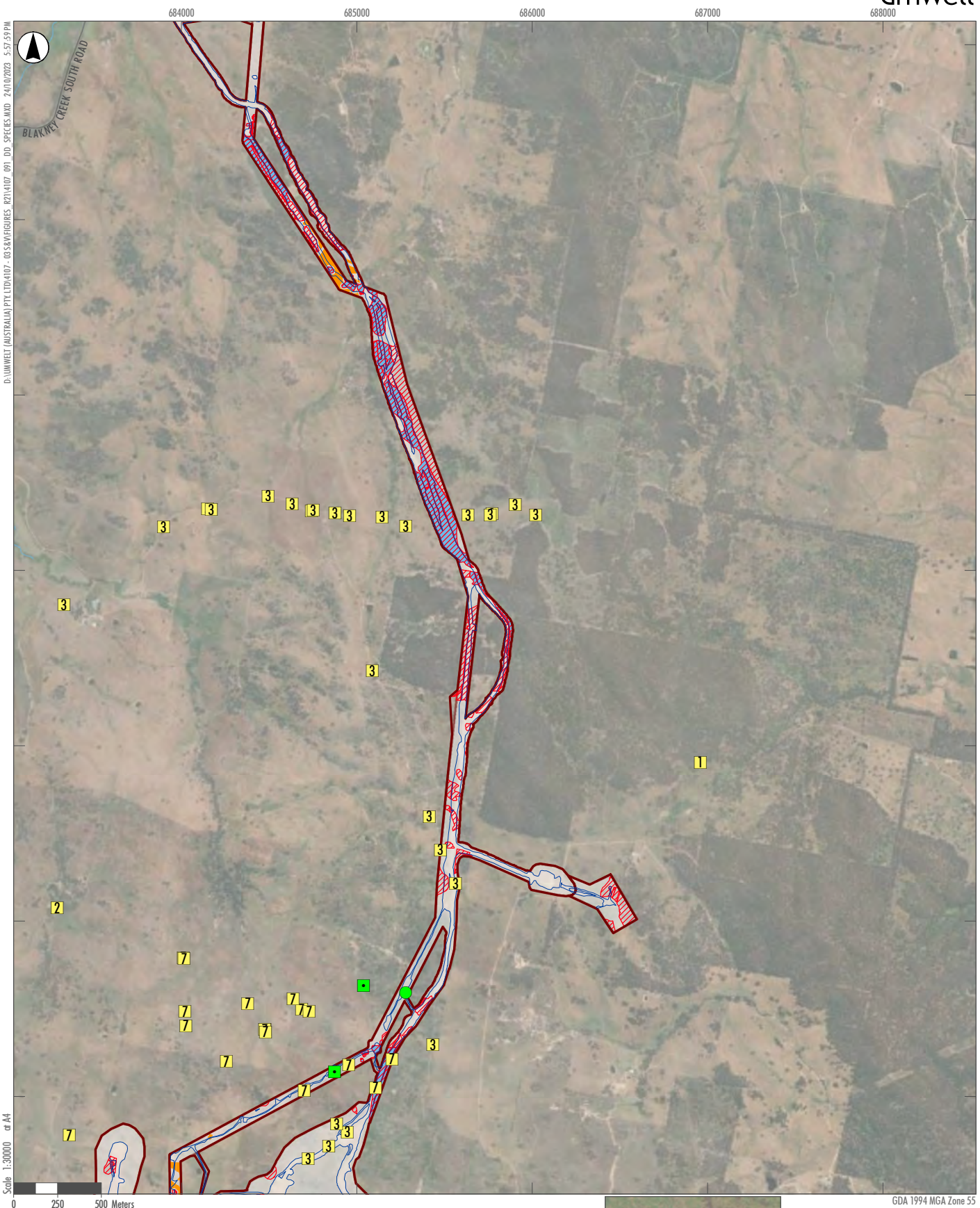
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.f

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

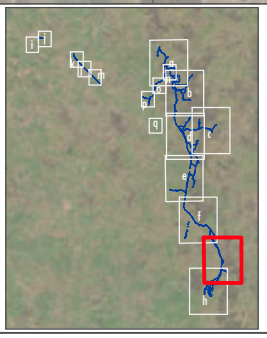
Threatened Species Records

- 1 Glider Sp.
- 2 Squirrel Glider
- 3 Golden Sun Moth
- 7 Superb Parrot

- Potential Superb Parrot Nest Tree
- Superb Parrot Nest Tree

Threatened Species Habitat

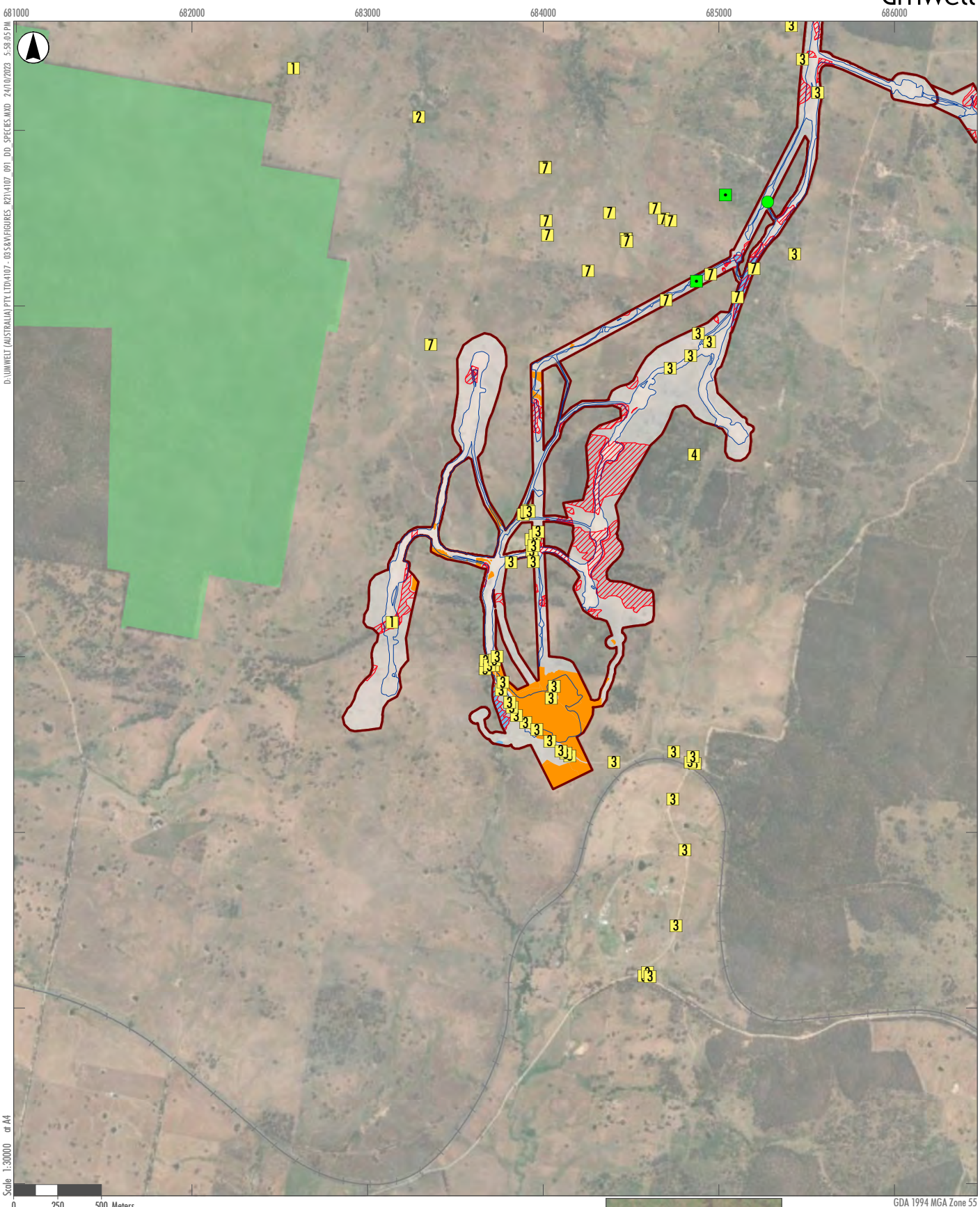
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.g

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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Scale 1:30000 at A4

Legend

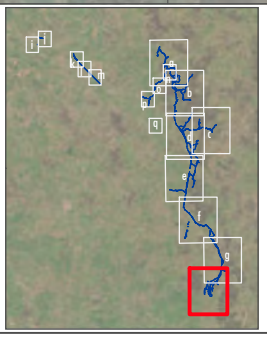
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Railway
- NPWS Reserve

Threatened Species Records

- 1 Glider Sp.
- 2 Squirrel Glider
- 3 Golden Sun Moth
- 4 Large bent-winged bat
- 7 Superb Parrot
- Potential Superb Parrot Nest Tree
- Superb Parrot Nest Tree

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.h

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

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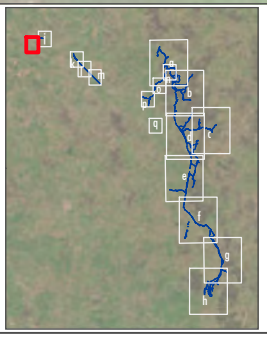
Scale 1:10000 at A4

Legend

- Final Development Footprint
- Railway
- Road

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.i

Threatened Species Habitat & Records in the Final Development Footprint

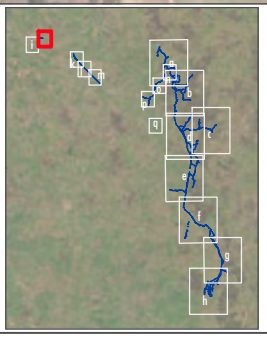
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.j

Threatened Species Habitat & Records in the Final Development Footprint

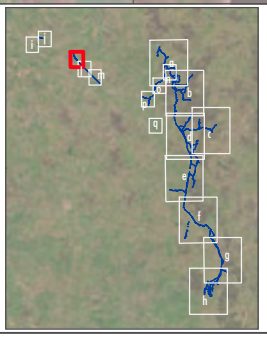
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.k

Threatened Species Habitat & Records in the Final Development Footprint

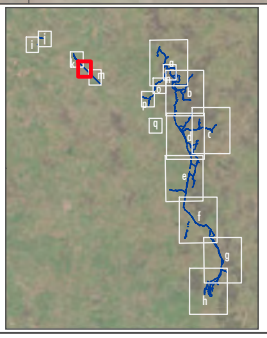
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.I

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

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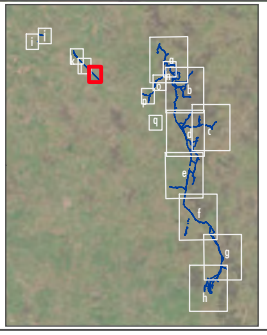
Scale 1: 10000 at A4

Legend

- Final Development Footprint
- Watercourses
- Road

Threatened Species Habitat

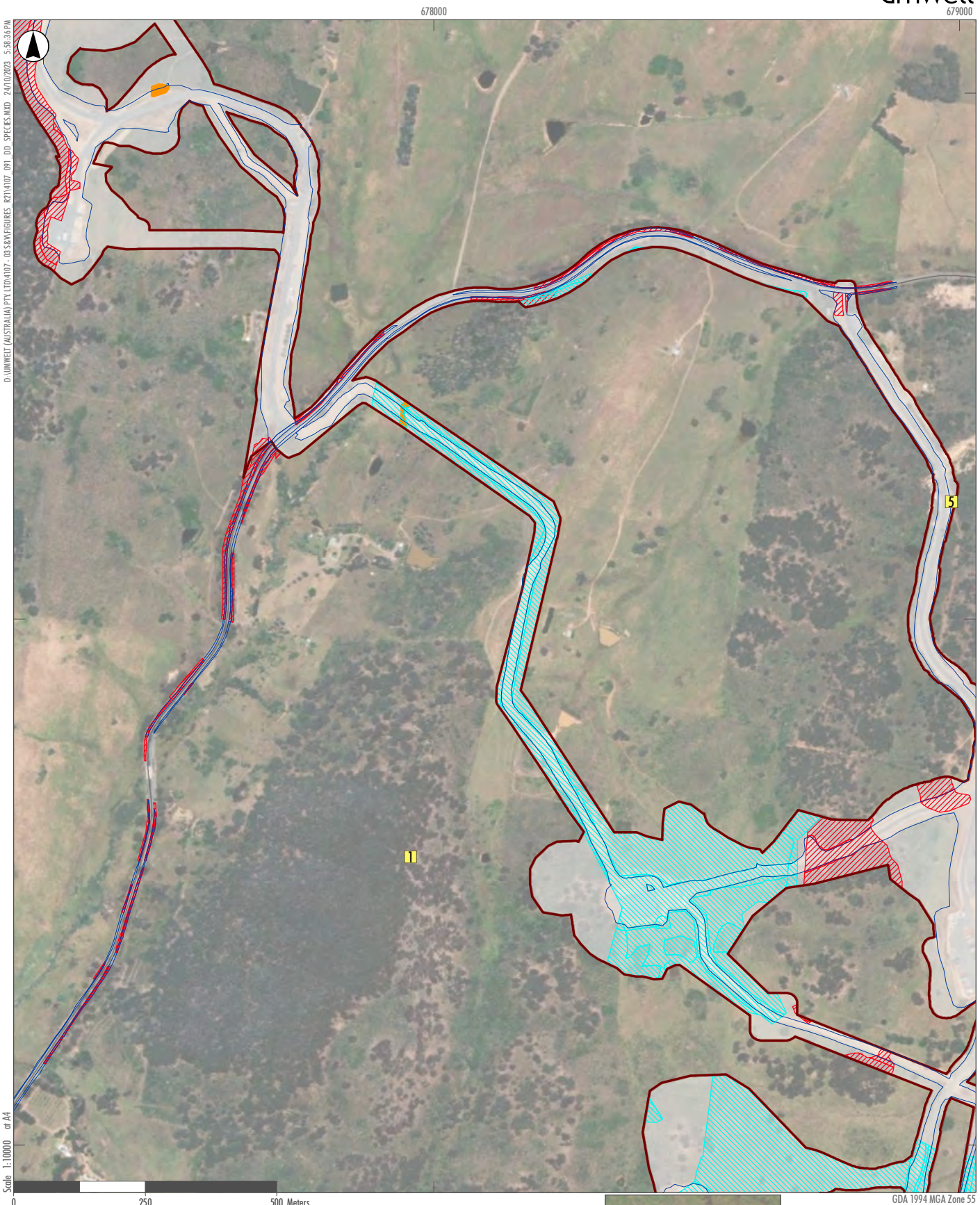
- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.m

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



Legend

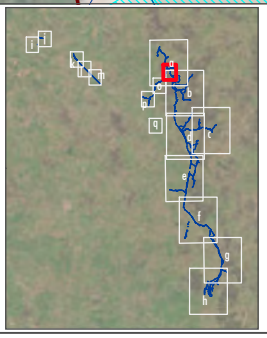
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat

Threatened Species Records

- 1 Glider Sp.
- 5 Little Eagle

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat



APPENDIX B.n

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

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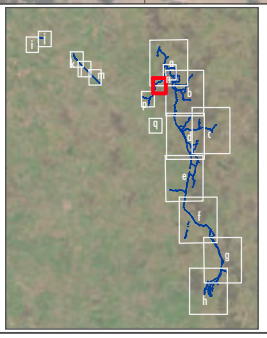
Scale 1:10000 at A4

Legend

- Final Development Footprint
- Road

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat



APPENDIX B.o

Threatened Species Habitat & Records in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Superb Parrot - Breeding Habitat
- Watercourses
- Road

Threatened Species Records

- 6 Southern Myotis

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat

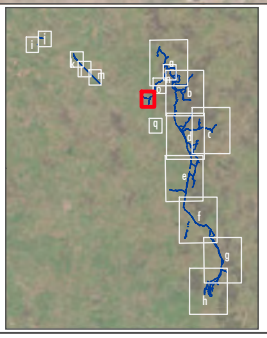


Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

APPENDIX B.p

Threatened Species Habitat & Records in the Final Development Footprint

D:\UMWELT (AUSTRALIA) PTY LTD\4107 - GIS&VIS\FIGURES_R211\4107_091_DD_SPECIES.MXD 24/10/2023 5:58:51 PM

Scale 1:10000 at A4

Legend

- Watercourses
- Road

Threatened Species Records

- 7 Superb Parrot

Threatened Species Habitat

- Striped Legless Lizard Habitat
- Squirrel Glider Habitat
- Golden Sun Moth Habitat
- Superb Parrot - Breeding Habitat

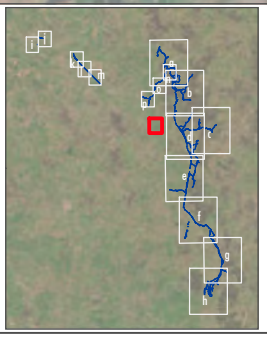
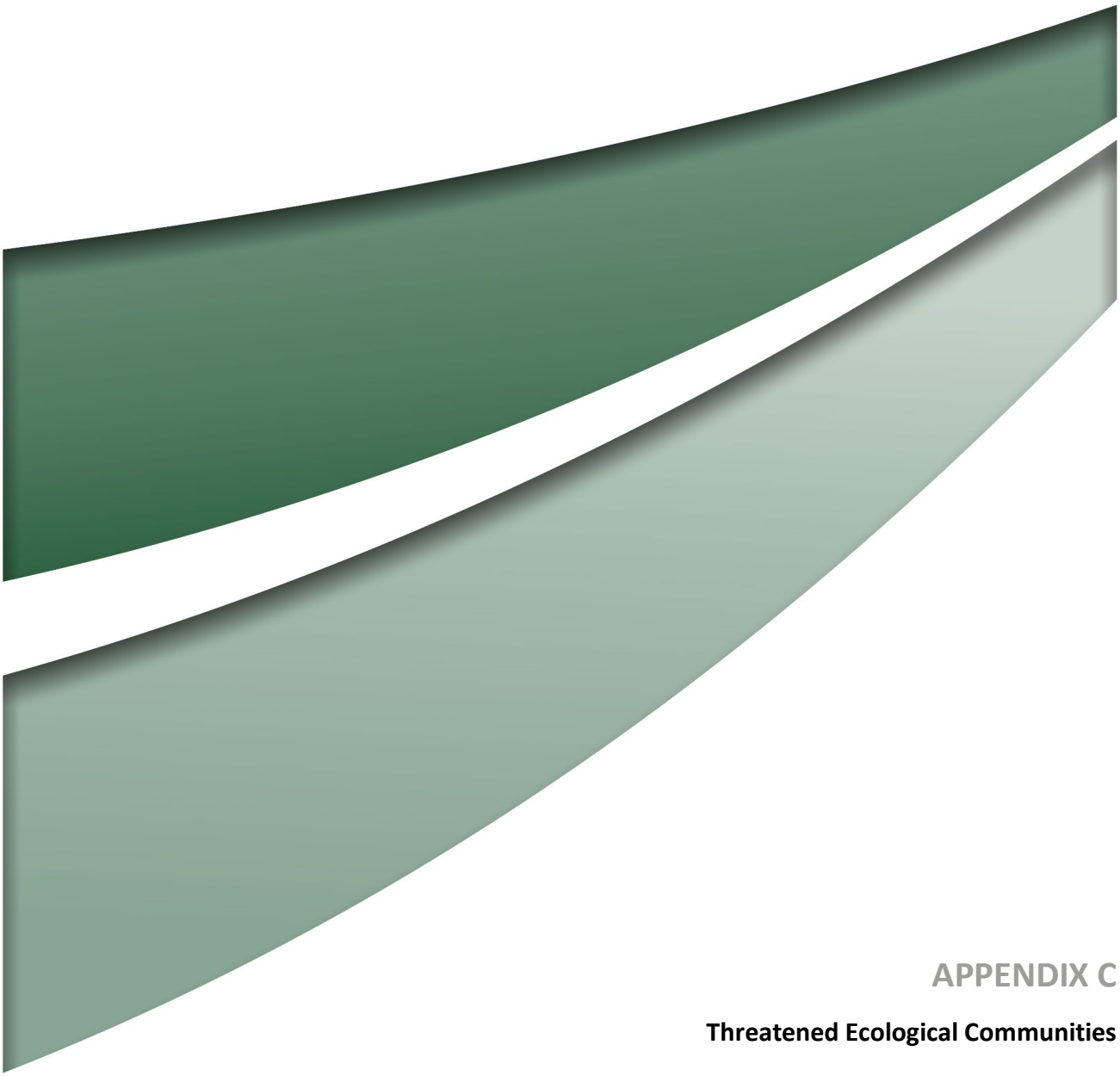


Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

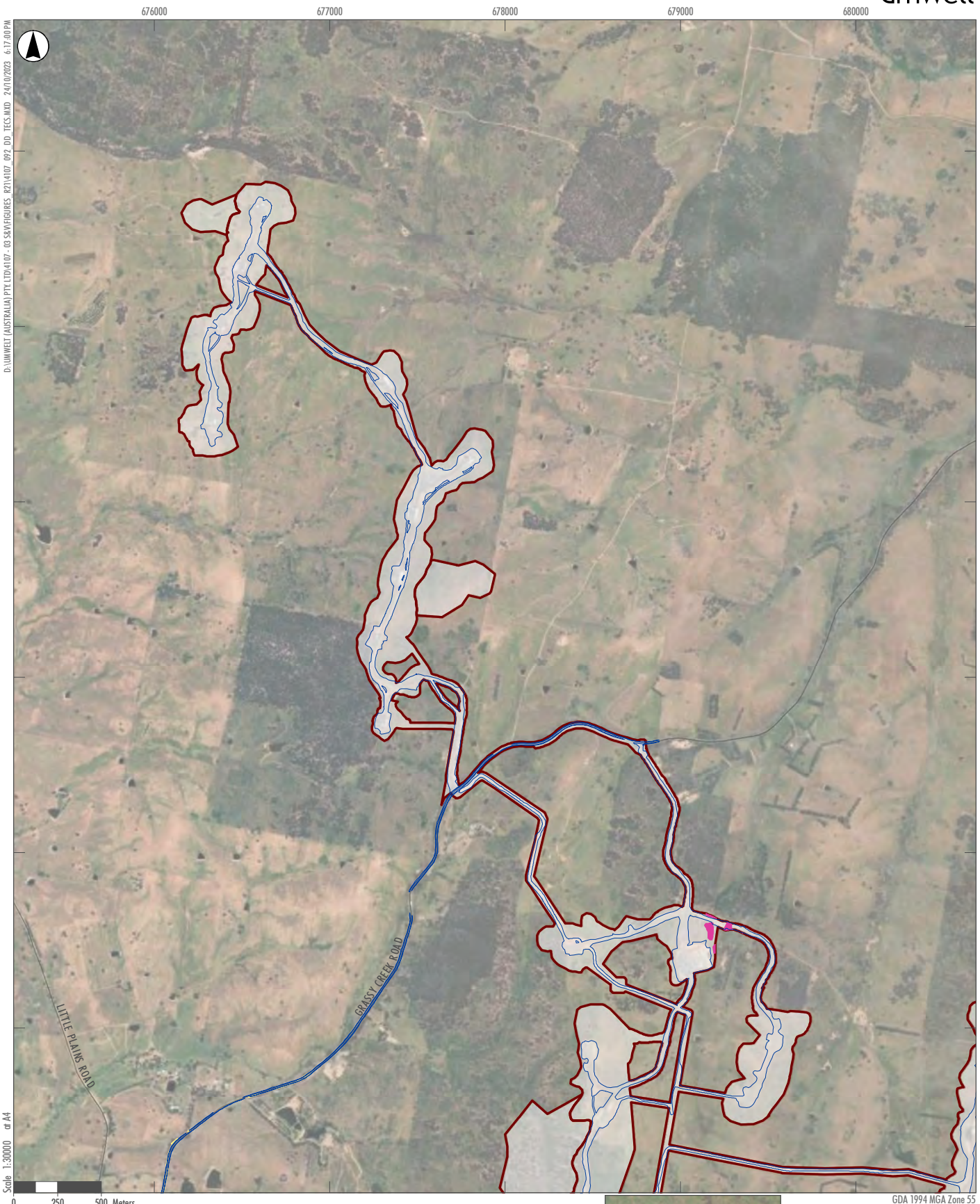
APPENDIX B.q

Threatened Species Habitat & Records in the Final Development Footprint



APPENDIX C

Threatened Ecological Communities



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Scale 1:30000 at A4

Legend

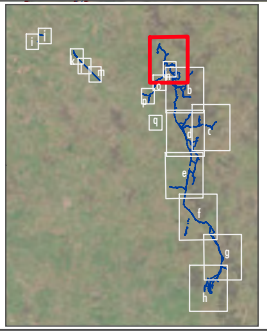
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

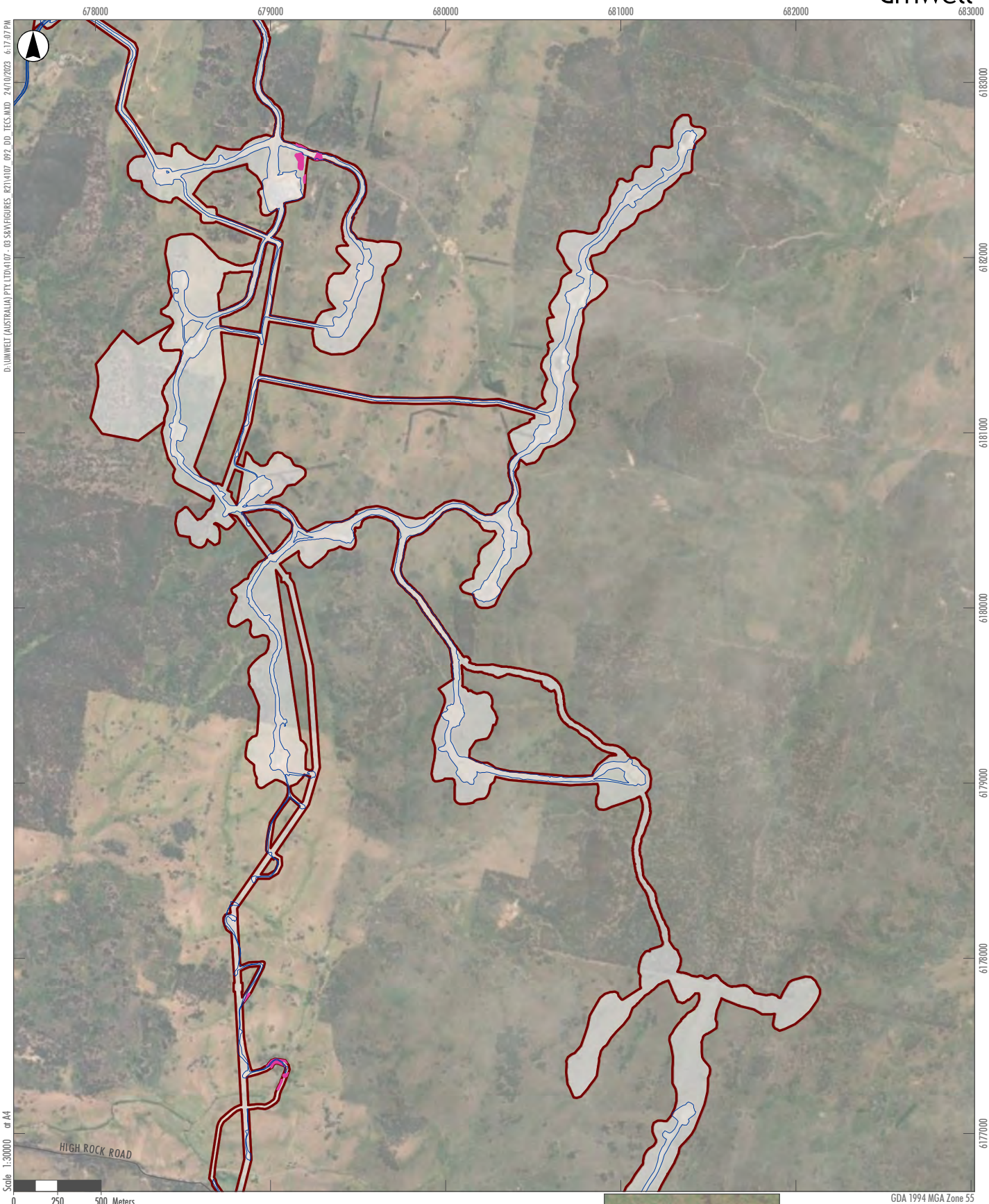
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.a

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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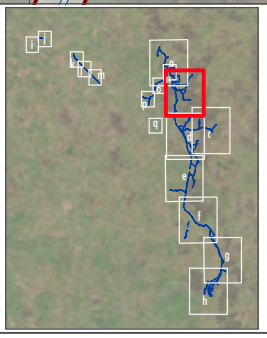
Scale 1:30000 at A4

Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

Threatened Ecological Communities (BC Act & EPBC Act)

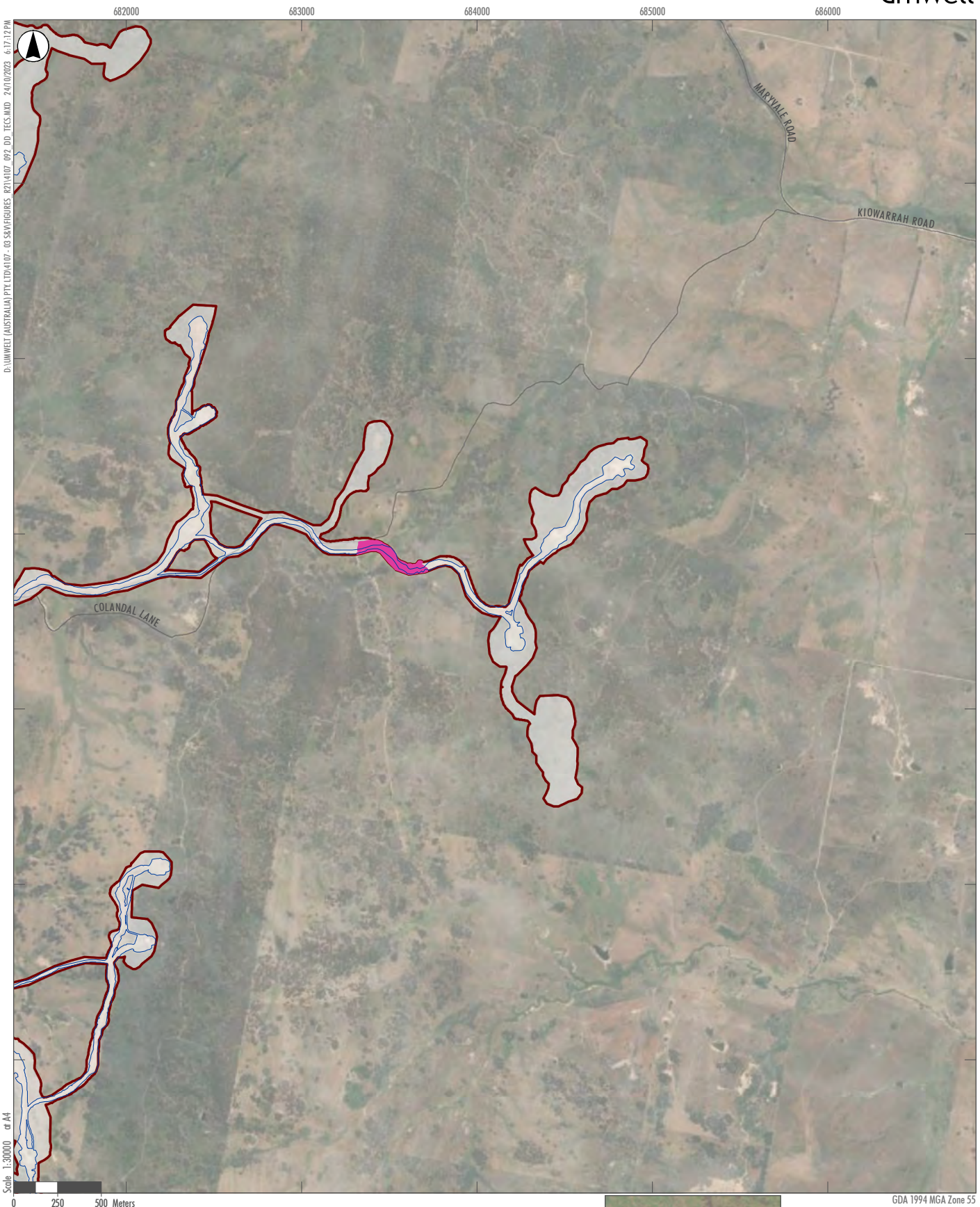
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.b

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

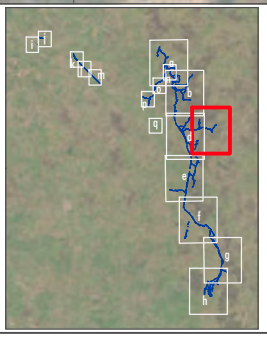


Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Road

Threatened Ecological Communities (BC Act & EPBC Act)

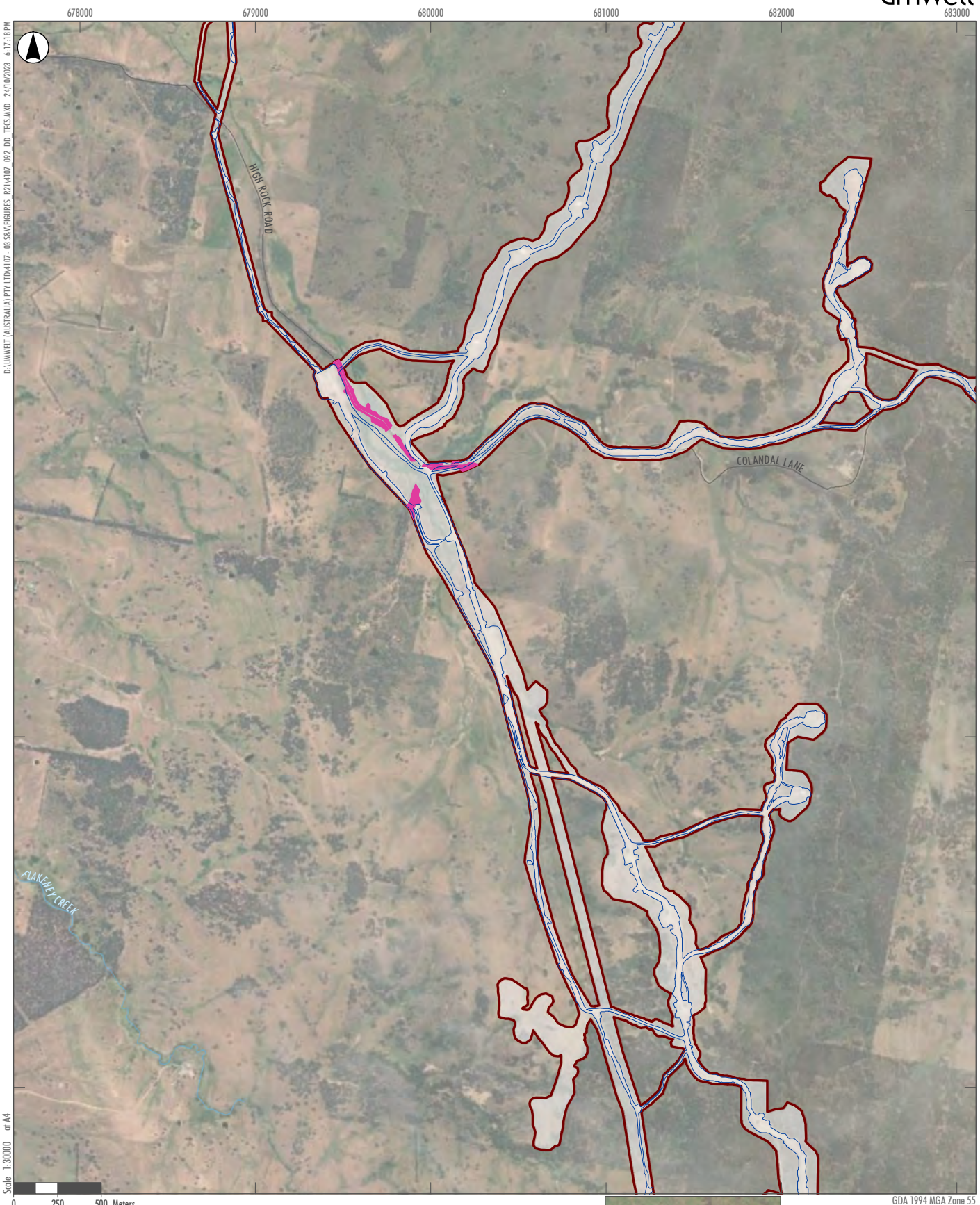
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.c

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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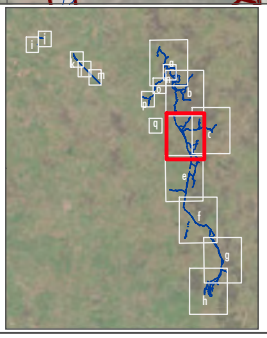
GDA 1994 MGA Zone 55

Legend

- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

Threatened Ecological Communities (BC Act & EPBC Act)

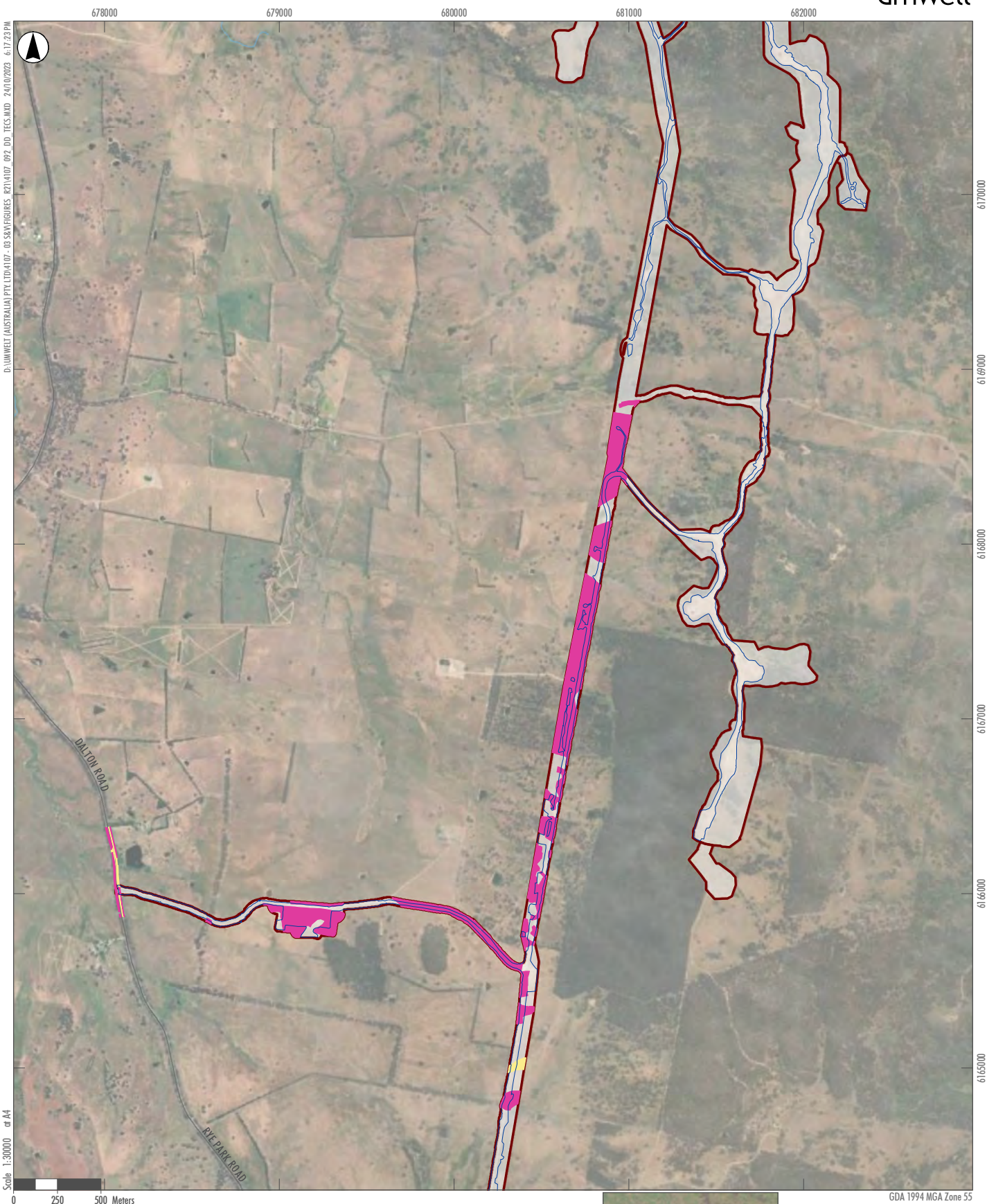
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.d

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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Scale 1:30000 at A4

Legend

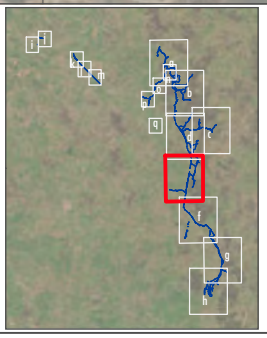
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

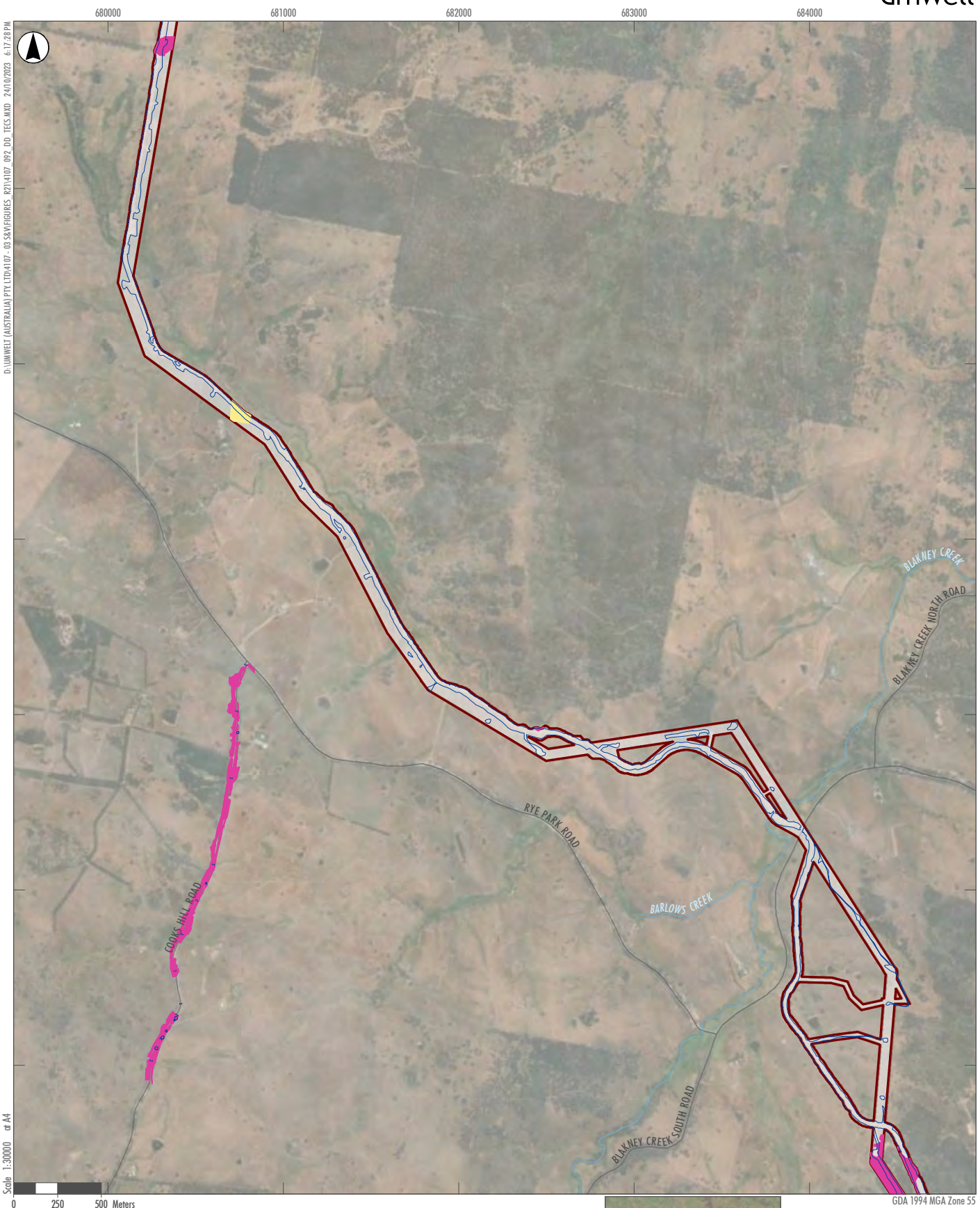
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.e

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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Scale 1:30000 at A4

Legend

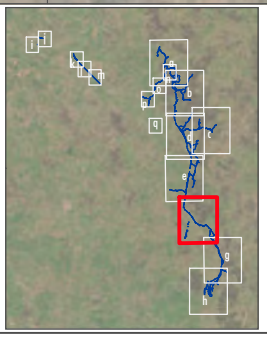
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

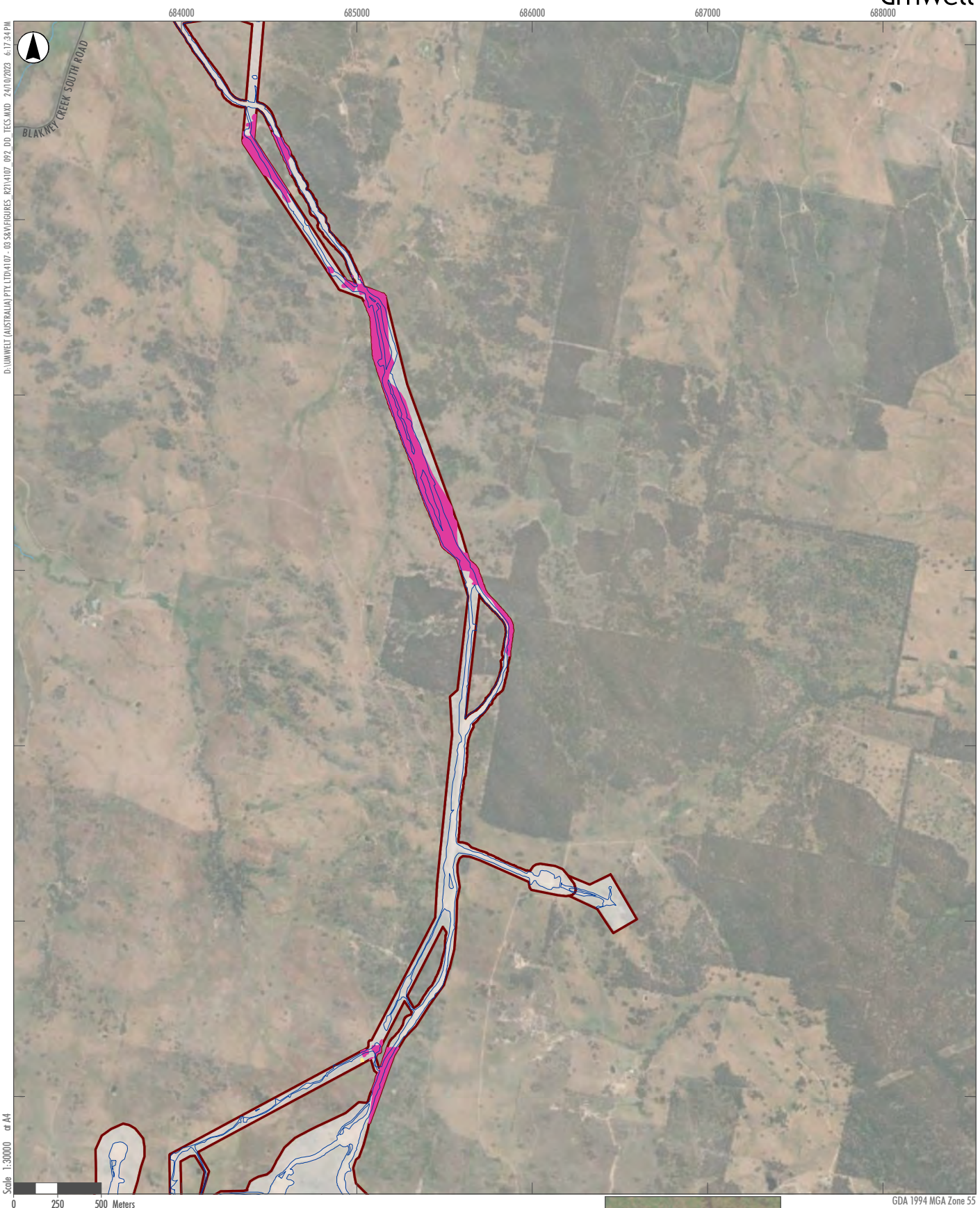
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.f

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



Legend

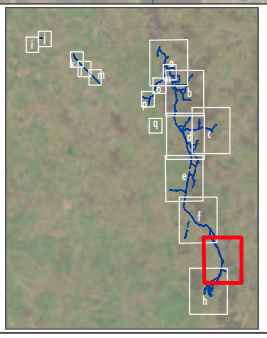
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Watercourses
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

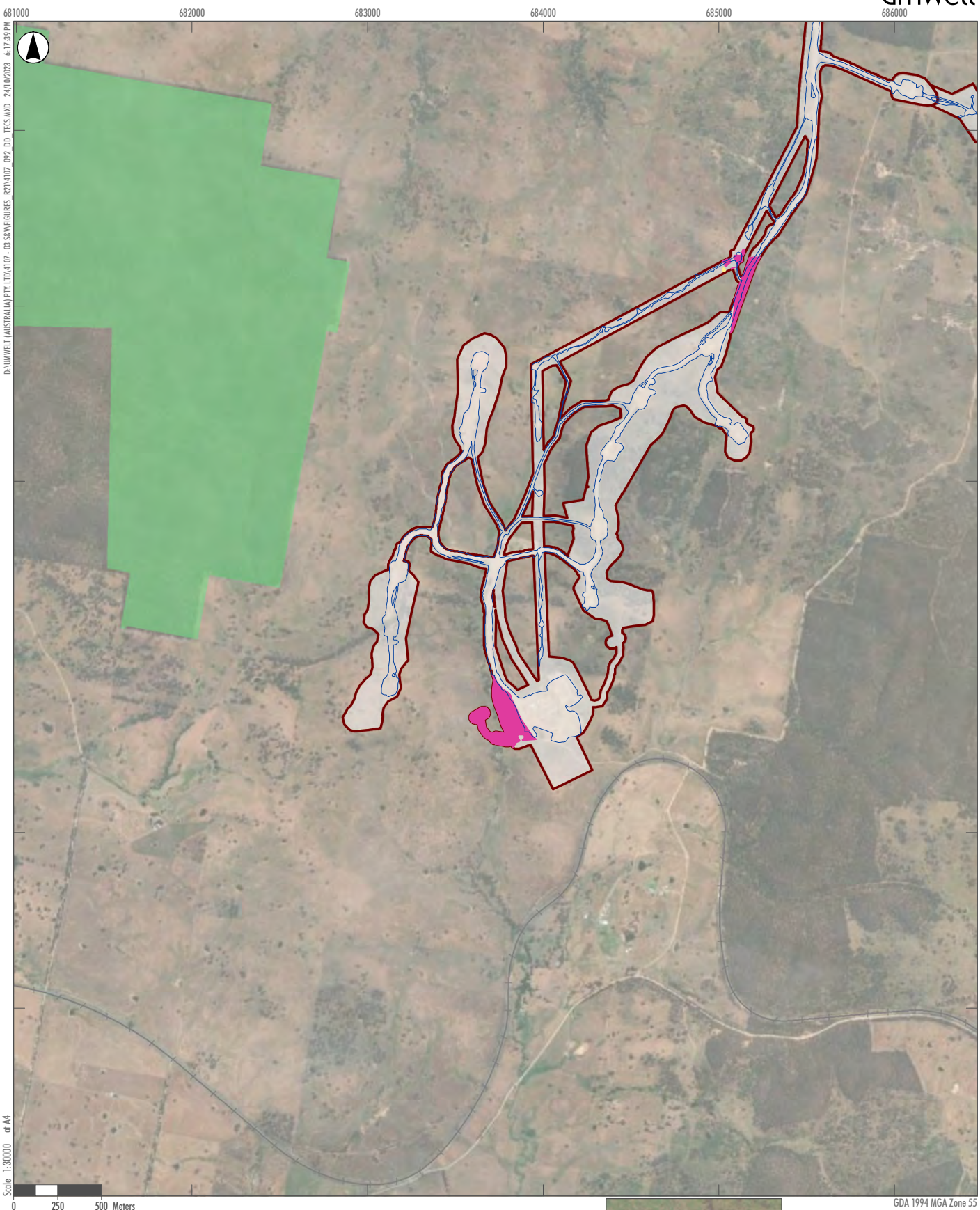
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.g

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



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Scale 1:30000 at A4

Legend

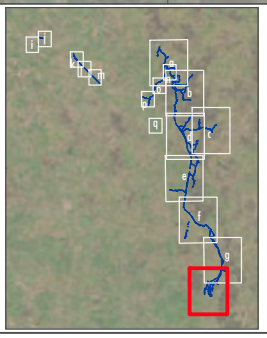
- Final Development Footprint
- Rye Park Wind Farm Development Corridor
- Railway
- NPWS Reserve

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.h

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

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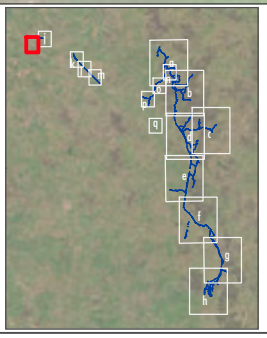
Scale 1:10000 at A4

Legend

- Final Development Footprint
- Railway
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.i

Threatened Vegetation Communities in the Final Development Footprint

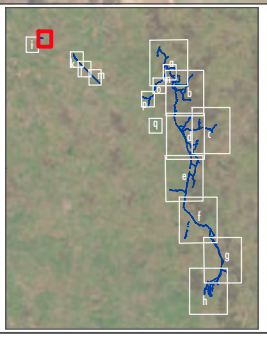
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.j

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

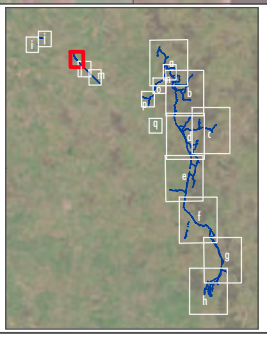
- Final Development Footprint
- Watercourses
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.k

Threatened Vegetation Communities in the Final Development Footprint

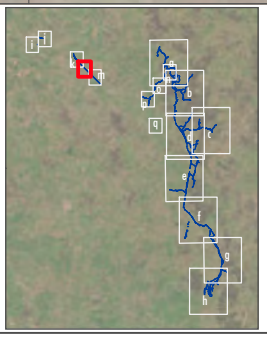
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Final Development Footprint
- Watercourses
- Road

Threatened Ecological Communities (BC Act & EPBC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.I

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

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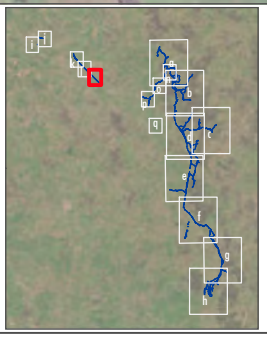
Scale 1:10000 at A4

Legend

- Final Development Footprint
- Watercourses
- Road

Threatened Ecological Communities (BC Act)

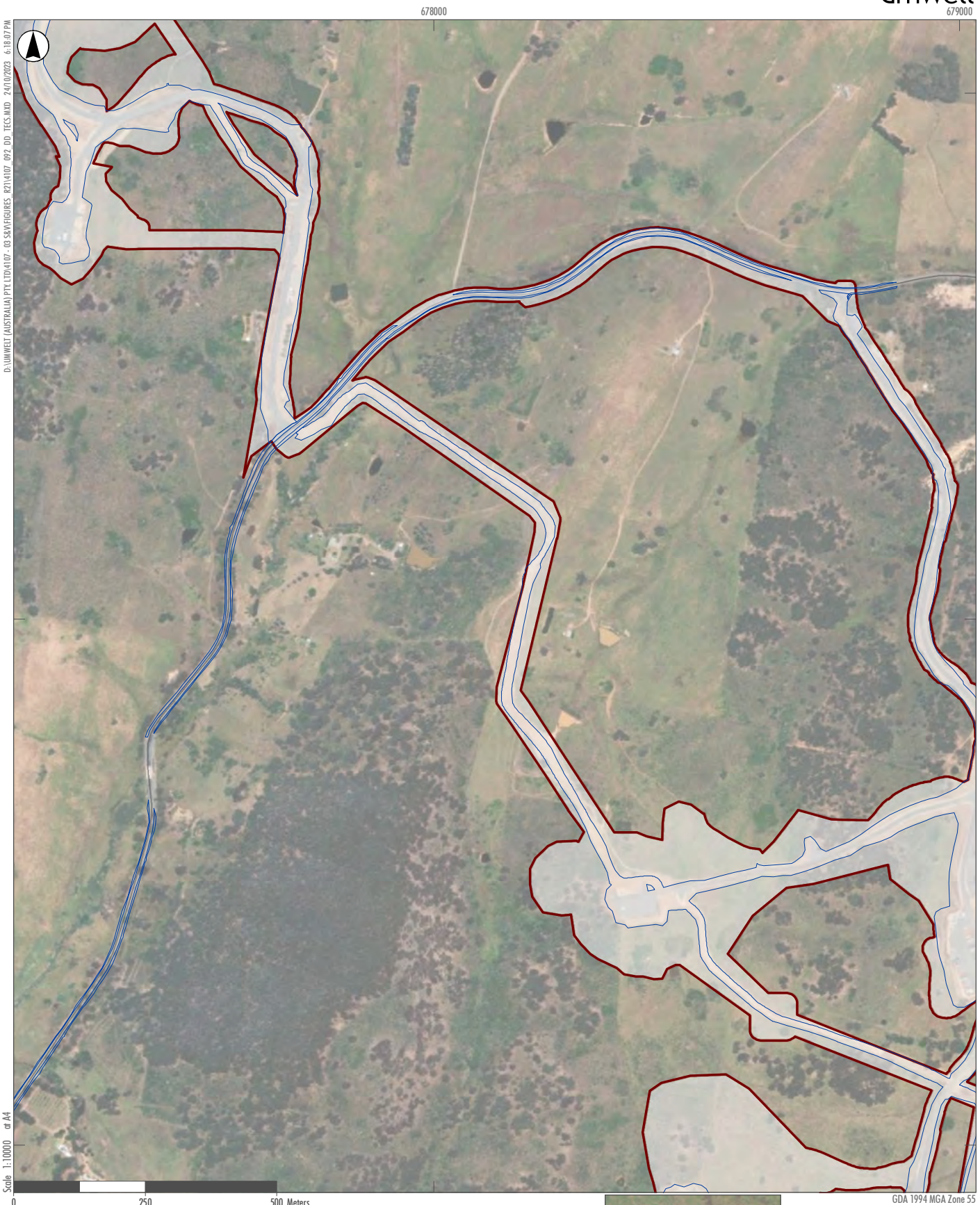
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.m

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



APPENDIX C.n

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

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Scale 1:10000 at A4

Legend

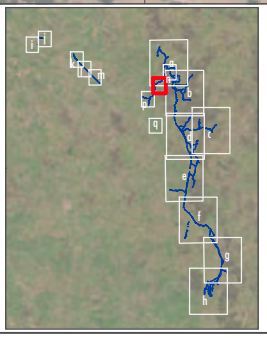
- Final Development Footprint
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.o

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

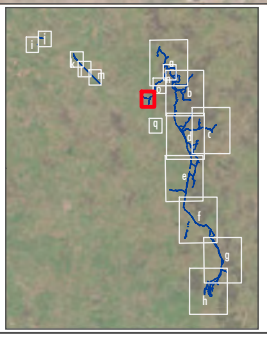
- Final Development Footprint
- Watercourses
- Road

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.p

Threatened Vegetation Communities in the Final Development Footprint

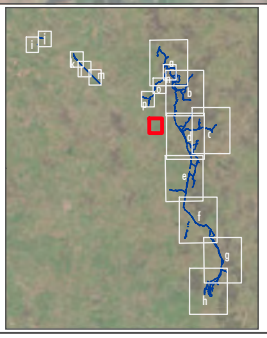
Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)

Legend

- Watercourses
- Road

Threatened Ecological Communities (BC Act)

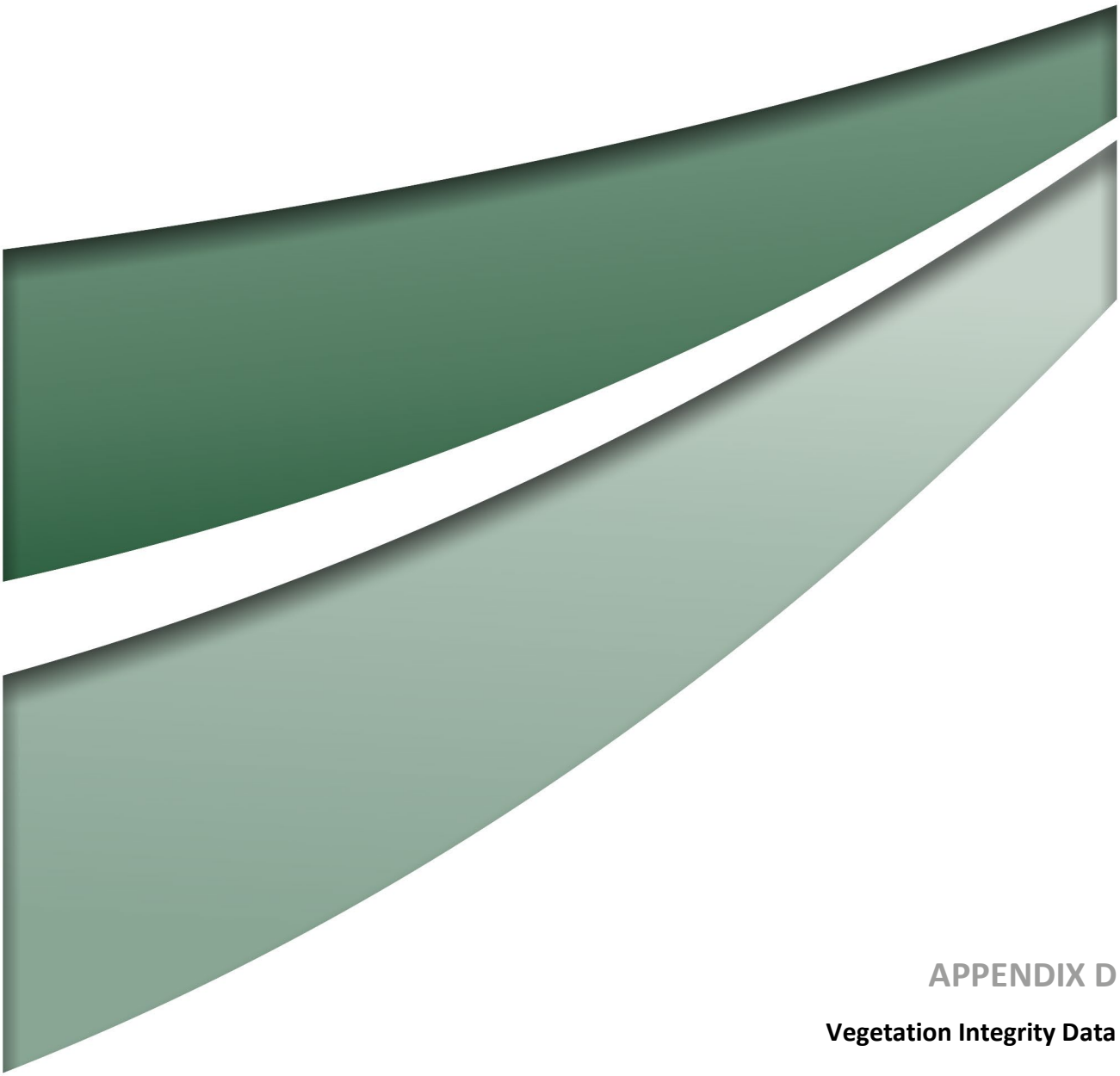
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.q

Threatened Vegetation Communities in the Final Development Footprint

Image Source: ESRI Basemap (2023) Data source: NSW FSDF (2023), Umwelt (2023); Rye Park Renewable Energy Pty Ltd (2023)



APPENDIX D

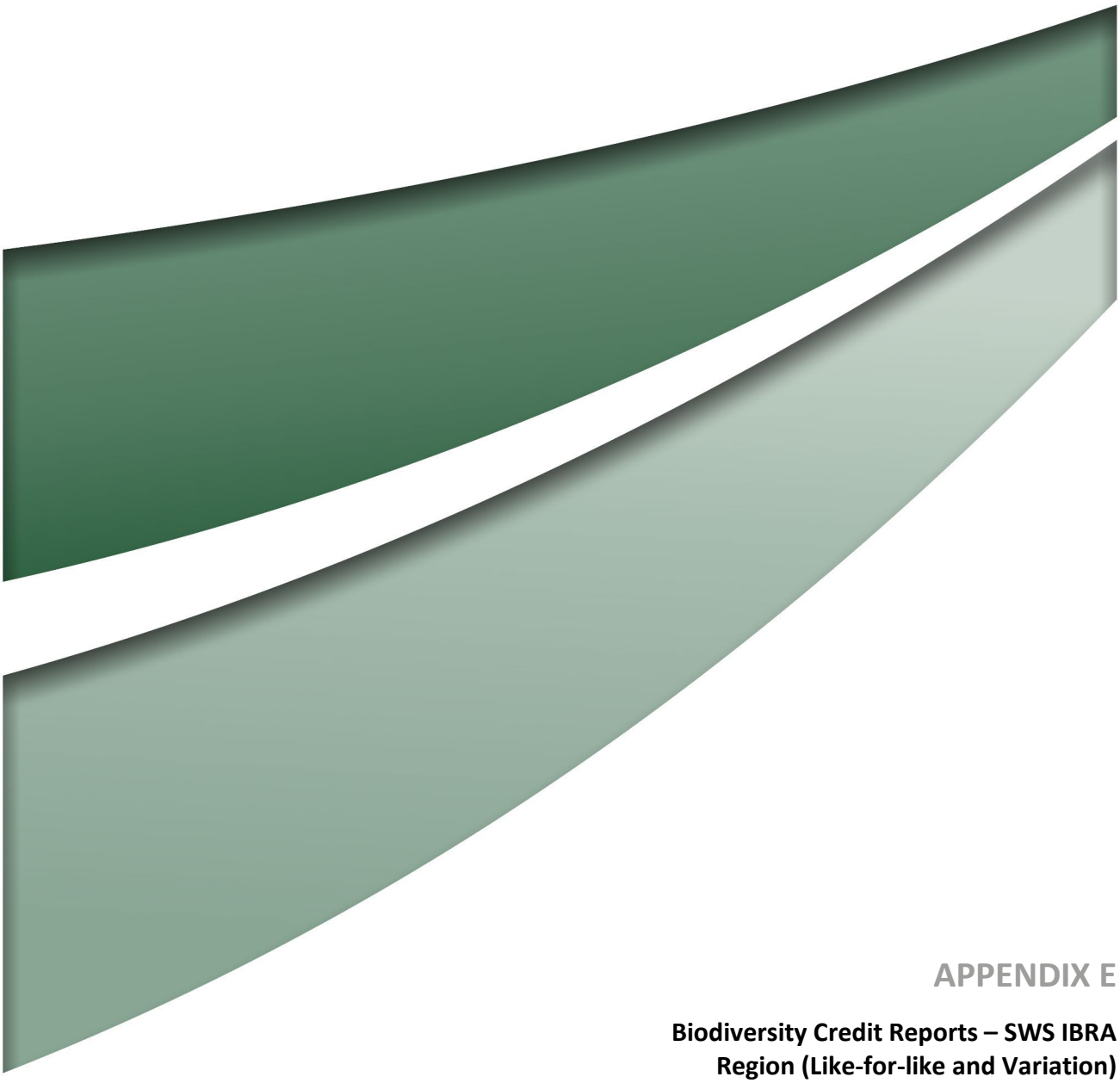
Vegetation Integrity Data

SWS IBRA																													
plot	pct	area	patchsize	conditionclass	zone	easting	northing	bearing	compTree	compShrub	compGrass	compForbs	compFerns	compOther	strucTree	strucShrub	strucGrass	strucForbs	strucFerns	strucOther	fun LargeTrees	fun Hollowtrees	fun LitterCover	funLenFallenLogs	fun TreeStem5to9	fun TreeStem10to19	fun TreeStem20to29	fun TreeStem30to49	fun TreeStem50to79	fun TreeRegen	fun HighThreatExotic
4107Jan03	289	0.48	101	ModerateGood	55	677337	6182259	20	4	5	5	1	0	2	45.5	21	33	0	0	1.5	6	1	80.6	59	1	1	1	1	1	1	0
33	335	2.81	101	ModerateGood	55	676511	6185146	180	0	0	8	2	0	0	0	0	48.6	1	0	0	0	0	78	8	0	0	0	0	0	0	5.7
35	335	2.81	101	ModerateGood	55	680413	6173303	300	0	0	4	0	0	0	0	0	90.4	0	0	0	0	0	40	0	0	0	0	0	0	0	1.4
4107Feb02	335	2.81	101	ModerateGood	55	680381	6162996	280	0	0	8	0	0	0	0	0	16.5	0	0	0	0	0	97	1	0	0	0	0	0	0	1.7
Mod2_P2	335	2.81	101	ModerateGood	55	678950	6178149	157	0	0	5	2	0	0	0	0	83.7	0.9	0	0	0	0	5	38	0	0	0	0	0	0	7
1	350	4.83	101	Moderate	55	685138	6153110	190	2	5	8	12	0	0	15	35	79	13	0	0	1	1	9	26	1	1	0	1	1	1	2
15	350	4.83	101	Moderate	55	685682	6157941	180	2	1	5	3	0	1	30	1	9	1.2	0	5	1	1	82	144	1	1	1	1	1	1	0
6	350	4.83	101	Moderate	55	680523	6166010	195	3	0	4	1	0	0	30.1	0	10.7	0.2	0	0	1	0	48	10	0	1	1	1	1	1	5
31	350	4.83	101	Moderate	55	681050	6168809	250	3	0	13	0	0	0	32	0	88.2	0	0	0	3	4	42	48	0	0	0	1	1	1	0.4
43	350	4.83	101	Moderate	55	680670	6166008	45	3	0	7	3	0	1	45	0	12.5	0.3	0	1	2	3	74	70	1	1	1	0	1	1	1
DMRP1	350	4.83	101	Moderate	55	685426	6156413	160	1	1	9	9	0	0	65	0.8	5.7	1.8	0	0	4	4	88	33	1	1	1	1	1	1	0.3
P03	350	4.83	101	Moderate	55	675609	6175903	130	3	0	2	0	0	1	30	0	2	0	0	1	2	0	70.8	6	1	1	1	1	1	1	3
Mod2_P3	350	4.83	101	Moderate	55	679030	6177443	120	3	3	6	3	1	1	30.1	2.1	22	3.6	0.6	5	6	1	17	57	1	1	1	1	1	1	1.5
11	350	8.46	101	DNG	55	683860	6150622	180	0	0	10	4	0	0	0	0	49	5.2	0	0	0	0	23	0	0	0	0	0	0	1	4.4
32	350	8.46	101	DNG	55	679998	6168665	260	0	0	7	1	0	0	0	0	71	1	0	0	0	0	93.8	0	0	0	0	0	0	1	10.4
DMRP3	350	8.46	101	DNG	55	680787	6163358	180	1	2	8	9	0	2	0.1	0.4	72.4	1	0	0.2	0	0	2.6	0	0	0	0	0	0	1	0.2
4107Jan02	350	8.46	101	DNG	55	665473	6183884	300	1	0	7	3	1	3	1	0	44.9	3.3	1	0.03	0	0	3.4	1	0	0	1	0	0	1	5.01
4107Feb03	350	8.46	101	DNG	55	679126	6165854	109	0	0	5	0	0	0	0	0	5.5	0	0	0	0	0	73.6	0	0	0	0	0	0	1	0.1
16	351	27.3	101	ModerateGood_Remnant	55	684963	6158479	180	5	7	7	3	0	1	34.5	11.2	31.2	5.6	0	2	0	0	58	119	1	1	1	1	0	1	0
20	351	27.3	101	ModerateGood_Remnant	55	682300	6162751	180	4	5	5	7	0	2	55.4	35.8	10.4	5	0	3	0	3	25	246	1	1	1	1	0	1	0
23	351	27.3	101	ModerateGood_Remnant	55	681953	6170713	225	5	3	3	2	0	1	50.4	6	45	3.4	0	0.4	0	10	80.4	207	1	1	1	1	0	1	0
26	351	27.3	101	ModerateGood_Remnant	55	381032	6178037	190	2	8	5	5	0	0	60	11.3	27.6	3.2	0	0	0	3	78	29.5	1	1	1	1	0	1	0
8	351	27.3	101	ModerateGood_Remnant	55	676372	6185514	190	4	0	6	1	0	0	30	0	26.3	0.1	0	0	4	8	41	154	0	0	1	1	1	1	0.5
13	351	27.3	101	ModerateGood_Remnant	55	684405	6151972	180	4	5	7	8	0	1	42	12.4	33.4	10.3	0	5	8	2	24	49	1	1	1	1	1	1	0
42	351	27.3	101	ModerateGood_Remnant	55	680742	6167093	130	2	2	5	2	0	0	40	0.7	5.1	0.2	0	0	2	2	87	54	1	1	1	1	0	1	0
J3	351	27.3	101	ModerateGood_Remnant	55	678106	6181384	13	1	7	12	8	1	1	35	38.5	23.5	1.2	0.5	0.1	1	1	39	147	0	1	0	1	1	0	0
Mod2_P9	351	27.3	101	ModerateGood_Remnant	55	685555	6155291	48	4	3	7	6	0	1	38	1.3	38.1	3.7	0	0.3	6	5	48	134	1	1	1	1	1	0	0.5
21	351	95.3	101	DNG	55	681742	6166819	180	1	0	4	1	0	0	0.5	0	31.4	1	0	0	0	0	84	92	0	0	0	0	0	1	10
30	351	95.3	101	DNG	55	682001	6169793	320	0	1	6	2	0	0	0	1	36.8	0.8	0	0	0	0	2	0	0	0	0	0	0	1	0
12	351	95.3	101	DNG	55	684413	6151319	180	0	1	9	4	0	0	0	0.8	54.8	10.1	0	0	0	0	14.6	0	0	0	0	0	0	1	1
14	351	95.3	101	DNG	55	683582	6152388	180	0	0	6	4	0	0	0	0	50	1.6	0	0	0	1	29	73	0	0	0	0	0	1	25.4
DMRP2	351	95.3	101	DNG	55	683270	6160479	180	0	1	10	1	0	0	0	0.6	61	0.3	0	0	0	0	6	0	0	0	0	0	0	1	0.2
4107Feb04	351	95.3	101	DNG	55	681419	6174987	333	0	0	11	2	0	0	0	0	48.5	0.2	0	0	0	0	85	2	0	0	0	0	0	1	0
J1	351	95.3	101	DNG	55	676329	6186659	340	0	0	8	1	1	1	0	0	77.6	0.5	0.1	0.1	0	0	1	0	0	0	0	0	0	0	0.2
J2	351	95.3	101	DNG	55	677818	6184525	202	0	1	8	2	1	0	0	0.3	62.4	0.2	1	0	0	0	0	0	0	0	0	0	0	0	1
J7	351	95.3	101	DNG	55	684124	6159902	136	0	1	9	1	0	0	0	0.2	90.1	0.1	0	0	0	0	0	2.4	0	0	0	0	0	0	0.6
J8	351	95.3	101	DNG	55	686441	6154120	270	0	2	8	4	0	0	0	0	56.3	0.7	0	0	0	0	2	0	0	0	0	0	0	0	0.2
Mod2_P1	351	95.3	101	DNG	55	679007	6178474	17	0	4	5	3	1	0	0	1.4	41.5	1.9	0.5	0	0	0	8	0	0	0	0	0	0	0	15.2
Mod2_P5	351	95.3	101	DNG	55	681723	6168408	117	0	0	3	1	0	0	0	0	60	0.4	0	0	0	0	3	0	0	0	0	1	0	0	7
10	351	2.99	101	ModerateGood_Acacia	55	682222	6173120	225	1	6	7	8	1	1	20	16.1	80.8	1.3	0.3	0.1	0	0	14.4	21	0	0	0	0	0	1	0
24	351	2.99	101	ModerateGood_Acacia	55	681468	6171179	180	1	6	8	4	1	1	25	18.3	40.4	2.2	0.4	0.5	1	3	35	45	1	1	1	1	1	1	0
36	351	2.99	101	ModerateGood_Acacia	55	685218	6153457	180	1	2	4	0	1	0	45	10.4	35	0	0.4	0	0	0	48.2	8	1	1	1	0	0	1	0
J4	351	2.99	101	ModerateGood_Acacia	55	682252	6170078	330	1	4	7	4	1	1	6	7.5	76.8	0.6	0.2	0.3	0	0	25	0	1	1	1	0	0	1	0.2
Mod2_P7	351	2.99	101	ModerateGood_Acacia	55	681323	6170998	205	3	4	6	7	1	1	14.1	1.1	70.4	16.5	0.1	0.5	0	0	18.6	175	1	1	1	1	0	0	0
18	351	37.6	101	Sifton	55	686146	6156121	355	1	1	4	0	0	0	1	30	21.4	0	0	0	0	0	15.8	37	0	0	0	0	0	0	2.4
28	351	37.6	101	Sifton	55	678940	6180213	175	2	4	6	3	0	0	11	69	4.3	0.3	0	0	0	0	41	0.5	0	0	0	0	0	0	0
29	351	37.6	101	Sifton	55	680685	6181271	100	0	5	7	1	0	1	0	65.8	18.6	0.1	0	0.1	0	0	41	9	0	0	0	0	0	0	0
34	351	37.6	101	Sifton	55	683963	6173916	230	0	7	6	3	1	0	0	72.8	38.8	1.4	3	0	0	0	60	10	0	0	0	0	0	0	0
4107Feb01	351	37.6	101	Sifton	55	680538	6175721	21	0	1	8	1	0	0	0	80	1.2	0.1	0	0	0	0	82.4	32	0	0	0	0	0	0	0.2
9	351	0.83	101	Argyle	55	682337	6175435	195	3	4	4	3	1	1	25.1	1.3	41.5	0.4	0.1	0.5	2	0	41	25	1	1	1	0	1	1	0

4107Jan01	351	0.83	101	Argyle	55	682927	6159688	137	6	4	8	2	0	1	37	5.02	14.3	0.02	0	0.8	11	6	69	131	0	1	1	1	1	1	0
7	351	57.8	101	Exotic	55	680526	6166316	195	0	0	1	1	0	0	0	0	0.3	0.2	0	0	0	0	0.6	0	0	0	0	0	0	1	5.2
5	351	57.8	101	Exotic	55	681771.7	6161720	355	0	0	1	2	0	0	0	0	0.2	0.3	0	0	0	0	2.4	0	0	0	0	0	0	1	0
P01	351	57.8	101	Exotic	55	663308	6186806	296	1	0	4	2	0	0	3	0	11	2	0	0	0	0	12	0	0	1	1	1	0	1	5
P02	351	57.8	101	Exotic	55	660150	6187820	90	0	0	3	5	0	0	0	0	3	5	0	0	0	0	10	0	0	0	0	0	0	1	12
P04	351	57.8	101	Exotic	55	674992	6177103	151	1	1	3	0	0	0	25	3	4	0	0	0	7	0	60	7	1	1	0	1	1	1	14
J5	351	57.8	101	Exotic	55	681498	6166059	290	0	0	7	0	0	0	0	0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J6	351	57.8	101	Exotic	55	684463	6159222	265	0	1	6	0	0	0	0	0.1	28.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
Mod2_P4	351	57.8	101	Exotic	55	678716	6177039	177	0	0	4	1	0	0	0	0	6.5	0.1	0	0	0	0	1.8	0	0	0	0	0	0	0	4
Mod2_P6	351	57.8	101	Exotic	55	684221	6159164	254	0	0	1	0	0	0	0	0	4	0	0	0	0	0	1.6	0	0	0	0	0	0	0	1
Mod2_P8	351	57.8	101	Exotic	55	684090	6152672	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0
4107D_001	351	27.3	101	ModerateGood	55	681064.1	6171137	149	1	0	3	4	0	0	0.1	0	2.2	0.4	0	0	0	0	52.8	145	0	0	0	0	0	1	0
4107D_002	351	27.3	101	ModerateGood	55	681212.7	6170580	333	1	0	3	1	1	0	0.1	0	85.2	0.1	0.1	0	0	0	5.6	0	0	0	0	0	0	0	0
4107D_009	350	4.83	101	ModerateGood	55	680638.6	6166983	353	2	0	7	4	0	0	0.2	0	12.2	1.3	0	0	0	0	19	29	0	0	0	0	0	1	0.1
4107D_010	350	4.83	101	ModerateGood	55	680531.3	6166385	178	1	0	2	0	0	0	0.1	0	2	0	0	0	0	0	8.8	2	0	0	0	0	0	1	2

SEH IBRA																														
33	335	0.96	101	ModerateGood	55	676511	6185146	180	0	0	8	2	0	0	0	0	48.6	1	0	0	0	0	78	8	0	0	0	0	0	0	5.7
35	335	0.96	101	ModerateGood	55	680413	6173303	300	0	0	4	0	0	0	0	0	90.4	0	0	0	0	0	40	0	0	0	0	0	0	0	1.4
4107Feb02	335	0.96	101	ModerateGood	55	680381	6162996	280	0	0	8	0	0	0	0	0	16.5	0	0	0	0	0	97	1	0	0	0	0	0	0	1.7
Mod2_P2	335	0.96	101	ModerateGood	55	678950	6178149	157	0	0	5	2	0	0	0	0	83.7	0.9	0	0	0	0	5	38	0	0	0	0	0	0	7
1	350	11.1	101	Moderate	55	685138	6153110	190	2	5	8	12	0	0	15	35	79	13	0	0	1	1	9	26	1	1	0	1	1	1	2
15	350	11.1	101	Moderate	55	685682	6157941	180	2	1	5	3	0	1	30	1	9	1.2	0	5	1	1	82	144	1	1	1	1	1	1	0
6	350	11.1	101	Moderate	55	680523	6166010	195	3	0	4	1	0	0	30.1	0	10.7	0.2	0	0	1	0	48	10	0	1	1	1	1	1	5
31	350	11.1	101	Moderate	55	681050	6168809	250	3	0	13	0	0	0	32	0	88.2	0	0	0	3	4	42	48	0	0	0	1	1	1	0.4
43	350	11.1	101	Moderate	55	680670	6166008	45	3	0	7	3	0	1	45	0	12.5	0.3	0	1	2	3	74	70	1	1	1	0	1	1	1
DMRP1	350	11.1	101	Moderate	55	685426	6156413	160	1	1	9	9	0	0	65	0.8	5.7	1.8	0	0	4	4	88	33	1	1	1	1	1	1	0.3
P03	350	11.1	101	Moderate	55	675609	6175903	130	3	0	2	0	0	1	30	0	2	0	0	1	2	0	70.8	6	1	1	1	1	1	1	3
Mod2_P3	350	11.1	101	Moderate	55	679030	6177443	120	3	3	6	3	1	1	30.1	2.1	22	3.6	0.6	5	6	1	17	57	1	1	1	1	1	1	1.5
11	350	3.48	101	DNG	55	683860	6150622	180	0	0	10	4	0	0	0	0	49	5.2	0	0	0	0	23	0	0	0	0	0	0	1	4.4
32	350	3.48	101	DNG	55	679998	6168665	260	0	0	7	1	0	0	0	0	71	1	0	0	0	0	93.8	0	0	0	0	0	0	1	10.4
DMRP3	350	3.48	101	DNG	55	680787	6163358	180	1	2	8	9	0	2	0.1	0.4	72.4	1	0	0.2	0	0	2.6	0	0	0	0	0	0	1	0.2
4107Jan02	350	3.48	101	DNG	55	665473	6183884	300	1	0	7	3	1	3	1	0	44.9	3.3	1	0.03	0	0	3.4	1	0	0	1	0	0	1	5.01
4107Feb03	350	3.48	101	DNG	55	679126	6165854	109	0	0	5	0	0	0	0	0	5.5	0	0	0	0	0	73.6	0	0	0	0	0	0	1	0.1
16	351	23.2	101	ModerateGood_Remnant	55	684963	6158479	180	5	7	7	3	0	1	34.5	11.2	31.2	5.6	0	2	0	0	58	119	1	1	1	1	0	1	0
20	351	23.2	101	ModerateGood_Remnant	55	682300	6162751	180	4	5	5	7	0	2	55.4	35.8	10.4	5	0	3	0	3	25	246	1	1	1	1	0	1	0
23	351	23.2	101	ModerateGood_Remnant	55	681953	6170713	225	5	3	3	2	0	1	50.4	6	45	3.4	0	0.4	0	10	80.4	207	1	1	1	1	0	1	0
26	351	23.2	101	ModerateGood_Remnant	55	381032	6178037	190	2	8	5	5	0	0	60	11.3	27.6	3.2	0	0	0	3	78	29.5	1	1	1	1	0	1	0
8	351	23.2	101	ModerateGood_Remnant	55	676372	6185514	190	4	0	6	1	0	0	30	0	26.3	0.1	0	0	4	8	41	154	0	0	1	1	1	1	0.5
13	351	23.2	101	ModerateGood_Remnant	55	684405	6151972	180	4	5	7	8	0	1	42	12.4	33.4	10.3	0	5	8	2	24	49	1	1	1	1	1	1	0
42	351	23.2	101	ModerateGood_Remnant	55	680742	6167093	130	2	2	5	2	0	0	40	0.7	5.1	0.2	0	0	2	2	87	54	1	1	1	1	0	1	0
J3	351	23.2	101	ModerateGood_Remnant	55	678106	6181384	13	1	7	12	8	1	1	35	38.5	23.5	1.2	0.5	0.1	1	1	39	147	0	1	0	1	1	0	0
Mod2_P9	351	23.2	101	ModerateGood_Remnant	55	685555	6155291	48	4	3	7	6	0	1	38	1.3	38.1	3.7	0	0.3	6	5	48	134	1	1	1	1	1	0	0.5
21	351	36.7	101	DNG	55	681742	6166819	180	1	0	4	1	0	0	0.5	0	31.4	1	0	0	0	0	84	92	0	0	0	0	0	1	10
30	351	36.7	101	DNG	55	682001	6169793	320	0	1	6	2	0	0	0	1	36.8	0.8	0	0	0	0	2	0	0	0	0	0	0	1	0
12	351	36.7	101	DNG	55	684413	6151319	180	0	1	9	4	0	0	0	0.8	54.8	10.1	0	0	0	0	14.6	0	0	0	0	0	0	1	1
14	351	36.7	101	DNG	55	683582	6152388	180	0	0	6	4	0	0	0	0	50	1.6	0	0	0	1	29	73	0	0	0	0	0	1	25.4
DMRP2	351	36.7	101	DNG	55	683270	6160479	180	0	1	10	1	0	0	0	0.6	61	0.3	0	0	0	0	6	0	0	0	0	0	0	1	0.2
4107Feb04	351	36.7	101	DNG	55	681419	6174987	333	0	0	11	2	0	0	0	0	48.5	0.2	0	0	0	0	85	2	0	0	0	0	0	1	0
J1	351	36.7	101	DNG	55	676329	6186659	340	0	0	8	1	1	1	0	0	77.6	0.5	0.1	0.1	0	0	1	0	0	0	0	0	0	0	0.2
J2	351	36.7	101	DNG	55	677818	6184525	202	0	1	8	2	1	0	0	0.3	62.4	0.2	1	0	0	0	0	0	0	0	0	0	0	0	1
J7	351	36.7	101	DNG	55	684124	6159902	136	0	1	9	1	0	0	0	0.2	90.1	0.1	0	0	0	0	0	2.4	0	0	0	0	0	0	0.6
J8	351	36.7	101	DNG	55	686441	6154120	270	0	2	8	4	0	0	0	0	56.3	0.7	0	0	0	0	2	0	0	0	0	0	0	0	0.2
Mod2_P1	351	36.7	101	DNG	55	679007	6178474	17	0	4	5	3	1	0	0	1.4	41.5	1.9	0.5	0	0	0	8	0	0	0	0	0	0	0	15.2
Mod2_P5	351	36.7	101	DNG	55	681723	6168408	117	0	0	3	1	0	0	0	0	60	0.4	0	0	0	0	3	0	0	0	0	1	0	0	0	7
10	351	3.34	101	ModerateGood_Acacia	55	682222	6173120	225	1	6	7	8	1	1	20	16.1	80.8	1.3	0.3	0.1	0	0	14.4	21	0	0	0	0	0	1	0
24	351	3.34	101	ModerateGood_Acacia	55	681468	6171179	180	1	6	8	4	1	1	25	18.3	40.4	2.2	0.4	0.5	1	3	35	45	1	1	1	1	1	1	0
36	351	3.34	101	ModerateGood_Acacia	55	685218	6153457	180	1	2	4	0	1	0	45	10.4	35	0	0.4	0	0	0	48.2	8	1	1	1	0	0	1	0
J4	351	3.34	101	ModerateGood_Acacia	55	682252	6170078	330	1	4	7	4	1	1	6	7.5	76.8	0.6	0.2	0.3	0	0	25	0	1	1	1	0	0	1	0.2
Mod2_P7	351	3.34	101	ModerateGood_Acacia	55	681323	6170998	205	3	4	6	7	1	1	14.1	1.1	70.4	16.5	0.1	0.5	0	0	18.6	175	1	1	1	1	0	0	0
18	351	12.4	101	Sifton	55	686146	6156121	355	1	1	4	0	0	0	1	30	21.4	0	0	0	0	0	15.8	37	0	0	0	0	0	0	2.4
28	351	12.4	101	Sifton	55	678940	6180213	175	2	4	6	3	0	0	11	69	4.3	0.3	0	0	0	0	41	0.5	0	0	0	0	0	0	0
29	351	12.4	101	Sifton	55	680685	6181271	100	0	5	7	1	0	1	0	65.8	18.6	0.1	0	0.1	0	0	41	9	0	0	0	0	0	0	0
34	351	12.4	101	Sifton	55	683963	6173916	230	0	7	6	3	1	0	0	72.8	38.8	1.4	3	0	0	0	60	10	0	0	0	0	0	0	0
4107Feb01	351	12.4	101	Sifton	55	680538	6175721	21	0	1	8	1	0	0	0	80	1.2	0.1	0	0	0	0	82.4	32	0	0	0	0	0	0	0.2
7	351	33.1	101	Exotic	55	680526	6166316	195	0	0	1	1	0	0	0	0	0.3	0.2	0	0	0	0	0.6	0	0	0	0	0	0	1	5.2
5	351	33.1	101	Exotic	55	681771.7	6161720	355	0	0	1	2	0	0	0	0	0.2	0.3	0	0	0	0	2.4	0	0	0	0	0	0	1	0
P01	351	33.1	101	Exotic	55	663308	6186806	296	1	0	4	2	0	0	3	0	11	2	0	0	0	0	12	0	0	1	1	1	0	1	5
P02	351	33.1	101	Exotic	55	660150	6187820	90	0	0	3	5	0	0	0	0	3	5	0	0	0	0	10	0	0	0	0	0	0	1	12
P04	351	33.1	101	Exotic	55	674992	6177103	151	1	1	3	0	0	0	25	3	4	0	0	0	7	0	60	7	1	1	0	1	1	1	14
J5	351	33.1	101	Exotic	55	681498	6166059	290	0	0	7	0	0	0	0	0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J6	351	33.1	101	Exotic	55	684463	6159222	265	0	1	6	0	0	0	0	0.1	28.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6

Mod1_P8	351	33.1	101	Exotic	55	684090	6152672	139	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0
Mod2_P4	351	33.1	101	Exotic	55	678716	6177039	177	0	0	4	1	0	0	0	0	6.5	0.1	0	0	0	0	1.8	0	0	0	0	0	0	0	4
Mod2_P6	351	33.1	101	Exotic	55	684221	6159164	254	0	0	1	0	0	0	0	0	4	0	0	0	0	0	1.6	0	0	0	0	0	0	0	1
4107D_003	351	3.34	101	ModerateGood_Acacia	55	685194.3	6153474	17	1	2	5	4	1	0	40	0.2	72.3	0.4	0.1	0	0	0	40	24	0	0	0	0	0	0	0
4107D_004	351	3.34	101	ModerateGood_Acacia	55	685384.7	6153842	15	2	5	5	3	1	0	15.1	3.3	83.2	0.3	1	0	0	0	32.8	44	0	0	1	1	0	1	10
4107D_005	351	23.2	101	ModerateGood	55	685618.4	6155384	350	1	1	2	0	0	0	0.1	0.1	0.2	0	0	0	0	0	12.8	4	0	0	0	0	0	1	0
4107D_006	350	11.1	101	ModerateGood	55	685125	6157386	150	1	0	4	1	0	0	0.1	0	30.3	0.1	0	0	0	0	35	0	0	0	0	0	0	1	0.1
4107D_007	350	11.1	101	ModerateGood	55	685226.3	6157001	146	3	5	6	3	0	0	5.2	20	5.2	0.3	0	0	0	0	21.4	0	1	0	0	0	0	1	0
4107D_008	351	23.2	101	ModerateGood	55	683339.1	6160891	250	1	2	3	5	0	0	1	7	5.2	0.5	0	0	0	1	33	3	0	0	0	0	0	1	0.1



APPENDIX E

Biodiversity Credit Reports – SWS IBRA Region (Like-for-like and Variation)

BAM Credit Summary Report

Proposal Details

Assessment Id
00010359/BAAS17068/18/00012902

Proposal Name
Rye Park SWS IBRA - Mod 2 Finalisation

BAM data last updated *
22/06/2023

Assessor Name
Bill Wallach

Report Created
20/10/2023

BAM Data version *
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Assessor Number
BAAS17068

BAM Case Status
Finalised

Date Finalised
20/10/2023

Assessment Revision
17

Assessment Type
Major Projects

* 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)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion												
4	351_DNG	Not a TEC	19.2	19.2	95.3	PCT Cleared - 60%	High Sensitivity to Gain			1.75		799

5	351_ModerateGood_Acacia	Not a TEC	49	49.0	3	PCT Cleared - 60%	High Sensitivity to Gain			1.75		64
6	351_Sifton	Not a TEC	21.6	21.6	37.6	PCT Cleared - 60%	High Sensitivity to Gain			1.75		354
7	351_Argyle	Not a TEC	64.1	64.1	0.83	PCT Cleared - 60%	High Sensitivity to Gain			1.75		23
8	351_Exotic	Not a TEC	6.6	6.6	57.8	PCT Cleared - 60%	High Sensitivity to Gain			1.75		0
10	351_ModerateGood_Remnant	Not a TEC	75.9	74.3	27.3	PCT Cleared - 60%	High Sensitivity to Gain			1.75		886
											Subtotal	**2126**

Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion												
3	350_DNG	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	33.9	33.9	8.5	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	179

9	350_Moderate	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	75	72.3	4.8	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	218
											Subtotal	**397**
Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion												
1	289_ModerateGood	Not a TEC	74.2	74.2	0.48	PCT Cleared - 60%	High Sensitivity to Gain			1.75		16
											Subtotal	**16**

Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion												
2	335_ModerateGood	Not a TEC	58.2	58.2	2.8	PCT Cleared - 83%	High Sensitivity to Gain			2.00		82
											Subtotal	**82**
											Total	**2621**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits
Delma impar / Striped Legless Lizard (Fauna)									
351_DNG	19.2	19.2	37.6			Vulnerable	Vulnerable	False	270
								Subtotal	**270**
Petaurus norfolcensis / Squirrel Glider (Fauna)									
351_ModerateGood_Remnant	74.3	74.3	27.3			Vulnerable	Not Listed	False	1013
289_ModerateGood	74.2	74.2	0.48			Vulnerable	Not Listed	False	18
350_Moderate	72.3	72.3	4.8			Vulnerable	Not Listed	False	175
351_Argyle	64.1	64.1	0.83			Vulnerable	Not Listed	False	27
								Subtotal	**1233**

Polytelis swainsonii / Superb Parrot (Fauna)									
350_Moderate	72.3	72.3	4.8			Vulnerable	Vulnerable	False	175
								Subtotal	**175**
Synemon plana / Golden Sun Moth (Fauna)									
350_DNG	33.9	33.9	1.5			Vulnerable	Vulnerable	False	19
351_DNG	19.2	19.2	42.2			Vulnerable	Vulnerable	False	303
								Subtotal	**322**

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00010359/BAAS17068/18/00012902

Proposal Name
Rye Park SWS IBRA - Mod 2 Finalisation

BAM data last updated *
22/06/2023

Assessor Name
Bill Wallach

Assessor Number
BAAS17068

BAM Data version *
61

Proponent Names
Tilt Renewables

Report Created
20/10/2023

BAM Case Status
Finalised

Assessment Revision
17

Assessment Type
Major Projects

Date Finalised
20/10/2023

* 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
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion
Species		

Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

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)

BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	0.5	16	0	16
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	2.8	0	82	82
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	13.3	218	179	397
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	221.8	1772	354	2126

289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	289_Moderate Good	Yes	16	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_Moderate Good	No	82	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	**Like-for-like credit retirement options**

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	350_DNG	No	179	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland,	-	350_Moderate	Yes	218	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or

	Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3415, 3533, 4147, 4149, 4150					
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	799	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Acacia	Yes	64	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	354	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Argyle	Yes	23	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Remnant	Yes	886	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

BAM Biodiversity Credit Report (Like for like)

Species	Vegetation Zone/s	Area / Count	Credits
Delma impar / Striped Legless Lizard	**351_DNG**	37.6	270.00
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 289_ModerateGood, 350_Moderate, 351_Argyle**	33.4	1233.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	4.8	175.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	43.7	322.00

Credit Retirement Options

Like-for-like credit retirement options

Delma impar / Striped Legless Lizard	Spp	IBRA subregion
	Delma impar / Striped Legless Lizard	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Synemon plana / Golden Sun Moth	Spp	IBRA subregion
	Synemon plana / Golden Sun Moth	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
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Proposal Name
Rye Park SWS IBRA - Mod 2 Finalisation

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Assessor Name
Bill Wallach

Assessor Number
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Proponent Name(s)
Tilt Renewables

Report Created
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Assessment Type
Major Projects

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* 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
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Species
Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

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
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	0.5	16	0	16.00
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	2.8	0	82	82.00
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	13.3	218	179	397.00
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	221.8	1772	354	2126.00

289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	289_ModerateGood	Yes	16	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. 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
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	289_ModerateGood	Yes (including artificial)	16	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region

	Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_ModerateGood	No	82	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. 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
	Freshwater Wetlands	Tier 2 or higher threat status	335_ModerateGood	No	82	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	350_DNG	No	179	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	350_Moderate	Yes	218	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	799	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Acacia	Yes	64	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	354	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Argyle	Yes	23	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Remnant	Yes	886	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. 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
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_DNG	Yes (including artificial)	799	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Acacia	Yes (including artificial)	64	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Sifton	No	354	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Argyle	Yes (including artificial)	23	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Exotic	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Remnant	Yes (including artificial)	886	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

Species	Vegetation Zone/s	Area / Count	Credits
Delma impar / Striped Legless Lizard	**351_DNG**	37.6	270.00

Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 289_ModerateGood, 350_Moderate, 351_Argyle**	33.4	1233.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	4.8	175.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	43.7	322.00

Credit Retirement Options

Like-for-like options

Delma impar/ Striped Legless Lizard	Spp	IBRA region	
	Delma impar/Striped Legless Lizard	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp	IBRA region	

	Petaurus norfolcensis/Squirrel Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Polytelis swainsonii/ Superb Parrot	Spp		IBRA region
	Polytelis swainsonii/Superb Parrot		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Synemon plana/ Golden Sun Moth	Spp	IBRA region	
	Synemon plana/Golden Sun Moth	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

APPENDIX F

Biodiversity Credit Reports – SEH IBRA Region (Like-for-like and Variation)

BAM Credit Summary Report

Proposal Details

Assessment Id
00010359/BAAS17068/18/00012903

Proposal Name
Rye Park Development SEH IBRA - Mod 2 Finalisation

BAM data last updated *
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Assessor Name
Bill Wallach

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Assessment Type
Major Projects

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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)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion												
3	351_DNG	Not a TEC	19.7	19.7	36.7	PCT Cleared - 60%	High Sensitivity to Gain			1.75		317

4	351_Sifton	Not a TEC	25	25.0	12.4	PCT Cleared - 60%	High Sensitivity to Gain			1.75		136
5	351_Exotic	Not a TEC	7.6	7.6	33.1	PCT Cleared - 60%	High Sensitivity to Gain			1.75		0
7	351_ModerateGood_Remnant	Not a TEC	79.6	78.6	23.2	PCT Cleared - 60%	High Sensitivity to Gain			1.75		799
8	351_ModerateGood_Acacia	Not a TEC	56	47.5	3.3	PCT Cleared - 60%	High Sensitivity to Gain			1.75		69
											Subtotal	**1321**

Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion												
2	350_DNG	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	34.9	34.9	3.5	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	76

6	350_Moderate	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	68.3	59.2	11	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	409
											Subtotal	**485**
Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion												
1	335_ModerateGood	Not a TEC	35.1	35.1	0.96	PCT Cleared - 83%	High Sensitivity to Gain			2.00		17
											Subtotal	**17**
											Total	**1823**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits
Petaurus norfolcensis / Squirrel Glider (Fauna)									
351_ModerateGood_Remnant	78.6	78.6	23.2			Vulnerable	Not Listed	False	913
350_Moderate	59.2	59.2	11			Vulnerable	Not Listed	False	327
								Subtotal	**1240**
Polytelis swainsonii / Superb Parrot (Fauna)									
350_Moderate	59.2	59.2	11			Vulnerable	Vulnerable	False	327
								Subtotal	**327**
Synemon plana / Golden Sun Moth (Fauna)									
350_DNG	34.9	34.9	1.4			Vulnerable	Vulnerable	False	18
351_DNG	19.7	19.7	20.1			Vulnerable	Vulnerable	False	149
								Subtotal	**167**

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00010359/BAAS17068/18/00012903

Proposal Name
Rye Park Development SEH IBRA - Mod 2 Finalisation

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22/06/2023

Assessor Name
Bill Wallach

Assessor Number
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Proponent Names
Tilt Renewables

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20/10/2023

* 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
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion
Species		

Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

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)

BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	1.0	0	17	17
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	14.5	409	76	485
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	108.8	1185	136	1321

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_Moderate Good	No	17	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	**Like-for-like credit retirement options**

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	350_DNG	No	76	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	350_Moderate	Yes	409	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363,					kilometers of the outer edge of the impacted site.

	3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	317	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	136	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Remnant	Yes	799	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Acacia	Yes	69	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant , 350_Moderate**	34.3	1240.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.1	327.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	21.5	167.00

Credit Retirement Options

Like-for-like credit retirement options

	Spp	IBRA subregion
Petaurus norfolcensis / Squirrel Glider	**Petaurus norfolcensis /** Squirrel Glider	Any in NSW

Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Synemon plana / Golden Sun Moth	Spp	IBRA subregion
	Synemon plana / Golden Sun Moth	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id

00010359/BAAS17068/18/00012903

Proposal Name

Rye Park Development SEH IBRA - Mod 2 Finalisation

BAM data last updated *

22/06/2023

Assessor Name

Bill Wallach

Assessor Number

BAAS17068

BAM Data version *

61

Proponent Name(s)

Tilt Renewables

Report Created

20/10/2023

BAM Case Status

Finalised

Assessment Revision

16

Assessment Type

Major Projects

Date Finalised

20/10/2023

* 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
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Species
Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

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
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	1.0	0	17	17.00
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	14.5	409	76	485.00
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	108.8	1185	136	1321.00

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_ModerateGood	No	17	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. 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
Freshwater Wetlands	Tier 2 or higher threat status	335_ModerateGood	No	17	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	350_DNG	No	76	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	350_Moderate	Yes	409	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					kilometers of the outer edge of the impacted site.

351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	317	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	136	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Remnant	Yes	799	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Acacia	Yes	69	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. 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

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_DNG	Yes (including artificial)	317	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Sifton	No	136	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Exotic	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Remnant	Yes (including artificial)	799	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Acacia	Yes (including artificial)	69	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 350_Moderate**	34.3	1240.00

Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.1	327.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	21.5	167.00

Credit Retirement Options

Like-for-like options

Petaurus norfolcensis/ Squirrel Glider	Spp	IBRA region	
	Petaurus norfolcensis/Squirrel Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Polytelis swainsonii/ Superb Parrot	Spp	IBRA region	
	Polytelis swainsonii/Superb Parrot	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Synemon plana/ Golden Sun Moth	Spp	IBRA region	
	Synemon plana/Golden Sun Moth	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

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