RYE PARK WIND FARM

Modification 2 – Response to Submissions Report

(Development Consent State Significant Development: 6693)

September 2022

Rye Park Renewable Energy Pty Ltd

Rye Park Wind Farm

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Acronyms and Abbreviations

AHIMS	Aboriginal Heritage Information Management System
ASIRF	Aboriginal Site Impact Recording Form
the Applicant	Rye Park Renewable Energy Pty Ltd
the Approved Project	The Project as currently approved by the Development Consent
BAM	Biodiversity Assessment Method 2020
BCS	Biodiversity Conservation and Science Division of the Department of Planning and Environment (NSW)
BMP	*Rye Park Wind Farm Biodiversity Management Plan* (RPWF-PLN-0003)
Development Consent	Development Consent SSD 6693-MOD1 granted under the EP&A Act
DPE	Department of Planning and Environment (now DPIE, or the Department) (NSW)
EIS	Environmental Impact Statement for the Rye Park Wind Farm (Epuron, 2014)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPBC Approval	Approval EPBC 2014/7163 granted for the Project under the EPBC Act
ha	hectares
HMP	Rye Park Wind Farm Heritage Management Plan (RPWF-PLN-0002)
Km	kilometres
Kv	Kilovolt
Modification Application	Application SSD-6693-MOD-2 to modify the Development Consent under the Development Consent
Modification Application Report	Rye Park Wind Farm - Modification Application 2 Report (RPRE, July 2022)
Original Approved Project	The Project as approved by grant of the Development Consent for SSD 6693 on 22 May 2017
PCT	Plant Community Type
the Project	the Rye Park Wind Farm
Proposed Modifications	The changes to the Approved Project as described in Section 3.0 of the Modification Application Report
RTS	Response to Submissions

1.0 Introduction

1.1 Purpose and Structure of this Report

This Response to Submissions Report (RTS) has been prepared by Rye Park Renewable Energy Pty Ltd (the Applicant) in response to submissions received during the public exhibition of the Modification Application. The Modification Application seeks approval under section 4.55(1A) of the *Environment Planning and Assessment Act 1979* (EP&A Act) for the Proposed Modifications to the Approved Project authorised by the Development Consent.

The purpose of this RTS is to document how the issues raised in submissions have been considered and responded to by the Applicant and provide further clarifications to the Project.

This RTS has been prepared in accordance with the requirements of the EP&A Act and the *State Significant Development Guidelines – Preparing a Submissions Report* (November 2021).

The overall structure and purpose of each section of this Report is outlined in Table 1.

Table 1: Report structure and content

Section	Purpose / Content
Section 1.0: Introduction	• This section provides an overview of this RTS and its structure, including the current status of the project's development
Section 2.0 Analysis of submissions	• Provides an overview of the submissions received by DPE from the public exhibition of the Modification Application
Section 3.0: Actions taken since exhibition	• Provides an overview of the consultation carried out with the community and government agencies during and after the public exhibition period and the further consultation which has been carried out since the public exhibition period ended
Section 4.0: Response to Submissions	• Details submissions received from the public and government agencies and outlines Applicant's response to these submissions
Section 5.0: Updated project justification	• Provides the overall conclusions to this report and review of the justification for the modifications sought as part of the Modification Application

This RTS has been prepared by the Applicant, with advice from relevant technical specialists in relation to biodiversity assessments by Umwelt (Australia) Pty Ltd. The Applicant's key representatives for the preparation of the Modification Application Report are detailed in Table 2.

Table 2: Applicant's representatives

Representative	**James Beckett**	**Cara Layton**
Position	Senior Environment and Development Planner	Stakeholder and Environment Manager
Modification Application Responsibility	Consultant management, review of technical assessments, drafting the Modification Application Report	Review of technical assessments, drafting, reviewing and approving the Modification Application Report
Energy and Renewable Industry Experience	14 years	16 years

Formal Qualification	Bachelor of Science, Queensland University of Technology; Master of Environmental Management, University of Queensland	Bachelor of Urban Planning and Development, University of Melbourne

1.2 Project Status

The Original Approved Project was granted consent by the NSW Planning Assessment Commission (now known as the Independent Planning Commission), on 22 May 2017, and a previous modification to the Development Consent approved on 15 April 2021 (Approved Project).

Grant of the Development Consent for the Approved Project resulted in changes to the wind farm layout, including increasing the tip height of the wind turbines to 200 m (an increase from 157 m in the Original Approved Project) and a reduction in the overall number of wind turbines to 77 (a decrease from 92 wind turbines in the Original Approved Project).

The Project has also been granted approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC 2020/8837) on 1 June 2021 (EPBC Approval). The EPBC Approval was subsequently varied to align with the modifications sought as part of this Modification Application, with the variation to the EPBC Approval being approved on 30 June 2022.

Construction of the Approved Project commenced on 1 December 2021, with relevant notifications being provided to the Department and relevant local councils in accordance with Schedule 2, Condition 11 of and Schedule 5, Condition 4 of the Development Consent.

The Modification Application Report was lodged on 12 July 2022 and placed on public exhibition from 29 July 2022 until 9 August 2022. During this time, the Department of Planning and Environment (DPE) received a total of 6 submissions relating to the Modification Application including 5 from government agencies, 1 from a member of the public.

On 11 August 2022, DPE formally requested the Applicant to submit a report responding to the matters and recommendations raised in the submissions received.

2.0 Analysis of submissions

The following section is provided for information purposes in providing a breakdown and categorisation of the issues raised in submissions on the Modification Application. Due to the relatively small number of submissions a detailed analysis of the submissions and grouping of themes is not possible, though the following represents a summary of the matters raised through the submission process.

During the public exhibition period, DPE received a total of six submissions in response to the Project, as summarised in Table 3.

Table 3: Submissions received

Category of Submission	Position			Total Number of Submissions Received
	Support	Comment	Object	
Governmental Agency	1	4	-	5
Public / Community	-	-	1	1
TOTAL	**1**	**4**	**1**	**6**

The single submission from a member of the public reflects the minor nature of the changes sought as part of the Modification Application. No public submissions were received from within a 20 km radius of the Project. Submissions from government agencies reflect their area of interest/responsibility and provide guidance to the Applicant in the further progression of the Modification Application.

The submissions identified issues and provided comments on the following environmental aspects:

- Biodiversity (vegetation and habitat disturbance);
- Aboriginal heritage; and
- Traffic and transport.

These environmental aspects align with the assessment of impacts that was undertaken for the Modification Application. No further issues were identified in the submissions relating to other environmental aspects that were not addressed in the Modification Application Report (e.g. noise, fire risk, social and economic impacts).

A register of submissions is contained within Appendix A, which is intended to aid submitters find the response to issues they raised in their submission. Due to the small number of submissions the Applicant has responded directly to each submission (refer to Section 4.0).

3.0 Actions taken since exhibition

The following section provides an overview of the steps taken by the Applicant to further engage with the community and assess the impacts of the Modification Application since the public exhibition of the Modification Application.

No refinements or amendments to the Proposed Modifications contained in the Modification Application Report have been made following the submission of the Modification Application. It is noted that there has been some minor clarification and refinement to the supporting information/assessments provided with the Modification Application (refer to Section 4.0), however this has not affected what is being proposed by the Applicant through the Modification Application.

3.1 Clarification

The Applicant identified in Section 3.1 of the Modification Application Report that there would be a decrease in the requirement of private access tracks of 1.02 km as a result of the Proposed Modifications as a result of the proposed increase to the Development Corridor – Wind Farm. This figure was incorrect and for clarification, conservatively there will actually be a reduction of 1.44 km of access tracks associated with the Development should the Modification Application be approved. The relevant calculations in relation to the individual changes in Section 3.2 of the Modification Application Report are unchanged and accurately described in the Modification Application Report.

3.2 Public engagement

In publicly exhibiting the Modification Application, DPE advertised the exhibition process by placing a notification in the Young Witness on 29 July 2022.

The Applicant prepared a fact sheet that provided an overview of the Modification Application for the benefit of interested community members and placed this on the Applicant's website (www.tiltrenewables.com) for the duration of the public exhibition period. The Applicant also provided notification to the Community Consultative Committee for the Project of the public exhibition of the Modification Application at the commencement of the public notification period.

During the public exhibition period, the Applicant received phone calls from four community members regarding the Modification Application. The Applicant provided information relevant to the Modification Application and encouraged them to review the information on the DPE website and make a submission on the application.

3.3 Agency engagement

The Applicant has continued to consult with relevant State agencies to address issues raised in the comments provided by each of the relevant agencies. Targeted meetings have been held with representatives from each relevant NSW State and local government agency as identified in Table 4.

Table 4: Consultation with relevant agencies

Agency	Date	Overview of consultation
DPE (Biodiversity Conservation and Science Directorate) (BCS)	5 - 17 August 2022	• Identification of error within the Biodiversity Offset Payment Calculator resulting in the generation of inaccurate credit liability. • Noted that the area of impact to biodiversity values presented as part of the Modification Application is unchanged. • Requested the Applicant re-run the credit generation for the Modification Application, with the revised Biodiversity Assessment Method (BAM) Biodiversity Credit Report being provided to BCS on 5 August 2022 and again subsequently on 17 August 2022 addressing further issues identified with the Biodiversity Offset Payment Calculator.
DPE (Planning and Assessment Branch)	10 - 17 August 2022	• Discussion on submissions received during the public exhibition period, requirements for preparing the RTS and amendments to the conditions of the Development Consent in relation to the assessment of the Modification Application
Heritage NSW	11 August 2022	• Provided Heritage NSW with a copy of the Heritage Management Plan Rye Park Wind Farm (RPWF-PLN-0002), which was approved on 10 September 2021 in accordance with Schedule 3, Condition 25 of the Development Consent.
DPE (Crown Lands)	11 - 16 August 2022	• Further consultation on management of Walla Lane and determination of the responsible road authority.

4.0 Response to submissions

This section provides a detailed summary of the Applicant's response to the issues raised in submissions on the Modification Application. Due to the small number of submissions, rather than structuring the response in accordance with a categorisation of issues the Applicant has addressed and responded to each individual submission in the following sections.

4.1 MOD-S1: Public Submission

The submission makes reference to the Applicant's increase to the Development Corridor – Wind Farm to allow for the establishment of access tracks for the construction and operation of the Project. The Applicant is seeking to increase the Development Corridor – Wind Farm by approximately 14.59 ha to achieve this aim. However, the suggestion that this would increase impacts to biodiversity is inaccurate, with the Modification Application demonstrating that the disturbance area will comply with the current clearing limits identified in Schedule 3, Condition 19 of the Development Consent and the impact to Plant Community Types (PCTs) and species would be generally in accordance with the Environmental Impact Statement (EIS).

In relation to comments regarding traffic and transport, the Applicant confirms that the Modification Application does not seek to alter the approved over-dimensional and heavy vehicle access routes that are permitted in accordance with Appendix 6 and 7 of the Development Consent.

Other than the use of Walla Lane, the Applicant is not seeking modification to the approved access points of road upgrades listed in Appendix 6 of the Development Consent. The Applicant has in place an approved Traffic Management Plan in accordance with Schedule 3, Condition 30 of the Development Consent and a procedure to receive, handle and respond to any complaints in accordance with the approved Rye Park Wind Farm Environmental Management Strategy (RPWF-PLN-001) required by Schedule 5, Condition 1 of the Development Consent.

The Applicant has identified the use of an additional road, Walla Lane, that is sought to be included in Appendix 6 of the Development Consent. The use and potential upgrade of Walla Lane has been identified in the Modification Application Report to be unlikely to have impacts of the use of the road by the local community. Walla Lane is a no through road and is understood to be used by two associated landowners to access their private properties. Traffic volumes are estimated to be approximately 15-20 one-way heavy vehicle deliveries to facilitate construction of the 33 kV transmission line. No other vehicle movements are proposed within Walla Lane for the broader construction of the Project aside from the construction and operation of the 33 kV transmission line in this vicinity.

It is acknowledged that recent flooding events have caused some damage to the road upgrades, the Applicant is committed to reporting any incidents in accordance with Schedule 5, Condition 7 of the Development Consent and actively working with the local community to keep all relevant stakeholders informed of the road upgrades and repairs in accordance with the provisions of the approved Rye Park Wind Farm Traffic Management Plan.

4.2 MOD2-S2: DPE – Crown Land

Crown Lands noted the existing Crown Land Licence for the Project (RN622918), which was issued to the Applicant on 17 August 2021. Crown Land consent for construction and operation of the wind farm over relevant Crown public roads within the wind farm as issued to the Applicant under Section 138 of the *Roads Act 1993* on 3 November 2021. Crown Lands confirmed the Modification Application does not affect any other Crown land, roads or waterways outside of those already approved under RN622918.

The advice of Crown Lands is that the section of Walla Lane where the potential road upgrades are proposed is under the management of Hilltops Council. This is contrary to the previous advice of Hilltops Council and through further consultation with Crown Lands since submission of the Modification Application has identified Hilltops Council is the responsible road authority for this section of Walla Lane, with Walla Lane being declared and gazette a public road and under the management of council in 1903.

As identified by Crown Lands in their submission and the Modification Application Report, should physical works be required within the road reserve (other than traversing the road), road works approval from Hilltops Council, as the responsible road authority, will be obtained by the Applicant in accordance with the requirements of the *Roads Act 1993*.

4.3 MOD2-S3: Heritage NSW

Consultation with Heritage NSW and the relevant Registered Aboriginal Parties (RAPs) was undertaken in preparation of the Heritage Management Plan (RPWF-PLN-0002) (HMP) in accordance with Schedule 3, Condition 25(b) of the Development Consent. Following submission of the HMP to DPE, the Planning Secretary approved the HMP on 10 September 2021.

In consulting with Heritage NSW in the preparation of the HMP, advice was received from Heritage NSW in May 2021 (DOC21/298252-2). This advice and a response to how the matters raised were addressed in preparation of the HMP are contained in Appendix E of the HMP. As requested, Heritage NSW have been provided with the approved HMP (refer to Section 3.2).

In their submission, Heritage NSW identified the implementation of the proposed mitigation measures be undertaken in consultation with the Aboriginal community in accordance with the HMP and the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW, 2010a). The Applicant confirms that meaningful engagement with the RAPs forms part of the HMP and the HMP has been prepared with reference to the *Aboriginal cultural heritage consultation requirements for proponents*.

The Rye Park Wind Farm Third Addendum Aboriginal Cultural Heritage Assessment Report (NGH, 2021), which supported the Modification Application, identified both Aboriginal heritage sites previously identified within the Development Corridor – Wind Farm and two new sites, which had been identified as part of the investigations for the Modification Application. In response to the submission and previous comments provided on the HMP (refer to Appendix E of the HMP), the Applicant confirms that not all Aboriginal heritage sites are registered in the Aboriginal Heritage Information Management System (AHIMS). This is relevant to areas of Potential Archaeological Deposits and other identified Aboriginal sites without archeological potential, as the presence of Aboriginal objects has yet to be confirmed through a subsurface testing program (refer to Appendix B).

The Applicant and NGH Pty Ltd have reviewed both the Rye Park Wind Farm Third Addendum Aboriginal Cultural Heritage Assessment Report and Appendix 5 Aboriginal Heritage Items of the Development Consent and can confirm that there is a single AHIMS site registration, which has been completed since grant of the Development Consent and should be listed in Appendix 5 Aboriginal Heritage Items (RPWF PAD 1: AHIMS Number 45-5-4051). This change is presented in Appendix C, which provides an update to Appendix 5 Aboriginal Heritage Items of the Development Consent.

The HMP also identifies the need to complete an Aboriginal Site Impact Recording Form (ASIRF) following harm for each Aboriginal site collected or destroyed from salvage and/or construction works. Artefact disposition and storage must also be completed in accordance with HMP and Requirement 26 of the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b).

Heritage NSW noted that ASIRFs for the Project's salvage works had not yet been submitted for the archaeological salvage conducted to date. The Applicant's Heritage Advisor has identified that this is due to the archaeological material recovered remaining in temporary storage while the construction within the vicinity of the reburial location is completed (refer to Appendix B). This was discussed with the RAPs for the

Project and determined to be the best practice in this instance. ASIRFs have since been submitted by the Heritage Advisor but are missing the reburial location. Following the repatriation of artefacts, the Applicant's Heritage Advisor will formally submit all completed ASIRFs in relation to the salvage works. This is process is consistent with the HMP.

4.4 MOD2-S4: Hilltops Council

Hilltops Council provided general feedback and noted relevant environmental aspects of the Modification Application, with respect to biodiversity, Aboriginal cultural heritage and traffic and transport.

No substantive issues were raised in the submission to the Modification Application however, the Applicant does note that further consultation with Crown Lands has identified that Hilltops Council are the responsible road authority for Walla Lane. This is contrary to the advice in relation to the submission by Hilltops Council and further consultation will be undertaken with Hilltops Council to confirm the findings of the consultation with Crown Lands.

4.5 MOD2-S5: BCS

BCS provided comments on the Modification Application with respect to both reviewing the information contained within the Modification Application Report and the proposed conditions of consent, should the Modification Application be approved. These two distinct matters are addressed in the sections below.

4.5.1 Assessment of Modification Application

BCS noted the accuracy of the ecological assessment undertaken for the Modification Application and noted the Proposed Modifications reduces the area of impact to nearly all PCTs and species associated with the Project. BCS also noted an increased biodiversity credit liability, related to superb parrot (*Polytelis swainsonii*) and squirrel glider (*Petaurus norfolcensis*), which is remarked to be associated with updated data associations in the BAM Calculator.

Consultation with BCS during and following the public exhibition of the Modification Application did identify an error in the initial BAM Biodiversity Credit Report, which accompanied the Modification Application Report (Umwelt, 2022). Due to the error associated with the operation of the BAM Calculator, the Applicant has prepared a revised Confirmation of Credit Liabilities Report, which presents an updated credit liability for the Proposed Modifications (refer to Appendix D).

The revised Confirmation of Credit Liabilities Report identifies an increased credit liability for the following PCTs and species, despite the area of impact associated with the Proposed Modifications being unchanged from what was presented in the Modification Application Report:

- PCT 350: An increase of 112 credits (1.032 credits in total);
- PCT 351: An increase of 755 credits (4,428 credits in total);
- Superb parrot: An increase of 90 credits (588 credits in total); and
- Squirrel glider: An increase of 940 credits (3,127 credits in total).

Further to the above and noted in the BCS submission on the Modification Application, the revised BAM Biodiversity Credit Report also identified the potential for Purple Copper Butterfly (*Paralucia spinifera*) to be a candidate species for assessment as part of the Project. BCS and the Applicant agree the despite it's identification as a potential species, it is not a suitable candidate for targeted surveys as:

1. *Bursaria spinosa* (Blackthorn) was absent across all BAM plots undertaken for the Modification Application (Umwelt, 2022a);
2. The Applicant has undertaken significantly more BAM plots for each vegetation zone than is required

in Table 3 of the BAM (Umwelt, 2022a); and

3. The Project is entirely below 800 m in elevation, which is considered a habitat constraint in several IBRA subregions.

Due to the above, the Purple Copper Butterfly has been discounted by the Applicant in the revised Confirmation of Credit Liabilities Report (refer to Appendix D). As the level of impact is unchanged from what was presented in the Modification Application Report, the Applicant has not sought to review the ecological assessment for the Modification Application (Umwelt, 2022a), which contains details of the surveys, plot data and impact assessment undertaken for the Modification Application.

4.5.2 Conditions of the Development Consent

In BCS's submission they state that Schedule 3, Condition 19 and 20 of the Development Consent allows the Applicant to:

- Increase impacts to all threatened entities beyond what was described in the EIS except for the serious and irreversible impact entities; and
- Re-calculate the credit liability for all PCTs and species-credit species.

BCS recommend DPE implement further conditions on the Project to effectively place clearing limits on all threatened entities and identify that any micro-siting of ancillary infrastructure cannot exceed the relevant impact thresholds.

The Applicant is not permitted to increase impacts to threatened entities beyond what is described in the EIS for the Project, with Schedule 2, Condition 2 of the Development Consent requiring the Applicant to carry out the Project generally in accordance with the EIS and in accordance with the Conditions of the Development Consent. The Applicant agrees that re-calculations of the credit liability for the Project is specifically authorised in accordance with Condition 21 of the Development Consent and the approved Rye Park Wind Farm Biodiversity Management Plan (RPWF-PLN-0003, dated 25 October 2021) (BMP).

The Applicant does not support the introduction of limits on each PCT. Whilst the Applicant is motivated to minimise impacts during construction, the micrositing conditions (and protocol within the BMP) allow for impacts to be micro-sited so that the Project is not having a greater impact on biodiversity values than was considered as part of the EIS (e.g., potential movement into a PCT of lower importance to avoid areas of significance).

This is evident in the impacts presented and accepted associated with the Pre-construction Final Layout (and the Modification Application) where there was a minor increase to PCT 335, whilst all others had a reduction in indicative area. It is further noted by BCS and the Applicant that PCT 335 is not a threatened ecological community, does not provide habitat for any threatened species and is likely within the margin of error of the GIS equipment used to collect spatial data.

The Applicant proposes the following modified Schedule 3, Condition 19, introducing an overall limit to impact on native vegetation to give comfort that impacts will not be exceeded, whilst still maintaining flexibility for the permitted micrositing during construction, as follows:

"The applicant must:

a) Ensure that no more than:

- *37.34 hectares of the Box Gum Woodland CEEC, including Box Gum Woodland derived grassland;*
- *85.22 hectares of Golden Sun Moth habitat; and*
- ***<u>a combined total of 391.88 hectares of native vegetation</u>***

Is cleared for the development;

b) Avoid impacts to the Crimson Spider Orchid (Caladenia concolor) and Southern Pygmy Perch (Nannoperca australis);

c) Minimise:

- *the impacts of the development on hollow-bearing trees and termite mounds;*
- *the impacts of the development on threatened bird and bat populations; and*
- *the clearing of native vegetation and key habitat within the approved disturbance footprint. "*

The quantity of native vegetation identified in the proposed amendment to Schedule 3, Condition 19 is based on a sum of the total impacts assessed and accepted via the EIS. The addition of the clearing total would give confidence to BCS that the total area of impact to native vegetation cannot be more than what was identified in the EIS whilst allowing for flexibility to consider reduced impacts to different PCTs and species.

The Applicant cannot accept the combined total impact of native vegetation to align with the indicative clearing identified in the Modification Application, due to this modification being proposed to give flexibility to reduce impacts to biodiversity, however depending on a number of factors including the timing of the determination of the Modification Application some of the development may align with the EIS.

Further to the above, BCS also identified that Section 6.14(3) of the *Biodiversity Conservation Act 2016* (BC Act) requires that ecological impacts are assessed and credit liabilities are established prior to construction of developments. The Applicant notes that the Development Consent allows the confirmation of the final impact of the Project (including credit liabilities) following civil disturbance. This process is outlined, and agreed, in the approved BMP.

The pre-construction layout shown on the Final Layout Plans (under Schedule 2, Condition 10 of the Development Consent) and Biodiversity Calculations and Mapping (under Schedule 3 Condition 20 of the Development Consent) were approved on 4 November 2021, prior to the commencement of construction. A comparison of the area of impact and credit liability from the pre-construction layout shown on the approved Final Layout Plans and the updated pre-construction layout shown in the Modification Application is provided in Table 5.

Table 5: Biodiversity credit liability, Final Layout Plans and Modification Application

Ecosystem and Species-credit Credits	Accepted Pre-construction final impacts – October 2021 (Umwelt, 2021)		Revised Pre-construction final impacts (Modified Project) (Appendix D)		Change in Credit Liability
	Area (ha)	Total Credits Required	Area (ha)	Total Credits Required	
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	0.73	24	0.73	24	**0**
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	5.84	126	5.75	137	**11**
350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW	33.12	1,024	33.00	1,032	**8**

Ecosystem and Species-credit Credits	Accepted Pre-construction final impacts – October 2021 (Umwelt, 2021)		Revised Pre-construction final impacts (Modified Project) (Appendix D)		Change in Credit Liability
	Area (ha)	Total Credits Required	Area (ha)	Total Credits Required	
South Western Slopes Bioregion and South Eastern Highland Bioregion					
351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	408.56	4,503	411.89	4,428	**-75**
golden sun moth (*Synemon plana*)	76.56	1,231	76.32	1,125	**-106**
striped legless lizard (*Delma impar*)	41.00	310	41.00	284	**-26**
superb parrot (breeding habitat) (*Polytelis swainsonii*)	19.23	579	19.24	588	**9**
squirrel glider (*Petaurus norfolcensis*)	82.16	2,993	84.59	3,127	**134**
southern myotis (*Myotis macropus*)	>0.01	1	>0.01	1	**0**

Some entities listed in Table 5 have had minor increases in disturbance as part of the Proposed Modifications and have an associated increase in credit liability. The proposed disturbance of these areas are below or generally in accordance with the EIS as noted by BCS. In addition, some entities have an increased credit liability despite a decrease in the area of impact associated with the Proposed Modifications. This is attributed and confirmed by BCS to be associated with periodic updates to the function of the BAM Calculator and accepted by the Applicant.

To address the BCS submission and ensure compliance with the BC Act, it is proposed that the Applicant retire any credit liability associated with any credit increase from what was approved in the Biodiversity Calculations and Mapping approved by DPE on 4 November 2021 and deliver evidence of the credit retirement to DPE prior to undertaking any clearing activities in areas relevant to the Modification Application. The Applicant will further consult with DPE with regard to the application of the provisions of the *Biodiversity Conservation Act 2016* to the Modification Application.

5.0 Updated project justification

The Modification Application Report included an assessment of merits based on the changes sought as part of the Modification Application. This assessment remains unchanged based on the submissions received from the public exhibition of the Modification Application. The nature of the modifications remains to be substantially consistent with the current Development Consent and are being sought to minimise impacts to sensitive and topographically constrained areas as well as reasonable requests through ongoing consultation with relevant stakeholders.

The assessment of impacts has demonstrated that the Proposed Modifications are consistent with the EIS for the Project (Schedule 2, Condition 2 of the Development Consent), the relevant biodiversity limits for the development (Schedule 3, Condition 19 of the Development Consent) and will continue to comply with the protection of Aboriginal heritage items (Schedule 3, Condition 24 of the Development Consent).

As a result of the Proposed Modifications, the Applicant requests the following changes be reflected in the modified conditions of the Development Consent:

- Replacement of the map series contained within Appendix 2 Development Layout, with the updated Development Layout contained in the Modification Application Report;
- Replacement of Table 1 and the map series within Appendix 5 Aboriginal Heritage Items, with the updated table and map series in Appendix B; and
- Identification of the use and upgrade of Walla Lane within Appendix 6 Schedule of Road Upgrades.

References

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Umwelt 2022, May 2022, *Rye Park Wind Farm Modification 2 – Confirmation of Credit Liabilities*, prepared by Umwelt (Australia) Pty Ltd for Rye Park Renewable Energy Pty Ltd.

Umwelt 2022a, 30 May 2022, *Rye Park Wind Farm Modification 2 – Biodiversity Assessment*, prepared by Umwelt (Australia) Pty Ltd for Rye Park Renewable Energy Pty Ltd.

Appendix A: Submitter Identification List

RPRE Submitter ID	Submitter Type	Name	Suburb	State	Classification	Response Reference
MOD2-S1	Public	John McGrath	Woolgarlo	NSW	Objects	Section 4.1
MOD2-S2	Public Authority	DPE – Crown Lands	Goulburn	NSW	Comment	Section 4.2
MOD2-S3	Public Authority	Heritage NSW	Parramatta	NSW	Comment	Section 4.3
MOD2-S4	Public Authority	Hilltops Council	Young	NSW	Comment	Section 4.4
MOD2-S5	Public Authority	BCS	Queanbeyan	NSW	Comment	Section 4.5
MOD2-S6	Public Authority	Upper Lachlan Shire Council	Crookwell	NSW	Supports	N/A[1]

[1] The submission from Upper Lachlan Shire Council generally notes the content of the Modification Application and do not raise issues that require a response. Due to the lack of substantive issues, this submission has not been specifically addressed as part of the RTS.

Appendix B: Cultural Heritage Response Letter (NGH Pty Ltd)

18 August 2022

James Beckett
Senior Environmental Development Planner
Tilt Renewables
L23, 535 Bourke Street Melbourne 3000
James.beckett@tiltrenewables.com

Dear James,

Re: Rye Park Wind Farm – Response to Submissions Cultural Heritage

Please find outlined below our response to the issue raised in the Submissions to the Modification 2 for the Rye Park Wind Farm. The responses relate to cultural heritage issues raised by Heritage NSW.

Updated HMP

The RPWF HMP will be updated in accordance with the Conditions of Consent (CoC) issued when the modification application has been approved.

AHIMS Site Registrations

It was noted that there are site ID numbers missing from AHIMS sites in Appendix 5 of the development consent. All sites with confirmed archaeological features have been registered with AHIMS, including the newly confirmed site RPWF PAD 1, which was confirmed as an archaeological deposit during the archaeological excavations of the site. The newly registered site RPWF PAD 1 is AHIMS #45-5-4051. The only sites that are listed as N/A within Appendix 5, with the exception of PAD 1, are not suitable for registration in AHIMS as they do not contain any confirmed archaeological features. It is standard practice not to register PADs on AHIMS until archaeological material is confirmed and likewise cultural trees are not deemed archaeological sites and therefore are not registered in AHIMS.

Aboriginal Site Impact Recording Forms (ASIRFs)

Heritage NSW noted that ASIRFs had not yet been submitted for the archaeological salvage conducted to date for the RPWF. This is due to the archaeological material recovered remaining in temporary storage while the construction within the vicinity of the reburial location is completed, in accordance with Section 7.2 of the HMP. This was discussed with the RAPs for the project and determined to be the best practice in this instance. ASIRFs have been submitted but are missing the reburial location, which will be supplied once it is safe to rebury the artefacts. Table 1 (below) outlines the sites were impacted in accordance with the HMP and CoC for the approved Rye Park Wind Farm (SSD 6693).

Aboriginal Consultation

It was noted that the implementation of the proposed mitigation measures must be undertaken in consultation with the Aboriginal community. This is required in accordance with the HMP (NGH, 2021). The HMP requires ongoing consultation with the Aboriginal community in accordance with the Aboriginal cultural heritage consultation requirements for proponents (DECCW 2010). NGH can confirm that the mitigation measures were conducted with the assistance of the Aboriginal parties as required and that all measures and steps undertaken so far have been completed in accordance with the HMP.

If you have any questions about our responses, please contact me.

Yours sincerely,

Bronwyn Partell
Senior Heritage Consultant
02 8202 8340
NGH

Table 1: Salvaged AHIMS sites

Site ID	AHIMS Number	Site Type	Salvage Successful:
AFT1	51-5-0332	4 Artefacts	Yes
AFT2	51-5-0333	3 Artefacts	Yes
AFT4	51-4-0428	7 Artefacts	Yes
AFT5	51-4-0429	3 Artefacts	Yes
IF 3	51-4-0427	Single Artefact	Yes
IF 4	51-4-0425	Single artefact	No
IF 6	51-4-0424	Single artefact	Yes
IF 8	51-4-0422	Single artefact	No
IF 9	51-5-0329	Single artefact	Yes
IF 14	51-1-0165	Single Artefact	Yes
IF 15	51-1-0164	Single artefact	No
SU21/L1	51-4-0287	Single artefact	No
SU23/L3	51-1-0117	Single artefact	No (but other located)
SU28/L1	51-1-0149	4 artefacts	Yes
SU28/L2	51-1-0150	Single artefact	No (but other located)
SU29/L1	51-1-0151	Single artefact	No (but others located)
SU30/L2	51-1-0153	22 Artefacts	Yes
AFT 2 +PAD	51-4-0430	Surface artefacts and Potential Subsurface Deposit	Yes
AFT 3 +PAD	51-5-0327	Surface artefacts and Potential Subsurface Deposit	Yes
AFT 2 +PAD	51-4-0430	Surface artefacts and Potential Subsurface Deposit	Yes
AFT 3 + PAD	51-5-0327	50+ surface artefacts and PAD	Yes
SU30/L2	51-1-0153	22 Artefacts + PAD	Yes
PAD 1	45-5-4051	Potential Subsurface Deposit	Yes

Appendix C: Aboriginal Heritage Items

(Note: Proposed changes from Appendix 5 Aboriginal Heritage Items in the Development Consent are highlighted in red type)

Table 1: Aboriginal heritage items – avoid impacts

Item	AHIMS No.	Item	AHIMS No.	Item	AHIMS No.
Flakney Creek 1	51-4-0058	Resource: Quartz deposit	N/A	SU30/L3	51-1-0154
Cultural Tree 1	N/A	SU3/L1	51-5-0203	SU33/L3	51-4-0343
Cultural Tree 2	N/A	SU6/L1	51-5-0204	SU37/L1	51-5-0263
Cultural Tree 3	N/A	SU7/L1	51-5-0205	SU37/L2	51-5-0264
AFT 3	51-5-0334	SU8/L1	51-5-0206	SU37/L3	51-5-0267
AFT 6	51-4-0418	SU15/L1	51-4-0286	SU40/L1	51-5-0348
AFT 1 + PAD	51-5-0335	SU17/L2	N/A	SU47/L1	51-5-0266
AFT 5 + PAD	51-5-0327	SU23/L1	51-1-0117	SU47/L2	N/A
IF 11	51-4-0421	SU23/L2	51-4-0289	Cultural Tree 5	N/A
PAD 2	N/A	SU24/L1	51-1-0118	IF 20	51-4-0445
PAD 3	N/A	SU27/L1	N/A	PAD 4	N/A
Cultural Tree	N/A	SU30/L1	51-1-0152		

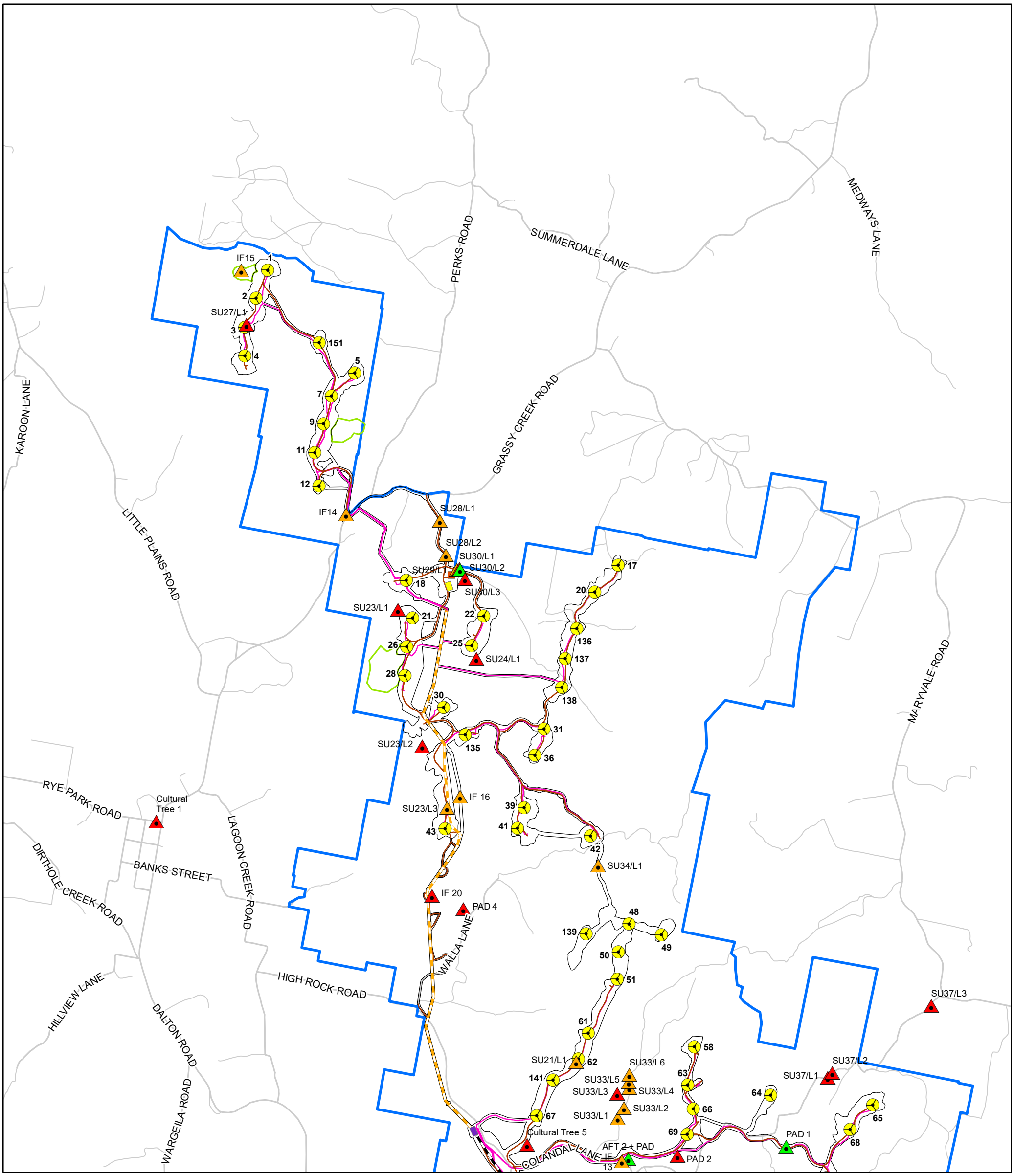
Table 2: Aboriginal heritage items – minimise impacts

Item	AHIMS No.	Item	AHIMS No.	Item	AHIMS No.
Flakney Creek	51-4-0058	IF 9	51-5-0329	SU21/L1	51-4-0287
AFT 1	51-5-0332	IF 10	51-5-0328	SU23/L3	51-4-0289
AFT 2	51-5-0333	IF 12	51-4-0419	SU28/L1	51-1-0149
AFT 4	51-4-0428	IF 13	51-4-0420	SU28/L2	51-1-0150
AFT 5	51-4-0429	IF 14	51-1-0165	SU29/L1	51-1-0151
IF 1	51-5-0331	IF 15	51-1-0164	SU33/L1	51-4-0341
IF 2	51-5-0330	IF 16	51-4-0417	SU33/L2	51-4-0342
IF 3	51-4-0427	IF 17	51-5-0340	SU33/L4	51-4-0344
IF 4	51-4-0425	IF 18	51-5-0339	SU33/L5	51-4-0345
IF 5	51-4-0426	IF 19	51-4-0434	SU33/L6	51-4-0346
IF 6	51-4-0424	SU3/L2	51-5-0207	SU34/L1	51-4-0347

Item	AHIMS No.	Item	AHIMS No.	Item	AHIMS No.
IF 7	51-4-0423	SU4/L1	51-4-0284	SU42/L1	51-5-0349
IF 8	51-4-0422	SU18/L1	51-4-0285	AFT 7	51-5-0338

Table 3: Aboriginal heritage items – undertake salvage excavations

Item	AHIMS No.	Item	AHIMS No.
AFT 2 + PAD	51-4-0430	PAD 1	45-5-4051
AFT 3 + PAD	51-5-0327	SU17/L1	N/A
AFT 4 + PAD	51-5-0326	SU30/L2	51-1-0153



Legend

- Approved Turbine Layout
- Permanent Met Masts
- Access Tracks
- Underground Cable (33kV)
- Transmission Line (33kV)
- Transmission Line (Up to 330kV)
- Collector Substation
- Connection Subtation
- O&M Facility
- Temporary Construction Compounds
- Temporary Batch Plants
- Temporary Laydown Area
- Development Corridor – Wind Farm
- Development Corridor – Permanent Met Masts
- Project Boundary

Impact

- Avoid Impact
- Minimise Impacts / Undertake Surface Salvage
- Minimise Impact / Undertake Salvage Excavations

Note. The alignment of the revised access tracks and revised underground cable is based on an optimised infrastructure layout (based on the micro-siting allowance in the Development Consent).
All infrastructure is indicative only.

N

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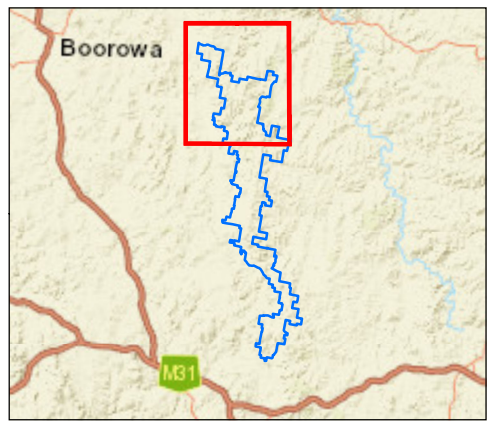

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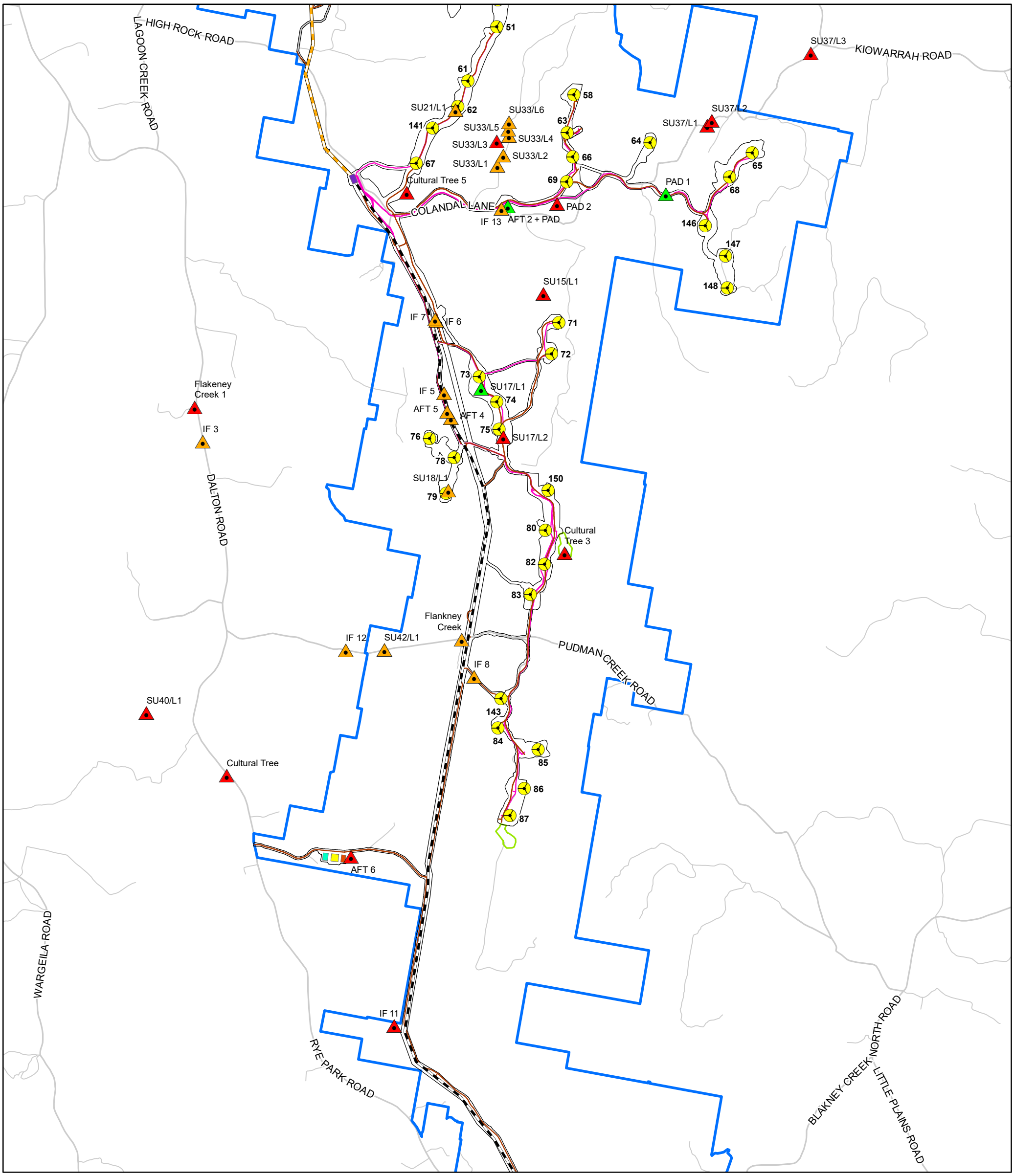
Rye Park Wind Farm

Aboriginal Heritage Items

renewables



Legend

- Approved Turbine Layout
- Permanent Met Masts
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- Underground Cable (33kV)
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- Transmission Line (Up to 330kV)
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- Development Corridor – Permanent Met Masts
- Project Boundary

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Note. The alignment of the revised access tracks and revised underground cable is based on an optimised infrastructure layout (based on the micro-siting allowance in the Development Consent).
All infrastructure is indicative only.

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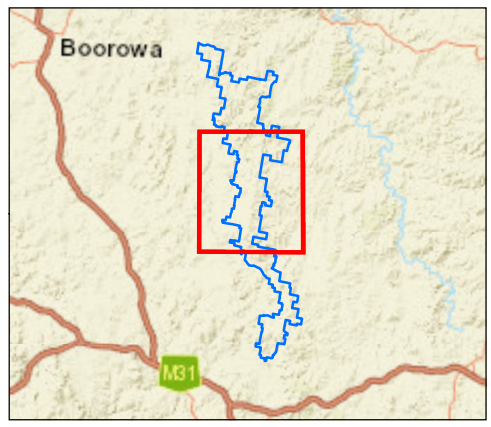

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Rye Park Wind Farm

Aboriginal Heritage Items

renewables

IF 11
RYE PARK ROAD
BLAKNEY CREEK NORTH ROAD
LITTLE PLAINS ROAD
IF19
IF 4
IF 10
AFT 7
Resource:
Quartz deposit
AFT 4 + PAD
AFT 3
BLAKNEY CREEK SOUTH ROAD
SU47/L2
SU47/L1
AFT 3 + PAD
MIDGEE FIRETRAIL
IF 9
COOKS HILL ROAD
SU6/L1
BROADWAY FIRETRAIL
BLAKNEY CREEK ROAD
SU7/L1
SU3/L1
SU3/L2
Cultural
Tree 2
145
SU8/L1
STINK POT ROAD
AFT 2
119
120
AFT 1
122
142
125
124
IF18
127
128
129
IF17
130
SU4/L1
131
AFT 1 + PAD
PAD 3
IF 2
BANGO LANE
BUSHS ROAD
AFT 5 + PAD
COOLALIE ROAD

Legend

- Approved Turbine Layout
- Permanent Met Masts
- Access Tracks
- Underground Cable (33kV)
- Transmission Line (33kV)
- Transmission Line (Up to 330kV)
- Collector Substation
- Connection Subtation
- O&M Facility
- Temporary Construction Compounds
- Temporary Batch Plants
- Temporary Laydown Area
- Development Corridor – Wind Farm
- Development Corridor – Permanent Met Masts
- Project Boundary

Impact

- Avoid Impact
- Minimise Impacts / Undertake Surface Salvage
- Minimise Impact / Undertake Salvage Excavations

Note. The alignment of the revised access tracks and revised underground cable is based on an optimised infrastructure layout (based on the micro-siting allowance in the Development Consent).
All infrastructure is indicative only.

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Rye Park Wind Farm

Aboriginal Heritage Items

renewables

Appendix D: Revised BAM Biodiversity Credit Report (September 2022)

umwelt
Environmental & Social
Consultants

RYE PARK WIND FARM – MODIFICATION 2

Confirmation of Credit Liabilities

FINAL

September 2022

RYE PARK WIND FARM – MODIFICATION 2

Confirmation of Credit Liabilities

FINAL

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

Project Director:	Allison Riley
Project Manager:	Bill Wallach
Report No.	4107D
Date:	September 2022

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
1	Allison Riley	17/05/2022	Allison Riley	17/05/2022
2	Bill Wallach	05/09/2022	Bill Wallach	06/09/2022

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1.0 Executive Summary

This report provides the updated biodiversity credit requirement for the Rye Park Wind Farm project (the Development) by Rye Park Renewable Energy Pty Ltd (RPRE) in accordance with Schedule 3 Condition 20 of the NSW Approval (SSD 6693-Mod1) 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 the progression of the Development's detailed design. 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). This revised design of the Development for MOD 2 is hereafter referred to as the 'revised pre-construction final development footprint'.

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.

We have completed a detailed review of the pre-construction development footprint including GIS analysis to ensure the Project is in accordance with impact thresholds identified in Condition 18 of the NSW Approval (SSD 6693-Mod1) and Condition 3 of EPBC 2020/8837.

This review has confirmed that the revised pre-construction 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 1 Impact Assessment Addendum (Umwelt 2021b).

When compared against the MOD 1 confirmation of credit liabilities (Umwelt 2021a) the striped legless lizard remains unchanged, superb parrot has increased by 0.01 hectares, golden sun moth has decreased by 0.24 hectares and squirrel glider has increased by 2.43 hectares. Impacts for the southern myotis remains unchanged (Umwelt 2020b). A summary of the comparison of impacts is provided below:

- Striped legless lizard:
  - 41.00 hectares of impact proposed in the revised pre-construction final development footprint, remaining unchanged with the Confirmation of Credit Liabilities (Umwelt 2021a)
  - 43.07 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 2.07 hectares.**
- Superb parrot:
  - 19.24 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 0.01 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)
  - 19.92 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 0.68 hectares.**
- Golden sun moth:
  - 76.32 hectares of impact proposed in the revised pre-construction final development footprint, a decrease of 0.24 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)

- 85.22 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 8.9 hectares.**

- Squirrel glider:
  - 84.59 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 2.43 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a).
  - 103.23 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 18.64 hectares.**

Three of the four PCTs recorded for the Project have reduced impacts and PCT 335 has an increased impact (0.03 hectares). The latter is not a threatened ecological community and does not provide habitat for any threatened species.

The additional Biodiversity Assessment undertaken for MOD2 within the revised pre-construction final development footprint did not identify new Matters of National Environmental Significance (MNES) applicable to the Project. In summary, MOD2 proposes to impact the same MNES identified, assessed and approved through MOD1 (EPBC 2020/8837).

Based on the following information presented in this report, it is considered MOD 2 is categorised as a *'Modification involving minimal environmental impact'* under Section 4.55(1A) of the EP&A Act as the proposed changes will have a 'like-for-like' environmental impact to what has been approved as part of SSD 6693-MOD 1.

Furthermore, Umwelt consider MOD 2 does not result in an increased impact on the biodiversity values of the Project area. Therefore MOD 2 is in line with Part 7, Division 4, Section 7.17(2c) of the BC Act. We seek consideration of this from DPE and confirmation that a BDAR is not required for MOD 2. Rather, it is proposed that this report, in combination with the MOD 2 report prepared by Tilt Renewables to support assessment and approval MOD 2.

It is understood that the developed layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of infrastructure is permitted under 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. Similarly, the offset strategy for the project will be prepared and submitted to DAWE for approval by the Minister, in accordance with Condition 14 of EPBC 2020/8837. If the executed plans (completed layout) show increased impacts to protected matters, a revised Offset Strategy will be submitted for approval by the Minister, that compensates for those increased impacts, in accordance with Condition 15 of EPBC 2020/8837.

2.0 Introduction

Rye Park Renewable Energy Pty Ltd (RPRE) is developing the Rye Park Wind Farm Project (the Development) 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.

The Commonwealth approved the Development (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.

This report been 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).

As part of the progression of the Project's design and ongoing discussions with stakeholders, MOD 2 involves updates to the Development Corridor – Wind Farm to facilitate optimisations to several sections of access track and increase efficiencies in the overall Project layout. It also considers ongoing consultation with landholders relating to progression of the detailed design of the Project.

This report provides an update to the areas of impact and credit requirements for the Development using the Biodiversity Assessment Method – Credit calculator (BAM CC) following progression of detailed design of the Development and reflects the revised pre-construction final development footprint. 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 Confirmation of Credit Liabilities report (Umwelt 2021a).

This report has been prepared in accordance with the requirements of Schedule 3 Condition 20 of the NSW Approval (SSD 6693-Mod1) 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,*
>
> *in consultation with BCS, and to the satisfaction of the Department.*

[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.

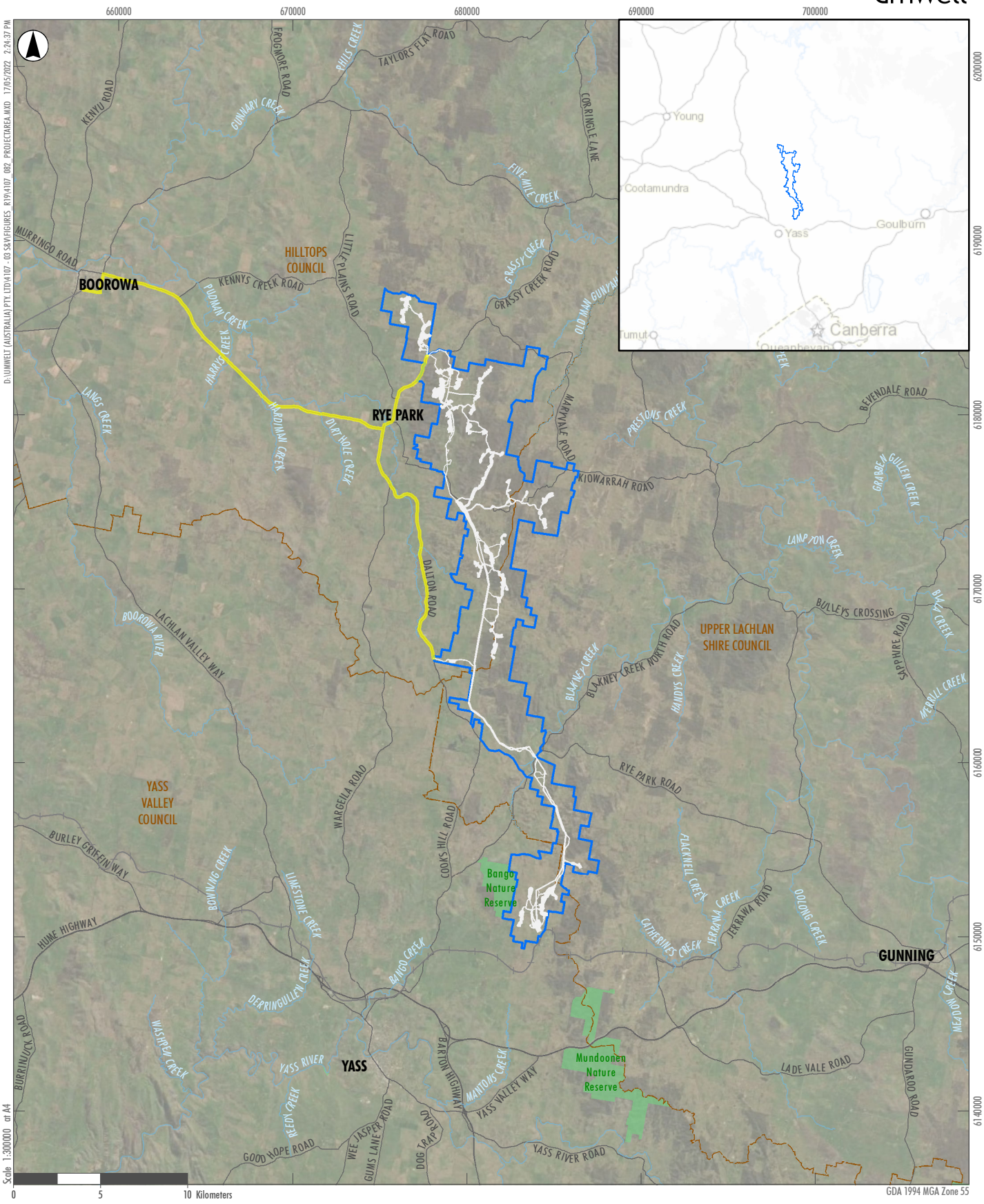
Furthermore, these calculations will form an attachment to the Offset Strategy prepared to meet the requirements of Condition 14 of EPBC 2020/8837, specifically to address Condition 14(b):

> *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; and*
>
> *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.*

It is considered MOD 2 is categorised as a *'Modification involving minimal environmental impact'* under Section 4.55(1A) of the EP&A Act as the proposed changes will have a 'like-for-like' environmental impact to what has been approved as part of SSD 6693-MOD 1.

Furthermore, Part 7, Division 4, Section 7.17(2c) of the *Biodiversity Conservation Act 2016* (BC Act), states that an application for the modification of a development consent (SSD 6693-MOD 1) does not require a Biodiversity Development Assessment Report (BDAR) if "*the authority or person determining the application for modification (or determining the environmental assessment requirements for the application) is satisfied that the modification will not increase the impact on biodiversity values*".

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)
- Raod
- Railway
- Watercourses

FIGURE 2.1

Rye Park Wind Farm
Pre-Construction
Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; NSW LPI (2020); Rye Park Renewable Energy Pty Ltd (2020)

2.1 The Final Development

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

The main components of the final Development 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 Development 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 Development site
- a temporary construction compound at the northern section of the Development site
- a temporary construction compound to facilitate the upgrades on the TransGrid owned existing 330kV Transmission Line at the southern section of the Development 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 northern section of the Development 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 may be either static guyed or un-guyed structures and will be to a minimum height of the wind turbine hubs (119 m).
- reduction to the number of wind turbines proposed, from 77 to 66
- identification of the extent of vegetation removal required for electrical clearance along both the 330kV and 33kV overhead transmission lines, e.g., where the vegetation is or has the potential to grow to a height four metres or higher
- reduction to the number of permanent meteorological masts proposed, from 6 to 2

- optimisation of cabling and access tracks within the Development Corridor.

The revised 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.

The key revisions to the Development that have occurred relating to MOD 2 and the biodiversity calculations are:

- alternate internal access track design to access the transmission line north of High Rock Road to utilise an existing farm access track and avoid multiple waterway crossings
- alternate internal access track design to utilise an existing farm access track in the far northeast of the Project, east of High Rock Road
- alternate internal access track design to optimise transmission line access north of Flakney Creek Road
- alternate internal access track design to access the transmission line north and south of Blakney Creek Road South
- alternate internal access track design to access the transmission line north of Coolalie Road
- optimisation of internal access tracks.

Further efficiencies in the Development layout have been considered to ensure that the requirements of the development consent were met in relation to biodiversity.

It is understood that the developed layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of infrastructure is permitted under 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 5 of the EPBC 2020/8837, will be submitted to the relevant departments.

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 Modification (SSD 6693 Mod-1). 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).

The most recent impact assessment which impact thresholds are compared to throughout this document is the Rye Park Wind Farm – Confirmation of Credit Liabilities (October 2021) (Umwelt 2021a).

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 Rye Park Wind Farm – Confirmation of Credit Liabilities (Umwelt 2021a) used the previously prepared GIS mapping to assess the impacts of the 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 Rye Park Wind Farm – Confirmation of Credit Liabilities (Umwelt 2021a) documented the final analysis relating to the removal of non-native vegetation supporting golden sun moth within the pre-construction final development footprint.

3.1.4 Direct Partial Impacts

The finalisation of the Development's design has confirmed the extent of impact associated with the transmission line for the Development, including 132 kV and 33 kV. Specifically, the 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 Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a). 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 assessment of partial impacts for the Project, a proportion of biodiversity values is 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 Development (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 approved Modified Development Corridor.

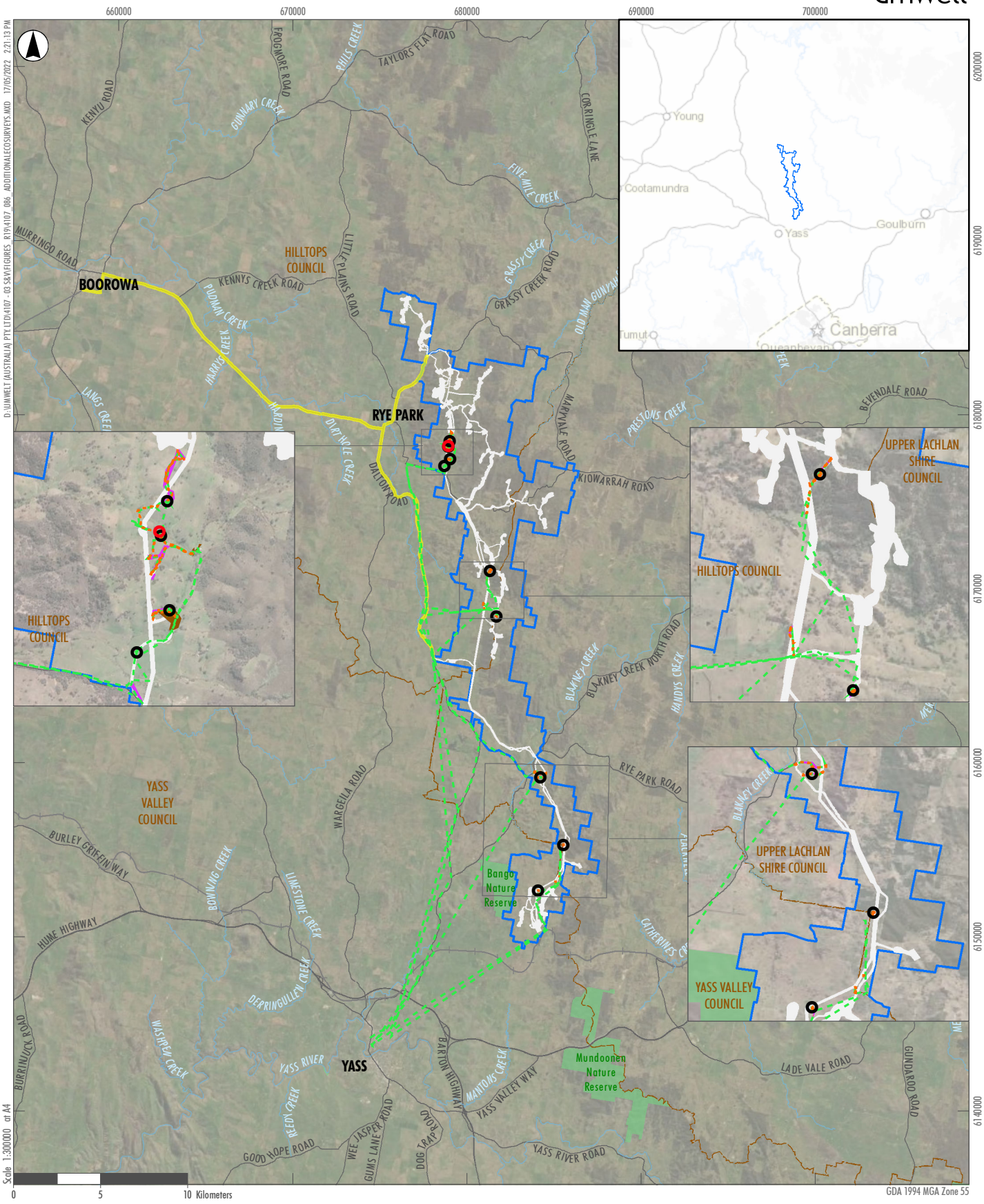
The additional survey was undertaken in accordance with BAM (2020) for ecosystem credits. However, targeted species credit surveys were not undertaken in accordance with BAM (2020) in that multiple seasonal survey programs were not undertaken specifically for MOD 2. Rather the approach applied for MOD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

The additional ecological survey was 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 and
- habitat assessments for threatened flora and fauna species.

The additional ecological survey undertaken within the revised pre-construction final development footprint which occurred beyond the approved Modified 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)
- Raod
- Railway
- Watercourses
- Habitat Assessments
- BAM - Vegetation Integrity Plots
- Walked parallel threatened flora transects
- General Transects
- Habitat Assessments
- Rapid Vegetation Assessment Polygons

FIGURE 3.1

Additional ecological surveys within the revised pre-construction final development footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; NSW LPI (2020); Rye Park Renewable Energy Pty Ltd (2020)

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 Development (Umwelt 2020, 2021a and 2021b). 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 MOD 2 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 MOD 2 revised pre-construction final development footprint does not involve any modification to the Development 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 done 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 3.1.4**.

3.3 Revised Pre-Construction Final Development Footprint

The calculations are based on the MOD 2 revised pre-construction final development footprint which includes both permanent (areas disturbed and required for ongoing operation of the wind farm) and temporary disturbance (areas disturbed to enable the construction of the wind farm), 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 and any sealed temporary construction pounds/hardstands which the landowner wishes to keep for their existing agricultural practices.

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 credit requirement for the Development, Umwelt revised the Biodiversity Assessment Method (BAM) – Credit Calculator to capture the impacts associated with the revised pre-construction final development footprint (the Development Footprints that pertains to the BAM). These revisions were made using the current BAM – Credit Calculator version, V54, that was updated on 16 June 2022. The BAM – Credit Calculator assessments have been re-submitted for agency review. Communication with the Biodiversity and Conservation Division (BCD) of 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 August 2022, the two BAM-CC assessments for Mod 2 were revised to address several revisions and 'glitches' identified in the BAM-CC at the direction of BCD. These revisions included:

- Removal and replacement of multiple vegetation zones,
- Replacement of vegetation integrity data for multiple vegetation zones,
- Removal and replacement of all partial direct impacts, and
- Consideration of a new candidate species-credit species.

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

As described in **Section 7.0,** the development layout will continue to be refined through the detailed design/construction stages. It is noted that micro-siting of the wind turbines is permitted under Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837.

The process of micro-siting and confirming impacts will be undertaken sequentially across the construction of the Development, spanning approximately two years. As the Development Consent relates to the entire Development, in the event that any further impact credit updates are required as part of the detailed design, this will be undertaken using the current BAM Credit Calculator Version at the time (see **Section 7.0**).

In doing so, this will avoid scenarios whereby credit liabilities increase despite reductions in the area of impact through micro-siting efforts. It gives consistency to the credit generation and allows the Proponent to adequately finalise their offsetting strategy. In the absence of this approach, any update to the BAM – Credit Calculator could result in perverse outcomes.

3.5 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 Development, 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 – Confirmation of Credit Liability (Umwelt 2021a) is appropriate.

As per the Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a), 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 MOD 2 revised pre-construction final development footprint confirmed that Plant Community Types (PCTs) and Vegetation Zones were consistent with those that were identified for 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).

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 Development 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 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) and the revised pre-construction 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, as well as the 9 additional BAM – Vegetation Integrity plots completed within revised pre-construction final development footprint.

Table 4.1 Final ecosystem and species-credit credit requirement for the Development (Revised Pre-construction)

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Indicative Credits	Pre-construction Final Area (ha)[2]	Change (ha)	Pre-construction Credits Required	Revised Pre-construction Final Area (ha)	Change (ha)	Revised Pre-construction 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 *Moderate to Good*	0.77	**25**	**0.73**	**-0.04**	**24**	**0.73**	**-0.04**	**24**
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 *Moderate to Good*	4.88	**117**	**4.22**	**-0.66**	**101**	**4.19**	**-0.69**	**110**
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*	9.76	**305**	**8.11**	**-1.65**	**338**	**8.13**	**-1.63**	**341**
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 *Derived Native Grassland*	11.90	**204**	**10.55**	**-1.35**	**226**	**10.42**	**-1.48**	**223**
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*	49.70	**1,620**	**36.48**	**-13.22**	**1,241**	**35.67**	**-14.03**	**1,230**
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 *Derived Native Grassland*	128.49	**1,135**	**111.47**	**-17.02**	**985**	**112.4**	**-16.09**	**908**
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*	2.98	**61**	**3.51**	**0.53**	**72**	**4.15**	**+1.17**	**97**
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 *Sifton Bush Shrubland*	62.55	**641**	**49.36**	**-13.19**	**506**	**49.37**	**-13.18**	**506**
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*	0.93	**28**	**1.28**	**0.35**	**38**	**1.29**	**+0.36**	**39**
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 *Non-native Vegetation*	76.73	**0**	**71.72**	**-5.01**	**0**	**73.01**	**-3.72**	**0**
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 *Moderate to Good*	0.84	**13**	**1.62**	**0.78**	**25**	**1.56**	**+0.72**	**27**

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Indicative Credits	Pre-construction Final Area (ha)[2]	Change (ha)	Pre-construction Credits Required	Revised Pre-construction Final Area (ha)	Change (ha)	Revised Pre-construction Credits Required
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*	10.16	**271**	**11.12**	**0.96**	**386**	**11.12**	**+0.96**	**394**
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 *Derived Native Grassland*	5.63	**100**	**3.34**	**-2.29**	**74**	**3.33**	**-2.3**	**74**
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*	33.13	**1,025**	**29.29**	**-3.84**	**967**	**29.18**	**-3.95**	**976**
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 *Derived Native Grassland*	46.43	**447**	**45.86**	**-0.57**	**441**	**45.73**	**-0.7**	**403**
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*	5.71	**91**	**5.31**	**-0.40**	**90**	**5.56**	**-0.15**	**106**
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 *Sifton Bush Shrubland*	18.02	**199**	**14.72**	**-3.30**	**163**	**14.72**	**-3.3**	**163**
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 *Non-native Vegetation*	34.35	**0**	**39.56**	**5.21**	**0**	**40.81**	**+6.46**	**0**
Species Credits									
NSW – South Western Slopes IBRA Bioregion									
-	striped legless lizard (*Delma impar*)	43.07	**326**	**41.00**	**-2.07**	**310**	**41.00**	**-2.07**	**284**
-	southern myotis (*Myotis macropus*)	<0.01	1	<0.01	-	**1**	**<0.01**	-	**1**
-	squirrel glider (*Petaurus norfolcensis*)	60.19	**2,073**	**42.47**	**-17.72**	**1,607**	**44.45**	**-15.74**	**1,702**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	**305**	**8.11**	**-1.65**	**270**	**8.12**	**-1.64**	**273**
-	golden sun moth (*Synemon plana*)	57.66	**895**	**50.73**	**-6.93**	**791**	**49.38**	**-8.28**	**702**
South Eastern Highlands IBRA Bioregion									
-	squirrel glider (*Petaurus norfolcensis*)	43.04	**1,434**	**39.69**	**-3.35**	**1,386**	**40.14**	**-2.9**	**1,425**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	**271**	**11.12**	**0.96**	**309**	**11.12**	**+0.96**	**315**
-	golden sun moth (*Synemon plana*)	27.56	**489**	**25.83**	**-1.73**	**440**	**26.94**	**-0.62**	**423**

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

4.3 Partial Impacts

Consistent in its application with the approved Development 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 Development

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*	5.76	2.37	8.13
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*	31.83	3.84	35.67
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*	6.91	4.21	11.12
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*	25.30	3.88	29.18
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*	3.27	2.29	5.56

4.4 Impacts on Threatened Ecological Communities

The Development will impact a total of 32.89 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 (19.24 hectares) and 4 (13.65 hectares) (**Appendix C**).

The Development will impact a total of 31.10 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 (18.54 hectares) and 4 (12.56 hectares).

There is a difference of 1.79 hectares between the impacts of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland' CEEC under the BC Act (32.89 hectares), compared to White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act (31.10 hectares). 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.

Impact to the CEEC under the BC Act is **4.45 hectares less** than the area presented in the Development Impact Assessment Addendum, being 37.34 hectares (Umwelt 2021). Furthermore, impacts to the CEEC under the BC Act has been reduced by **0.13 hectares** based on the 32.89 hectares assessed as part of the revised pre-construction final development footprint compared with the 33.02 hectares assessed in the pre-construction final development footprint in the confirmation of credit liabilities (Umwelt 2021).

Impacts to White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act is **4.44 hectares less** than the area presented in the Development Impact Assessment Addendum, being 35.54 hectares for this TEC (Umwelt 2021). Furthermore, impacts to the CEEC under the EPBC Act has been reduced by **0.13 hectares** based on the 31.10 hectares assessed as part of the revised pre-construction final development footprint compared with the 31.23 hectares assessed in the pre-construction final development footprint in the confirmation of credit liabilities (Umwelt 2021).

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 Development 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)	19.25	13.75	19.25	13.75
Total Credits	735	297	735	297
Total Area of CEEC (ha)	19.24	13.65	18.54	12.56
Proportion of Vegetation Zone that is CEEC	99.9 %	99.3 %	96.3 %	91.34 %
Proportional Number of CEEC Credits per Vegetation Zone[1]	735	295	708	271
Total Proportional Number of CEEC Credits [1]	**1,030**		**979**	

[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 revised pre-construction final development footprint, a total of 26.17 hectares 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 **1.01-hectare increase** compared to that assessed and presented in the Impact Assessment Addendum (Umwelt 2021), being 25.16 hectares. 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 102.49 hectares. That represents a combined decrease of 7.89 hectares compared with the Impact Assessment Addendum (Umwelt 2021), being 110.38 hectares.

As described above in **Section 3.1.3**, the prescribed impact assessment has been updated for the impacts of the Development 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, 26.17 hectares 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 26.17 hectares 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 Development 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 Development 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 26.17 hectares 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
	Development is unlikely to introduce invasive species such as weeds that are harmful to the golden sun moth or its habitat. Despite the Development 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 hectares 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 Development 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 Development. 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 Development 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 26.17 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 Development 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 26.17 hectares 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 revised pre-construction final against the previous designs as clearly as possible. **Table 4.5** initially summarises the impacts of the Development per Vegetation Zone, **Table 4.6** then summarises the same impacts but for consolidated PCTs. Lastly, **Table 4.7** summarises the impacts for the Development per species-credit species.

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

The revised pre-construction 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) of MOD 1. Impacts for the southern myotis remains unchanged (Umwelt 2021). When the revised pre-construction final development footprint impacts are compared against the MOD 1 pre-construction final development footprint in the confirmation of credit liabilities (Umwelt 2021a), the striped legless lizard remains unchanged, superb parrot has increased by 0.01 hectares, golden sun moth has decreased by 0.24 hectares and squirrel glider has increased by 2.43 hectares.

A summary of the comparison of impacts is provided below:

- Striped legless lizard:
  - 41.00 hectares of impact proposed in the revised pre-construction final development footprint, remaining unchanged with the Confirmation of Credit Liabilities (Umwelt 2021a)
  - 43.07 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 2.07 hectares.**
- Superb parrot:
  - 19.24 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 0.01 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)
  - 19.92 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 0.68 hectares.**
- Golden sun moth:
  - 76.32 hectares of impact proposed in the revised pre-construction final development footprint, a decrease of 0.24 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)
  - 85.22 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 8.9 hectares.**
- Squirrel glider:
  - 84.59 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 2.43 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)
  - 103.23 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 18.64 hectares.**

Table 4.5 Summary of Impacts per Vegetation Zone

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Indicative Credits	Pre-construction Final Area (ha)[2]	Pre-construction Change (ha)	Mod 2 Area (ha)	Mod 2 Change (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	25	0.73	-0.04	0.73	**-0.04**
	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	130	5.84	0.12	5.75	**0.03**
	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	576	19.23	-0.69	19.25	**-0.67**
	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	304	13.89	-3.64	13.75	**-3.78**
	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	2,645	65.77	-17.06	64.85	**-17.98**
	Moderate to Good						

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Indicative Credits	Pre-construction Final Area (ha)[2]	Pre-construction Change (ha)	Mod 2 Area (ha)	Mod 2 Change (ha)
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	1,582	157.33	-17.59	158.13	**-16.79**
	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	152	8.82	0.13	9.71	**1.02**
	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	840	64.08	-16.49	64.09	**-16.48**
	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	1.29	**0.36**
	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	0	111.28	0.2	113.82	**2.74**
	Non-native Vegetation						

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

Table 4.6 Summary of Impacts per PCT

	Indicative Impacts (SSD6693-Mod1) [1]	Pre-construction Final Impacts [2]	Revised Pre-construction Final Impacts [2]	Comparison of Mod1 / Revised Pre-Construction Final
	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	-0.04
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	0.03
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	-4.45
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	-47.13

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

Table 4.7 Summary of Impacts per Species-credit Species

	Indicative Impacts (SSD6693-Mod1)	Pre-construction Final Impacts	Revised Pre-construction Final Impacts	Comparison of Mod1 / Revised Pre-Construction Final
	Area (ha)	Area (ha)	Area (ha)	Area (ha)
Striped legless lizard	43.07	41.00	41.00	-2.07
Superb parrot	19.92	19.23	19.24	-0.68
Golden sun moth	85.22	76.56	76.32	-8.90
Squirrel glider	103.23	82.16	84.59	-18.64
Southern myotis	<0.01	<0.01	<0.01	-

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

	Indicative Areas (SSD 6693-Mod1) (ha) [3]	Indicative Credits	Pre-construction Final Areas (ha)[6]	Pre-construction Credits	Area Change (ha)	Credit Change	Revised Pre-construction Final Areas (ha)	Revised Area Change (ha)	Revised Credit Liability (ha)
Non-listed									
PCT 289 (Vegetation Zone 1)	0.77	25	0.73	24	-0.04	-1	0.73	-0.04	24
PCT 335 (Vegetation Zone 2)	5.72	130	5.84	126	0.12	-4	5.75	0.03	137
PCT 351 – Native (Vegetation Zones 5 - 9)	347.94	5,247	297.28	4,503	-50.66	-744	298.07	-49.87	4,428
PCT 351 – Non-native (Vegetation Zone 10)	111.08	0	111.28	0	0.20	0	113.82	2.74	0
BC Act and EPBC Act Listed									
Striped Legless Lizard	43.07	326	41.00	310	-2.07	-16	41.00	-2.07	284
Superb Parrot	19.92	576	19.23	579	-0.69	3	19.24	-0.68	588
Golden Sun Moth	85.22	1,384	76.56	1,231	-8.66	-153	76.32	-8.92	1,125
BC Act Listed									
Box Gum Woodland CEEC (BC Act) [1]	37.34	878	33.02	1,022	-4.32	144	32.89	-4.45	1,030
Squirrel Glider	103.23	3,507	82.16	2,993	-21.07	-514	84.59	-18.64	3,127
Southern Myotis	<0.01	1	<0.01	1	-	-	<0.01	-	1
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]	31.10	4.44	979

[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)

5.0 Matters of National Environmental Significance

The additional Biodiversity Assessment undertaken for MOD2 within the revised pre-construction final development footprint did not identify new Matters of National Environmental Significance (MNES) applicable to the Project. In summary, MOD2 proposes to impact the same MNES identified, assessed and approved through MOD1 (EPBC 2020/8837). The MNES proposed to be impacted are listed below:

- White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act: 31.10 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 4.44 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).
- Striped legless lizard (V – EPBC Act): 41.00 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 2.07 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).
- Superb parrot (V – EPBC Act): 19.24 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 0.68 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).
- Golden sun moth (V – EPBC Act): 76.32 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 8.90 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).

6.0 Credit Summary

A summary of the revised credit liability for the Development is provided below in **Table 6.1**, including a comparison against the previous assessment. This final confirmation of biodiversity offset credit requirement for the Development has been completed in accordance with Schedule 3 Condition 20 (SSD 6693). 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 Development 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]		Revised Pre-construction Final Impacts [2]	
	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
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
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
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
Species-credit Credits						
striped legless lizard (*Delma impar*)	43.07	326	41.00	310	41.00	284
southern myotis (*Myotis macropus*)	<0.01	1	<0.01	1	<0.01	1
squirrel glider (*Petaurus norfolcensis*)	60.19	2,073	42.47	1,607	44.45	1,702
superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	305	8.11	270	8.12	273
golden sun moth (*Synemon plana*)	57.66	895	50.73	791	49.38	702
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
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
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
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
superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	271	11.12	309	11.12	315
golden sun moth (*Synemon plana*)	27.56	489	25.83	440	26.94	423

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

7.0 Micro-siting and Confirmation of Impacts

The developed layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of the wind turbines is permitted under Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837.

The Biodiversity Management Plan for the Development sets out the micrositing requirements for the Development. 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 Development 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 5.1** 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 development 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 Development's website.

The Biodiversity Management Plan for the Development sets a post clearing process to confirm the final micro-sited impact of the Development.

It is understood that this process will include:

- Following civil disturbance (progressively), the final disturbance footprint will be confirmed by a surveyor.
- Following the disturbance activities associated with clearance of overstory vegetation within the transmission line easement, a suitably qualified ecologist will undertake 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 will include 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 will calculate the final biodiversity impact of the confirmed final disturbance footprint and corresponding biodiversity offset credit liabilities for the Development in accordance with the BAM under the NSW Biodiversity Offset Scheme.

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*).

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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).

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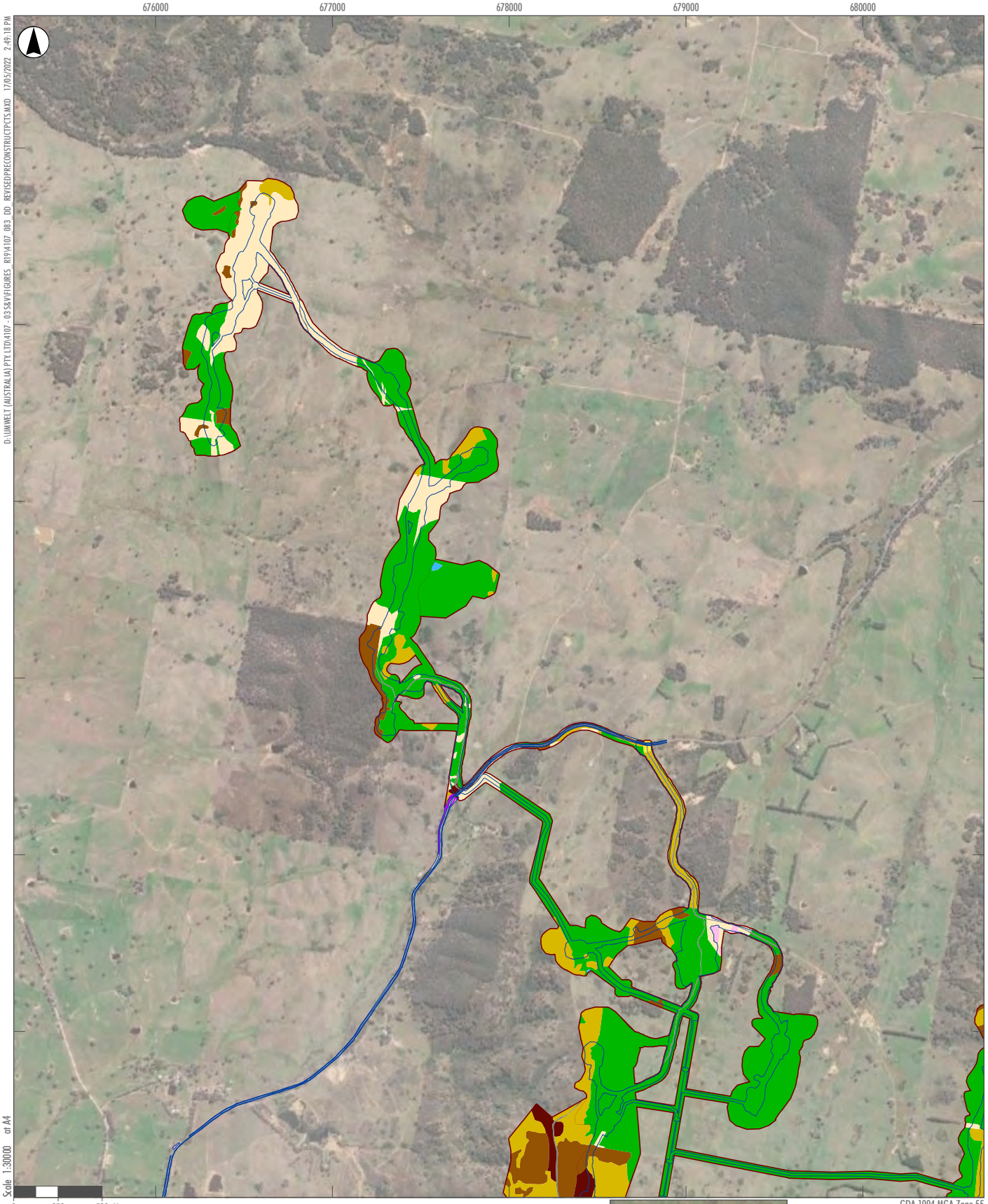
APPENDIX A

Plant Community Types and Vegetation Zones

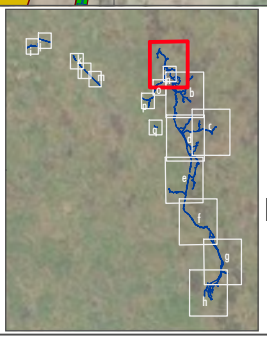


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

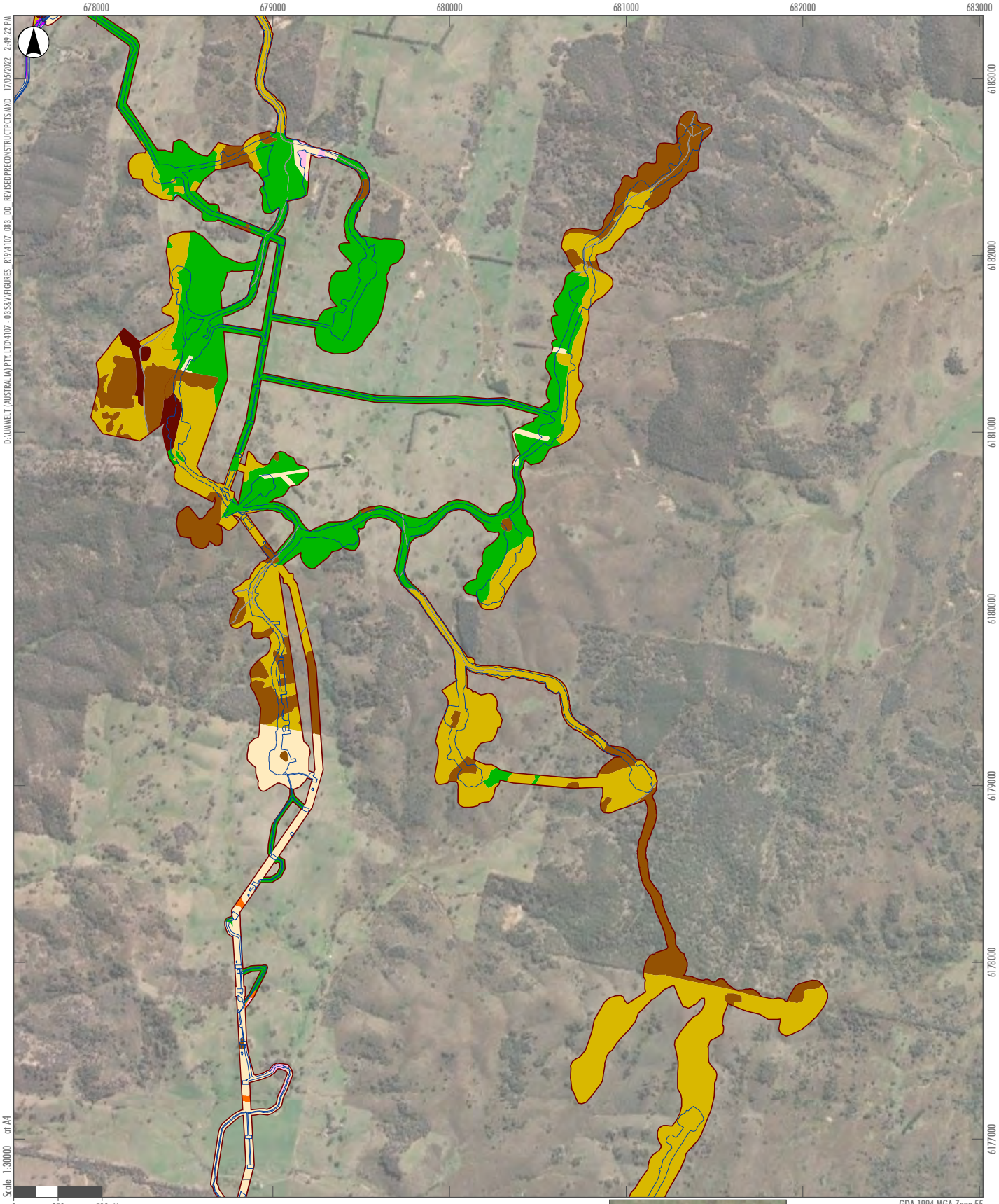
- Zone 1 -289 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest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



APPENDIX A.a

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

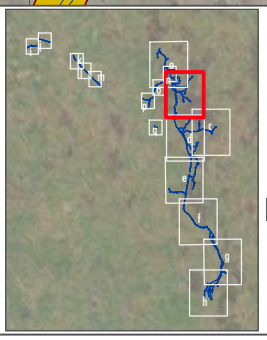


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

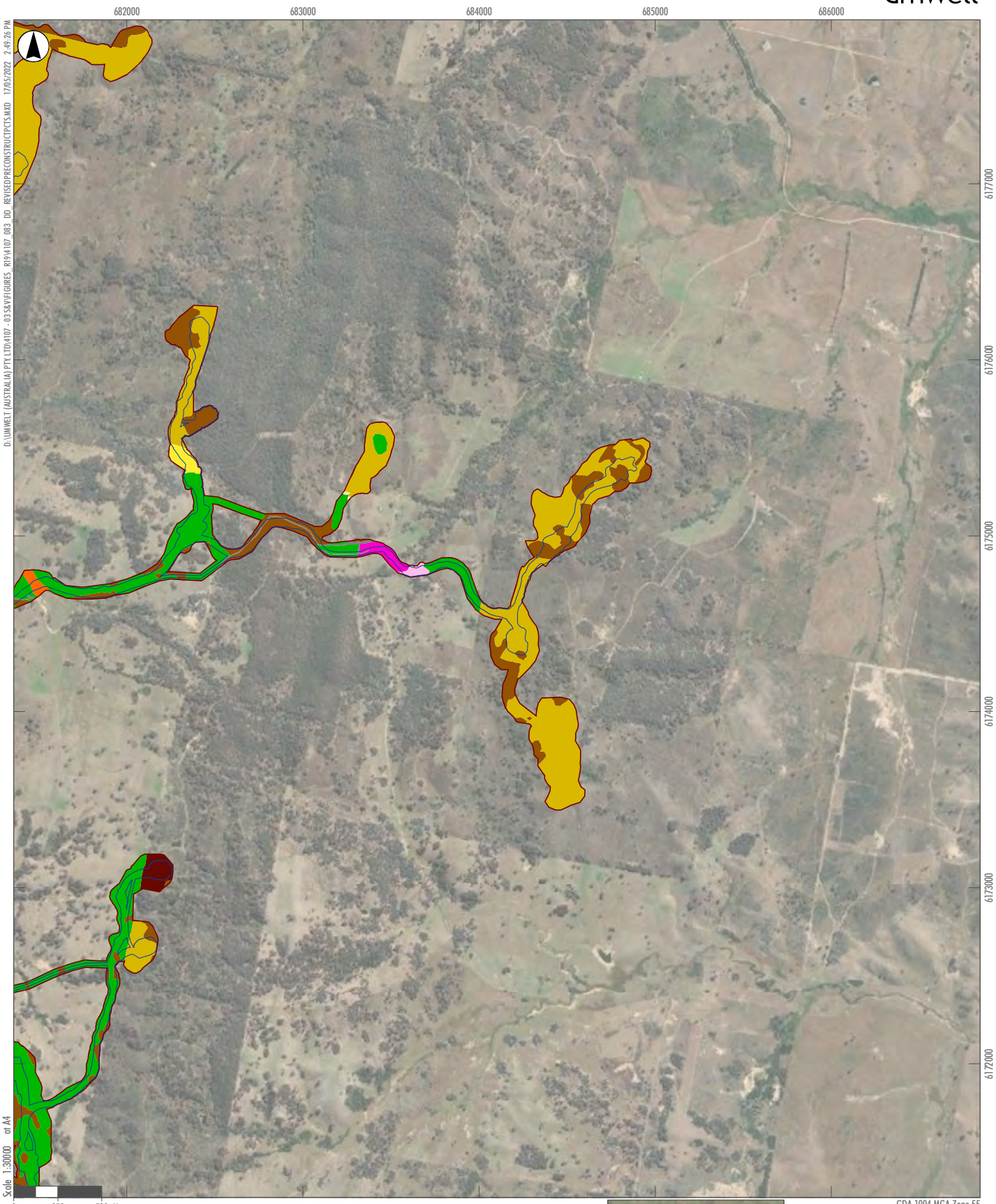
- Zone 1 -289 - Moderate to Good
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native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



APPENDIX A.b

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

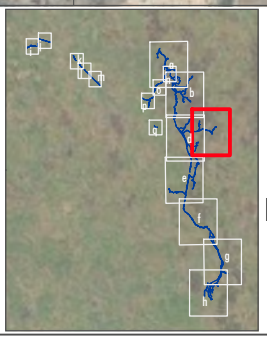


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

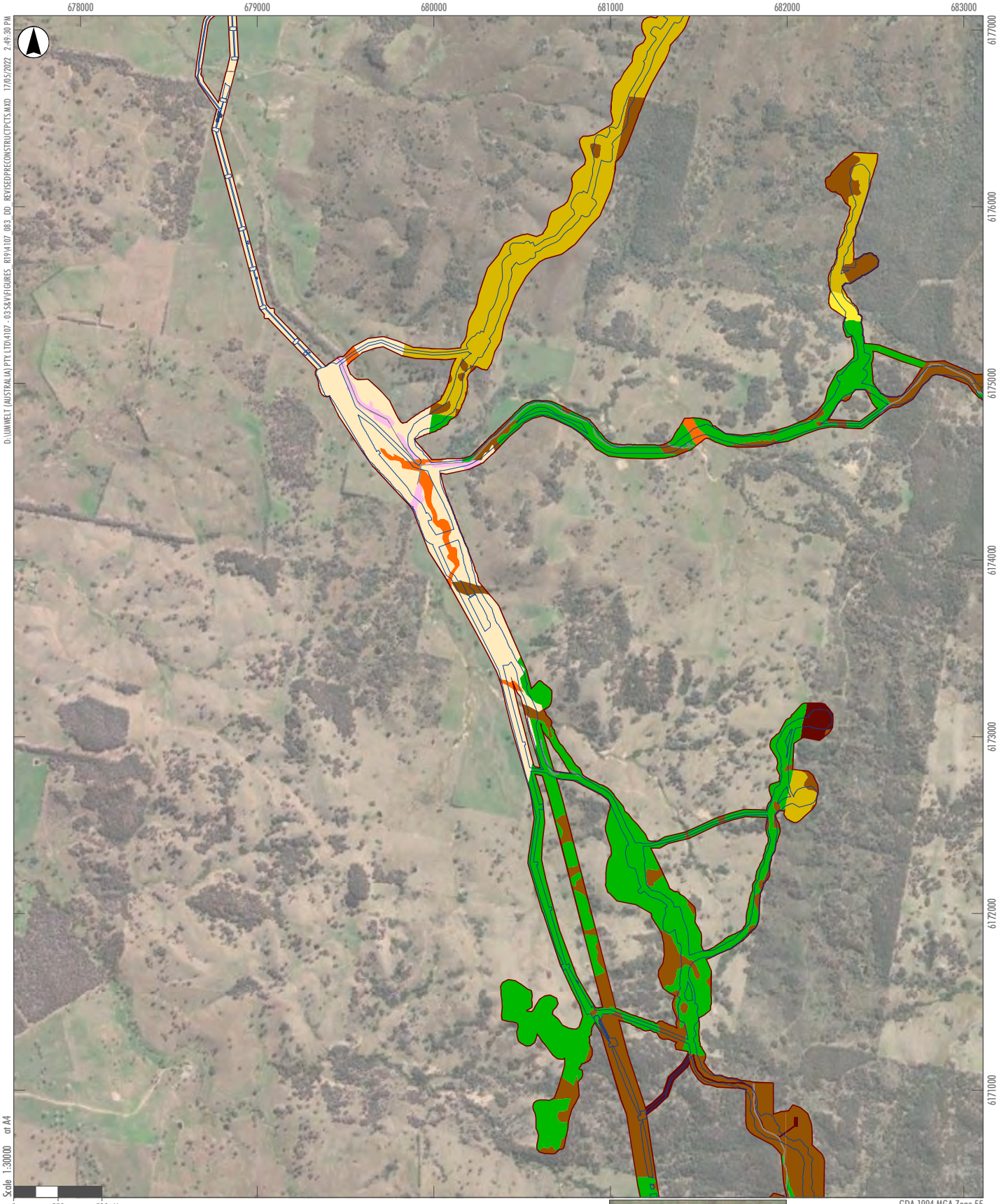
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - 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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

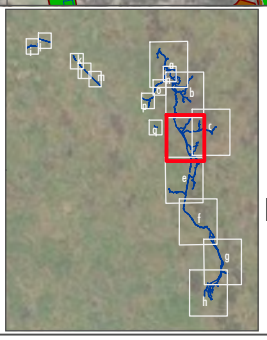


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

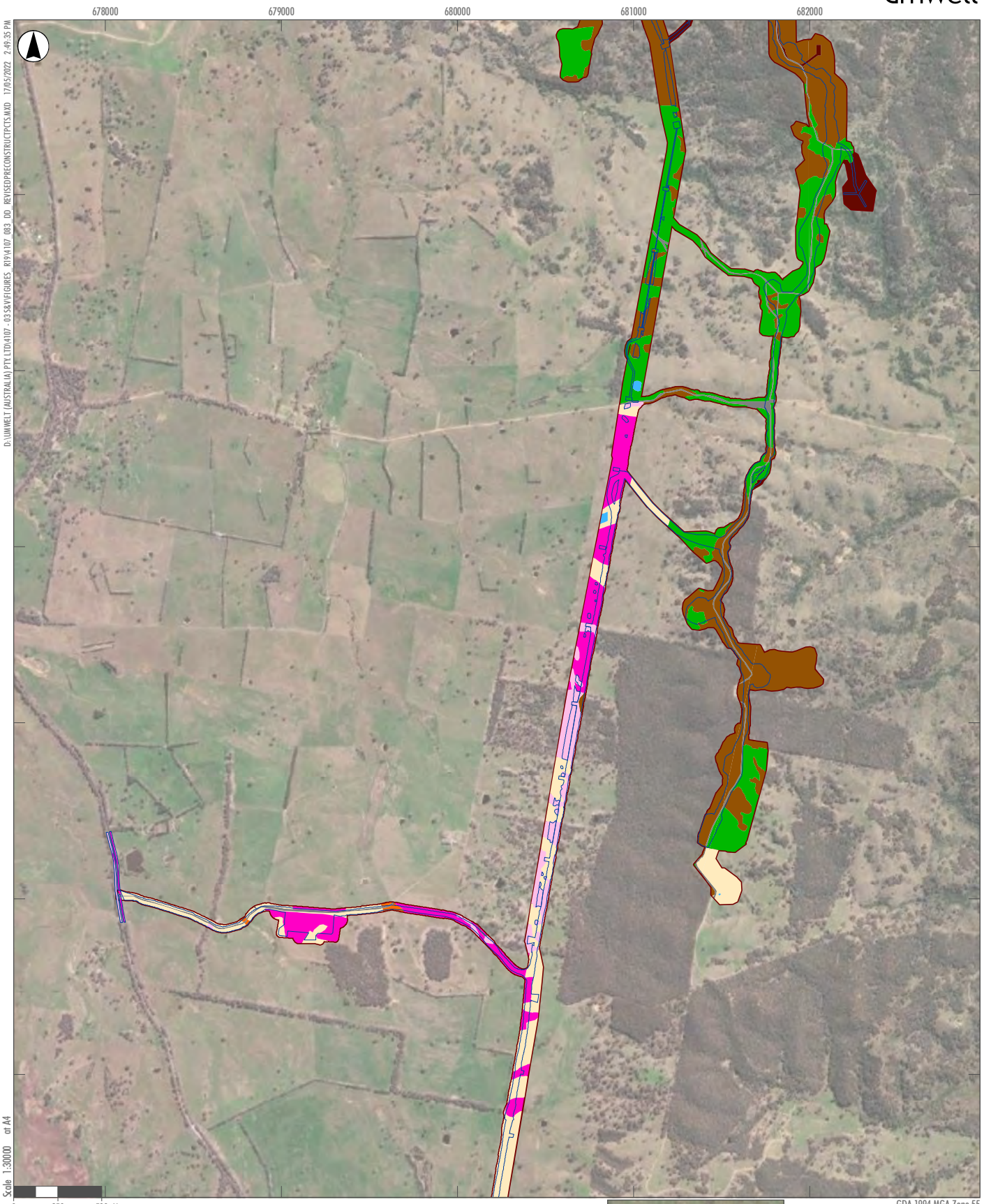
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest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



APPENDIX A.d

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

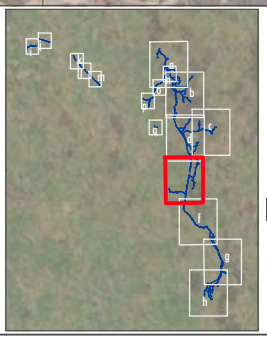


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

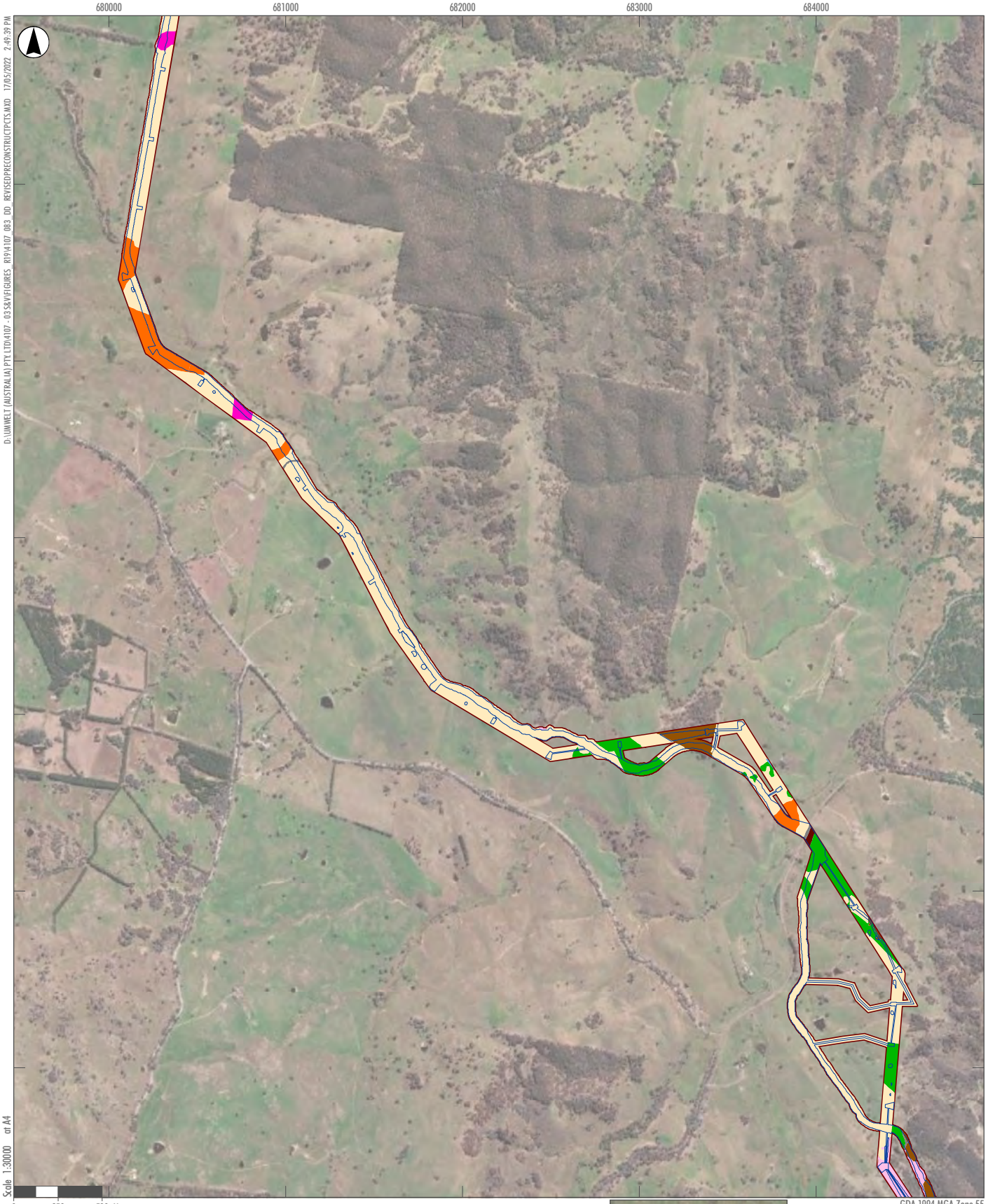
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads
- Water Body



APPENDIX A.e

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

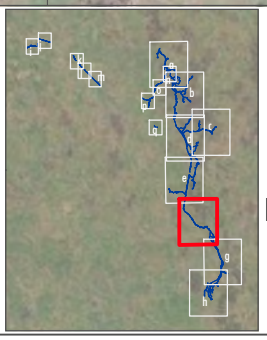


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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
- Water Body

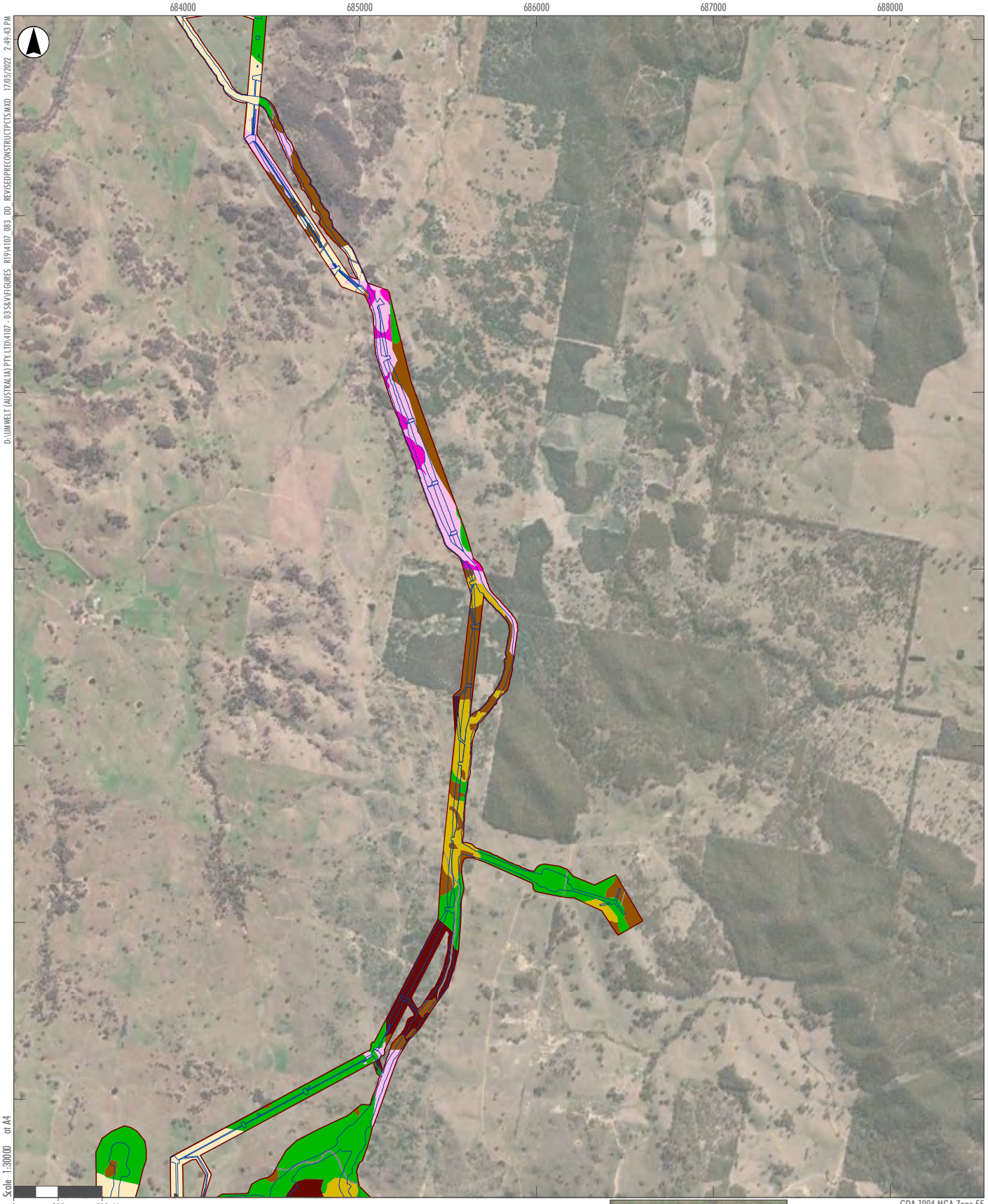


APPENDIX A.f

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

umwelt



Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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
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- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
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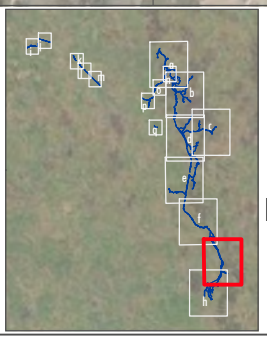
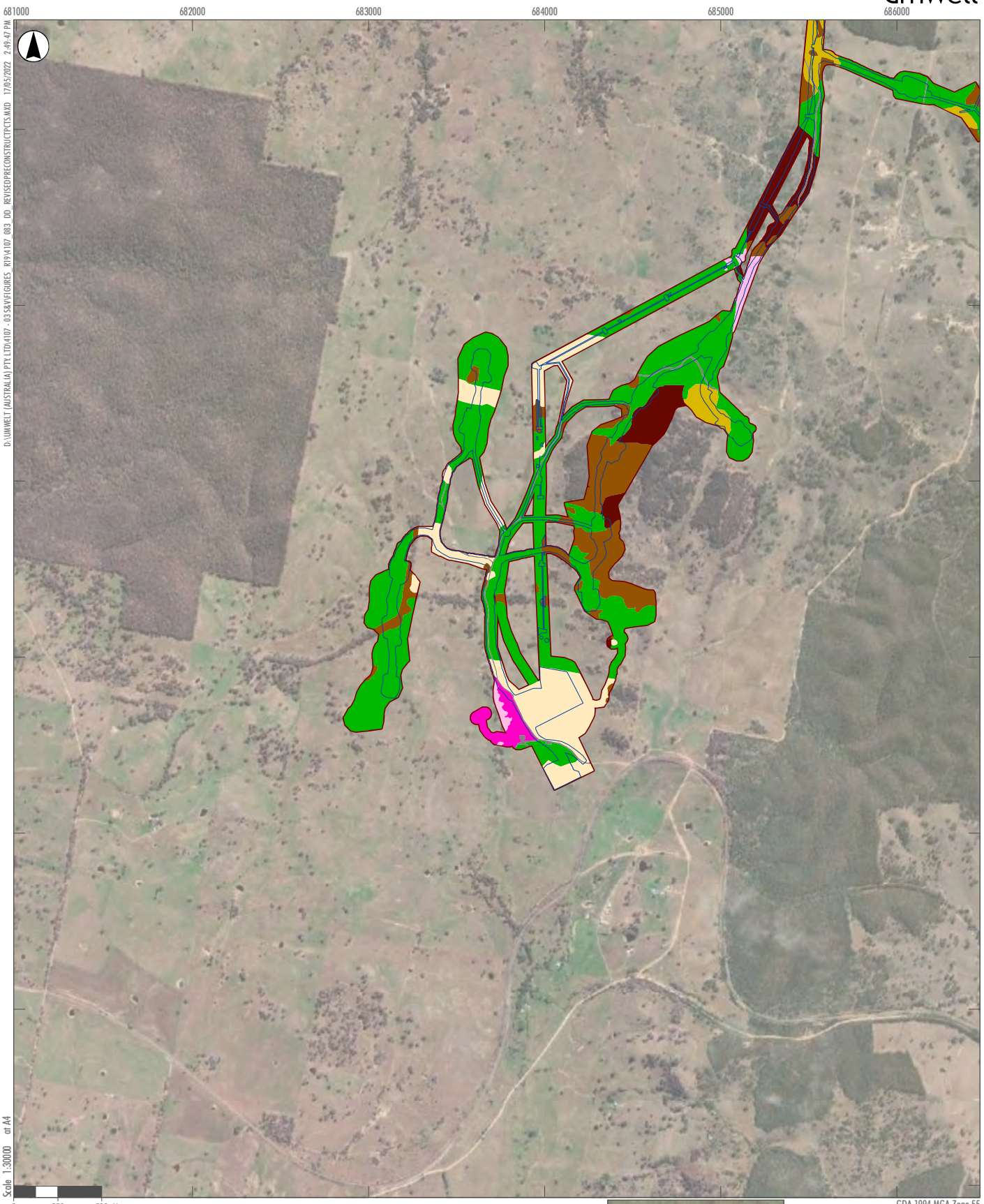
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.g

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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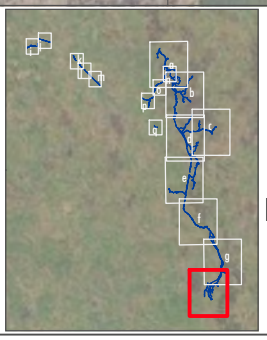
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.h

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

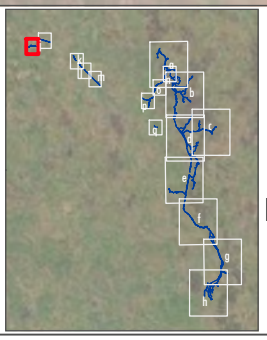
PCT, Condition in the Rye Park Wind Farm

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

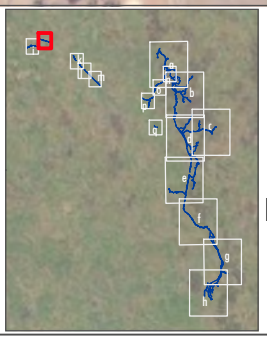
Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

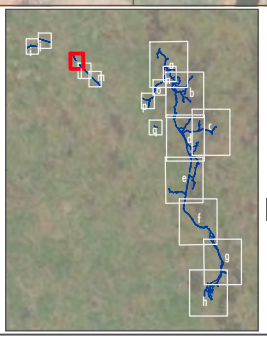
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

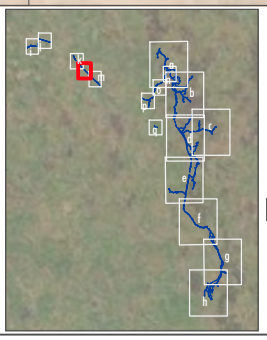
Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

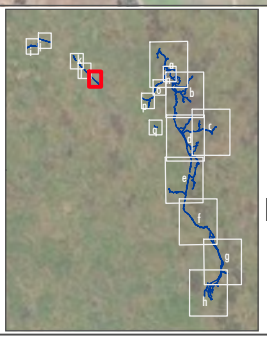
Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

Zone 3 -350 - Moderate to Good

Zone 10 -Non-native Vegetation

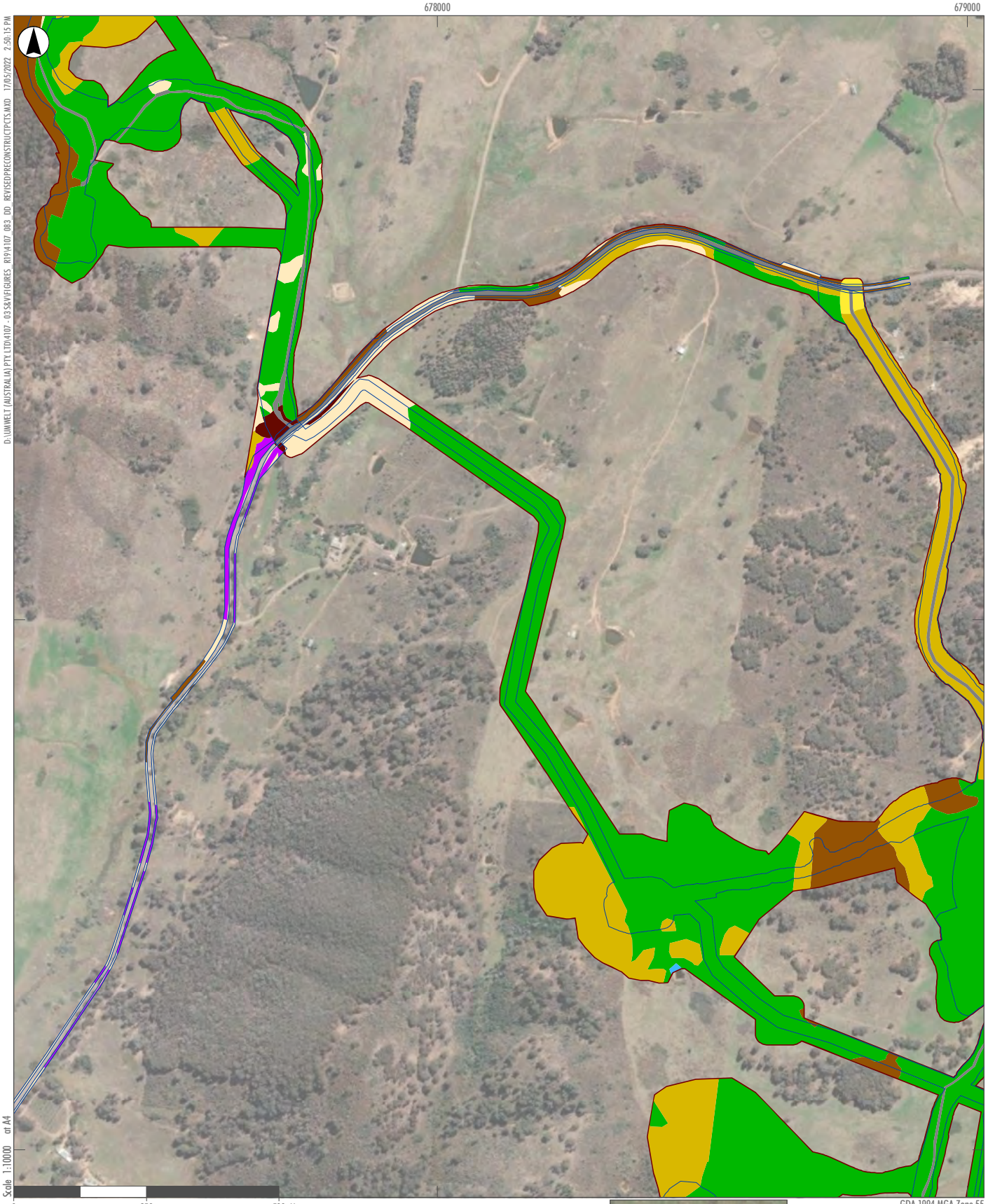
Access Tracks/Roads



APPENDIX A.m

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

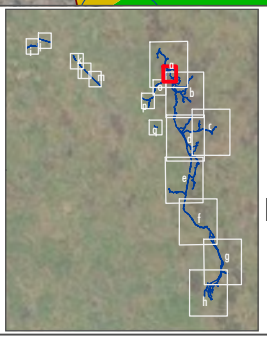


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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
- Water Body



APPENDIX A.n

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

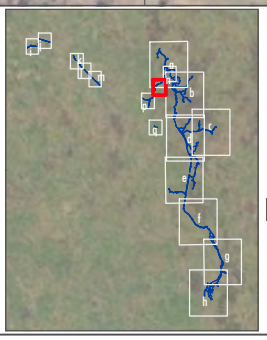
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

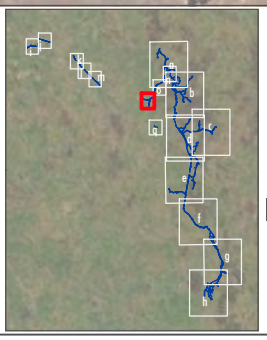
PCT, Condition in the Rye Park Wind Farm

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

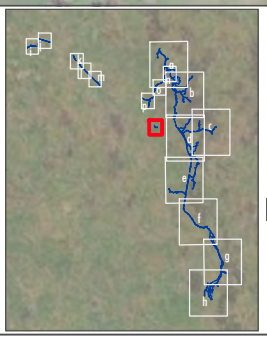
Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

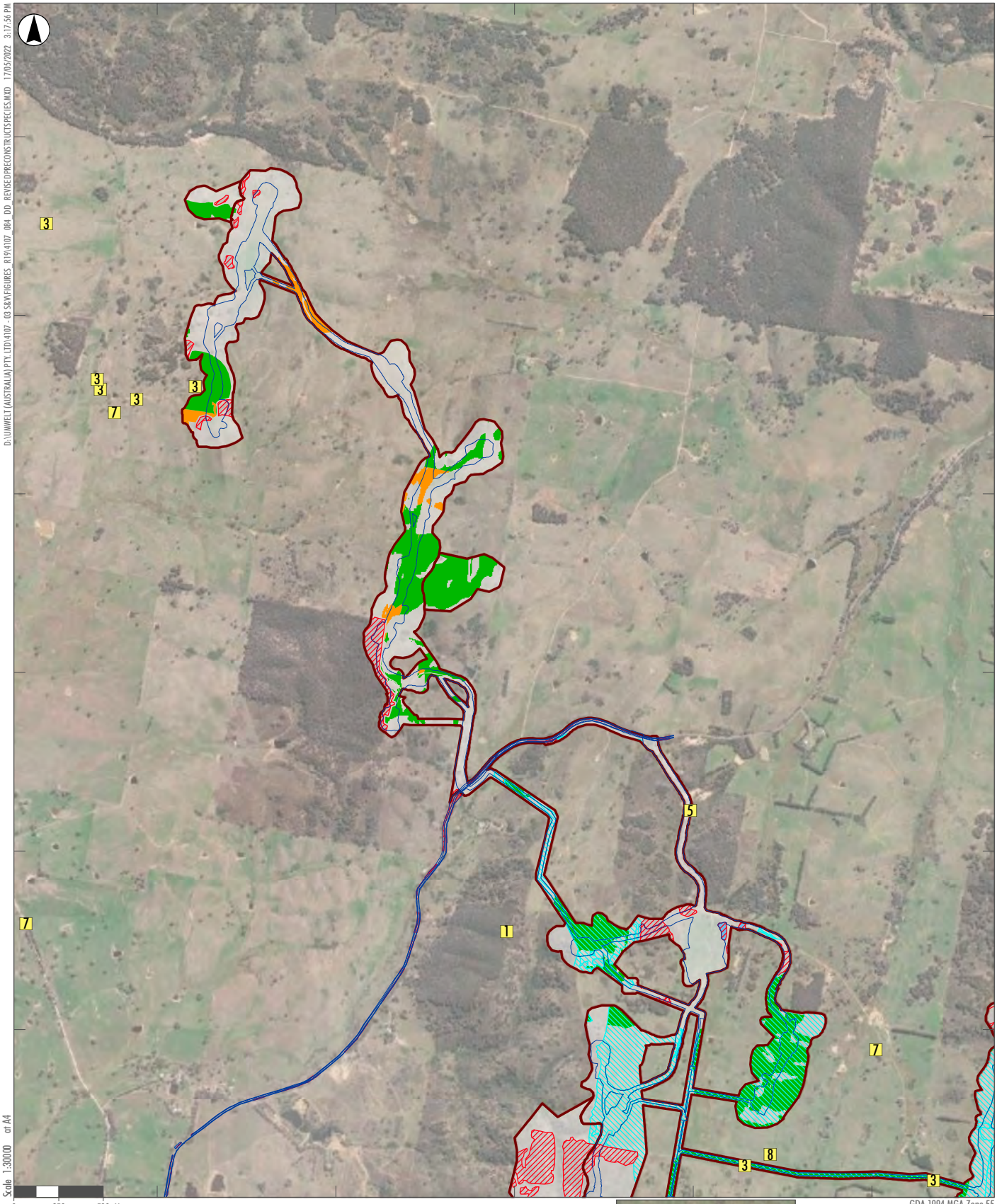
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

APPENDIX B

Species Polygons

umwelt

D:\UMWELT (AUSTRALIA) PTY. LTD\4107 - 03 S&V\FIGURES_R19\4107_084_DD_REVISEDPRECONSTRUCTSPECIES.MXD 17/05/2022 3:17:56 PM



Scale 1:30000 at A4

0 250 500 Meters

GDA 1994 MGA Zone 55

Legend

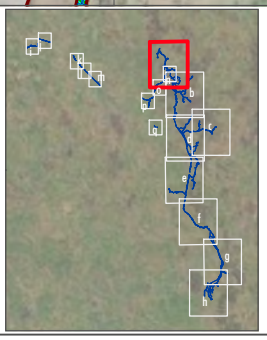
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

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

Threatened Species Habitat

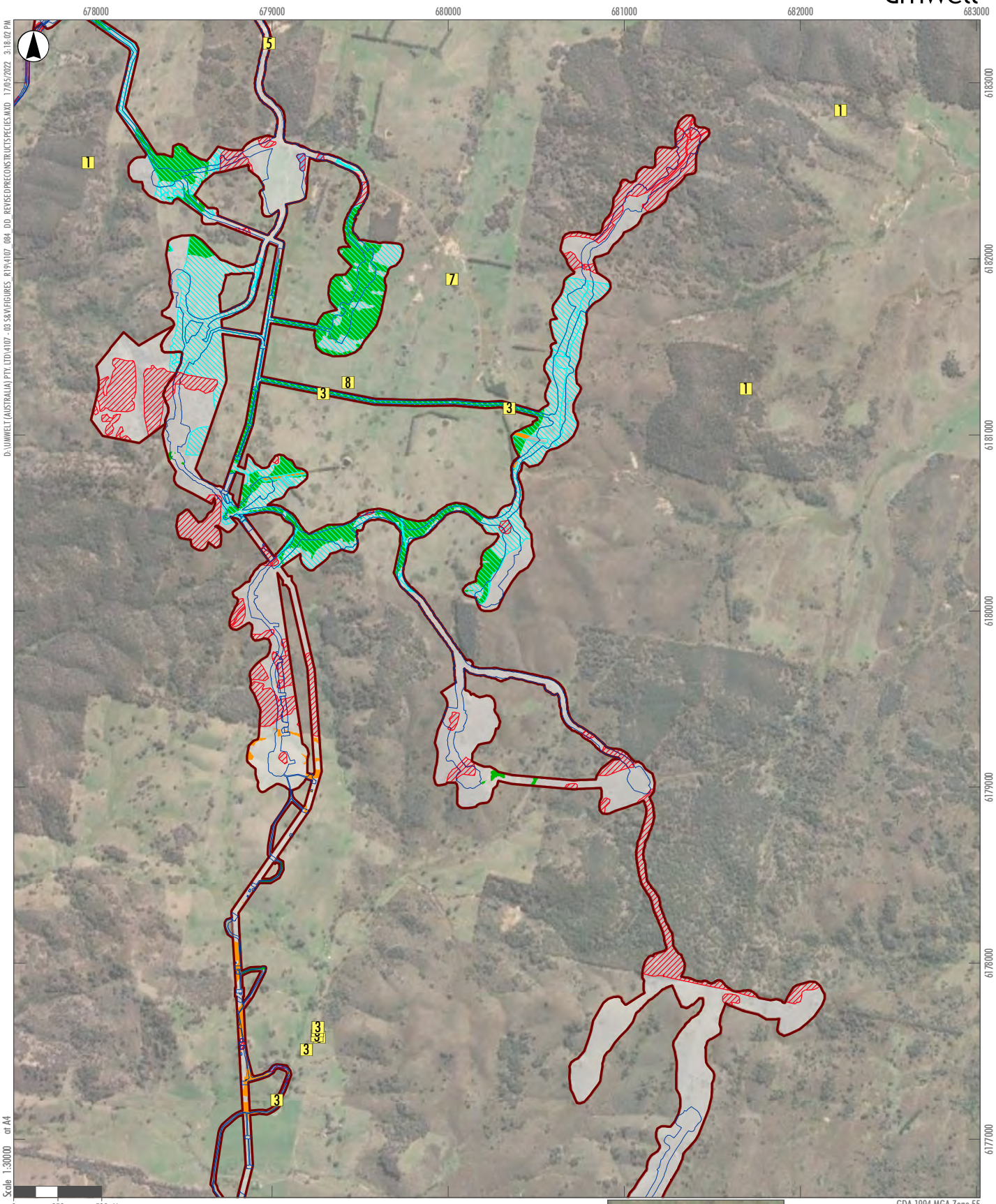
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.a

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

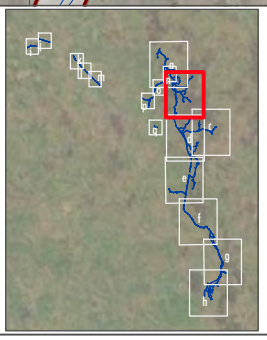
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

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

Threatened Species Habitat

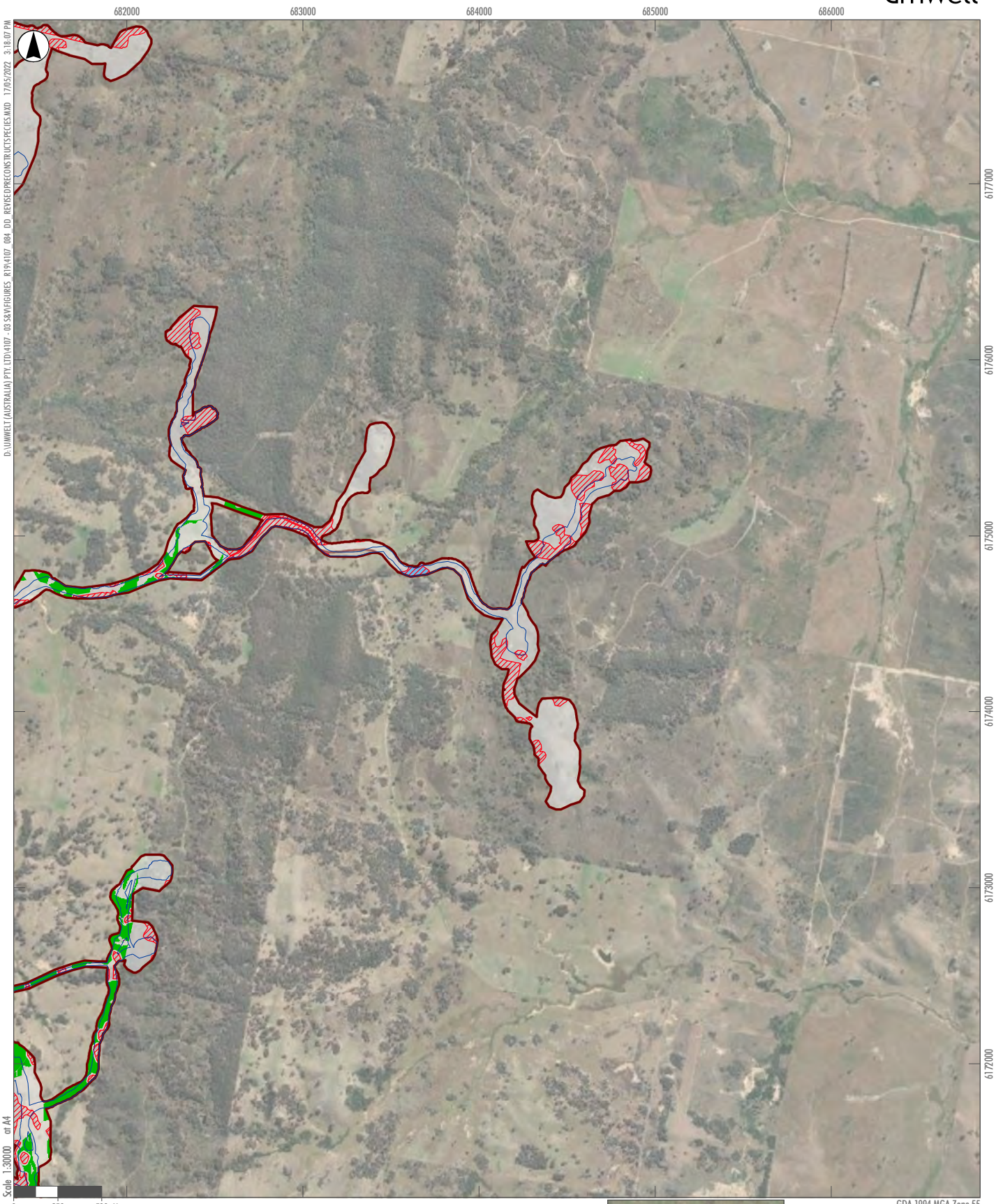
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.b

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

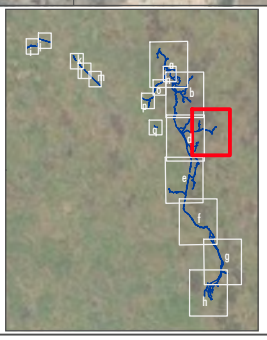


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Habitat

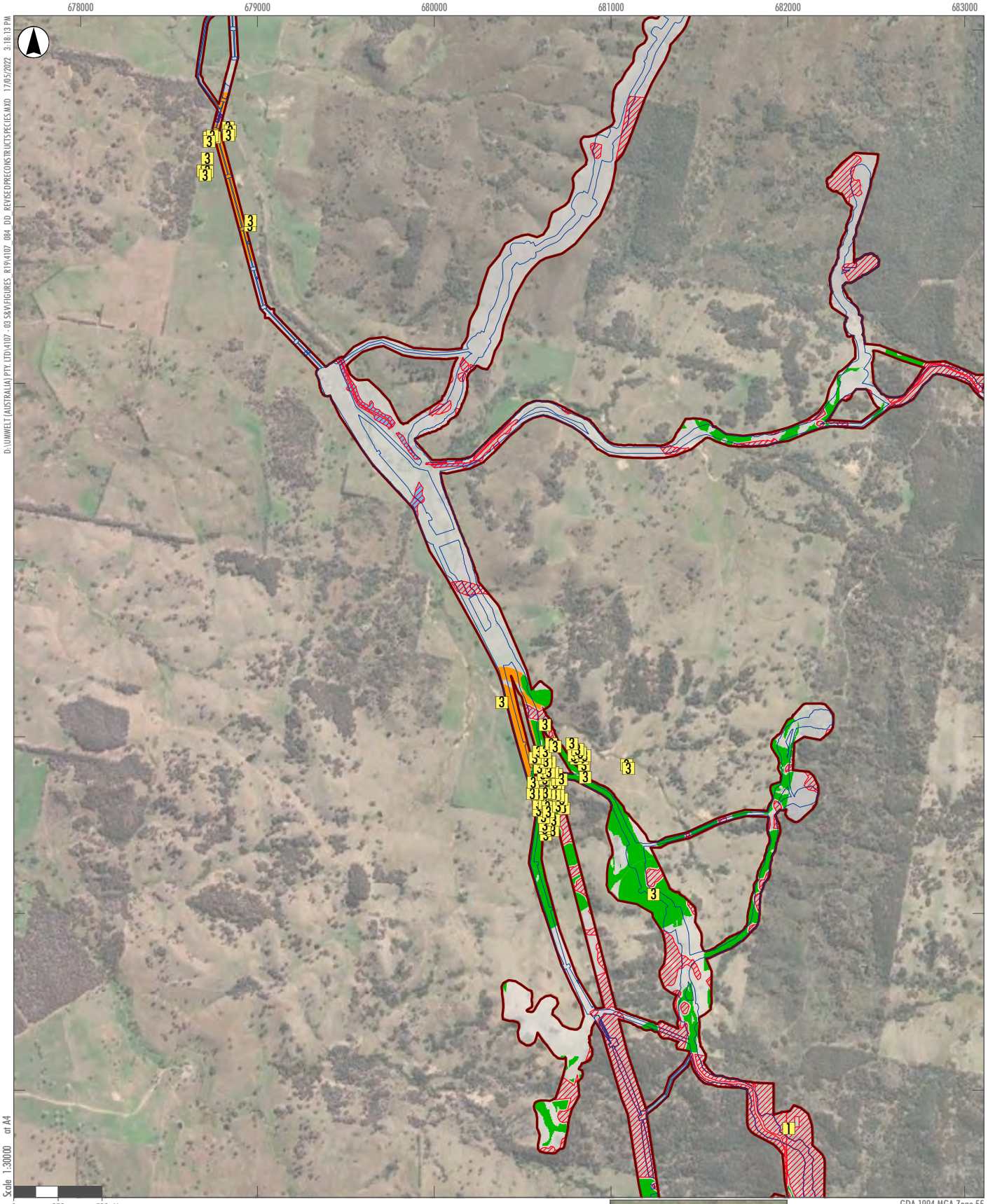
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.c

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

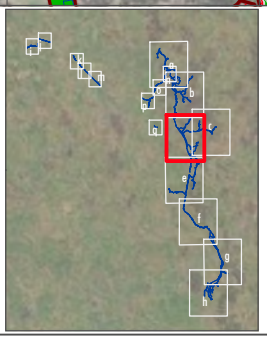
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat

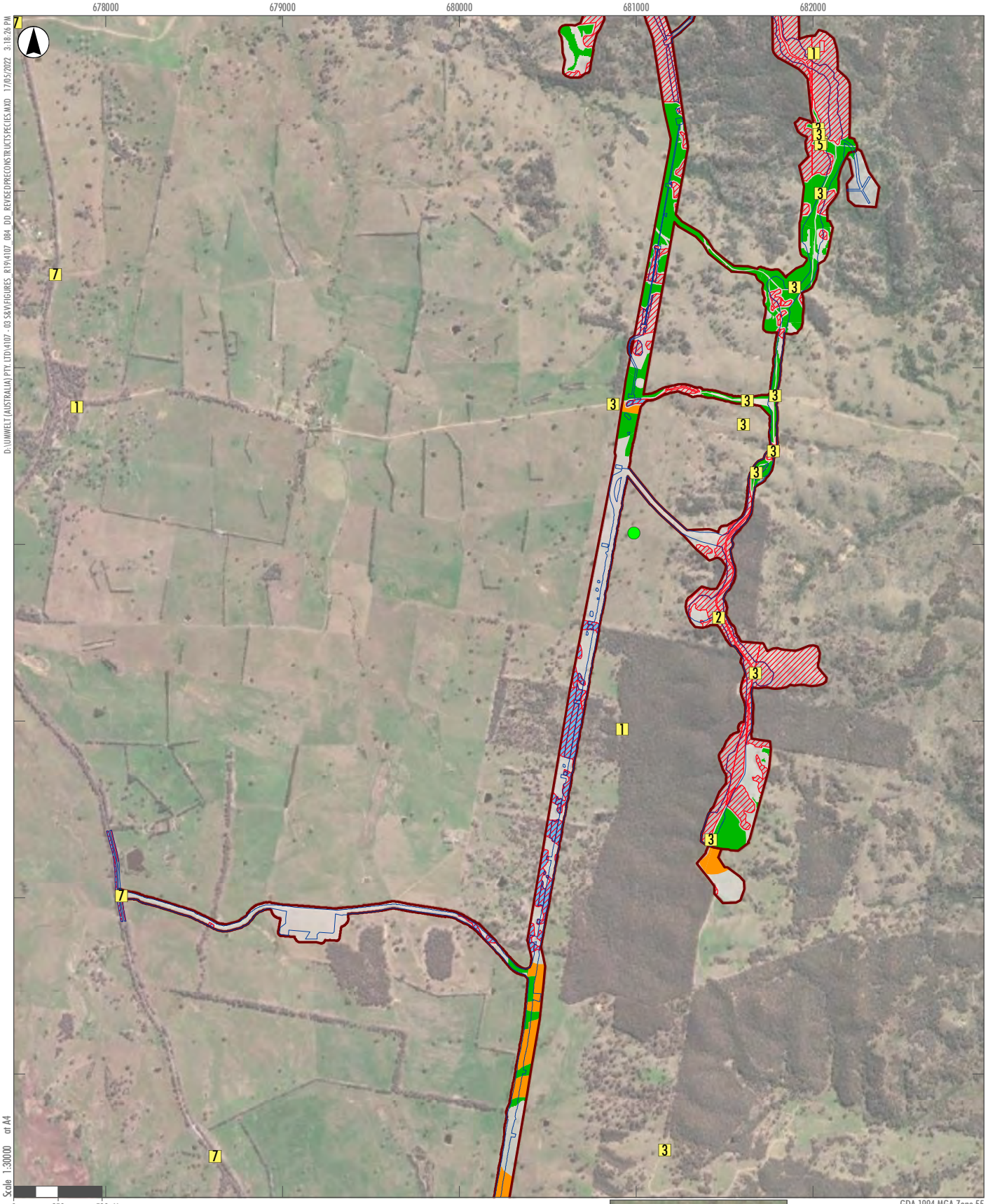


APPENDIX B.d

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

umwelt



Legend

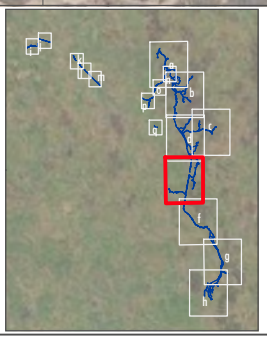
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

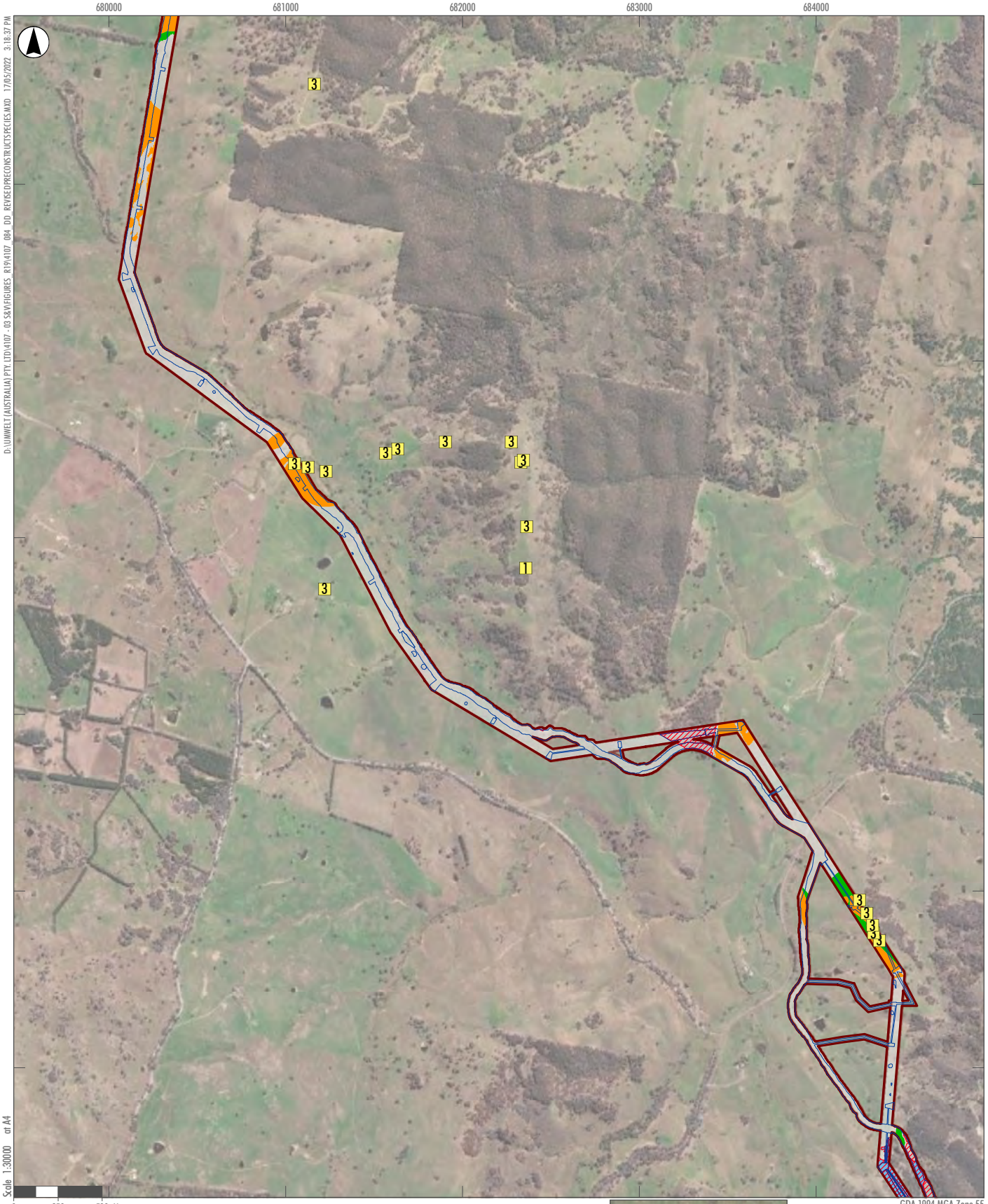
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.e

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

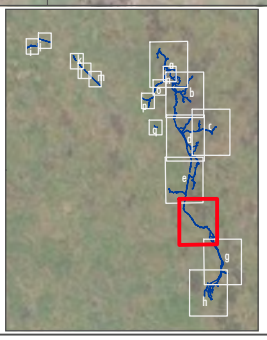
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth

Threatened Species Habitat

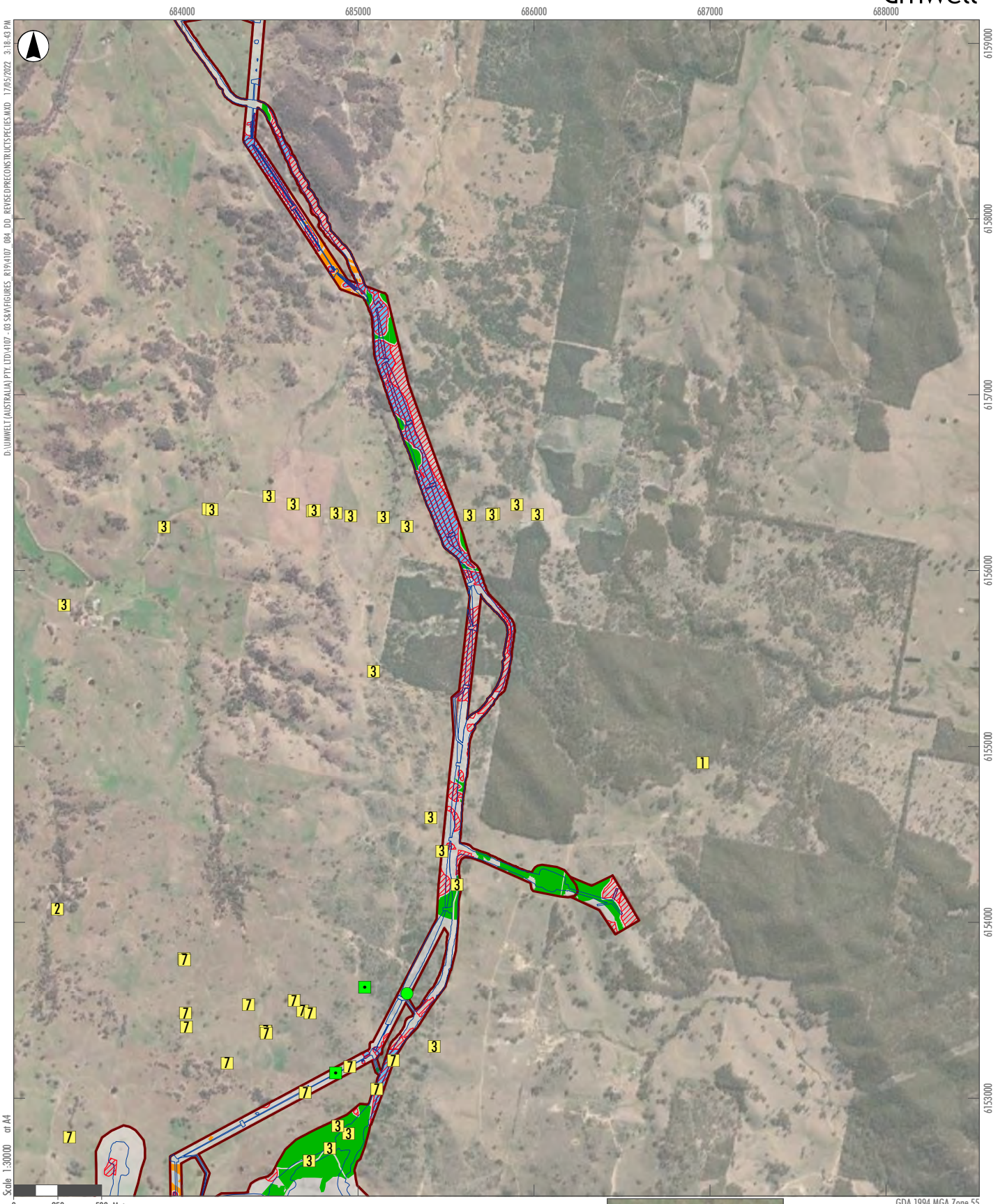
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.f

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

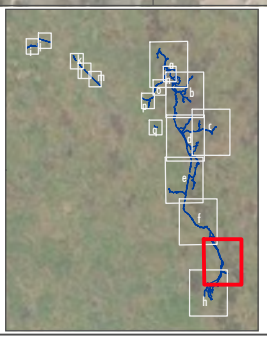
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

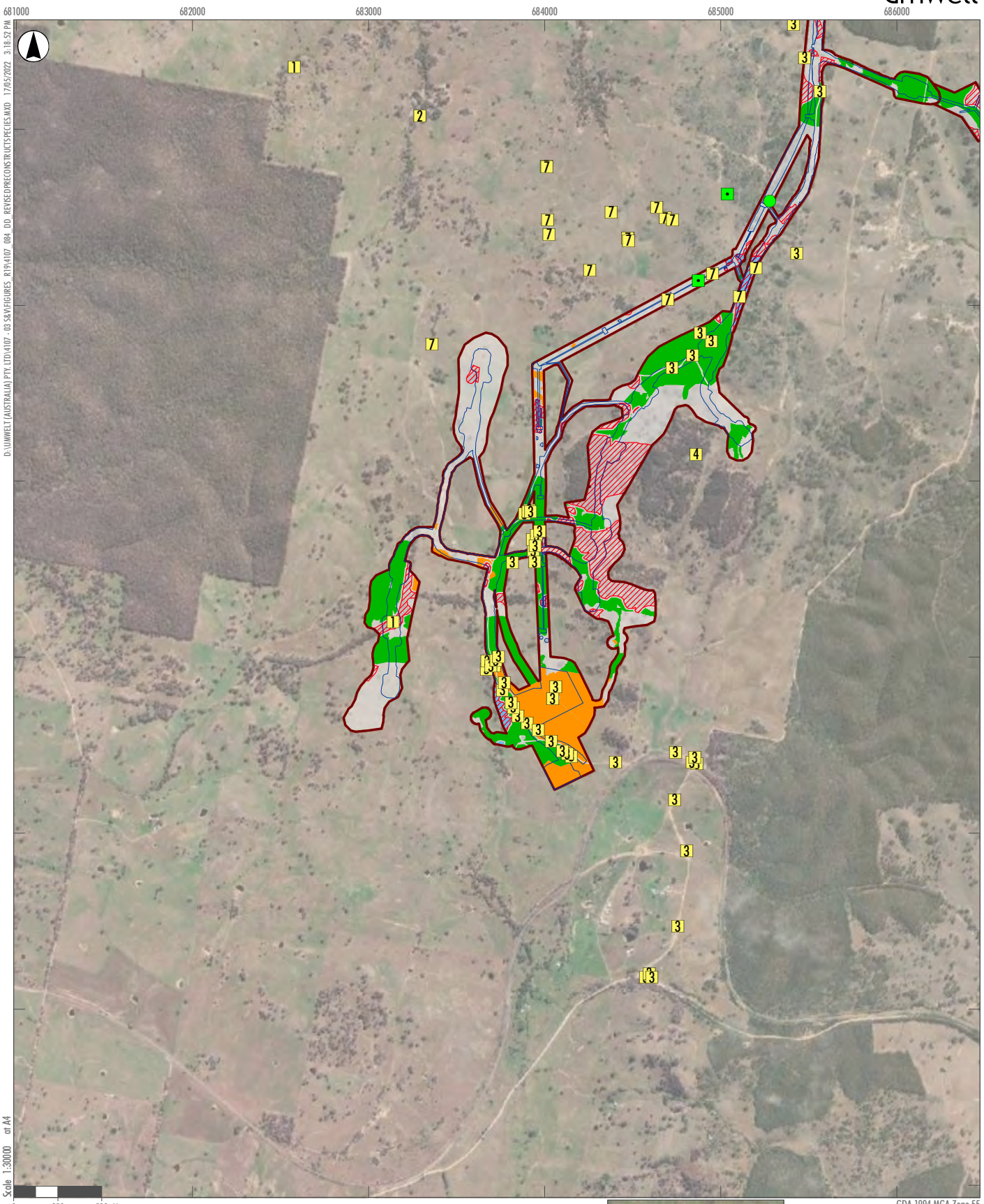
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.g

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

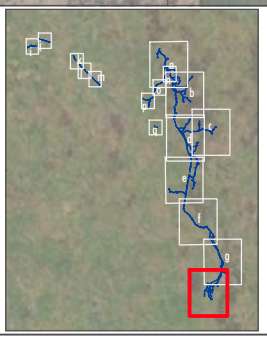
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.h

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

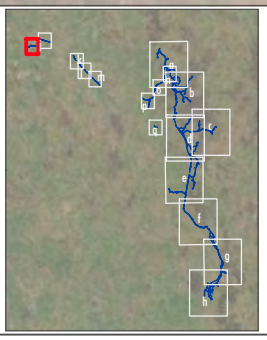
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.i

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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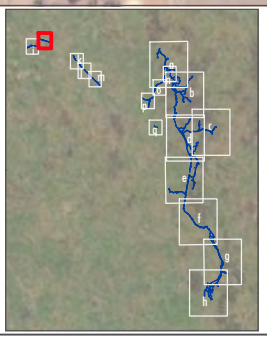
Scale 1:10000 at A4

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.j

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

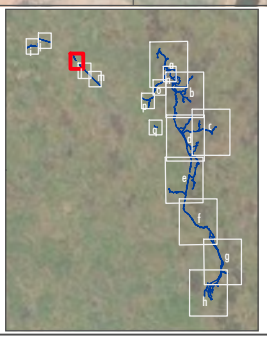
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.k

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

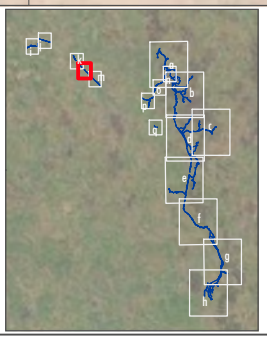
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.I

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

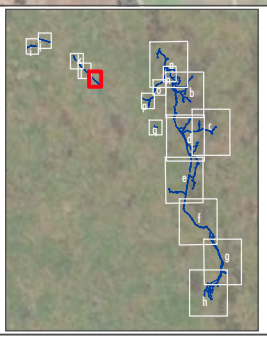
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

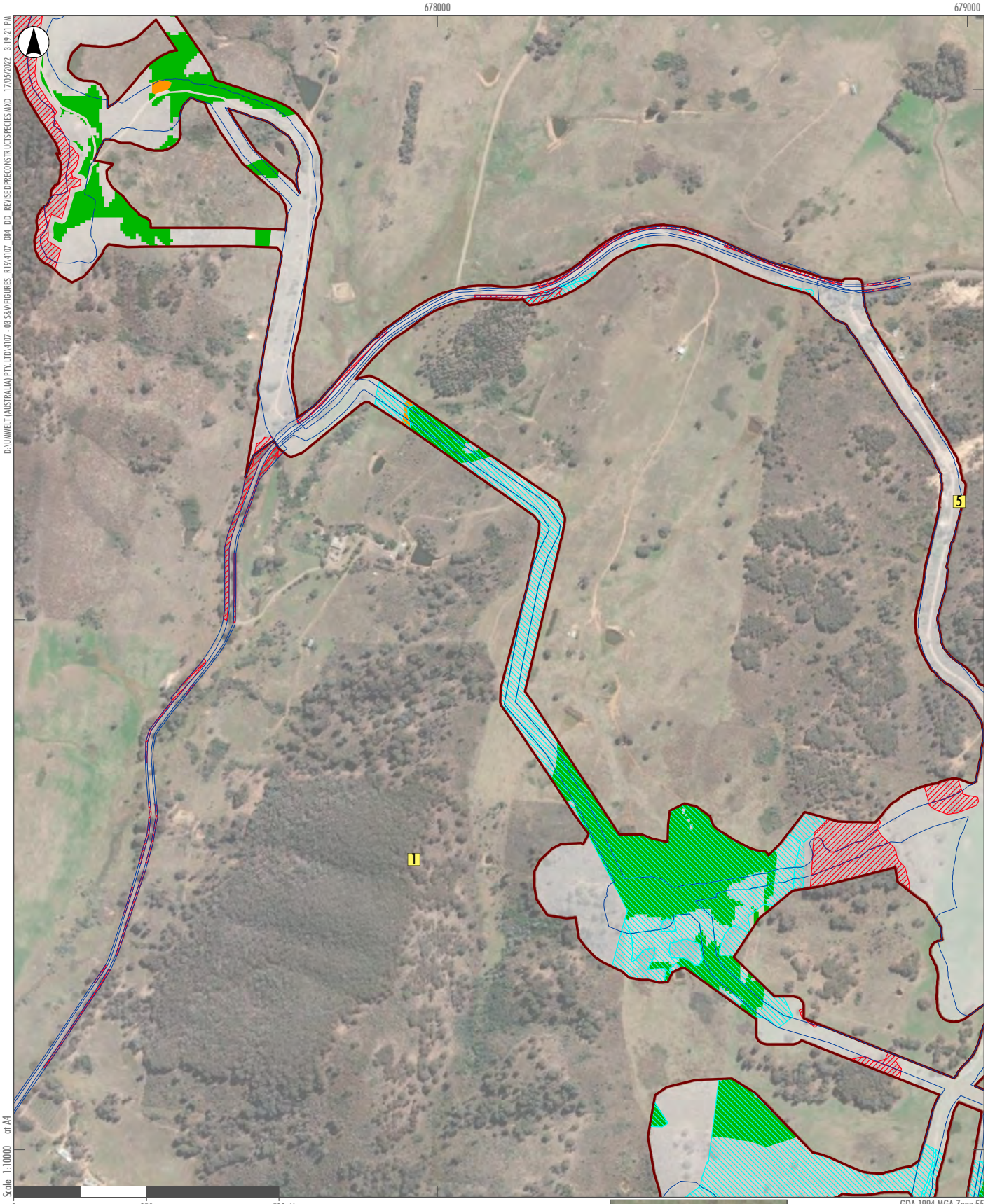
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.m

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



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Scale 1:10000 at A4

Legend

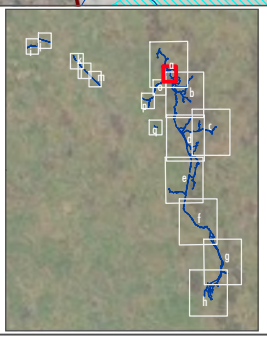
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 5 Little Eagle

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.n

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

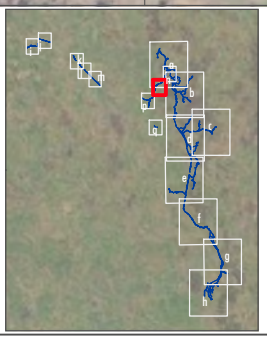
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.o

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

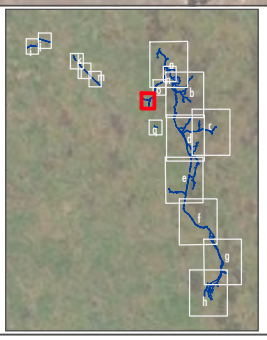
- Revised Pre-Construction Development Footprint
- Superb Parrot - Breeding Habitat

Threatened Species Records

- 6 Southern Myotis

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)



APPENDIX B.p

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

D:\UMWELT (AUSTRALIA) PTY. LTD\4107 - 03 S&V\FIGURES_R19\4107_084_DD_REVISEDPRECONSTRUCTSPECIES.MXD 17/05/2022 3:19:37 PM

Scale 1:10000 at A4

Legend

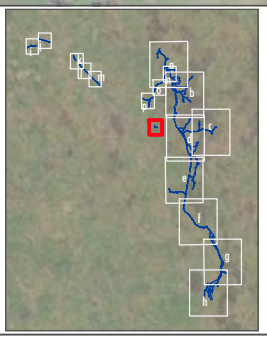
- Revised Pre-Construction Development Footprint
- Superb Parrot - Breeding Habitat

Threatened Species Records

- 7 Superb Parrot

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)



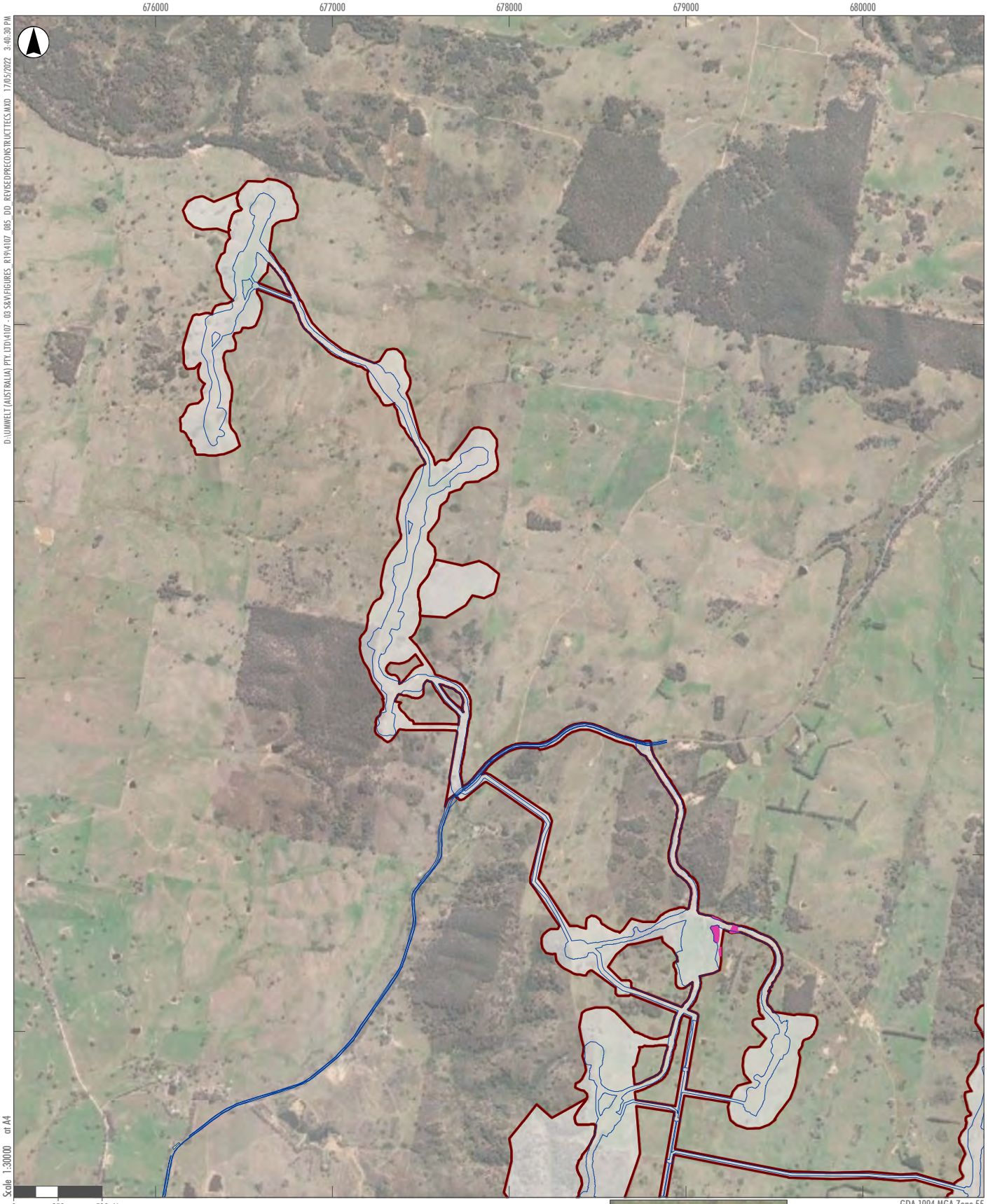
APPENDIX B.q

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

APPENDIX C

Threatened Ecological Communities



Legend

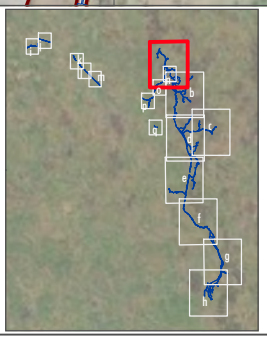
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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)

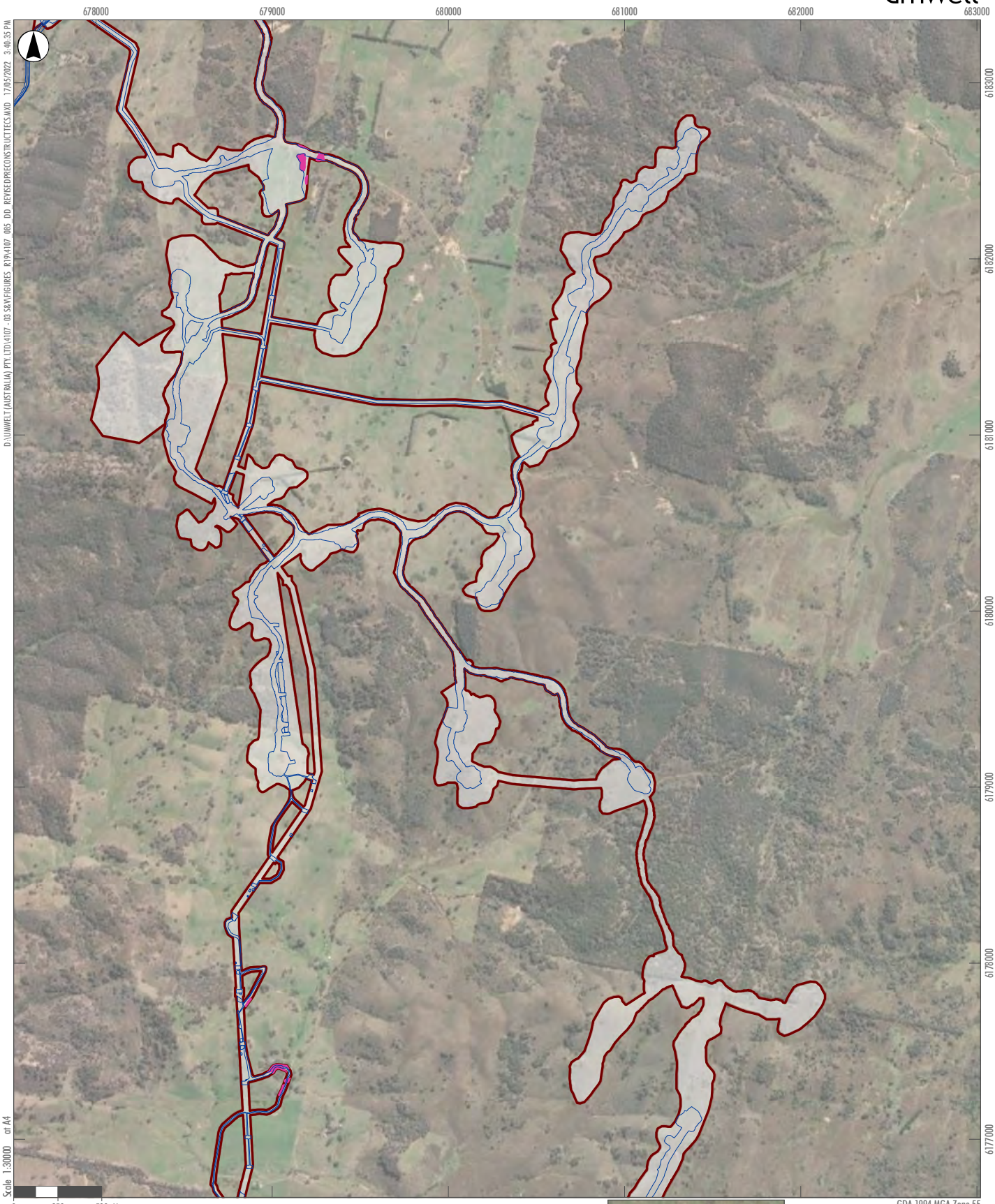
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.a

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

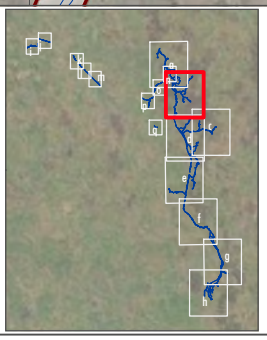


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act & EPBC Act)

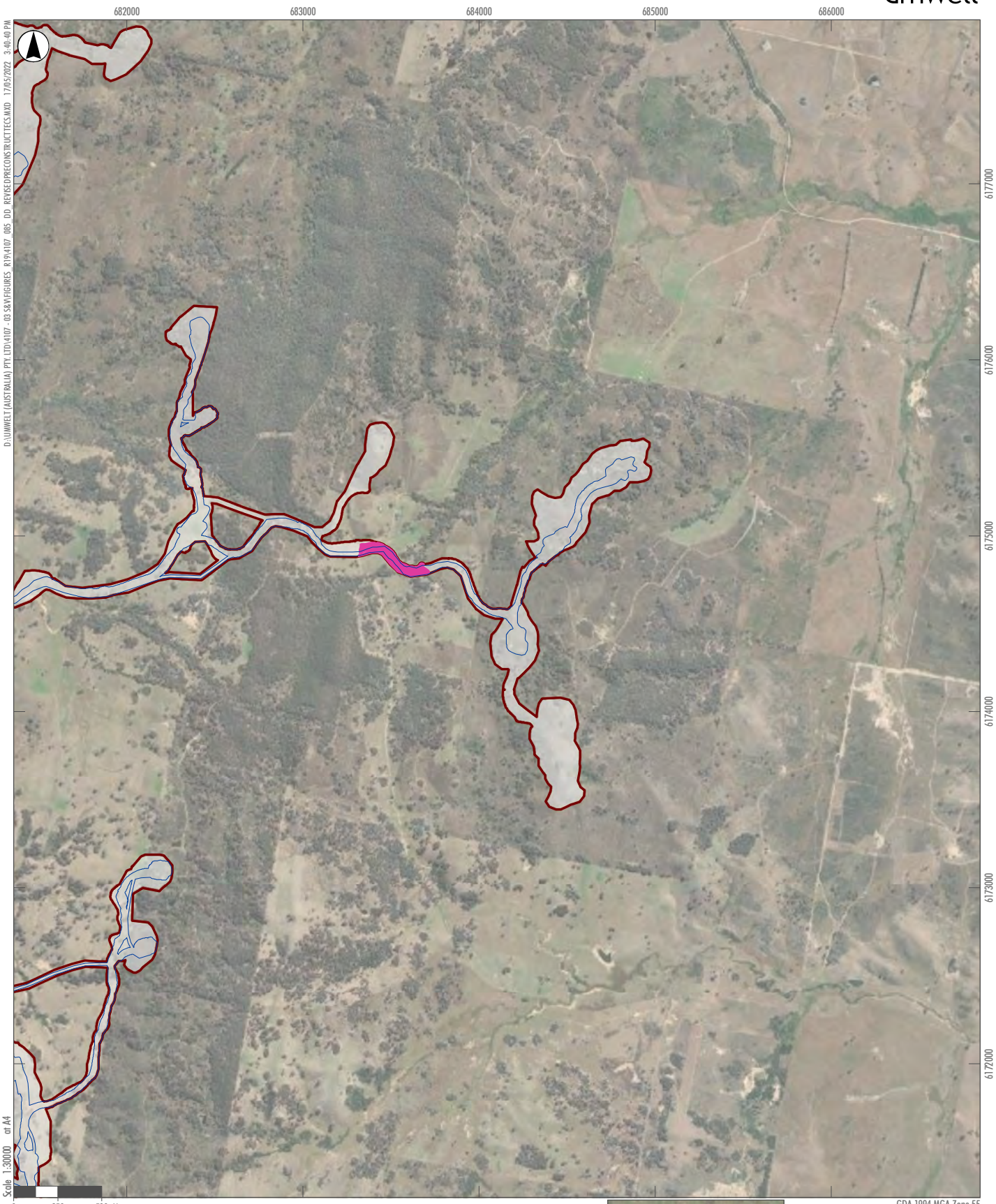
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.b

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



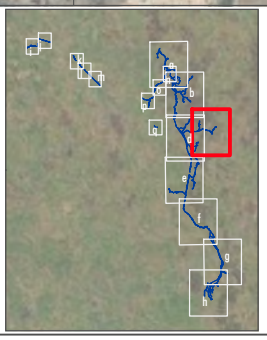
Legend

Revised Pre-Construction Development Footprint

Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act & EPBC Act)

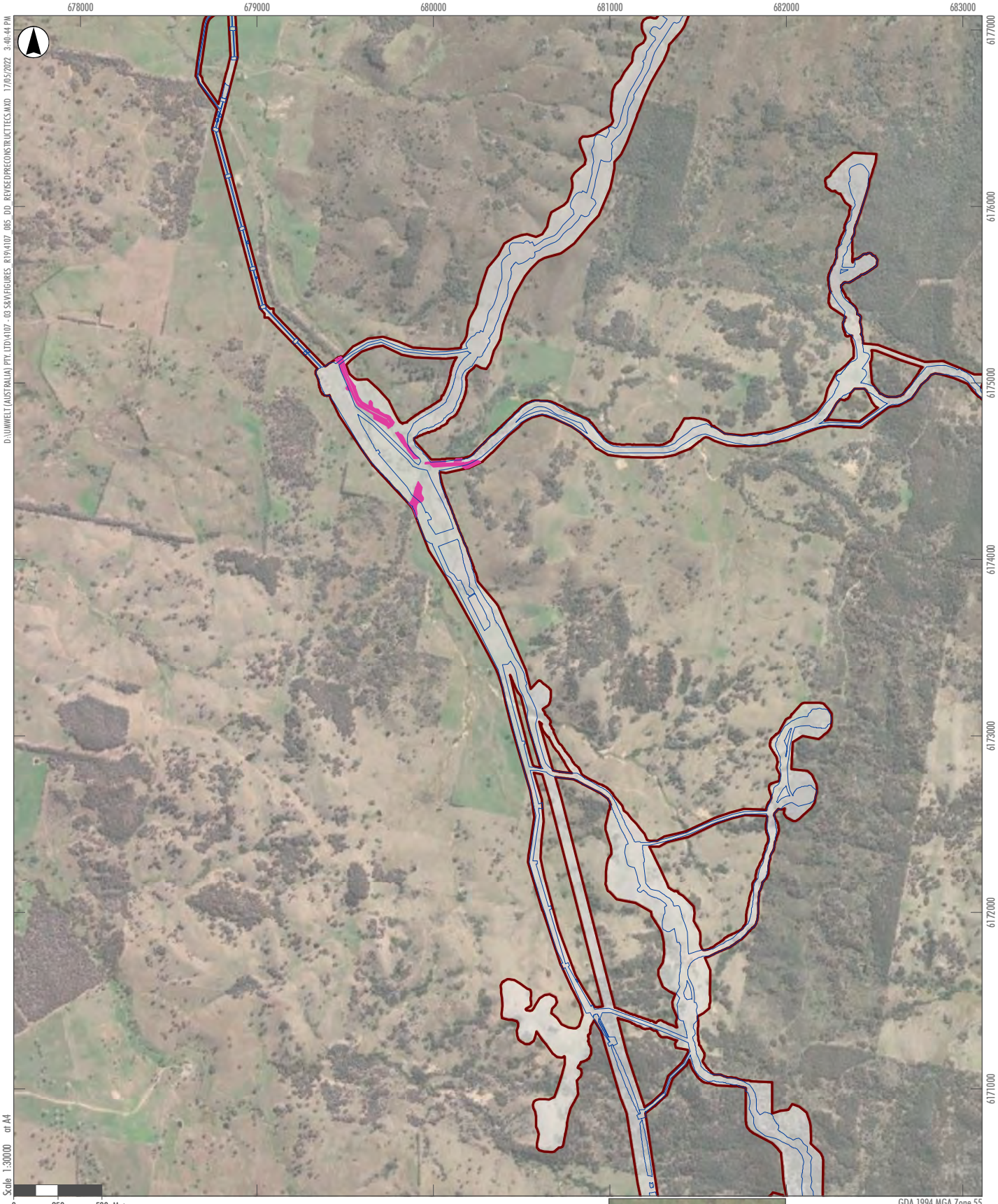
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.c

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



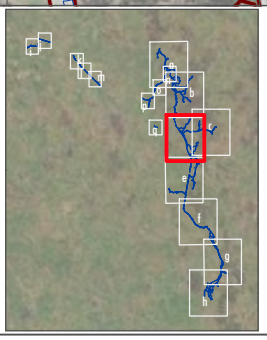
Legend

Revised Pre-Construction Development Footprint

Rye Park Wind Farm Development Corridor

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)

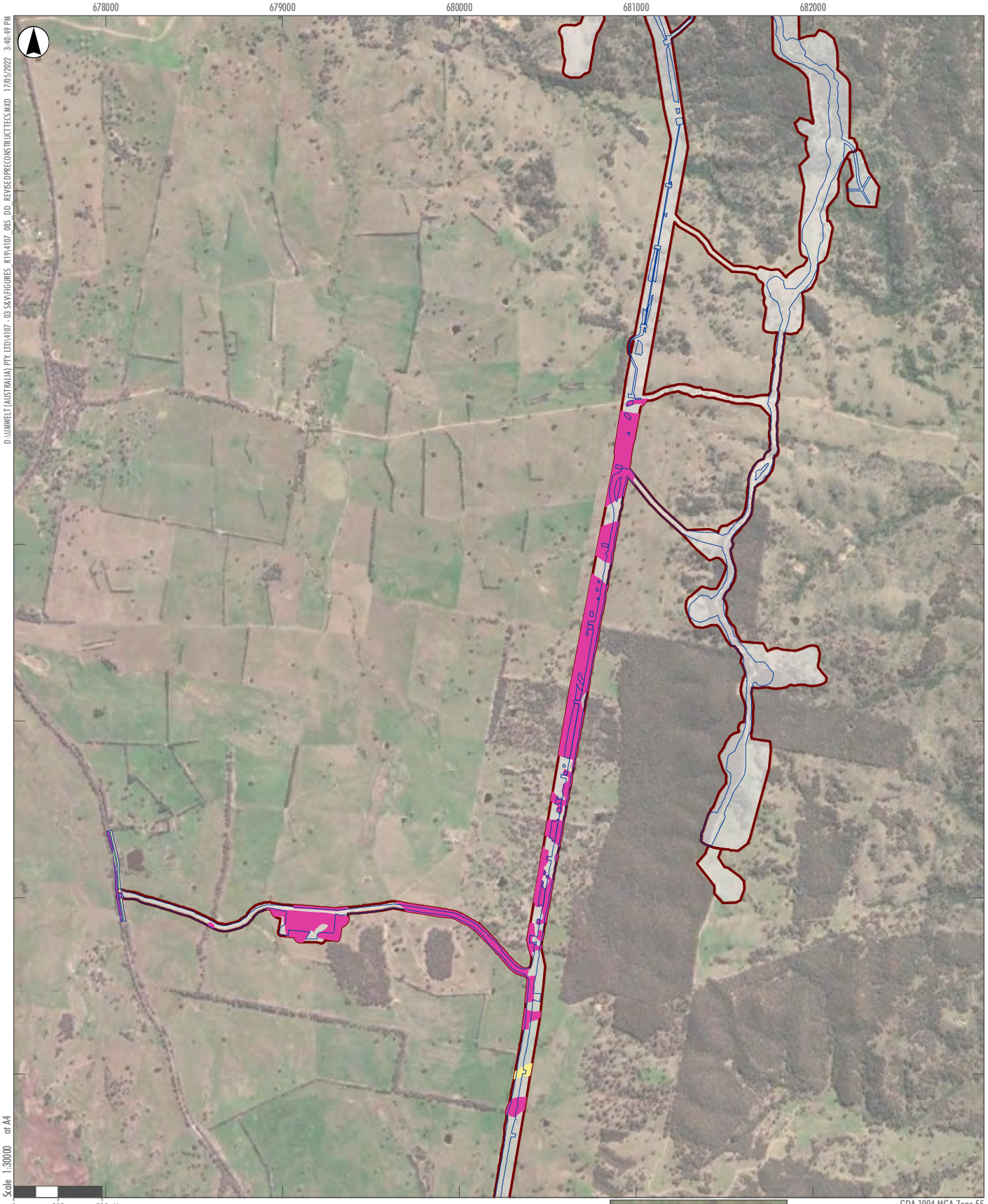


APPENDIX C.d

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

umwelt



Legend

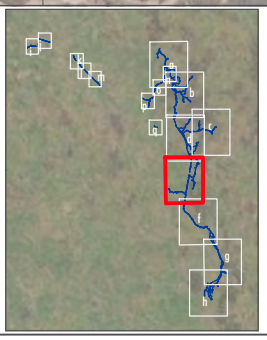
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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)

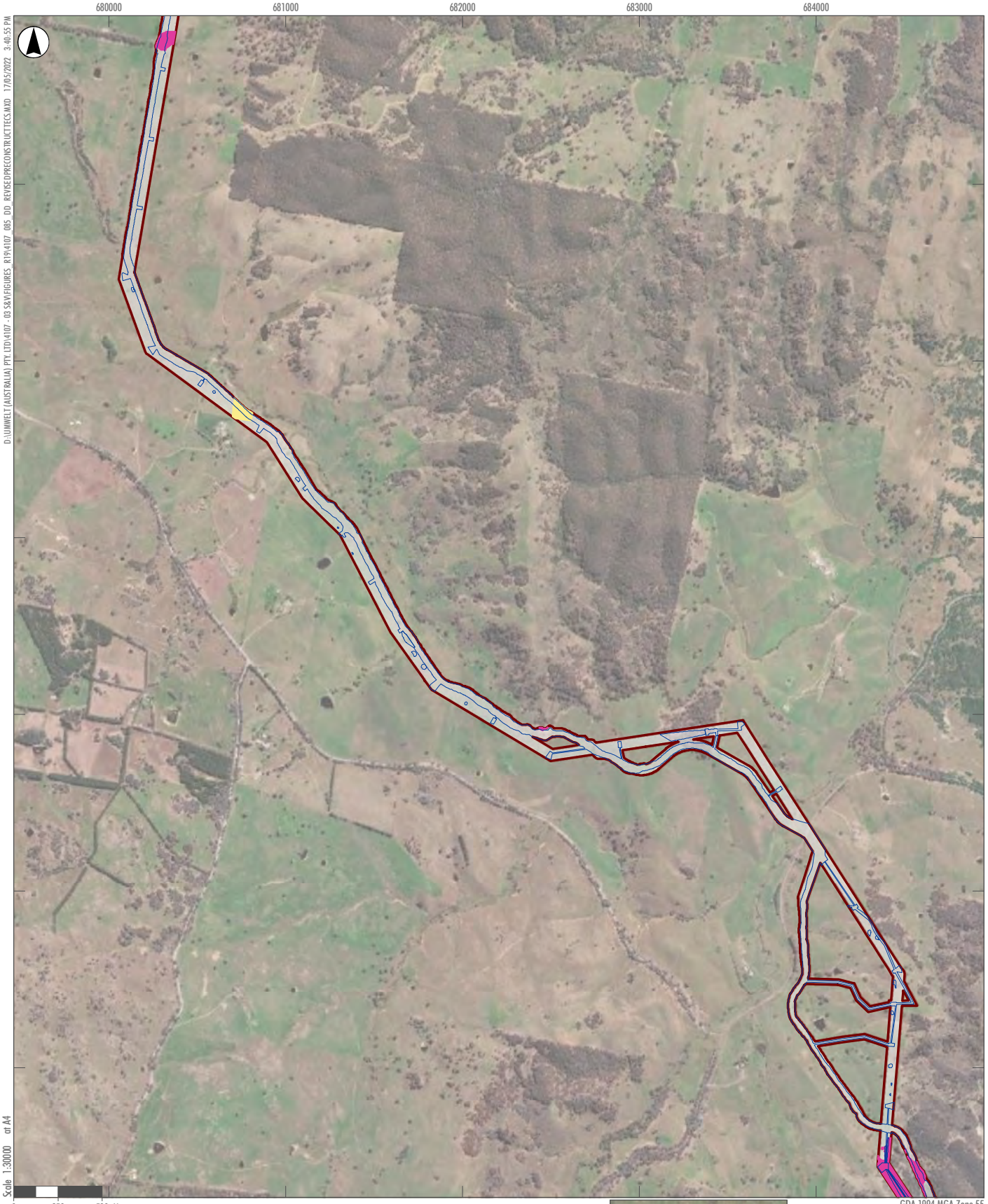
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.e

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

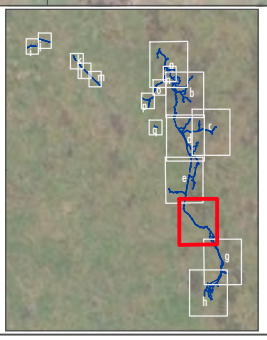
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

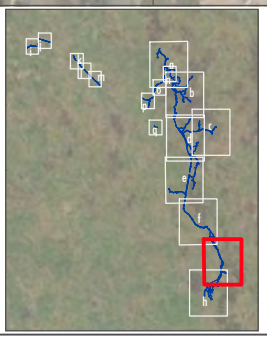
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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)

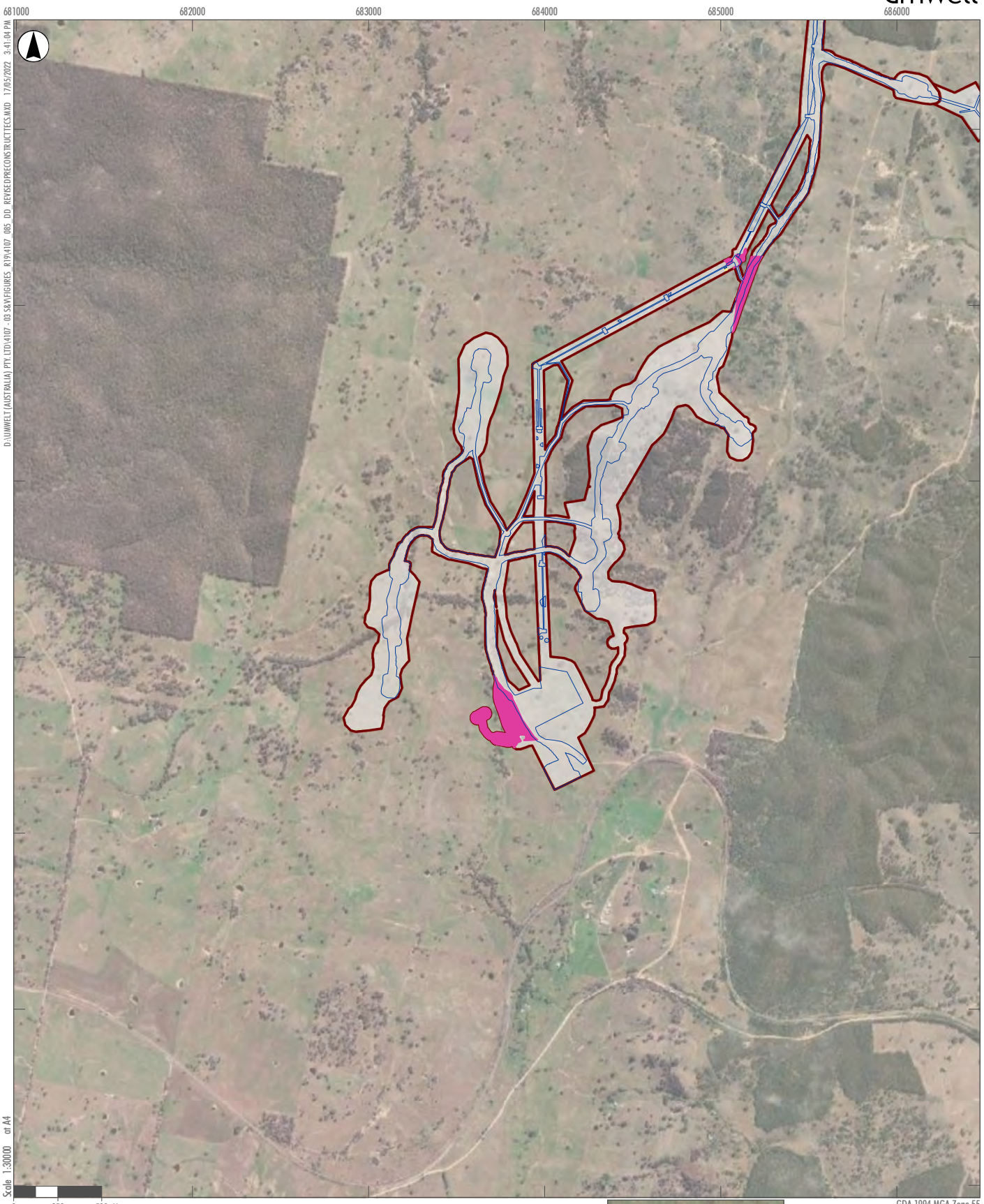
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.g

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

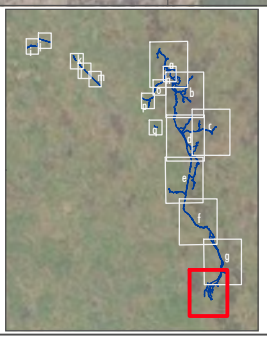
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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 Pre-Construction Development Footprint

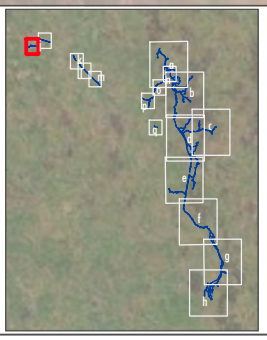
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

D:\UMWELT (AUSTRALIA) PTY. LTD\4107 - 03 S&V\FIGURES_R19\4107_085_DD_REVISEDPRECONSTRUCTTECS.MXD 17/05/2022 3:41:16 PM

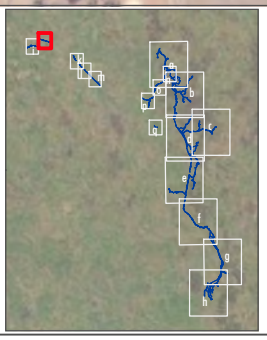
Scale 1:10000 at A4

Legend

Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

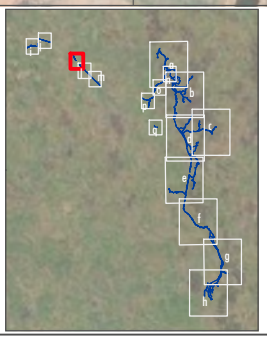
Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

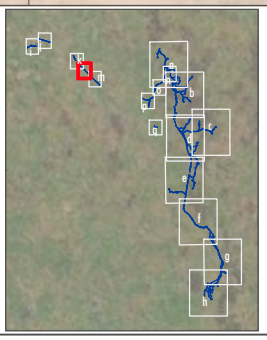
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

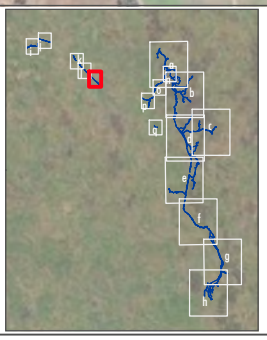
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

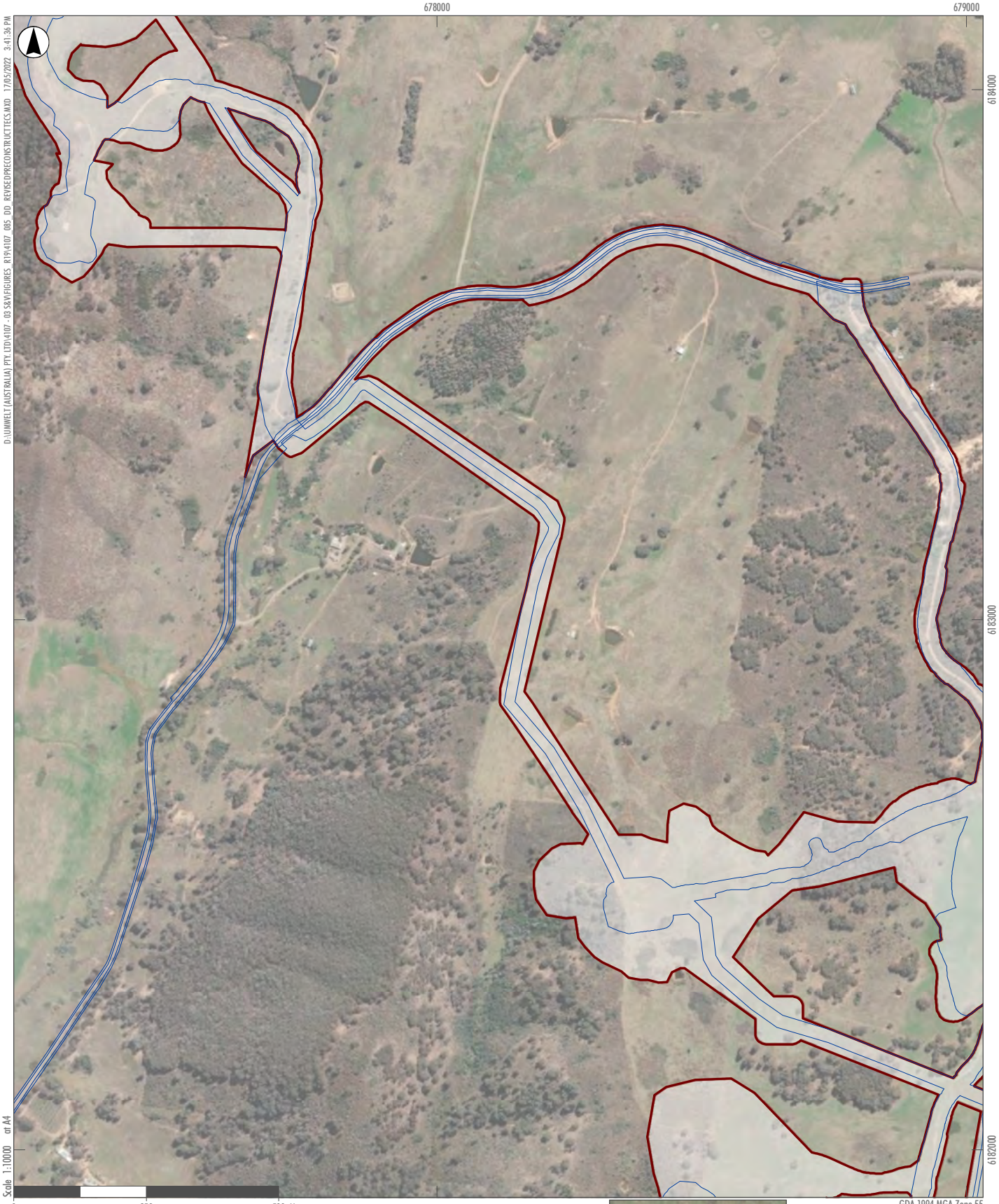
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.m

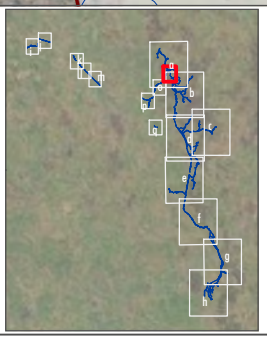
Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor



APPENDIX C.n

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

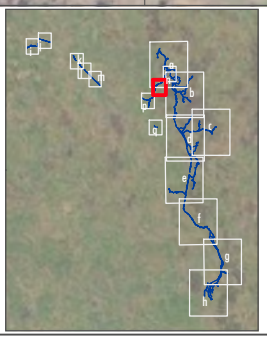
Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

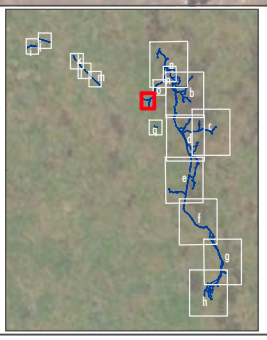
Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

D:\UMWELT (AUSTRALIA) PTY. LTD\4107 - 03 S&V\FIGURES_R19\4107_085_DD_REVISEDPRECONSTRUCTTECS.MXD 17/05/2022 3:41:51 PM

676000

6176000

6175000

Scale 1:10000 at A4

0 250 500 Meters

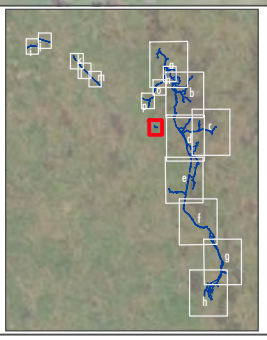
GDA 1994 MGA Zone 55

Legend

Revised Pre-Construction Development Footprint

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 Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

APPENDIX D

Vegetation Integrity Data

plot	pct	area	patchsize	conditionclass	zone	easting	northing	bearing	compTree	compShru	compGras	compForb	compFern	compOthe	strucTree	strucShrub	strucGrass	strucForbs	strucFerns	strucOther	funLargeTr	funHollow	funLitterC	funLenFall	funTreeSte	funTreeSte	funTreeSte	funTreeSte	funTreeSte	funTreeRe	funHighThreat	Exotic
SWS IBRA																																
4107Jan03	289	0.73	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	4.19	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	4.19	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	4.19	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	4.19	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	8.13	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	8.13	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	8.13	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	8.13	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	8.13	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	8.13	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	8.13	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	8.13	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	10.42	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	10.42	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	10.42	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	10.42	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	10.42	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	35.67	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	35.67	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	35.67	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	35.67	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	35.67	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	35.67	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	35.67	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	35.67	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	35.67	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	112.4	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	1	0	0	0	7	
10	351	4.15	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	4.15	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	4.15	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	4.15	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	4.15	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	49.37	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	49.37	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	49.37	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	49.37	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	49.37	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	1.29	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	1.29	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	73.01	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	73.01	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	73.01	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	73.01	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	73.01	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	73.01	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	73.01	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	73.01	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	73.01	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	73.01	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	
SEH IBRA																																
33	335	1.56	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	1.56	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	1.56	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	1.56	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	11.12	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	11.12	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	11.12	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	11.12	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	11.12	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	11.12	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	11.12	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	11.12	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	3.33	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	3.33	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	3.33	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	3.33	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	3.33	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	29.18	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	29.18	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	29.18	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	29.18	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	29.18	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	29.18	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	29.18	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	29.18	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	29.18	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	45.73	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	1	0	0	0	7
10	351	5.56	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	5.56	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	5.56	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	5.56	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	5.56	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	14.72	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	14.72	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	14.72	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	14.72	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	14.72	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	40.81	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	40.81	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	40.81	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	40.81	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	40.81	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	40.81	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	40.81	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	40.81	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
Mod2_P4	351	40.81	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	40.81	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

APPENDIX E

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

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id 00010359/BAAS17068/18/00012902	Proposal Name Rye Park SWS IBRA - Mod 2 Aug 2022 BAM Calc Resolution - Partial Direct Impact Fix	BAM data last updated * 16/06/2022
Assessor Name Bill Wallach	Assessor Number BAAS17068	BAM Data version * 54
Proponent Names Tilt Renewables	Report Created 18/08/2022	BAM Case Status Finalised
Assessment Revision 15	Assessment Type Major Projects	Date Finalised 17/08/2022

* 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
Synemon plana / Golden Sun Moth

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	0.7	24	0	24
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	4.2	0	110	110
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	18.6	341	223	564
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	275.9	2274	506	2780

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	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	289_Moderate Good	Yes	24	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	110	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	223	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, 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					
	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_Moderate	Yes	341	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.

	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					

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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	908	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Acacia	Yes	97	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	506	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Argyle	Yes	39	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, 728, 730, 888, 957, 1093, 1177	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Remnant	Yes	1230	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

Species	Vegetation Zone/s	Area / Count	Credits
Delma impar / Striped Legless Lizard	**351_DNG**	41.0	284.00
Myotis macropus / Southern Myotis	**350_Moderate**	0.0	1.00
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant , 289_ModerateGood, 350_Moderate**	44.4	1702.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	8.1	273.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	49.4	702.00

Credit Retirement Options

Like-for-like credit retirement options

	Spp	IBRA subregion
Delma impar / Striped Legless Lizard	**Delma impar /** Striped Legless Lizard	Any in NSW
Myotis macropus / Southern Myotis	**Myotis macropus /** Southern Myotis	Any in NSW
Petaurus norfolcensis / Squirrel Glider	**Petaurus norfolcensis /** Squirrel Glider	Any in NSW
Polytelis swainsonii / Superb Parrot		

	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/BAAS17068/18/00012902

Proposal Name
Rye Park SWS IBRA - Mod 2 Aug 2022 BAM Calc Resolution - Partial Direct Impact Fix

BAM data last updated *
16/06/2022

Assessor Name
Bill Wallach

Assessor Number
BAAS17068

BAM Data version *
54

Proponent Name(s)
Tilt Renewables

Report Created
18/08/2022

BAM Case Status
Finalised

Assessment Revision
15

Assessment Type
Major Projects

Date Finalised
17/08/2022

* 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
Synemon plana / Golden Sun Moth

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	0.7	24	0	24.00
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	4.2	0	110	110.00
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	18.6	341	223	564.00
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	275.9	2274	506	2780.00

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	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	289_ModerateGood	Yes	24	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)	24	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	110	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	110	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 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	-	350_DNG	No	223	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.

	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, 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	-	350_Moderate	Yes	341	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.

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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	908	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Acacia	Yes	97	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	506	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Argyle	Yes	39	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, 728, 730, 888, 957, 1093, 1177	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, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Remnant	Yes	1230	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)	908	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)	97	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	506	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)	39	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)	1230	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**	41.0	284.00
Myotis macropus / Southern Myotis	**350_Moderate**	0.0	1.00

Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 289_ModerateGood, 350_Moderate**	44.4	1702.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	8.1	273.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	49.4	702.00

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.
Myotis macropus/ Southern Myotis	Spp	IBRA region	

	Myotis macropus/Southern Myotis	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	Endangered	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 Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id 00010359/BAAS17068/18/00012903	Proposal Name Rye Park Development SEH IBRA - Mod 2 Aug 2022 BAM Calc Fix - Partial Impacts	BAM data last updated * 16/06/2022
Assessor Name Bill Wallach	Assessor Number BAAS17068	BAM Data version * 54
Proponent Names Tilt Renewables	Report Created 18/08/2022	BAM Case Status Finalised
Assessment Revision 14	Assessment Type Major Projects	Date Finalised 17/08/2022

* 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
Synemon plana / Golden Sun Moth

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	1.6	0	27	27
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	394	74	468
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	136.0	1485	163	1648

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	27	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	74	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					
	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_Moderate	Yes	394	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.

	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					

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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	403	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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	163	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	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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Remnant	Yes	976	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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Acacia	Yes	106	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**	40.2	1425.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.1	315.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	26.9	423.00

Credit Retirement Options

Like-for-like credit retirement options

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
00010359/BAAS17068/18/00012903

Proposal Name
Rye Park Development SEH IBRA - Mod 2 Aug 2022 BAM Calc Fix - Partial Impacts

BAM data last updated *
16/06/2022

Assessor Name
Bill Wallach

Assessor Number
BAAS17068

BAM Data version *
54

Proponent Name(s)
Tilt Renewables

Report Created
18/08/2022

BAM Case Status
Finalised

Assessment Revision
14

Assessment Type
Major Projects

Date Finalised
17/08/2022

* 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
Synemon plana / Golden Sun Moth

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	1.6	0	27	27.00
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	394	74	468.00
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	136.0	1485	163	1648.00

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	27	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	27	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: 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	-	350_DNG	No	74	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.

	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, 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	-	350_Moderate	Yes	394	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.

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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	403	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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	163	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	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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Remnant	Yes	976	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	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Acacia	Yes	106	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)	403	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	163	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)	976	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)	106	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**	40.2	1425.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.1	315.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	26.9	423.00

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	Endangered	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.

umwelt

Environmental & Social Consultants

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