RYE PARK WIND FARM

Modification Application 2 Report

(Development Consent State Significant Development: 6693-MOD 2)

July 2022

renewables

Rye Park Wind Farm

Document Title: Modification Application 2 Report
Revision: Final
Date: 12 July 2022

Rye Park Renewable Energy Pty Ltd
ACN 601 541 931

GPO Box 16080
Collins Street West
Melbourne VIC 8007
Australia

Phone: 1300 660 623
tiltrenewables.com

Contents

Acronyms and Abbreviations iv
1.0 Introduction 1
2.0 Strategic context 3
2.1 Background 3
2.2 Project Site and surrounds 3
2.3 Strategic support and policies 4
2.4 Planning context 4
3.0 Description of modifications 6
3.1 Overview 6
3.2 Detailed description of changes 7
4.0 Statutory context 20
4.1 Revision to strategies, plans and programs 20
5.0 Engagement 22
5.1 Engagement with government authorities 22
5.2 Community and landowners 22
5.3 Modification consultation 23
6.0 Assessment of impacts 24
6.1 Biodiversity (Vegetation) 25
6.2 Aboriginal Cultural Heritage 30
6.3 Traffic and transport 32
7.0 Evaluation of merits 33
References 34

Appendix A: Detailed description of the Modified Project 35
Appendix B: Statutory compliance summary 36
Appendix C: Modification 2 Biodiversity Summary Letter Report 38
Appendix D: Updated Confirmation of Credit Liabilities Report 39
Appendix E: Third Addendum to the Aboriginal Cultural Heritage Assessment 40
Appendix F: Aboriginal Heritage Items 41

Acronyms and Abbreviations

ACHA	Third Addendum to the Aboriginal Cultural Heritage Assessment, contained in Appendix E of the Report
the Applicant	Rye Park Renewable Energy Pty Ltd
the Approved Project	The Project as approved by MOD 1 to Development Consent SSD 6693
BAM	Biodiversity Assessment Method 2020
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BCS	Biodiversity Conservation and Science Division of the Department of Planning and Environment (NSW)
Biodiversity Summary	Modification 2 Biodiversity Summary Letter Report, contained in Appendix C of the Report
BDAR	Biodiversity Development Assessment Report
CEEC	Critically Endangered Ecological Community
Development Consent	MOD 1 to Development Consent SSD 6693 granted under the EP&A Act
Development Corridor – Wind Farm	This area includes the Indicative Development Footprint – Wind Farm in its entirety as well as areas of adjoining land that may be required for micro-siting when the wind farm layout is finalised. It does not include the Indicative Development Footprint – External Roads or the Development Corridor – Permanent Met Masts.
Development Footprint	The estimated ground disturbance required for construction of the wind farm. Referred to as the Indicative Development Footprint in this Modification Application and includes Indicative Development Footprint – Wind Farm, Indicative Development Footprint – External Roads and Indicative Development Footprint – Permanent Met Masts
DPE	Department of Planning and Environment (NSW)
EIS	Environmental Impact Statement for the Rye Park Wind Farm (Epuron Pty Ltd, 2014)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EP&A Regulation	*Environmental Planning and Assessment Regulation 2021* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
EPBC Approval	Approval EPBC 2020/8837 granted for the Project under the EPBC Act
ha	hectares
Km	kilometres
kV	kilovolts
m	Metres
Modification Application	Application SSD-6693-MOD 2 to modify the Development Consent SSD 6693
Modification Application	Rye Park Wind Farm - Modification Application 2 Report (Tilt Renewables,

Report	May 2022) (this report)
Modified Project	The Approved Project as revised by the proposed modifications as outlined in the Modification Application Report (this Report)
NGH	NGH Pty Ltd (ABN 31 124 444 622)
NSW	New South Wales
Original Approved Project	The Project as approved by grant of the Development Consent for SSD 6693 on 22 May 2017
PCTs	Plant Community Types
the Project	the Rye Park Wind Farm Project
SSD	State Significant Development
TEC	Threatened ecological community
Telstra	Telstra Corporation (ABN 33 051 775 556)
Umwelt	Umwelt (Australia) Pty Ltd (ABN 18 059 519 041)
WTG	Wind turbine generator

1.0 Introduction

The approved Rye Park Wind Farm (the Project) is located to the east of Rye Park, to the north-west of Yass and south-east of Boorowa, in New South Wales.

The Project is being developed by Rye Park Renewable Energy Pty Ltd (the Applicant), a subsidiary of a portfolio of companies that are trading as Tilt Renewables. The Project is currently under construction, with operation of the wind farm forecast to commence in early 2024.

This Report, Modification Application 2 Report, has been prepared to support a 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).

The purpose of this Report is to outline and assess the proposed modifications to the Development Consent as a result of the Modified Project (Modification Application).

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

The overall structure and purpose of each section of this Report is outlined in Table 1, with the format of the Report aligning with the guidance provided in the *State Significant Infrastructure Guidelines – preparing a modification report* (DPIE, 2021).

Table 1: Report Structure and Content

Section	Purpose / Content
Section 1.0: Introduction	*This section*
Section 2.0: Strategic context	Provides context for the why the modifications are desirable and fit within the broader strategic context of the Project.
Section 3.0: Description of modifications	Provides a detailed description of the proposed modifications, including why they are required and how they have been developed.
Section 4.0: Statutory context	Identifies the relevant statutory requirements for assessing the modifications to the Project.
Section 5.0: Engagement	Provides an overview of the consultation with key stakeholders, including government agencies and the community in the preparation of the modification application.
Section 6.0: Assessment of impacts	Provides an overview of the updated technical assessments carried out to assess the refinements made to the Project infrastructure.
Section 7.0: Evaluation of merits	Provides an overview of why the modifications are warranted with consideration of the potential impacts and benefits to the Project.

Relevant spatial data associated with the Modified Project will be supplied to the Department of Planning and Environment (DPE) with the Modification Application.

This Report and the Modification Application has been prepared by the Applicant, with advice from relevant technical specialists in relation to:

- Statutory planning advice, K&L Gates LLP;
- Technical civil and electrical design, Zenviron Pty Ltd
- Ecology and biodiversity, Umwelt (Australia) Pty Ltd; and
- Aboriginal cultural heritage, NGH Pty Ltd.

Where relevant technical experts have provided reporting relevant to the Modification Application, these specialists have included details of their technical expertise with their assessment reports. 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

2.0 Strategic context

2.1 Background

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).

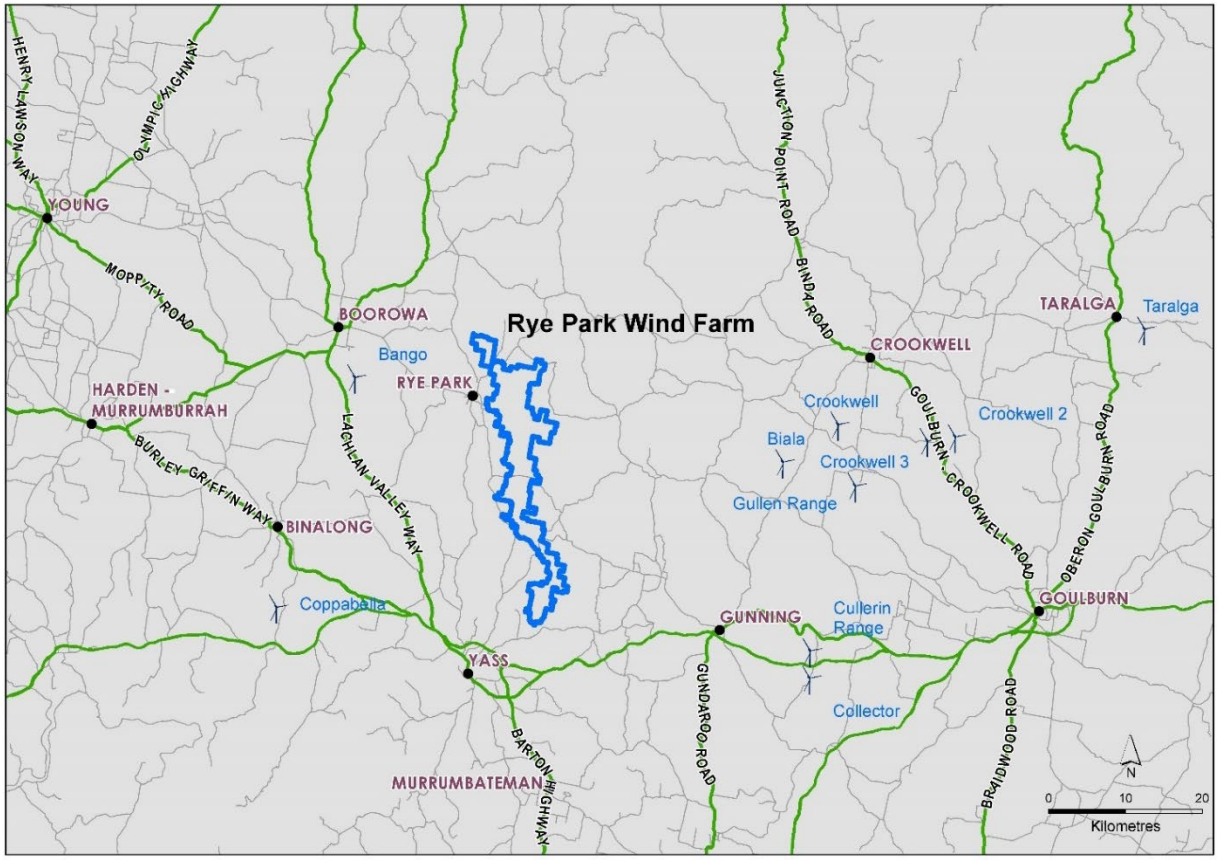
The Project has also been granted approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2020/8837) on 1 June 2021.

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 Development Consent.

2.2 Project Site and surrounds

The Project is located within three Local Government Areas (LGAs) being Hilltops Council, Upper Lachlan Shire Council and Yass Valley Council. The Project location and its general proximity to other wind farms under development or currently operating is shown in Figure 1.

Figure 1: Project Locality



The Site boundary of the Modified Project remains the same as the Approved Project, with minor changes to the location of specific infrastructure sought as part of this Modification Application. The location of other wind farms proposed within the region is shown in Figure 1, with the nearest wind farm being the Bango Wind Farm to the west of the Project, which is currently nearing completion of construction.

The scope of the changes proposed as part of the Modification Application (refer to Section 3.0) would not generate any cumulative impacts with any other developments that would be required to be assessed as part to the Modification Application (refer to Section 6.0).

2.3 Strategic support and policies

The Project is supported strategically by strongly aligning with the NSW Government energy and Commonwealth climate policies. The Project will provide 100% emissions free, renewable energy and help NSW with its inevitable transition away from its current reliance on fossil fuels which are continuing to contribute to climate change impacts.

Specific energy and climate policies that align or support the development of the Project include:

- The NSW Electricity Strategy (November 2019);
- Net Zero Plan (Stage 1: 2020 – 2030) (March 2020);
- NSW Transmission Infrastructure Strategy (November 2018);
- NSW and Commonwealth Memorandum of Understanding (January 2020); and
- The Commonwealth Climate Policy.

While the Approved Project will seek to deliver in supporting both the NSW and Commonwealth Governments, approval of the Modified Project would allow the Applicant to reduce risks in the project scheduling for the overall delivery of the Approved Project. It is currently envisaged that the wind farm will commence operations in early 2024.

2.4 Planning context

This Modification Application is being lodged under Section 4.55 of the EP&A Act that specifies a State Significant Development Consent can be modified where:

> *"Development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted"*

It is considered this Modification Application 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.

On 14 April 2022, a letter of intent to lodge a Modification Application was provided to the Department. The letter outlined the proposed changes to the Development Consent, the level of assessment and the legislative context for the Modification Application. The letter noted that the proposed changes would be substantially the same development as that which was originally approved.

For State Significant Development, it must be demonstrated that the change, if carried out, would result in a development that would be substantially the same development as the original development with regard to the considerations summarised in Table 3.

Table 3: Substantially the same development

Considerations	Response
"Substantially'' means ''essentially or materially'' or ''having the same essence.''	The Modified Project would remain a wind farm with ancillary infrastructure, as described in the Original Environmental Impact Statement (EIS), including access tracks, transmission infrastructure and transport route upgrades.
A development can still be substantially the same even if the development as modified involves land that was not the subject of the original consent.	The Modified Project does not include additional land that was considered as part of the Original EIS, with a detailed description of the Modified Project contained in Appendix A.
If the development as modified, involves an ''additional and distinct land use'', it is not substantially the same development.	No additional and distinct land use is proposed.
In order for the proposal to be ''substantially the same'', the modified versus approved project must: - appreciate the qualitative and quantitative differences in their proper context - consider the environmental impacts of proposed Modification Applications to approved developments. - not eclipse or cause to be eclipsed a particular feature of the development, particularly if that feature is found to be important, material or essential.	For the Project, the proposed changes within this Modification Application would be substantially the same as that for which Development Consent was originally granted on 22 May 2017 and subsequently modified on 15 April 2021. This modification does not propose any changes to the general project description. The qualitative and quantitative comparison of the Approved Project and Modified Project is detailed in Section 6.0, which identifies any substantive changes in the nature or extent of environmental impacts.

These comparisons make clear that the modifications proposed would be 'substantially the same' as that for which consent was originally granted and that the impacts, on balance, are manageable with similar strategies and that the impacts remain justifiable, in the context of the Project's many benefits.

A consolidated, detailed description of the Modified Project has been included in Appendix A. The proposed modifications described in Section 3.0 and the modified project description are essentially unchanged from the Approved Project, generally are consistent with the EIS and the EPBC Act Approval (EPBC 2020/8837) and therefore compliant with Schedule 2, Condition 2 of the Development Consent for the Project.

3.0 Description of modifications

3.1 Overview

The Modification Application proposes modifications to the Development Corridor – Wind Farm to facilitate revisions to several sections of indicative access track required to construct the proposed 33 kV and 330 kV transmission lines and two revisions to wind farm access track in response to ongoing associated landowner discussions.

The Modified Project does not seek amendment to the other components of the Approved Project, with an overview of the proposed modifications against the key project parameters of the Approved Project being presented in Table 4. No other modifications are sought to the key project components, including wind turbines (e.g. location, number or size) or other ancillary infrastructure.

Table 4: Key indicative parameters of the Approved Project compared to the Modified Project

Parameter	Summary of the Approved Project	Summary of the proposed modifications
Site boundary	Site boundary of the wind farm, which relates to the private and public land parcels that host wind farm infrastructure or are impacted by road upgrades.	**Unchanged** – refer to Figure 2 and Figure 3.
Development Corridor	Corridor that allows for the development and micro-siting of wind farm infrastructure, including wind turbines and ancillary infrastructure such as substations, switching stations, permanent offices and site compounds, underground and overhead transmission lines and internal roads. Identified separately in Appendix 2 – Development Layout of the Development Consent for 'Development Corridor – Wind Farm', being an area of 1,275.57 ha, and 'Development Corridor – Met Masts', being an area of 52.0 ha.	Increase to the Development Corridor – Wind Farm by approximately 14.59 ha (1,290.16 ha in total) to allow for the proposed revisions to the access tracks as described further in Section 3.2 (and shown in Figure 2 and Figure 3).
Wind turbines	Development of up to 77 wind turbines with a maximum tip height of 200 m.	**Unchanged** – location and quantum (refer to Figure 2 and Figure 3).
Wind monitoring masts	Six temporary wind monitoring masts and six permanent monitoring masts for wind speed verification, weather and general monitoring purposes.	**Unchanged** – location and quantum.
Electrical distribution	An overhead powerline of approx. 35km in length (up to 330 kV), and underground and overhead electrical cabling inking the wind turbines and the on-site collection substations.	**Unchanged** – location and quantum.
Ancillary facilities	Up to three collection substations, three temporary construction facilities and temporary batching plants within the Site boundary.	**Unchanged** – location and quantum.
Access tracks	Access tracks within the Development Corridor – Wind Farm required for each wind turbine and the related facilities, including ancillary infrastructure.	Revision to proposed access within the revised Development Corridor – Wind Farm to access both wind turbine locations and areas of the overhead powerlines. Based on an assessment of the Updated Development Layout, this would result in a reduction of 1.02 km of access requirements compared to the approved Development Layout.
Preferred Transport Route	The transportation route of heavy and over-dimensional vehicles from port facilities to the wind farm site access points, which is detailed as one of three options from the Port of Newcastle or Port Kembla (refer to Condition 26 of the approved Development Consent).	**Unchanged**

Parameter	Summary of the Approved Project	Summary of the proposed modifications
Property	There are 40 associated landowners within the Site boundary and along the Preferred Transport Route that have agreements with the Applicant to develop wind farm infrastructure on their private land.	**Unchanged** – increase to the Development Corridor – Wind Farm on land with existing wind farm agreements.
Operational facilities	Up to two operation and maintenance facilities incorporating a control room and equipment storage facilities	**Unchanged** – location and quantum.
Workforce	The Project will provide full time employment for up to 250 staff during construction and up to 10 ongoing regional jobs during its operational life	**Unchanged**

The location of these changes, including where it is proposed to increase the Development Corridor – Wind Farm to allow for the access track revisions, and where access track is no longer proposed to be constructed are illustrated in Figure 2 and Figure 3. The changes are further described Section 3.2.1 to 3.2.7.

The transmission line access track revisions are largely proposed to address challenges of constructability (e.g., avoidance of waterway/riparian zones, gully crossings) and therefore decrease the amount of disturbance and reduce the scale of construction activities required in sensitive and topographically constrained areas.

One small section of wind farm access track is proposed to be realigned with the associated landowners recently constructed farm access track (refer to Section 3.2.2) to minimise additional disturbance, whilst another small section is to be realigned to avoid land owned by Telstra Corporation (Telstra) as part of their telecommunications network (refer to Section 3.2.4).

Conservatively, the proposed as part of the Modified Project reduce the amount of private access tracks required under the Approved Project by approximately 1.02 km[1]. As part of the Modification Application, the Applicant seeks to increase the Development Corridor – Wind Farm by 14.59 ha to achieve this aim (refer to Table 4). Overall, the proposed optimisations reduce the amount of infrastructure to be constructed and therefore decrease the amount of disturbance, time for completion of the works and de-risk construction activities in sensitive and topographically constrained areas.

The changes subject to the Modification Application are all contained within the Upper Lachlan Shire Council local government area, with the exception of those relevant to Inset 1 and 4, which are located within the Hilltops Council local government area (refer to Section 3.2.1 and 3.2.4), and Inset 7, which is located within the Yass Valley Council local government area (refer to Section 3.2.7). The local government boundaries in relation to the Project are illustrated in Figure 2 and Figure 3.

The final proposed modifications that form the Modified Project were determined in an iterative process both being driven by construction requirements and refined with the preliminary findings of the environmental assessments of the proposed changes (refer to Section 6.0).

The proposed modified Development Corridor – Wind Farm remains wholly within the Project Boundary and does not introduce any new land to Appendix A - Schedule of Land of the Development Consent.

3.2 Detailed description of changes

The following sections provide a detailed description of the proposed changes to the Development Corridor-Wind Farm across the seven discrete areas shown in Figure 2 and Figure 3.

[1] Assumption made that the sections of transmission line alignment where access tracks are no longer required are based on a direct track parallel to the transmission line. Practically, greater savings would be achieved through the Modified Project due to the requirement for the avoided access to follow natural ground conditions across sections of steep and undulating terrain.

Figure 2: Infrastructure change overview (page 1)

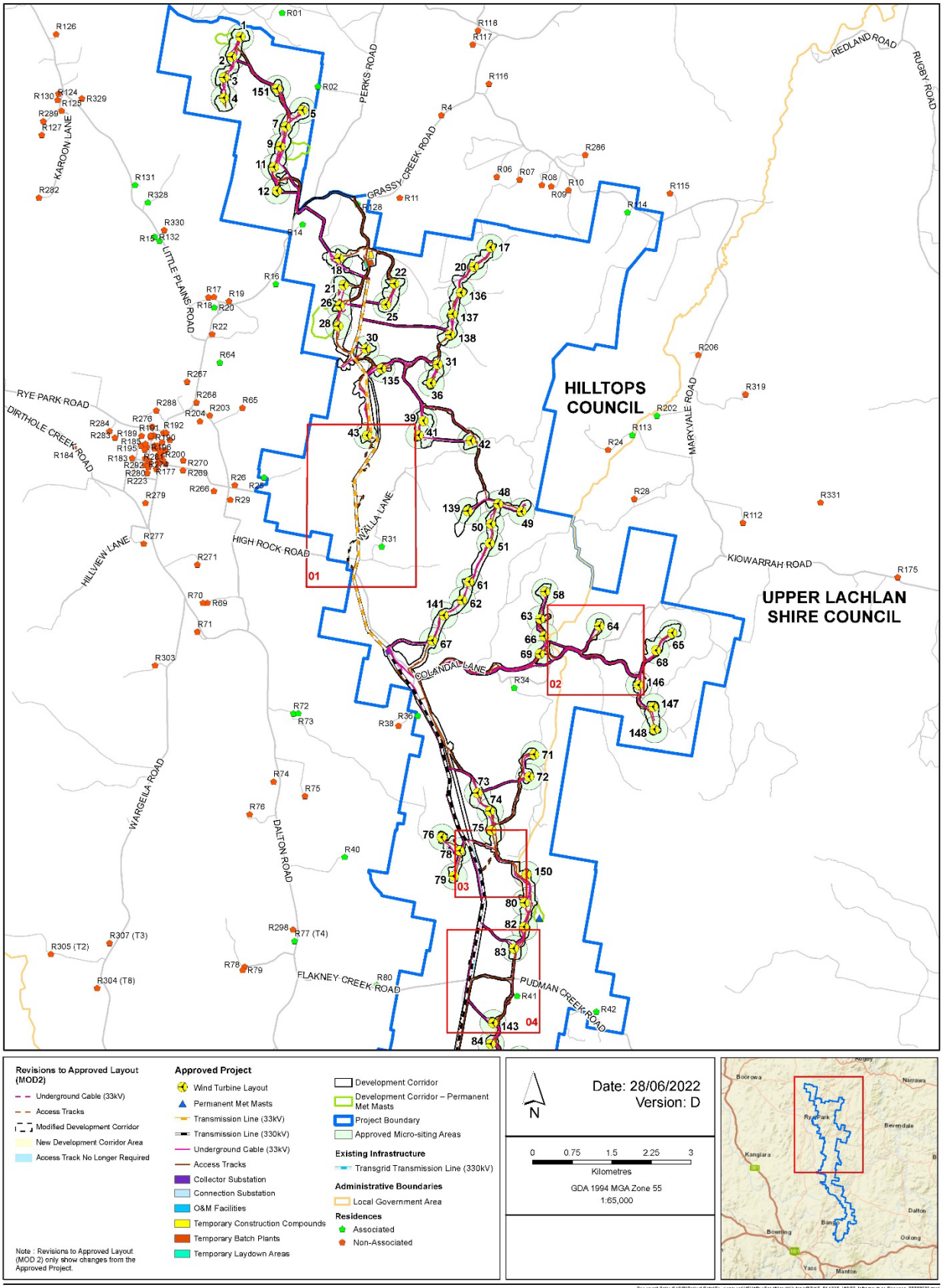
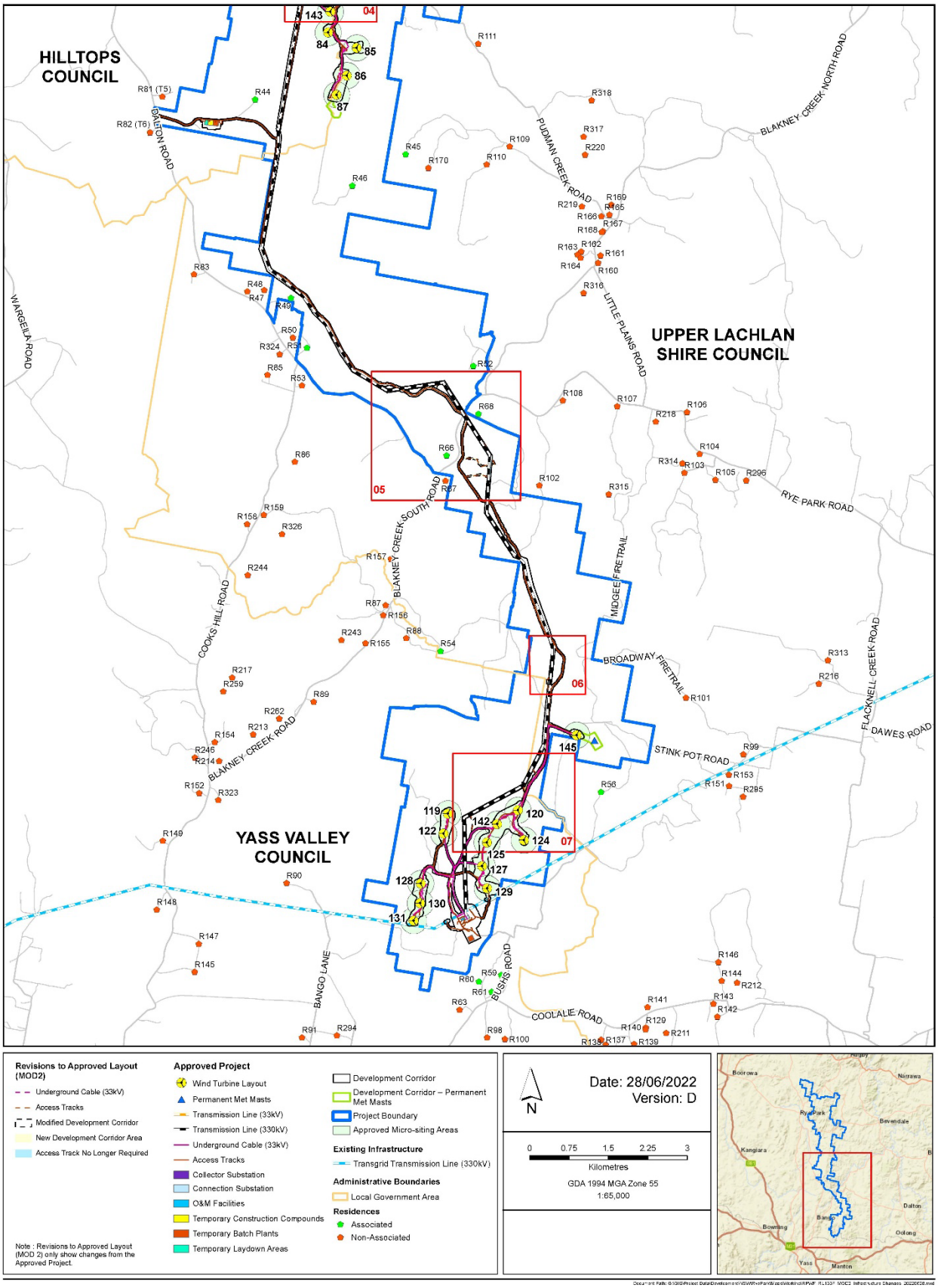


Figure 3: Infrastructure change overview (page 2)



3.2.1 Inset 1

Areas of additional Development Corridor – Wind Farm are proposed along the 33 kV transmission line to the south of WTG A01 as a result of ongoing design reviews of the constructability of the transmission line over this steep topography. These changes are shown in Figure 4.

The figure shows the proposed additional Development Corridor highlighted by the yellow 'New Development Corridor Area', whilst the area of Development Corridor where an access track would no longer be required (if access is facilitated in the new area) is highlighted by the blue 'Access Track No Longer Required'. No removal of Development Corridor is proposed as this area is still required to facilitate the overhead lines of the transmission line.

The revised access tracks have been realigned to better follow the natural contours of the land, which will result in an overall reduction in disturbance across these topographically constrained areas when compared to establishing access following the transmission line alignment across the steeper hills and gullies. The majority of the tracks, with the exception of the northern-most changes, will not require cut and fill balancing with the ability to traverse the existing contours of the land.

These revisions will result in the establishment of approximately 1.7 km of wind farm access track outside of the existing Development Corridor – Wind Farm for the construction, as well as the utilisation of Walla Lane for 0.89 km. Approximately 1.28 km of access along the transmission line route would be avoided by the additional access proposed as part of the Modification Application, an overall increase of 0.42 km.

The modified access tracks proposed as part of the Modification Application avoid establishing access across numerous waterway and drainage features, including Lagoon Creek (by utilisation of an existing crossing at Walla Lane). This will have additional benefit in avoidance of these waterway riparian zones and the potential for secondary effects associated with erosion and sedimentation of these features.

Minor road works are required to Walla Lane to ensure that the road is suitable to all weather access, with some sections requiring the installation of drainage pipes, and clean crushed rock, with layered geofabric. All works will remain within the footprint of the existing carriageway of the road and not result in additional disturbance within the road reserve.

3.2.2 Inset 2

One small section of track in the north-eastern aspect of the Project, within Lot 143 in DP 754136 is proposed to be realigned with the associated landowners realigned access track to minimise additional disturbance associated with the creation of two access tracks. This proposed modification is consistent with the Applicant's aim to reduce overall disturbance from the Project and aligns with the associated landowners proposed ongoing use of the recently created access track.

The relocation of the access track and additional proposed the Development Corridor – Wind Farm is illustrated in Figure 5. The figure shows the proposed additional Development Corridor highlighted by the yellow 'New Development Corridor Area', whilst the area of Development Corridor where an access track would no longer be required (if access is facilitated in the new area) is highlighted by the blue 'Access Track No Longer Required'. No removal of Development Corridor is proposed, as subject to the timing of the assessment of the Modification Application, the Project may be required to proceed with civil construction in accordance with the approved alignment in order to ensure the Project is not at risk of delays.

The associated landowners new track is in substantially better condition than the previous track, which was located in low-lying marsh land. Co-location of the wind farm access with the revised associated landowners access will result in a better outcome avoiding this low-lying land and aligning with the associated landowners current and future use of the existing access track.

Figure 4: Detailed overview of proposed modification (Inset 1)

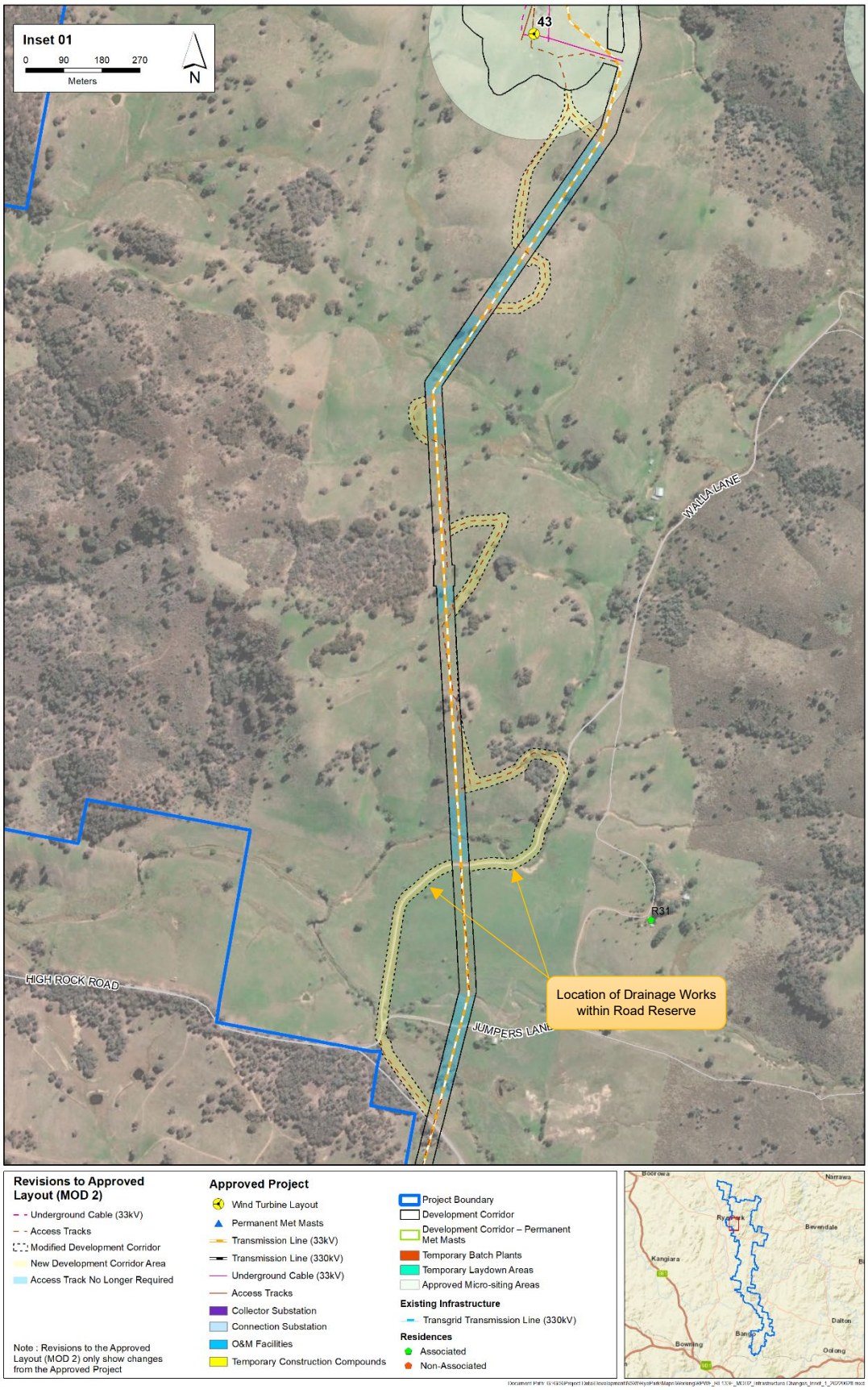
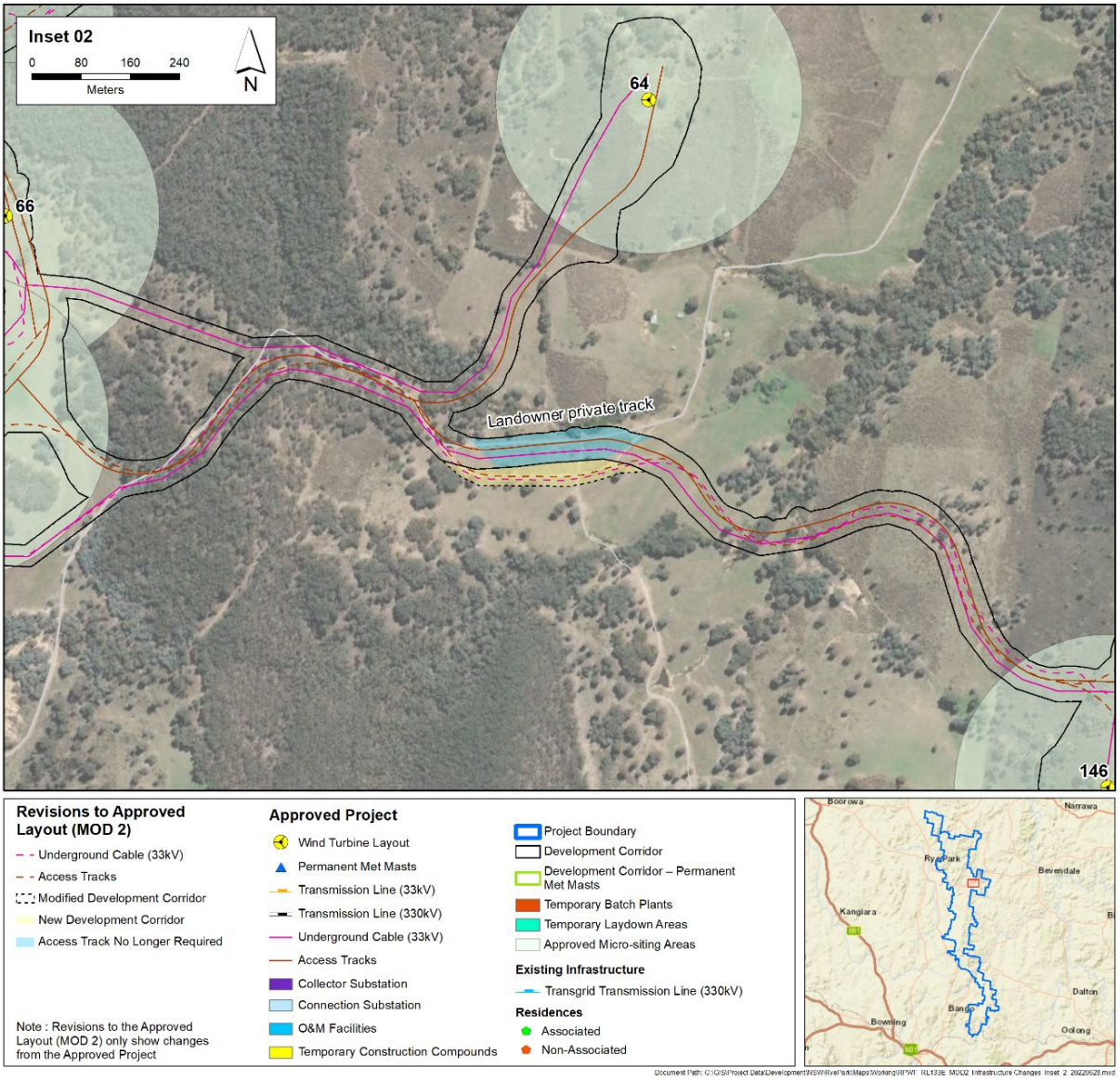


Figure 5: Detailed overview of proposed modification (Inset 2)



3.2.3 Inset 3

Areas of additional Development Corridor – Wind Farm are proposed along the 330 kV transmission line to the south of WTG D03 as a result of the constructability of the transmission line and establishment of access tracks along the transmission line route over this steep topography. This change is shown in Figure 6.

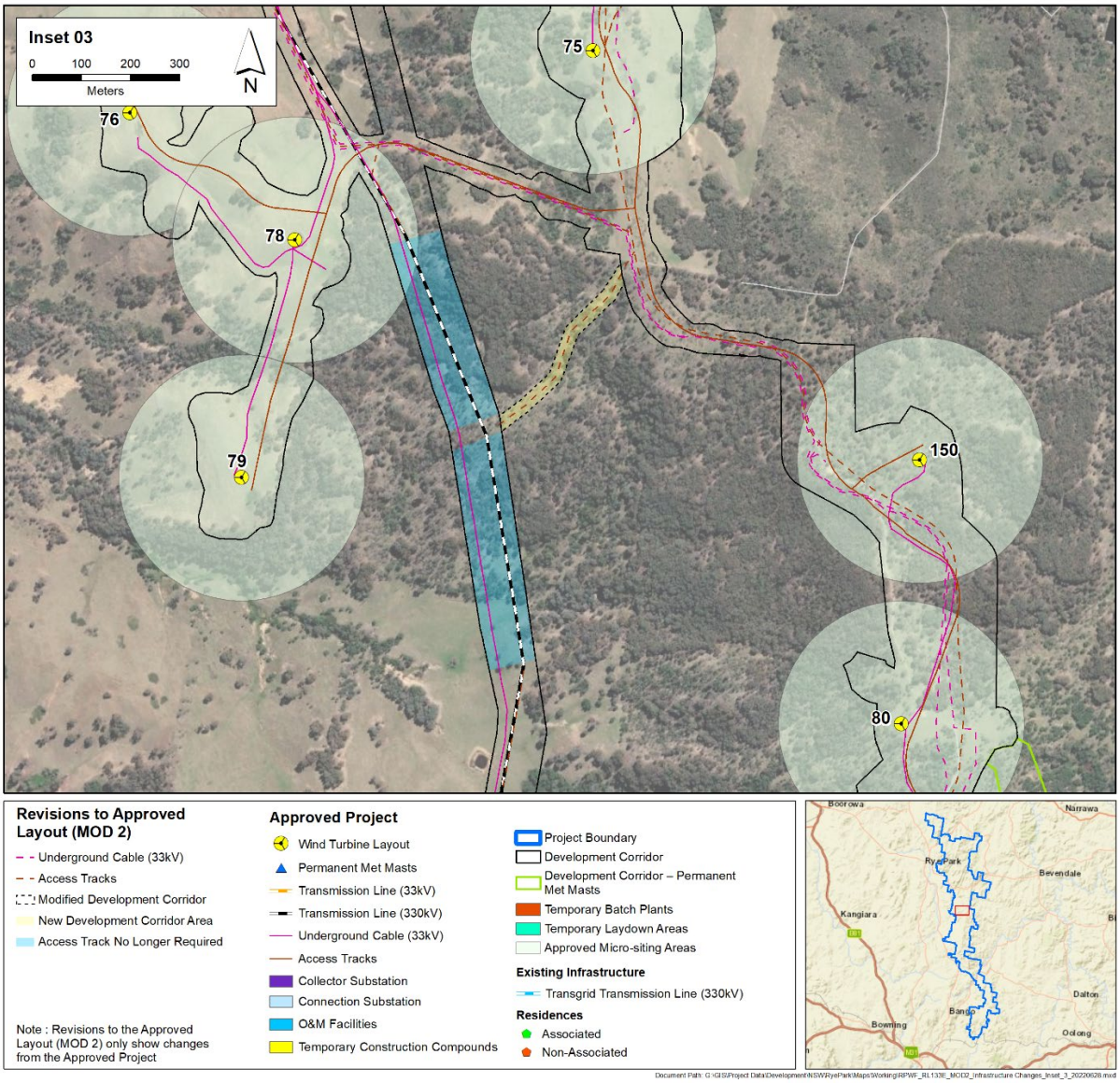
The figure shows the proposed additional Development Corridor highlighted by the yellow 'New Development Corridor Area', whilst the area of Development Corridor where an access track would no longer be required (if access is facilitated in the new area) is highlighted by the blue 'Access Track No Longer Required'. No removal of Development Corridor is proposed as this area is still required to facilitate the overhead lines of the transmission line.

The access track proposed as part of the Modification Application has been realigned to follow the ridgeline from the main wind farm access track between WTG D03 and WTG D06 and following a historic/overgrown associated landowners access path. Use of the track will require a small amount of clearance of smaller regrowth vegetation and dead foliage without need for cut and fill balancing for the upgrade of the existing track.

The use of this track will result in a substantial decrease in the disturbance associated with remnant vegetation and will not require significant cut and fill balancing as would have been required on the transmission line route, which is proposed over steep topography and gullies to the north and south of the transmission line at this location.

The modification will result in the establishment of approximately 0.4 km of additional wind farm access track outside of the existing Development Corridor – Wind Farm for the construction of the 330 kV transmission line in this area, though will avoid the requirement to construct at least 0.87 km through remnant vegetation and steeper terrain along the transmission line route, a reduction of approximately 0.47 km of access requirements.

Figure 6: Detailed overview of proposed modification (Inset 3)



3.2.4 Inset 4

The modification to the Development Corridor – Wind Farm at this location is relevant to both a minor increase to the Development Corridor taking into consideration greater constructability and reduction of disturbance associated with construction of the 330 kV transmission line north of Flakney Creek Road and a small realignment of the main (permanent) wind farm access track to avoid any potential disruption to a Telstra telecommunications facility.

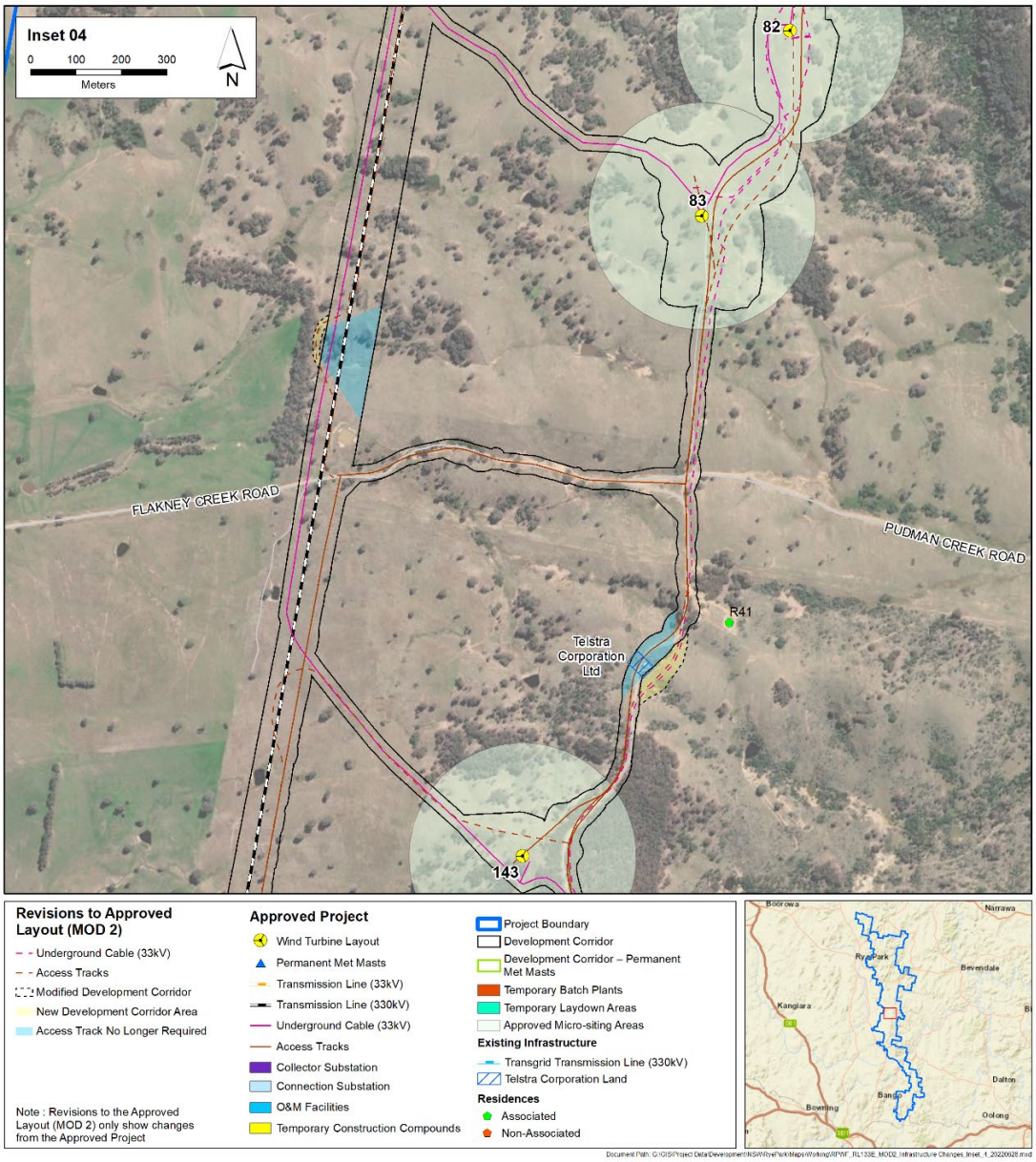
Revisions to the access tracks required to facilitate the construction of the 330 kV transmission line is proposed to avoid steeper topography and co-locate the access for the transmission line construction with an existing associated landowner access` track in this location. This proposal will reduce impacts and overall disturbance of the tracks by following the natural contours of the land. The modification increases the Development Corridor – Wind Farm by approximately 110 m, though avoids a similar distance of access track across the constrained terrain within the existing Development Corridor – Wind Farm. This change is located within the Hilltops Council local government area.

A minor realignment is proposed to the main (permanent) wind farm access track and associated re-design of the underground cabling in this area adjacent to Lot 1 in DP 601586, owned by Telstra. This change is shown in the south-east corner of Figure 7. The modification is being proposed to ensure ongoing access and availability of land to Telstra for the future augmentation of the telecommunications network and avoidance of the extensive underground services associated with the existing Telstra tower at this location, south of Flakney Creek Road.

Ongoing consultation with Telstra has identified the potential expansion of the telecommunications network in the region and concern regarding the upgrade and use of the existing access track through their land in relation to the existing infrastructure. As such, the revised access track proposed as part of the Modification Application is being proposed to avoid the Telstra tower (and associated compound) by locating the access track within private land to the east. The relocation of the track will result in the wind farm track being a similar length to the existing track (within the approved Development Corridor – Wind Farm). This change is located within the Upper Lachlan Shire local government area.

Figure 7 illustrates the described changes and shows the proposed additional Development Corridor highlighted by the yellow 'New Development Corridor Area', whilst the area of Development Corridor where the transmission line access track or permanent wind farm access would no longer be required (if access is facilitated in the new area) is highlighted by the blue 'Access Track No Longer Required'. No removal of Development Corridor is proposed in these areas, as the Development Corridor is still required to facilitate the overhead lines of the transmission line and to allow for temporary construction access using the existing Telstra access track.

Figure 7: Detailed overview of proposed modification (Inset 4)



3.2.5 Inset 5

Areas of additional Development Corridor – Wind Farm are proposed along the 330 kV transmission line in the vicinity of Blakney Creek Road South due to ongoing design reviews of the constructability of the transmission line over this steep topography. These changes are shown in Figure 8.

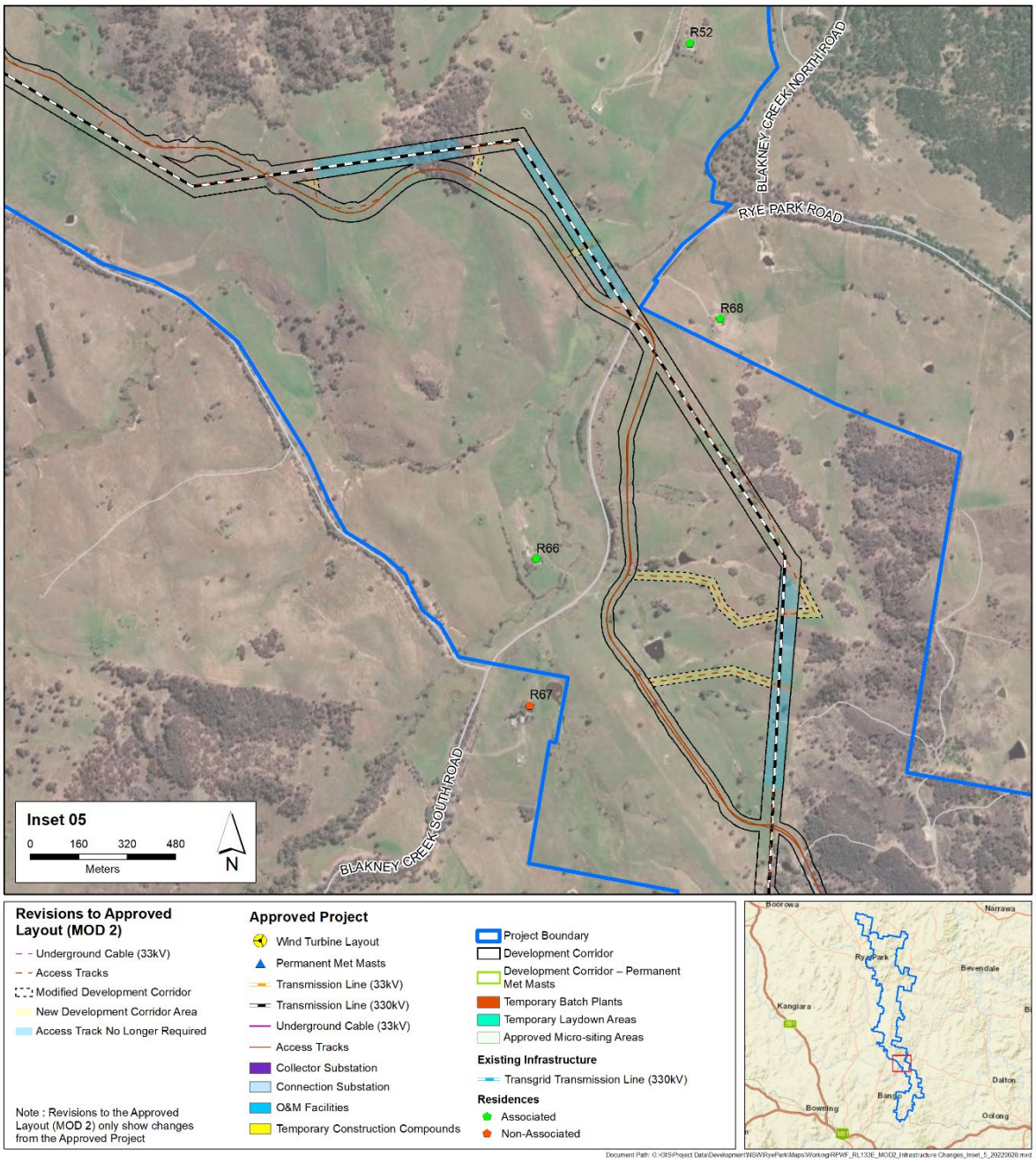
The figure shows the proposed additional Development Corridor highlighted by the yellow 'New Development Corridor Area', whilst the area of Development Corridor where an access track would no longer be required (if access is facilitated in the new area) is highlighted by the blue 'Access Track No Longer Required'. No removal of Development Corridor is proposed as this area is still required to facilitate the overhead lines of the transmission line.

The revised access tracks have been realigned to both branch from the main wind farm access track and better follow the natural contours of the land, which will result in an overall reduction in disturbance across these topographically constrained areas when compared to establishing access following the transmission line

alignment across the steeper hills and gullies. The modified access tracks will not require cut and fill balancing to achieve the required access, with the ability to traverse the natural surface of the land. The southernmost access track will require installation of a pipe with clean rock fill and layered geofabric within a drainage line to achieve the required access.

The modification will result in the establishment of approximately 1.24 km of additional wind farm access track outside of the existing Development Corridor – Wind Farm for the construction of the 330 kV transmission line in this area. Approximately 1.62 km of access along the transmission line route over steep and undulating terrain would be avoided by the additional access proposed as part of the Modification Application, including an additional crossing of Blakney Creek and drainage lines in gullies to the south of Blakney Creek Road South that are tributaries of Blakney Creek. Conservatively, this would be an overall reduction of 0.38 km of access requirements because of the proposed modification.

Figure 8: Detailed overview of proposed modification (Inset 5)



3.2.6 Inset 6

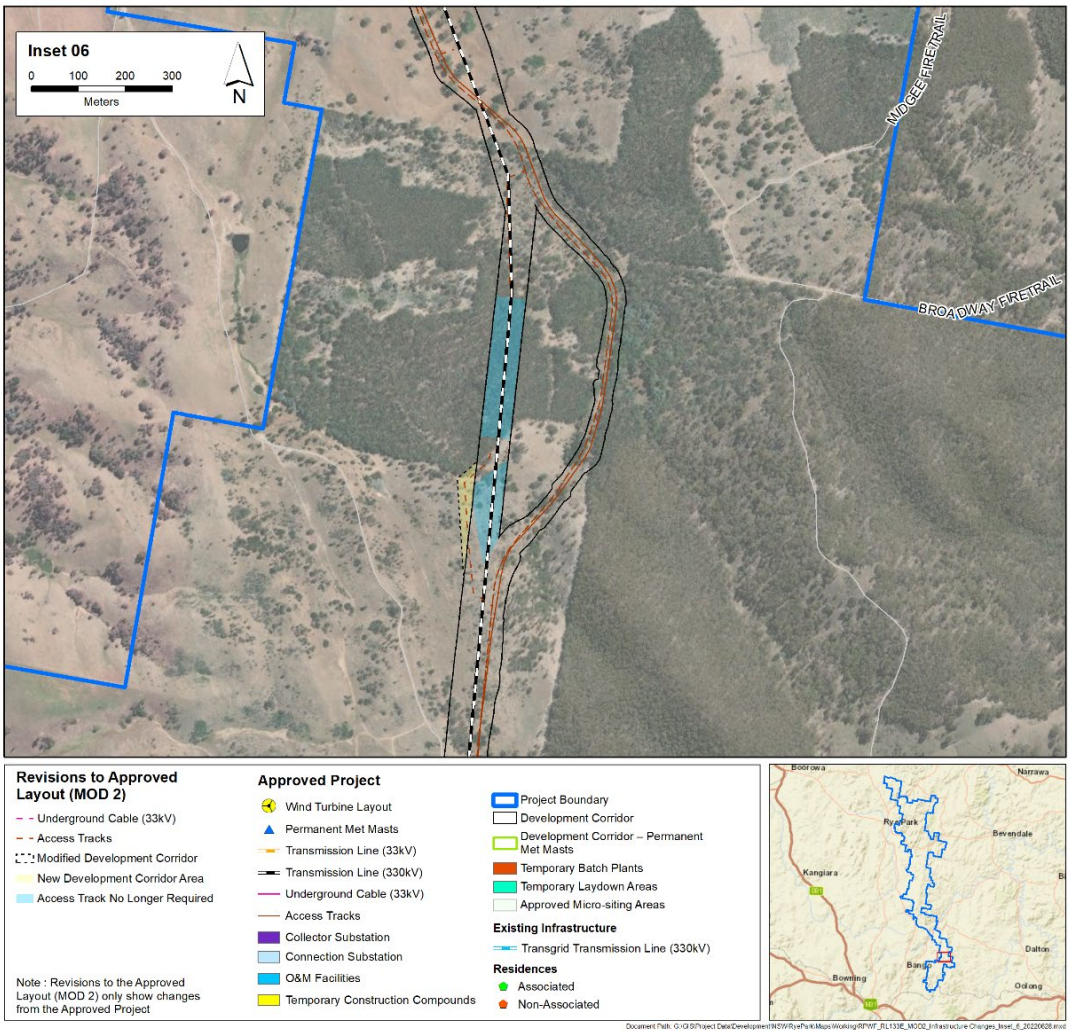
An area of additional Development Corridor – Wind Farm is proposed along the 330 kV transmission line to the north-west of WTG G05 due to ongoing design reviews of the constructability of the transmission line over this steep topography. This change is shown in Figure 9.

The figure shows the proposed additional Development Corridor highlighted by the yellow 'New Development Corridor Area', whilst the area of Development Corridor where an access track would no longer be required (if access is facilitated in the new area) is highlighted by the blue 'Access Track No Longer Required'. No removal of Development Corridor is proposed as this area is still required to facilitate the overhead lines of the transmission line.

The revised access track at this location has been proposed as part of the Modification Application to both avoid impacts to remnant vegetation and reduction in cut and fill balancing to achieve the required access, through the establishment of an access track within the existing transmission line corridor by relocating the access track within the modified Development Corridor – Wind Farm for approximately 0.15 km. This has a significant reduction on the length of the access track that would be required within the existing Development Corridor – Wind Farm, with a reduction of the length of the track by approximately 0.49 km in sensitive and steep topography.

In addition to the above, the proposed access track within the modified Development Corridor – Wind Farm is sought to avoid low-lying wetter marsh land that may need to be impacted under the current approval.

Figure 9: Detailed overview of proposed modification (Inset 6)

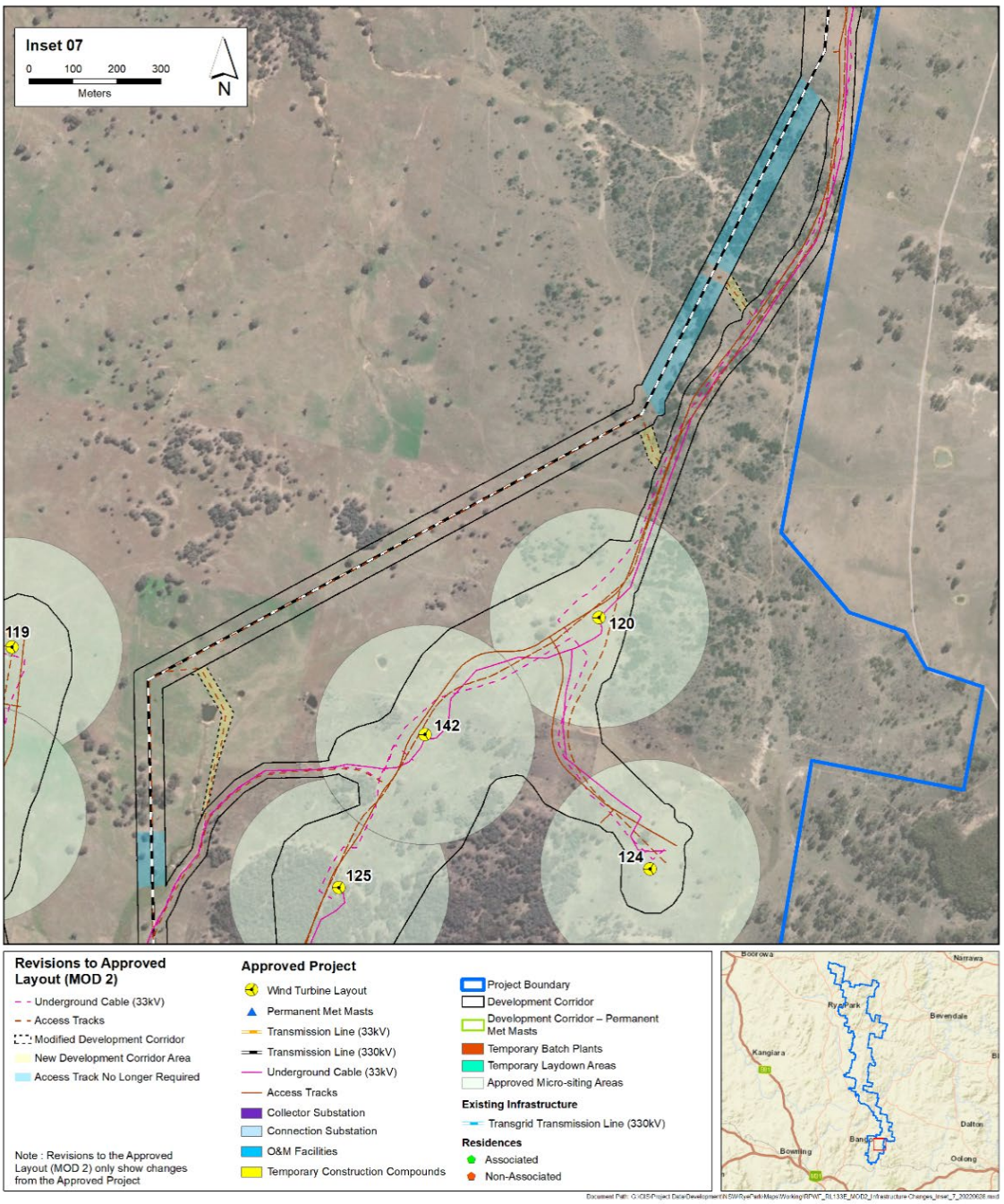


3.2.7 Inset 7

Areas of additional Development Corridor – Wind Farm are proposed along the 330 kV transmission line to the southernmost cluster of wind turbines due to ongoing design reviews of the constructability of the transmission line with the aim of allowing access from the main wind farm access track in this area. This change is shown in Figure 10.

The figure shows the proposed additional Development Corridor highlighted by the yellow 'New Development Corridor Area', whilst the area of Development Corridor where an access track would no longer be required (if access is facilitated in the new area) is highlighted by the blue 'Access Track No Longer Required'. No removal of Development Corridor is proposed as this area is still required to facilitate the overhead lines of the transmission line.

Figure 10: Detailed overview of proposed modification (Inset 7)



The revised access track at these locations would necessitate a revision to the approved Development Corridor – Wind Farm to allow for the shorter spurs of the main access track, which would result in approximately 0.50 km of additional access within the modified Development Corridor – Wind Farm, with a reduction of 1.02 km of access track requirements within the approved Development Corridor – Wind Farm. Conservatively, this would be an overall reduction of 0.52 km of access requirements because of the proposed modification.

The modified access tracks proposed as part of the Modification Application seek to avoid traversing areas of existing erosion and drainage features and align with existing associated landowner farm tracks.

4.0 Statutory context

This Modification Application is being lodged under Section 4.55 of the EP&A Act that specifies a State Significant Development Consent can be modified where:

> *"Development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted"*

It is considered this Modification Application 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.

On 11 July 2022, the Modification Application was designated to be a project on land with multiple landowners within the meaning of public notification development as defined in the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) due to the high number of involved (associated) landowners. The Applicant provided notice of the Modification Application to the relevant owners of land in accordance with Clause 23(3)(a) of the EP&A Regulation prior to submission of the Modification Application.

On 31 May 2022, A corresponding application was made to the Department of Agriculture, Water and the Environment to vary the EPBC Approval for the Approved Project, with this application seeking to vary the Project area of the EPBC approval, consistent with the Modified Project. A notice approving the variation to the EPBC Approval was received by the Applicant on 30 June 2022.

Other relevant State legislation and policies applicable to the Approved Project and its relevance to the Modified Project is presented in Appendix B.

4.1 Revision to strategies, plans and programs

Should the Modification Application be approved by the Planning Secretary, the Applicant would seek relevant updates to the respective strategies, plans and programs required by the Development Consent, including resubmission of the following management plans for the approval of the Planning Secretary in accordance with Schedule 2, Condition 16 of the Development Consent:

1. Final Layout Plans, required by Schedule 2, Condition 10 of the Development Consent
    - Update to plans to be consistent with the modified Development Corridor – Wind Farm.
2. Pre-construction Biodiversity Calculations and Mapping, required by Schedule 3, Condition 20 of the Development Consent
    - Update to baseline mapping and final disturbance area and review of calculation of the biodiversity offset credit liabilities (and as detailed in Section 6.1 and Appendix D).
3. Biodiversity Management Plan, required by Schedule 3, Condition 22 of the Development Consent
    - Update to plans within the Biodiversity Management Plan to be consistent with the modified Development Corridor – Wind Farm.
4. Heritage Management Plan, required by Schedule 3, Condition 25 of the Development Consent
    - Update to plans within the Heritage Management Plan to be consistent with the modified Development Corridor – Wind Farm.
    - Incorporation of the identified archaeological sites (refer to Section 6.2.2) to be consistent with Appendix 5 Aboriginal Heritage Items of the Development Consent.
5. Traffic Management Plan, required by Schedule 3, Condition 30 of the Development Consent
    - Identification of the use and upgrade of Walla Lane (refer to Section 6.3).

In accordance with Schedule 5, Condition 2(c) of the Development Consent, the Applicant must review and if necessary, revise any strategies, plans and programs within 3 months of the submission of the Modification Application. Where the review leads to revisions of any such document (as outlined above), then within 4 weeks of the review the Applicant will submit the revised documents to the Planning Secretary for approval.

5.0 Engagement

5.1 Engagement with government authorities

A letter of intent to lodge a Modification Application was provided to the Energy Assessments Branch of DPE on 14 April 2022. The letter outlined details and justification of the proposed modifications to the Development Consent, and confirming the proposal was consistent with provisions of 4.55(1A) of the EP&A Act.

In addition to the Energy Assessments Branch of DPE, the Applicant has consulted with the following government authorities in the preparation of this Modification Application:

- Department of Agriculture, Water and the Environment – provided an overview of the Modification Application and sought input and advice in relation to submission of a modification to the existing EPBC Approval for the Project.
- DPE (Biodiversity Conservation and Science) (BCS) – provided an overview presentation of the Modification Application and sought input and advice on the methodology for the ecological assessment and required modifications to the Development Consent as a result of the Modification Application.
- DPE (Crown Lands) – sought advice on any required secondary consents required for the use and occupation of Crown roads as a result of the Modification Application.
- DPE (Water) – provided an overview of the Modification Application and sought input prior to lodgment of the application with DPE.
- Department of Primary Industries (Fisheries) – provided an overview of the Modification Application and sought input prior to lodgment of the application with DPE.
- Councils (Hilltops Council, Upper Lachlan Valley Council and Yass Valley Council) – provided an overview of the Modification application relevant to their jurisdiction prior to lodgment of the application with DPE.

There has been no feedback on the proposed modifications from relevant government authorities, except for BCS. BCS provided direct comments in relation to preliminary information supplied to them prior to the formal submission of the Modification Application, identifying:

- The level of survey undertaken of the modified areas was appropriate; and
- Discussion on the form of supporting documentation for the Modification Application, with corresponding commitments to reduction in clearing limits for the Modified Project.

Consultation is proposed to continue with the Energy Assessment Branch of DPE and BCS following formal lodgement of the Modification Application, with these matters further addressed in Section 6.1.

It is considered by the Applicant that the limited feedback is both in relation to the limited scope of change proposed as part of the Modification Application and that agencies will take the opportunity to review the application in detail as part of any agency referral of the Modification Application.

5.2 Community and landowners

The Applicant has endeavoured to keep the local and regional community informed through all aspects of the Project's development. The Applicant regularly releases newsletters and fortnightly construction updates to the community on the implementation of the Project, which are distributed to the community members directly (email and post) or available on the Applicant's website.

Specifically with regards to the Modified Project, the Applicant has:

1. Informed the Community Consultative Committee for the Project at the most recent meeting held with the group on 12 April 2022 (minutes from this meeting are available on the Project website); and

2. Notified the community of the intention to lodge the Modification Application as part of the most recent newsletter for the Project (April 2022).

In addition to the above, the Applicant and its contractors continues to regularly liaise with landowners involved in the Project (associated landowners) regarding the timing of works and proposed activities on their properties to ensure that the Applicant is undertaking the works in line with any relevant agreements in place with them. Considering the minor nature and location of the changes, the directly affected private (associated) landowners are the key stakeholders associated with the Modification Application.

The Applicant will continue to engage with all associated landholders and the broader community throughout the development and construction phase of the Project.

5.3 Modification consultation

In accordance with DPE's *Undertaking Engagement Guidelines for State Significant Projects* (DPIE, 2021a), where a proponent submits a modification application to DPE, the Department will:

- Consider whether to publicly exhibit the modification report for a period of at least 14 days in accordance with the requirements of the EP&A Act and EP&A Regulation; and
- If the modification report is exhibited, publish submissions on the major projects website and ask the Applicant to respond to the submissions.

The community is able to read the application and modification report and make a submission on the proposed modification through this process.

6.0 Assessment of impacts

Detailed assessment of the key impacts has been undertaken by relevant technical specialists. The identification of the relevant environmental aspects for technical investigation have been based on the scope of the Modification Application and consultation with relevant stakeholders, with an overview of the assessments against the environmental aspects addressed as part of the EIS shown in Table 5.

Table 5: Required assessments to address potential change in environmental impact

Environmental Aspect	Potential for change in impacts	Assessment of proposed modifications required	Addressed by
Visual (inc. Shadow Flicker and blade glint)	**No** – no changes proposed to location wind turbines or key ancillary infrastructure, such as substations, construction compounds and transmission line that affect assessments undertaken for the EIS.	**No** – not warranted based on scope of Modification Application.	N/A
Noise	**No** – no changes proposed to location of key noise generation components (e.g. wind turbines, substations) that would affect modelling undertaken as part of the EIS. Location of modified Development Corridor – Wind Farm within the broader Site boundary and generally consistent with the Approved Project.	**No** – not warranted based on scope of Modification Application.	N/A
Biodiversity (vegetation)	**Yes** – Change in Development Corridor – Wind Farm requires assessment for potential increase in impacts to biodiversity values, native vegetation clearing assumptions and significance assessments for threatened species.	**Yes** – Updated assessment required.	Refer to Section 6.1 (and Appendix C and D)
Biodiversity (bird and bat)	**No** – No changes to wind turbine design or location that would impact the collision risk monitoring undertaken for the EIS.	**No** – not warranted based on scope of Modification Application.	N/A
Aboriginal and European heritage	**Yes** – Change in Development Corridor – Wind Farm requires assessment for potential for additional impacts not previously assessed as part of the EIS.	**Yes** – Updated assessment required.	Refer to Section 6.2 (and Appendix E)
Traffic and transport	**Yes** – Potential change in construction impacts by use (and potential upgrade) of Walla Lane as part of the Modified Project) with no other changes to the Preferred Transport Route.	**Yes** – Consideration of use of short section of Walla Lane. Existing management strategies consistent with proposed works.	Refer to Section 6.3
Aviation	**No** – No changes to wind turbine design or location that would impact the assessment assumptions of the EIS.	**No** – not warranted based on scope of Modification Application.	N/A
Electromagnetic interference	**No** – No changes to wind turbine design or location that would impact the assessment assumptions of the EIS.	**No** – not warranted based on scope of Modification Application.	N/A
Fire and bushfire	**No** – The Modified Project does not differ in terms of ignition risks or management strategies to combat fire.	**No** – not warranted based on scope of Modification Application.	N/A

Environmental Aspect	Potential for change in impacts	Assessment of proposed modifications required	Addressed by
Blade throw	**No** – The Modified Project does not differ in terms of blade throw risks from what was assessed as part of the EIS.	**No** – not warranted based on scope of Modification Application.	N/A
Water supply, water quality and hydrology	**No** – The changes proposed do not affect water supply with the potential for the relocation of some access tracks within the modified Development Corridor - Wind Farm avoiding more sensitive low-lying land and riparian zones of waterways.	**No** – not warranted based on scope of Modification Application.	N/A
Soil and landforms	**No** – no changes to the overarching land disturbance and methodology, with the Modified Project reducing the requirements for access on steep constrained land.	**No** – not warranted based on scope of Modification Application.	N/A
Climate and air quality	**No** – The Modified Project does not affect the assumptions regarding health impacts and air quality impacts related to dust generation.	**No** – not warranted based on scope of Modification Application.	N/A
Mineral and petroleum exploration	**No** – the wind farm boundary is unchanged from the Approved Project.	**No** – not warranted based on scope of Modification Application.	N/A
Social and economic impacts	**No** – The Modified Project is generally similar to the Approved Project with limited changes to specific access tracks within the unchanged project Site boundary. Additional impacts are expected to associated landowners within the Site boundary, however, to be undertaken in line with agreements with the Applicant.	**No** – not warranted based on scope of Modification Application.	N/A
Property values	**No** – The Modified Project does not affect the assumptions regarding property value impacts considered as part of the EIS.	**No** – not warranted based on scope of Modification Application.	N/A
Health impacts	**No** – The Modified Project does not affect the assumptions regarding health impacts considered as part of the EIS.	**No** – not warranted based on scope of Modification Application.	N/A

Consultation undertaken for the Modification Application has not identified any other environmental assessments were considered required to assess the potential impacts of the Modified Project other in relation to biodiversity and Aboriginal cultural heritage. All other environmental aspects are considered by the Applicant to the consistent with the impacts assessed as part of the EIS for the Project.

6.1 Biodiversity (Vegetation)

6.1.1 Approach

A Modification 2 Biodiversity Summary Letter Report (Biodiversity Summary) has been prepared by Umwelt (Australia) Pty Ltd (Umwelt) (contained in Appendix C) to assess the potential impacts to biodiversity values, with this assessment also considering the biodiversity offset credit liability of the Project with respect to the Modified Project, which is presented in an updated Confirmation of Credits Liability Report (Appendix D).

Extensive ecological surveys have been completed for the Project across multiple years between 2011 and 2021. The surveys and baseline biodiversity values of the site are well documented and presented in various previous ecological survey reports for the Project. Umwelt have undertaken an additional ecological survey for the Modified Project focussing entirely on components of the modified Development Corridor – Wind Farm (refer to Section 2.0).

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

This additional ecological survey was undertaken across four days, 5 – 8 October 2021, by two Umwelt Accredited BAM Assessor ecologists. The methodology of the additional ecological survey included:

- 9 BAM Vegetation Integrity Plots;
- Walked parallel transects for threatened flora species;
- Rapid vegetation assessment points; and
- Habitat assessments for threatened flora and fauna species.

The identification, classification, assessment and subsequent GIS mapping of vegetation (including Threatened Ecological Communities) and threatened species was completed in accordance with BAM. Importantly, all GIS mapping completed for the modified Development Corridor – Wind Farm was done consistently with the approaches taken in the previous biodiversity assessments for the Project (Umwelt, 2020, 2021a and 2021b). This approach was carefully considered by Umwelt and deemed to be accurate and appropriate given the small nature of the changes extending beyond the approved Development Corridor – Wind Farm (refer to Appendix C).

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 associated with the Modification Application. This assessment is consistent with the methodology undertaken for previous biodiversity assessments as described in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (Umwelt, 2020a), Rye Park Wind Farm – Impact Assessment Addendum (Umwelt, 2021b) and Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt, 2021a).

The Modification Application excludes any revision to the prescribed impact assessment in relation to turbine strike, due to the proposed changes not involving any modification to the number, location or extent of wind turbines. Further, the modified Development Corridor – Wind Farm proposed as part of the Modification Application does not involve any modification to the Project that would interact with other prescribed impacts considered under BAM. As such, all other prescribed impact assessments relating to other prescribed impacts are consistent within the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (Umwelt, 2020a) and Rye Park Wind Farm – Impact Assessment Addendum (Umwelt, 2021b).

Full methodologies relating to the GIS mapping and operation of the BAM – Credit Calculator for the Modification Application is provided in both the Biodiversity Summary (refer to Appendix C) and the updated Confirmation of Credit Liabilities Report (refer to Appendix D).

6.1.2 BDAR requirement

Under the *Biodiversity Conservation Act 2016* (BC Act), the Applicant prepared a Biodiversity Development Assessment Report (BDAR) (Umwelt, 2020a) to provide guidance on avoidance and minimisation of potential biodiversity impacts as well as identifying the number and class of biodiversity credits that need to be offset to achieve a standard of 'no net loss' of biodiversity associated with the previous modification application (RPRE, 2020).

As identified in Section 4.0, this Modification Application is to be assessed 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 the Approved Project.

The BC Act requires that a SSD or State Significant Infrastructure application must be accompanied by a BDAR. In addition to this, Part 7, Division 4, Section 7.17(2c) of the BC Act, states that an application for the modification of a development consent does not require a 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".*

Section 6.1.3 of this Report and the associated biodiversity assessments (refer to Appendix C and D) support the Applicant's determination that the Modification Application should be assessed under both Section 4.55(1A) of the EP&A Act and Part 7, Division 4, Section 7.17(2c) of the BC Act.

Consultation with BCS has identified the need for a transparent approach to the biodiversity assessment of the Modification Application. The Applicant and Umwelt conclude that the Modification Application does not result in an increased impact on biodiversity values of the Project and when considered with all relevant environmental aspects has a net benefit to the implementation of the Project (refer to Section 6.1.3 and Appendix C).

Further consultation and review of the final Modification Application is proposed with DPE and BCS as part of the assessment and approval process to confirm the final requirements for the Modification Application.

6.1.3 Assessment

The additional detailed ecological surveys that were undertaken by Umwelt in the modified Development Corridor – Wind Farm confirmed the Plant Community Types (PCTs) and Vegetation Zones were consistent with those that were identified, assessed and described in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (Umwelt, 2020a) and the Rye Park Wind Farm – Impact Assessment Addendum (Umwelt, 2021b).

The particular PCTs and Vegetation Zones identified specifically in the areas beyond the approved Development Corridor – Wind Farm 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).

A full description and detail on these vegetation zones is provided in Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (Umwelt 2020a) with the extent of each PCT within the additional

areas presented in the Biodiversity Summary (refer to Appendix C).

A summary of the final impact areas, with consideration of the direct and partial impacts of the Modification Application are presented in Table 6 with a comparison to the approved Project and submitted pre-construction final layout plans. This information has been summarised based on consolidated PCT's with the impacts to each vegetation zone and the relevant credit liabilities for each PCT and species-credit species being presented in the Biodiversity Summary (refer to Appendix C). No new PCT's or impacts to additional species were identified as part of the biodiversity assessment.

The comparison in Table 6 is made between the impact areas assessed as part of the Approved Project (Umwelt, 2021b), the current assessed impact as part of the Final Layout Plans submitted under Schedule 2, Condition 10 of the Development Consent (Umwelt, 2021a) and the revised development footprint of the Modified Project. The respective credit liabilities for the relevant PCT's and species-credit species for the Modified Project are presented in the Biodiversity Summary (refer to Appendix C).

Table 6: Biodiversity impact comparison – PCT and species-credit species

	Indicative impact (Approved Project / EIS) (ha)	Accepted Pre-construction final impacts (ha)	Revised Pre-construction final impacts (Modified Project) (ha)	Comparison of Approved Project / Modified Project (ha)
Plant Community Types				
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
Species-credit Species				
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	**-**

As demonstrated in Table 6, the revised pre-construction final development footprint proposed as part of the Modification Application has reduced impacts on the PCT's and species-credit species listed under the BC Act, with the exception of PCT 335 (an increase of 0.03 ha / 300 m^2), which is not a threatened ecological community (TEC) and does not provide habitat for any threatened species. It is noted that the level of impact to PCT 335 is:

- A negligible increase (0.53 percent) to the approved indicative impact as outlined in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (Umwelt, 2020a), which is considered by the Applicant to be generally in accordance with the EIS for the Project in line with Schedule 2, Condition 2 of the Development Consent; and
- Less than the level of impact predicted as part of the Confirmation of Credit Liabilities Report (Umwelt, 2021a) submitted and accepted by the Planning Secretary prior to the commencement of construction in accordance with Schedule 2, Condition 10 of the Development Consent.

The additional detailed ecological survey undertaken by Umwelt for the Modified Project confirmed habitat for species credit species was consistent with the Approved Project. Specifically, no new habitat types or habitat quality was identified for either new species-credit species or those assessed as part of the Approved Project, with species polygons within the revised pre-construction final development footprint of the Modified Project only relevant to superb parrot, golden sun moth and squirrel glider (refer to Appendix C).

In relation to TECs, impacts to the White Box - Yellow Box - Blakely's Red Gum Grassy Woodland Critically Endangered Ecological Community (CEEC) as listed under both the BC Act and EPBC Act have reduced as part of the assessment for the Modification Application assessment when compared to both the Approved Project and the Final Layout Plans submitted under Schedule 2, Condition 10 of the Development Consent (Umwelt, 2021a and 2021b). A summary of the comparison is provided in Table 7 for reference, with further detail including the relevant credit liabilities for the CEEC contained in the Biodiversity Summary (refer to Appendix C).

Table 7: TEC impact comparison

	Indicative impact (Approved Project) (ha)	Pre-construction final impacts (ha)	Revised Pre-construction final impacts (Modified Project) (ha)	Comparison of Approved Project / Modified Project (ha)
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)	37.34	33.02	32.89	-4.45
White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)	35.54	31.23	31.10	-4.44

Additionally, a summary of the overall impact of the revised pre-construction final development footprint on each vegetation zone compared with the EIS is provided in Table 8.

Table 8: Vegetation Zones

Vegetation Zone	Change	Description
Vegetation Zone 1	Reduction of 0.04 ha	Supports squirrel glider habitat
Vegetation Zone 2	Increase of 0.03 ha	Does not support any CEECs or species-credit species polygons
Vegetation Zone 3	Reduction of 0.67 ha	Supports CEECs, superb parrot habitat, squirrel glider habitat and southern myotis habitat

Vegetation Zone	Change	Description
Vegetation Zone 4	Reduction of 3.78 ha	Supports CEECs and golden sun moth habitat
Vegetation Zone 5	Reduction of 17.98 ha	Supports squirrel glider habitat
Vegetation Zone 6	Reduction of 16.79 ha	Reduction of 16.79 hectares
Vegetation Zone 7	Increase of 1.02 ha	Does not support any CEECs or species-credit species polygons
Vegetation Zone 8	Reduction of 16.48 ha	Does not support any CEECs or species-credit species polygons
Vegetation Zone 9	Increase of 0.36 ha	Does not support any CEECs or species-credit species polygons
Vegetation Zone 10	Increase of 2.74 ha	Is non-native vegetation

6.1.4 Review against Development Consent

The Biodiversity Summary demonstrates that the revised indicative development footprint proposed as part of the Modification Application will not increase impacts to biodiversity and the Applicant will remain to comply with the biodiversity limits set out in Schedule 3, Condition 19 of the Development Consent and broader impacts will be generally in accordance with the EIS (Schedule 2, Condition 2 of the Development Consent).

As a result of the proposed modifications, updates will be required to the:

- Pre-construction Biodiversity Calculations and Mapping contained in the approved Confirmation of Credit Liabilities Report (Revision 3, October 2021) – updated to reflect revised pre-construction final development footprint, including changes to the pre-construction biodiversity calculations (also included as Appendix D); and
- Biodiversity Management Plan (Revision F, dated 25 October 2021) – updated mapping to reflect the modified Development Corridor – Wind Farm.

Resubmission of these plans will be made to the Planning Secretary (refer to Section 4.1).

The Applicant remains committed to ensure compliance with the revised biodiversity limits (relating to Box Gum Woodland CEEC and Golden Sun Moth habitat) as specified in Schedule 3, Condition 19 of the Development Consent and to more broadly remain generally in accordance with the EIS (Schedule 2, Condition 2 of the Development Consent).

It is noted that the approved Biodiversity Management Plan sets out clear process for micrositing and minimisation of impacts during construction (including an avoidance hierarchy), as well as the process to confirm the final impact (following civil disturbance)[2] of the Project including credit liabilities. These measures remain appropriate for the Modified Project.

6.2 Aboriginal Cultural Heritage

6.2.1 Approach

A Third Addendum to the Aboriginal Cultural Heritage Assessment (ACHA) for the Project (contained in Appendix E) has been prepared by NGH Pty Ltd (NGH) to assess the change in potential Aboriginal and cultural heritage impacts associated with the Modified Project in relation to previous surveys and assessments for the Approved Project.

[2] Note: the progressive confirmation of the final disturbance footprint has commenced and interim reporting to BCS will commence over the coming month - as detailed within Section 5.4 of the Biodiversity Management Plan.

The ACHA documents the Aboriginal heritage assessment undertaken for the 11.17 ha for the proposed additional areas of the Modification Application footprint to investigate the presence of any Aboriginal sites, assess impacts to cultural heritage values, continue to consult with the registered Aboriginal parties and provide management strategies to mitigate any potential impacts within the additional areas.

It is noted that the area assessed as part of the ACHA is less than the 14.59 ha of additional Development Corridor – Wind Farm that is proposed as part of the Modification Application. Some areas proposed as part of the Modification Application have been previously surveyed and assessed within previous Aboriginal heritage assessments for the Project, with these areas not re-surveyed and assessed as part of the ACHA (NGH, 2020a, 2020b and 2021).

NGH undertook field surveys of the additional areas subject to the Modification Application over five days between the 2nd and 3rd of November 2021 and the 17th and 19th of January 2022 with relevant representatives of the Aboriginal community. The survey methodology was agreed between NGH and the Aboriginal community representatives with a transect survey being undertaken across the additional areas. Low visibility was noted through the surveys, though overall NGH noted the survey strategy was comprehensive (refer to Appendix E).

As a result of the previous survey effort reported in previous Aboriginal heritage studies for the Project and the assessment of the additional areas in the ACHA, all land that is proposed as part of the Modification Application has been subject to Aboriginal heritage assessment.

6.2.2 Assessment

The survey effort inspected several exposures that were identified to be present within the additional areas. There was one isolated stone artefact, and one area of Potential Archeological Deposit recorded as a result of the survey, which are further described in Table 9.

Table 9: Aboriginal heritage sites recorded as part of the Modification Application surveys

AHMIS No.	Site Name	Site integrity	Scientific significance
51-4-0445	IF 20	Good. The area is superficially disturbed through general use with vehicle and animal trails. The area has been cleared of native vegetation with thick grass covered hindering visibility. Erosion of topsoil creating exposures, artefact located in exposure adjacent to vehicle tracks.	Low
N/A	PAD 4	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming.	Low

The archaeological sites within the proposed additional areas have presented a low-density concentration of surface artefacts that have been assessed to hold a low scientific value (refer to Table 9). Aside from this identified area of potential, based on the land use history, an appraisal of the landscape, soil, level of disturbance and the results from the field survey, it was concluded that there was negligible potential for the presence of intact subsurface deposits with high densities of objects or cultural material within the additional areas relevant to the Modification Application.

In accordance with the recommendations of the ACHA, the Applicant has avoided impacts to the Aboriginal heritage sites identified in the Aboriginal heritage assessment (refer to Table 9) by taking an iterative process to the proposed modifications and being able to review the access requirements to include alternative access routes in the final Modification Application. The Aboriginal heritage sites listed in Table 9 are located outside the proposed Development Corridor – Wind Farm relevant to the Modification Application.

While the proposed works as part of the Modification Application generally have the potential to harm archaeological sites, the identified Aboriginal objects will not be individually harmed, with the harm coming from

the destruction of the archaeological context of the site. It would be proposed that all Aboriginal objects facing harm as a result of the modified development be mitigated through salvage collection and reburial in a safe location in accordance with the approved Heritage Management Plan (Revision F, dated 4 August 2021) for the Project and the recommendations of the ACHA.

6.2.3 Review against Development Consent

Appendix 5 Aboriginal Heritage Items of the Development Consent will require modification to include the additional Aboriginal heritage items that have been identified by the ACHA, by including the two additional sites listed in Table 9 of this Report, in Table 1: Aboriginal heritage items – avoid impacts. In addition, the sites need to be shown on the mapping contained in Appendix 5 Aboriginal Heritage Items of the Development Consent, which is proposed to be replaced (refer to Section 4.1).

These modifications will also need to be reflected in a further revision to the approved Heritage Management Plan for the Project, with resubmission of this made to the Planning Secretary (refer to Section 4.1). No further revision to the Heritage Management Plan would be required as the existing management measures and contingency plans remain applicable to the Project in their current form.

6.3 Traffic and transport

The Modified Project will require utilisation of a small section of Walla Lane between access proposed across private properties (refer to Figure 4). As identified in Section 3.2.1, the utilisation of the existing road would avoid creating an additional crossing of Lagoon Creek and the establishment of duplicate access tracks within private property.

This section of Walla Lane, a no through road, is understood to be used by two associated landowners to access their private properties.

The utilisation of Walla Lane is proposed specifically in relation to the construction and operation of the 33 kV transmission line. Approximately 15-20 one-way heavy vehicle movements will be required to use Walla Lane in order to facilitate the construct the transmission line. No over-dimensional vehicles are required.

No heavy or over-dimensional vehicles are proposed to use Walla Lane for construction of other aspects of the Project. No other proposed modifications associated with the Modified Project affect the public road network.

Minor road works may be required to Walla Lane to ensure that the road is suitable to all weather access, with two low-lying locations requiring the installation of drainage pipes, and clean crushed rock, with layered geofabric (refer to Figure 4). All works would remain within the footprint of the existing carriageway of the road and would not result in additional disturbance within the road reserve. Physical works will not be undertaken if it is not required (e.g., if the use of the road to facilitate constructure occurs during dry weather).

Hilltops Council have confirmed that they do not have management of Walla Lane and consultation undertaken with the DPE – Crown Lands have confirmed that if no physical works, other than traversing the road, are planned within the road reserve under their control then no license under the *Crown Land Management Act 2016* or road works approval under the Roads Act would be required.

Should physical works be required within the road reserve (other than traversing the road), further consultation with DPE – Crown Lands will be undertaken confirm any respective regulatory requirements under relevant legislation – e.g., further road works approval from the responsible road authority under s138 of the *Roads Act 1993*.

The proposed management measures as part of the EIS are consistent with the proposed use of Walla Lane as well as other local roads within the Site boundary of the Project. Considering these measures, the required consent processes under the Roads Act and the implementation of the approved Traffic Management Plan (Revision 3, dated 9 November 2021), the use and works within Walla Lane are not considered to be inconsistent with the EIS for the Project or to increase impacts above what is considered under the Approved Project.

7.0 Evaluation of merits

This report has identified several minor modifications to the Approved Project that are sought by the Applicant to further minimise the impacts of the Project. The nature of the modifications are 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 (refer to Section 6.0) 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).

In addition to these relevant environmental aspects, the modification would de-risk delays to the Applicant in the overall construction scheduling of the Project by allowing for the efficient installation of the access tracks and transmission line components.

As a result of the proposed modifications identified in Section 2 of this Report, the Applicant requests the following changes be reflected in the modified conditions of the Development Consent[3]:

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

Due to the minor nature of the modifications, being requests to amend the location and area of the Development Corridor – Wind Farm (refer to Section 3.0), it is considered that all other conditions of the Development Consent can be complied with by the Applicant. Due to this the Applicant has not sought to provide an assessment of the Modification Application against each individual condition of the Development Consent.

Furthermore, it is noted that the Statement of Commitments do not require any updates as a result of the Proposed Modifications.

[3] For consistency with the Development Consent (and to ensure ongoing applicability of conditions – e.g. micrositing), it is noted that the plans contained in Appendix A and F have been prepared based on the approved wind turbine locations (e.g. 77 locations), with the modified Development Corridor – Wind Farm. We note that the wind turbine locations shown on the current (and in the future revised) Final Layout Plans that were submitted to the Planning Secretary in accordance with Schedule 2, Condition 10 are based on the micro-sited locations of the final 66 wind turbines.

References

DPIE 2021, November 2021, State Significant Infrastructure Guidelines – preparing a modification report, Appendix F to the state significant infrastructure guidelines, Department of Planning, Industry and Environment, available at: https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/SSI-Guidelines/SSI-Guide---preparing-a-modification-report-App-F.pdf (accessed 06 June 2022).

DPIE 2021a, November 2021, Undertaking Engagement Guidelines for State Significant Projects, Department of Planning, Industry and Environment, available at: https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/SSPT-Guidelines/GD1265-RAF-Engagement-Guidelines-final.pdf (accessed 06 June 2022).

NGH 2020a, April 2020, *Aboriginal Cultural Heritage Assessment Report: Rye Park Wind Farm Modification*, prepared by NGH Pty Ltd for Rye Park Renewable Energy Pty Ltd.

NGH 2020b, August 2020, *Addendum Aboriginal Cultural Heritage Assessment Report: Rye Park Wind Farm Modification*, report prepared for Rye Park Renewable Energy Pty Ltd.

NGH 2021a, February 2021, *Second Addendum Aboriginal Cultural Heritage Assessment Report: Rye Park Wind Farm Modification*, report prepared for Rye Park Renewable Energy Pty Ltd.

RPRE 2020, April 2020, *Rye Park Wind Farm Modification Application Report*, prepared by Rye Park Renewable Energy Pty Ltd.

Umwelt 2020a, August 2020, *Rye Park Wind Farm – Biodiversity Development Assessment Report, Final*, prepared by Umwelt (Australia) Pty Ltd for Rye Park Renewable Energy Pty Ltd.

Umwelt 2020b, November 2020, *Rye Park Wind Farm – Biodiversity Attachment, Environment Protection and Biodiversity Conservation Act 1999 Referral*, prepared by Umwelt (Australia) Pty Ltd for Rye Park Renewable Energy Pty Ltd.

Umwelt 2021a, October 2021, *Rye Park Wind Farm – Confirmation of Credit Liabilities*, prepared by Umwelt (Australia) Pty Ltd for Rye Park Renewable Energy Pty Ltd.

Umwelt 2021b, March 2021, *Rye Park Wind Farm – Impact Assessment Addendum*, prepared by Umwelt (Australia) Pty Ltd for Rye Park Renewable Energy Pty Ltd.

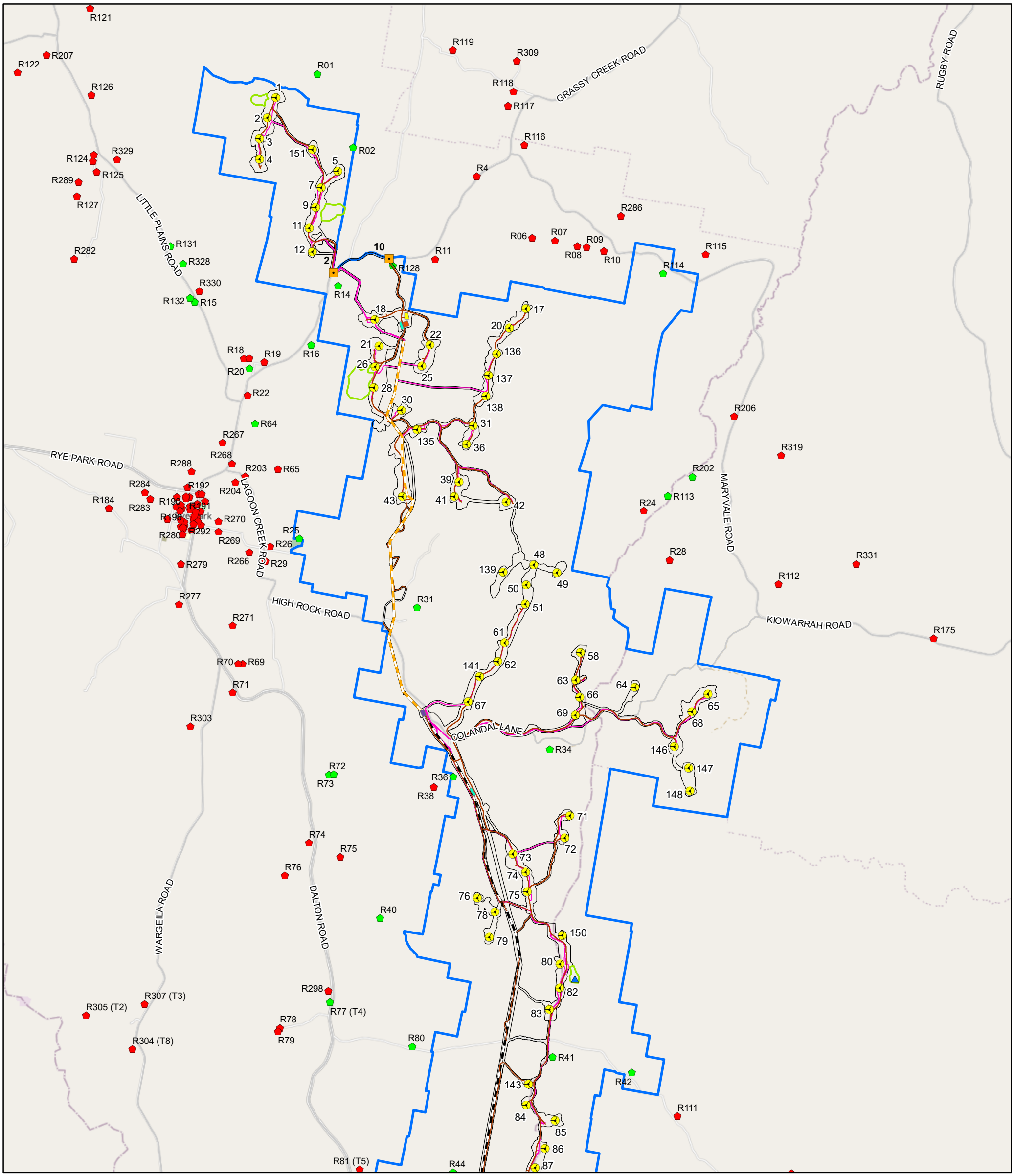
Umwelt 2022, May 2022, *Rye Park Wind Farm – Revised Confirmation of Credit Liabilities*, prepared by Umwelt (Australia) Pty Ltd for Rye Park Renewable Energy Pty Ltd.

Appendix A: Detailed description of the Modified Project

The Modified Project consists of up to 77 wind turbines, with a maximum tip height of 200 metres (measured from above ground level to the blade tip), and associated infrastructure. The Modified Project includes the following associated infrastructure:

- A new 330 kV wind farm connection substation located adjacent to the existing TransGrid 330 kV '3J' transmission line (Yass – Gullen Range) that traverses the southern section of the site;
- A new overhead powerline approximately 35 km in length, rated at up to 330 kV (nominal) capacity, running north-south along the length of the wind farm site and within the wind farm site boundary;
- Up to three new collection substations located across the wind farm site;
- Underground and overhead 22 or 33 kV electrical cabling linking the wind turbines to each other and to the on-site collection substations;
- Up to two operation and maintenance facilities incorporating a control room and equipment storage facilities;
- Temporary concrete batching plants and construction facilities;
- Access tracks required for each wind turbine and the related facilities above;
- Minor upgrades to local roads, as required for the delivery, installation and maintenance of wind turbines and the related facilities above; and
- Six temporary wind monitoring masts and approximately six 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.

The approved indicative wind turbine locations and the specific development corridor for the allowable development area of the wind farm infrastructure are shown in the Updated Development Layout, which is contained on the following pages and corresponding GPS coordinates of each of the wind turbine locations in Appendix 2 of the approved Development Consent.



Legend

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

Residences

- Associated
- Non-Associated

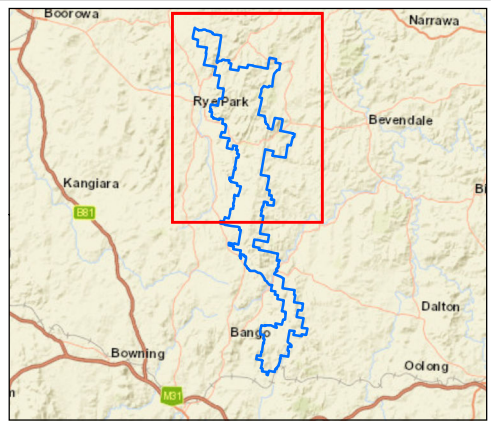
Note 1. The alignment of the revised access tracks and revised underground cable is based on an optimised infrastructure layout (based on the micro-siting allowance in the Development Consent).
All infrastructure is indicative only.

N

Date: 06/05/2022
Version: C

0 2
Kilometers

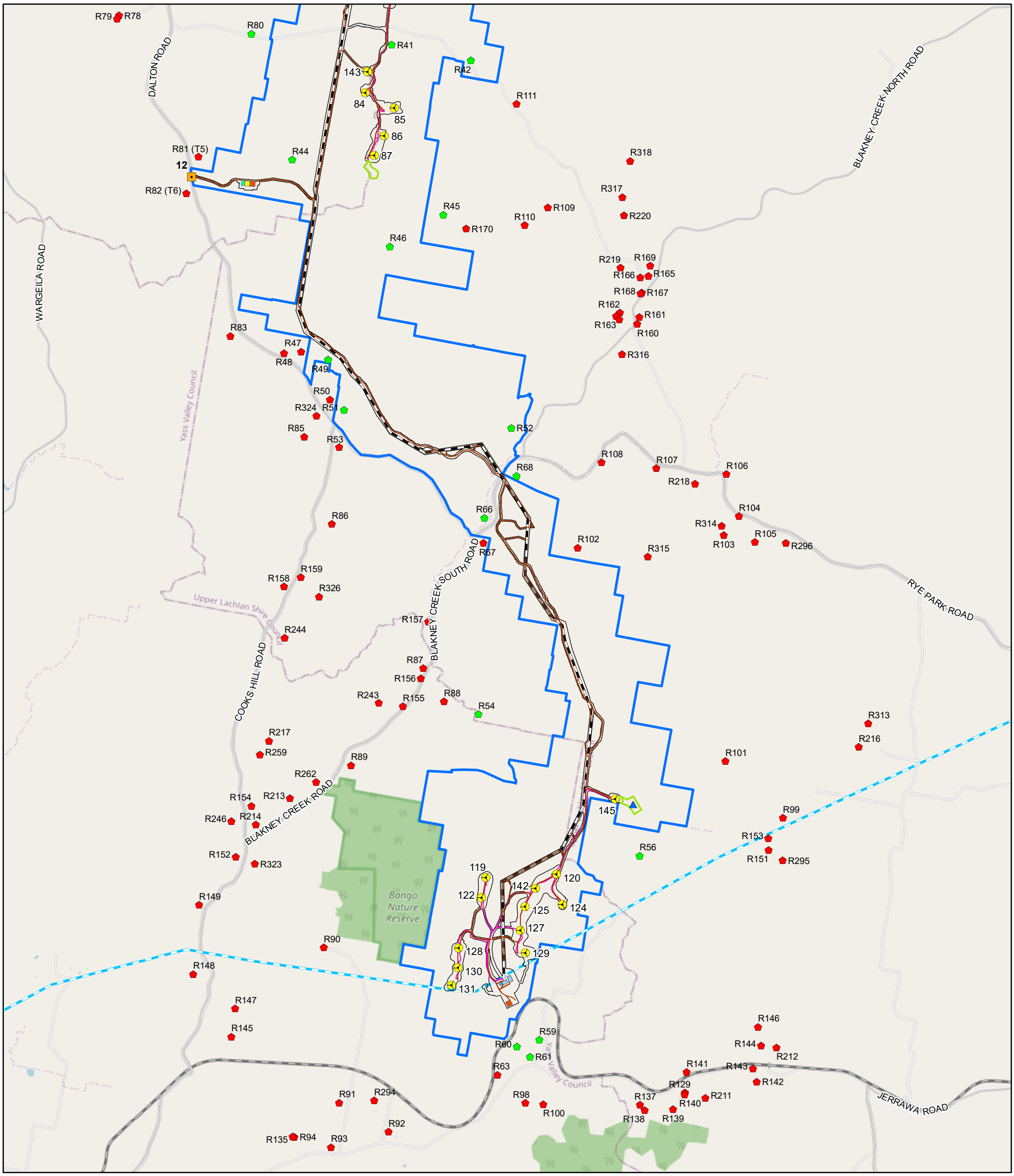
GDA 1994 MGA Zone 55
1:70,000



Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_RL141C_Appendix 2 - Modification 2 Layout Plan_20220506.mxd

Rye Park Wind Farm

Updated Development Layout



Legend

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

Residences

- Associated
- Non-Associated

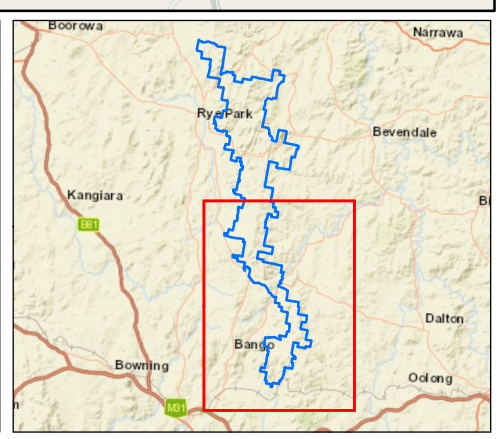
Note 1. The alignment of the revised access tracks and revised underground cable is based on an optimised infrastructure layout (based on the micro-siting allowance in the Development Consent).
All infrastructure is indicative only.

N

Date: 06/05/2022
Version: C

0 2
Kilometers

GDA 1994 MGA Zone 55
1:70,000



Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_RL141C_Appendix 2 - Modification 2 Layout Plan_20220506.mxd

Rye Park Wind Farm

Updated Development Layout

renewables

Appendix B: Statutory compliance summary

Legislation / Policy	Overview / Requirements	Applicability to Modified Project
Federal		
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	The Project has also been granted approval under the EPBC Act (EPBC 2020/8837) on 1 June 2021.	The Applicant sought a variation to the EPBC Approval to align with the request to DPE to modify the Development Consent for the Project (refer to Section 4.0). The variation to the EPBC Approval, consistent with the request to modify the Development Corridor – Wind Farm as part of this Modification Application, was approved on 30 June 2022.
State – Legislation		
Environmental Planning and Assessment Act 1974 (EP&A Act)	The Applicant has obtained a State Significant Development Consent for the Project (SSD 6693-MOD 1), with the construction of the Project commencing on 1 December 2021.	The Applicant is seeking to modify SSD 6693-MOD 1 under Section 4.55(1A) of the EP&A Act as part of this Modification Application (MOD 2). Should the Modification Application be approved by the Planning Secretary, the Applicant would seek relevant updates to the respective strategies, plans and programs required by the Development Consent as identified in Section 4.1.
Protection of the Environment Operations Act 1997 (POEO Act)	At the time of initial approval, a requirement for the Environmental Protection Licence (EPL) was not imposed for the Project, given the provisions of the POEO Act in force did not include wind power generation in the category of 'general electricity works' that must be licensed (Section 48 and Schedule 1, clause 17(1)). However, the *Environment Operations Amendment (Scheduled Activities) Regulation 2013* which came into force on 28 June 2013 amended these provisions. Schedule 1 clause 17(1) of the POEO Act now requires an EPL for electricity works (wind farms) that meet the specified approval criteria. EPL Number 21535 was issued to the Applicant on 24 May 2021 in relation to the Project.	The Modified Project will continue to operate under the existing EPL (Number 21535) without need for variation of the licence conditions. The Applicant will continue to observe the general obligations of the POEO Act and the Regulations, including the control of pollution to waters and air and reporting of incidents causing or threatening environmental harm.
Biodiversity Conservation Act 2016 (BC Act)	The BC Act requires that a modification application under the EP&A Act be accompanied by BDAR unless the Environment Agency Head (the Department, BCS) is satisfied that modification will not increase the impact of the Project on biodiversity values.	The Modification Application is not accompanied by a BDAR as it has been demonstrated that there is no increase in impact to biodiversity values (refer to Section 6.1.2).
Roads Act 1993 (Roads Act)	The Roads Act provides for the regulation of activities relating to public roads. The Approved Project required upgrade works to various public local roads to facilitate access to internal access roads for the Project for	Where applicable, the applicant may be required to obtain further consent under Section 138 of the Roads Act in relation to upgrade activities on Walla Lane prior to any

Legislation / Policy	Overview / Requirements	Applicability to Modified Project
	construction vehicles. Under Section 138 of the Roads Act, it is necessary to obtain approval from the appropriate road authority for proposed upgrade works on public roads, which where relevant have been obtained from the responsible authority prior to the relevant road upgrades.	road upgrades (refer to Section 6.3).
Crown Lands Management Act 2016 (CLM Act)	The Applicant has consulted with DPE – Crown Lands Division in relation to securing tenure required for construction and operation over the Crown land paper roads within the Project site. A licence under the CLM Act (RN 622918) was issued to the Applicant on 16 August 2021 in relation to works affecting Crown land, waterways and road reserves.	The Modification Application does not affect the permitted uses or occupation of Crown land identified in the Licence issued for the Project (RN 622918), with no additional Crown land impacted by the increase to the Development Corridor – Wind Farm. Should further works be undertaken on road reserves managed by DPE – Crown Lands Division, further consent under the Roads Act will be required prior to construction within the road reserve.
State - Policies		
State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)	The Approved Project is defined as electricity generating works. The proposal was permitted with consent in accordance with Clause 34 of the ISEPP.	The Project as proposed to be modified remains substantially the same as the Approved Project. No additional and distinct land use is proposed. The Modified Project is permitted with consent under ISEPP.
State Environmental Planning Policy (Koala Habitat Protection) 2019	The State Environmental Planning Policy No. 44 - Koala Habitat Protection did not strictly apply to the Project, though the Minister could choose to consider the SEPP in determining the development consent application.	SEPP 44 has since been repealed by the State Environmental Planning Policy (Koala Habitat Protection) 2019 and only applies to development applications determined by councils (local and regional development). The proposal relates to State Significant Development, and it is therefore considered the Koala Habitat Protection SEPP does not apply.

Appendix C: Modification 2 Biodiversity Summary Letter Report

Our Ref: 4107D_R18_Mod-2_ltr.docx

30 May 2022

Cara Layton
Stakeholder and Environment Manager
Tilt Renewables

E| Cara.Layton@tiltrenewables.com

Dear Cara

RE: Rye Park Wind Farm: Modification 2 – Biodiversity Assessment

The approved Rye Park Wind Farm (the Project) is located to the east of Rye Park, to the north-west of Yass and south-east of Boorowa, in New South Wales.

The Project is being developed by Rye Park Renewable Energy Pty Ltd (the Applicant), a subsidiary of a portfolio of companies that are trading as Tilt Renewables. The Project is currently under construction, with operation of the wind farm forecast to commence in early 2024.

This letter, Modification 2 – Biodiversity Summary, has 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).

This letter is supported by an updated Confirmation of Credit Liabilities report, which is consistent in structure to the previous version provided in 2021 (Umwelt 2021a), while being updated for current impact areas and credit liabilities.

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 forms response to ongoing consultation with landholders relating to progression of the detailed design of the Project.

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*

Inspired People.
Dedicated Team.
Quality Outcomes.

Umwelt (Australia) Pty Limited

ABN 18 059 519 041

T| 1300 793 267
E| info@umwelt.com.au

www.umwelt.com.au

(or determining the environmental assessment requirements for the application) is satisfied that the modification will not increase the impact on biodiversity values".

This letter 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. We seek consideration of this from DPE and confirmation that a BDAR is not required for MOD 2. Rather, it is proposed that this letter would be provided in combination with a Revised Confirmation of Credit Liabilities report to support assessment of MOD 2.

1.0 MOD 2 Revised Pre-construction Final Development Footprint

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 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.

2.0 Additional Biodiversity Assessment

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 which occurred 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.

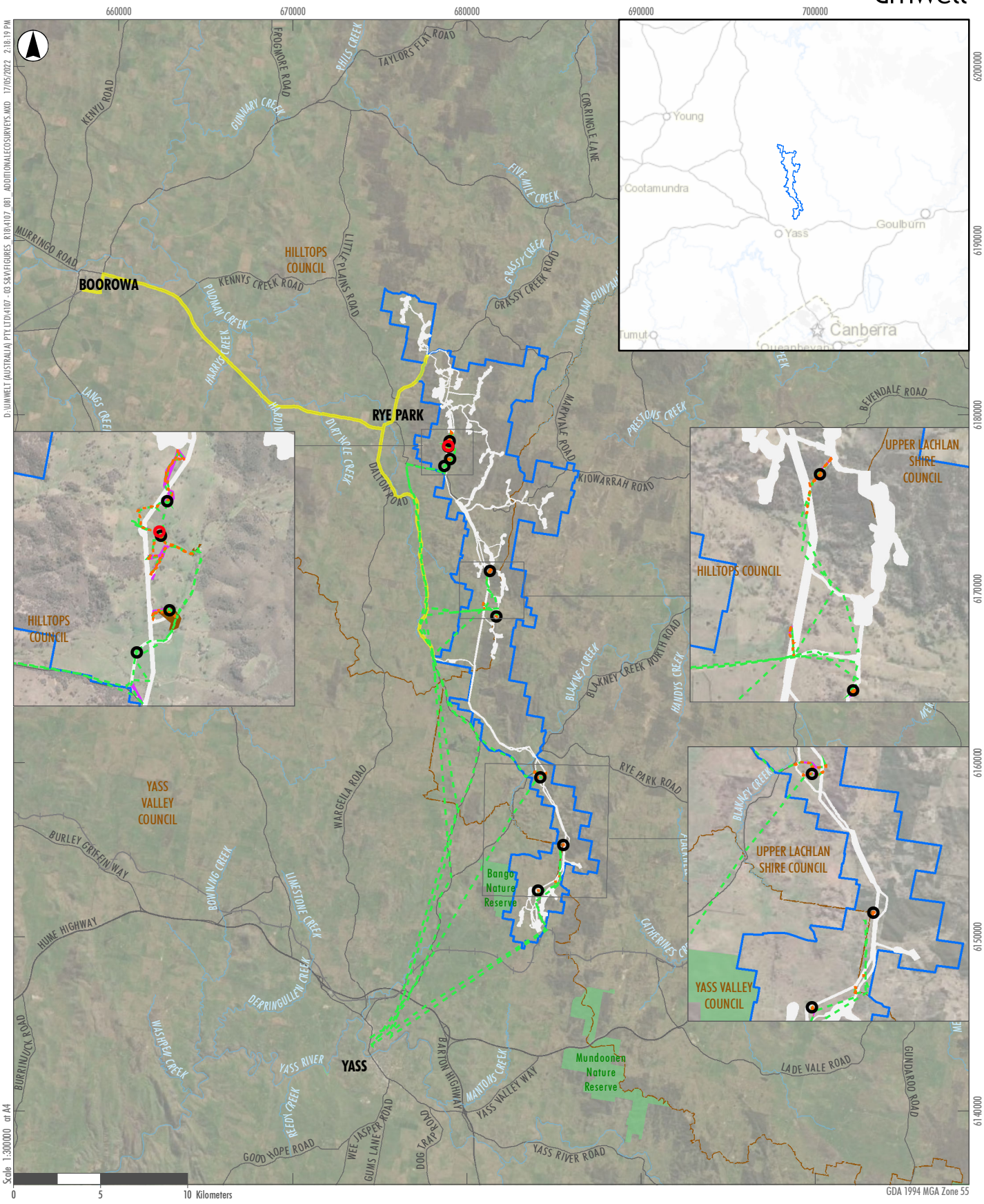
The additional ecological survey was undertaken across four days, 5 – 8 October 2021, by two Umwelt Accredited BAM Assessor ecologists, Bill Wallach and Travis Peake.

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 is presented in **Figure 1.1**.



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 1.1

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)

2.2 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).

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).

2.3 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 is presented in the updated Confirmation of Credit Liability document (Umwelt 2022).

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).

2.4 GIS Mapping and BAM – Credit Calculator

Full detail of the methodology relating to the GIS Mapping and operation of the BAM – Credit Calculator for the Project is provided in revised Confirmation of Credit Liability report (Umwelt 2022). A summary of this is provided below.

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

Specific components included:

- GIS software program Manifold was used to undertake GIS mapping within the revised pre-construction final development footprint including PCTs, vegetation zones, TECs and species polygons.
- The current BAM – Credit Calculator version, V50 (updated on 24 November2021) was used to update the existing case assigned to the Approved MOD 1. Consultation with the Biodiversity and Conservation Division (BCD) of Department of Planning, Industry and Environment (DPIE) in May 2022, confirmed this

is the suitable approach for the credit finalisation. Specifically, correspondence was received on 12 May 2022. The revised BAM – Credit Calculator assessments have been re-submitted for agency review.

3.0 Results

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

3.1 Plant Community Types and Vegetation Zones

The additional detailed ecological survey undertaken in the revised pre-construction final development footprint confirmed that PCTs and Vegetation Zones were consistent with those that were identified, 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).

A summary of impacts to all PCTs and vegetation zones within the revised pre-construction final development footprint is provided in **Section 4.0**.

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

3.2 BAM – Credit Calculator

Full detail of the results relating to the BAM – Credit Calculator for the Project is provided in the Confirmation of Credit Liability report (Umwelt 2022). A summary of this is provided below:

- The current BAM – Credit Calculator version was used to calculate the ecosystem and species credit liability for MOD 2.

- All BAM – Vegetation Integrity Plots collected as part of MOD 2 surveys, as well as the Approved MOD 1 were used to calculate the credit liability of the Project.

The vegetation integrity data from all BAM – Vegetation Integrity Plots completed for the Project are provided in **Appendix A**. 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 which occurred beyond the approved Modified Development Corridor.

The credit liability for the Project as a result of the MOD 2 revised pre-construction final development footprint is provided in the Revised Confirmation Credit Liabilities report (Umwelt 2022).

3.3 Threatened Ecological Communities

The additional detailed ecological survey undertaken by Umwelt in the revised pre-construction final development footprint, which occurred beyond the approved Modified Development Corridor, confirmed a consistent alignment of PCT350 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 with state and federally listed TECs which have previously been mapped extensively in the Approved Modified Development Corridor.

Full detail on the PCT and vegetation zone description as well as subsequent detailed analysis of TECs for the Project is provided in Biodiversity Development Assessment Report (Umwelt 2020a) and the Impact Assessment Addendum (Umwelt 2021b).

A summary of the TECs and aligning PCTs / vegetation zones identified within the revised pre-construction final development footprint is provided below:

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 CEEC under the BC Act (referred to hereafter as 'White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland')

- PCT 350 - Moderate to Good (Vegetation Zone 3), wholly conforms with the CEEC

White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act

- PCT 350 - Moderate to Good (Vegetation Zone 3), partly conforms with the CEEC

It is noted that PCT 350 – Derived Native Grassland (Vegetation Zone 4) also conforms with the CEECs listed above, however this vegetation zone was not recorded within the revised pre-construction final development footprint.

The Project will impact a total of 32.89 hectares of 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).

The Project 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).

3.4 Species Credit Species

The additional detailed ecological survey undertaken by Umwelt in the revised pre-construction final development footprint confirmed that potential habitat for species credit species was consisted with the Approved MOD1 assessment. Specifically, no new habitat types or habitat quality was identified for either new species-credit species or those assessed as part of the Approved MOD1 assessment.

Those species credit species that include species polygons within the revised pre-construction final development footprint are listed below:

- superb parrot
- golden sun moth, and
- squirrel glider.

It is noted that the Project still results in an impact to striped legless lizard and southern myotis, however their respective species polygons do not occur within the revised pre-construction final development footprint.

A summary of impacts to all species credit species within the revised pre-construction final development footprint is provided in **Section 4.0**.

Full detail on the species-credit species polygons is provided in Biodiversity Development Assessment Report (Umwelt 2020a) and the Impact Assessment Addendum (Umwelt 2021b).

4.0 Impact Summary

The tables provided in this section summarise the impacts of the revised pre-construction final development footprint against the previous designs as clearly as possible. **Table 1** initially summarises the impacts of MOD 2 per Vegetation Zone, **Table 2** then summarises the same impacts but for consolidated PCTs. Lastly, **Table 3** summarises the impacts for the Development per species-credit species.

Table 1 Summary of Impacts per Vegetation Zone

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Pre-construction Final Area (ha)	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	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	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	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	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	65.77	-17.06	64.85	-17.98
	Moderate to Good					

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Pre-construction Final Area (ha)	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	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	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	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	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	111.28	0.2	113.82	2.74

[1] Impact Assessment Addendum (Umwelt 2021b)

Table 2 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 3 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	43.0	41.00	41.00	-2.07
Superb parrot	19.92	19.23	19.24	-0.6
Golden sun moth	85.2	76.56	76.32	-8.90
Squirrel glider	103.23	82.16	84.59	-18.64
Southern myotis	<0.01	<0.01	<0.01	-

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 Conclusion

When compared against the Impact Assessment Addendum (Umwelt 2021b), 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). 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.

Below is an additional summary of the overall impact of the proposal MOD 2 to biodiversity values within the Project when compared against the Impact Assessment Addendum (Umwelt 2021b):

Vegetation Zones

- Vegetation Zone 1: reduction of 0.04 hectares
    - Supports squirrel glider habitat
- Vegetation Zone 2: increase of 0.03 hectares
    - Does not support any CEECs or species-credit species polygons
- Vegetation Zone 3: reduction of 0.67 hectares
    - Supports CEECs, superb parrot habitat, squirrel glider habitat and southern myotis habitat
- Vegetation Zone 4: reduction of 3.78 hectares
    - Supports CEECs and golden sun moth habitat
- Vegetation Zone 5: reduction of 17.98 hectares
    - Supports squirrel glider habitat
- Vegetation Zone 6: reduction of 16.79 hectares
    - Supports golden sun moth habitat and striped legless lizard habitat
- Vegetation Zone 7: increase of 1.02 hectares
    - Does not support any CEECs or species-credit species polygons
- Vegetation Zone 8: reduction of 16.48 hectares
    - Does not support any CEECs or species-credit species polygons
- Vegetation Zone 9: increase of 0.36 hectares
    - Does not support any CEECs or species-credit species polygons
- Vegetation Zone 10: increase of 2.74 hectares
    - Is non-native vegetation

Threatened Ecological Communities

- White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the BC Act: reduction of 4.45 hectares.
- White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act: reduction of 4.44 hectares.

Species-credit Species

- Striped legless lizard: reduction of 2.07 hectares.
- Superb parrot: reduction of 0.68 hectares.
- Golden sun moth: reduction of 8.90 hectares.
- Squirrel glider: reduction of 18.64 hectares.
- Southern myotis: remains unchanged.

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 information provided above, 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 letter would be provided in combination with a Revised Confirmation of Credit Liabilities report to support assessment of MOD 2.

7.0 References

Department of Planning, Industry and Environment (DPIE) (2020). Biodiversity Assessment Method, 2020.

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

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

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

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

Umwelt 2022. Rye Park Wind Farm – Revised Confirmation of Credit Liabilities (May 2022).

We trust this information meets with your current requirements. Please do not hesitate to contact the undersigned on 1300 793 267 should you require clarification or further information.

Yours sincerely

Bill Wallach
National Biodiversity Renewables Lead

BAM Accredited Assessor (001353)

E | bwallach@umwelt.com.au
M| 0421 786 844

APPENDIX A

BAM – Vegetation Integrity Plot 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

umwelt

Environmental & Social Consultants

Umwelt (Australia) Pty Limited

T| 1300 793 267 E| info@umwelt.com.au www.umwelt.com.au

Appendix D: Updated Confirmation of Credit Liabilities Report

umwelt
Environmental & Social
Consultants

RYE PARK WIND FARM – MODIFICATION 2

Confirmation of Credit Liabilities

FINAL

May 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: May 2022

Newcastle

75 York Street
Teralba NSW 2284

T| 1300 793 267
E| info@umwelt.com.au

www.umwelt.com.au

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Disclaimer
This document has been prepared for the sole use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by Umwelt (Australia) Pty Ltd (Umwelt). No other party should rely on this document without the prior written consent of Umwelt.

Umwelt undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. Umwelt assumes no liability to a third party for any inaccuracies in or omissions to that information. Where this document indicates that information has been provided by third parties, Umwelt has made no independent verification of this information except as expressly stated.

©Umwelt (Australia) Pty Ltd

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
1	Allison Riley	17/05/2022	Allison Riley	17/05/2022

Table of Contents

1.0 Executive Summary 1

2.0 Introduction 3

2.1 The Final Development 6

3.0 Methods 8

3.1 Previous Assessments 8

3.1.1 Previous Ecological Surveys 8

3.1.2 GIS Mapping 9

3.1.3 Prescribed Impact Assessments 9

3.1.4 Direct Partial Impacts 9

3.2 Additional Assessment 10

3.2.1 Additional Ecological Surveys 10

3.2.2 Additional GIS Mapping 12

3.2.3 Prescribed Impact Assessments 12

3.2.4 Direct Partial Impacts 12

3.3 Revised Pre-Construction Final Development Footprint 12

3.4 BAM – Credit Calculator 13

3.5 Prescribed Impact Assessment for the Removal of Non-Native Vegetation Supporting Golden Sun Moth 13

4.0 Results 15

4.1 Plant Community Types and Vegetation Zones 15

4.2 BAM – Credit Calculator 16

4.3 Partial Impacts 19

4.4 Impacts on Threatened Ecological Communities 20

4.5 Prescribed Impacts Assessment – Non-Native Vegetation Supporting Golden Sun Moth Habitat 21

4.6 Result Summary 24

5.0 Matters of National Environmental Significance 30

6.0 Credit Summary 31

7.0 Micro-siting and Confirmation of Impacts 33

8.0 References 35

Figures

Figure 2.1	Project Area	5
Figure 3.1	Additional ecological surveys within the revised pre-construction final development footprint which occurred beyond the approved Modified Development Corridor	11

Tables

Table 4.1	Final ecosystem and species-credit credit requirement for the Development (Revised Pre-construction)	17
Table 4.2	Direct Partial Impacts of the Development	19
Table 4.3	Credit Generation from the BC Act and EPBC Listed CEECs	21
Table 4.4	Prescribed Impact Assessment of Non-Native Vegetation Supporting Golden Sun Moth	22
Table 4.5	Summary of Impacts per Vegetation Zone	26
Table 4.6	Summary of Impacts per PCT	28
Table 4.7	Summary of Impacts per Species-credit Species	28
Table 4.8	Comparison of the indicative and revised pre-construction impact analysis	29
Table 5.1	Ecosystem and Species-credit Credit Classes	32

Appendices

Appendix A	Plant Community Types and Vegetation Zones
Appendix B	Species Polygons
Appendix C	Threatened Ecological Communities
Appendix D	Vegetation Integrity Data
Appendix E	Biodiversity Credit Reports – SWS IBRA Region (Like-for-like and Variation)
Appendix F	Biodiversity Credit Reports – SEH IBRA Region (Like-for-like and Variation)

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.

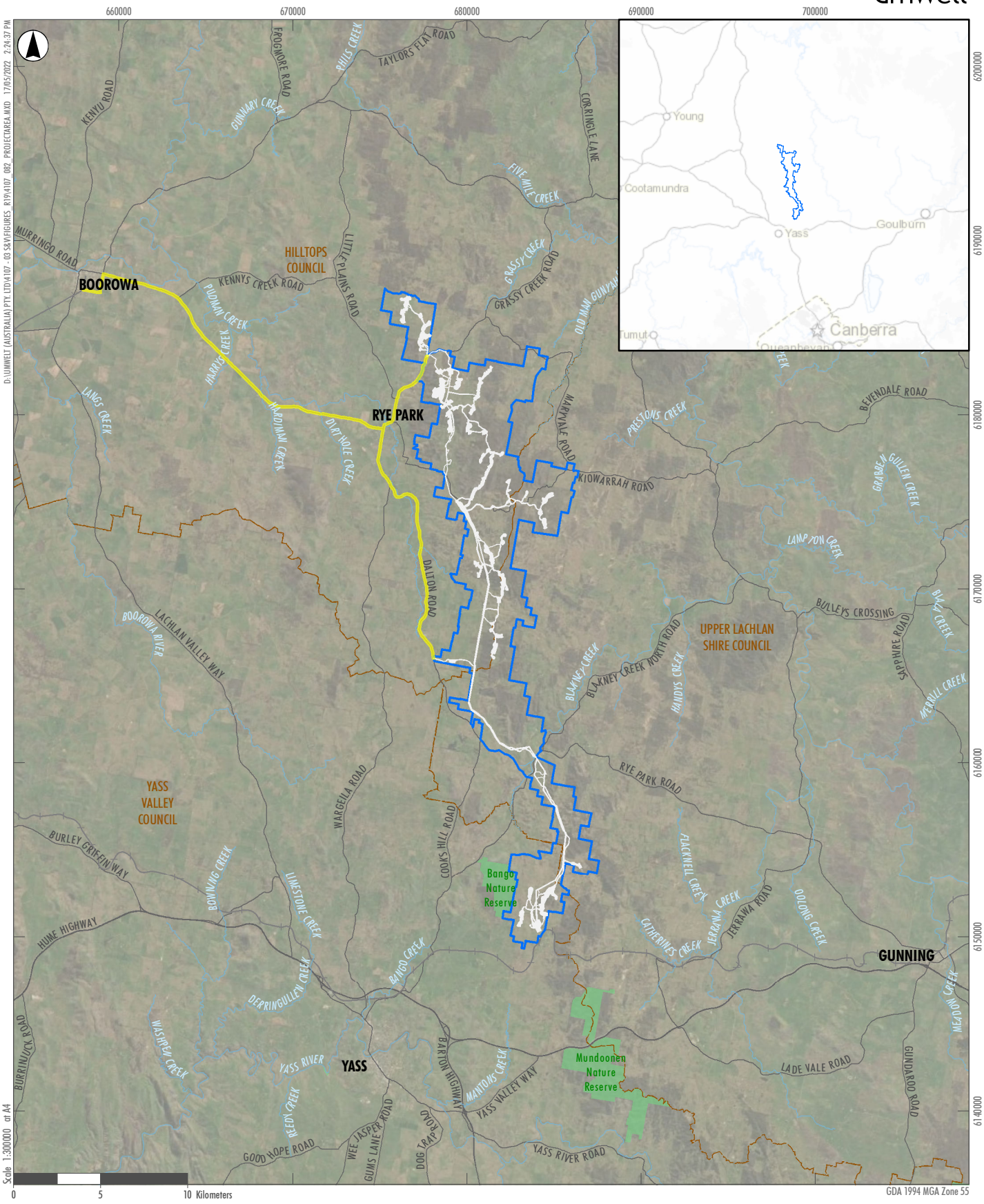
Furthermore, these calculations will form an attachment to the Offset Strategy prepared to meet the requirements of Condition 14 of EPBC 2020/8837, specifically to address Condition 14(b):

> *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.

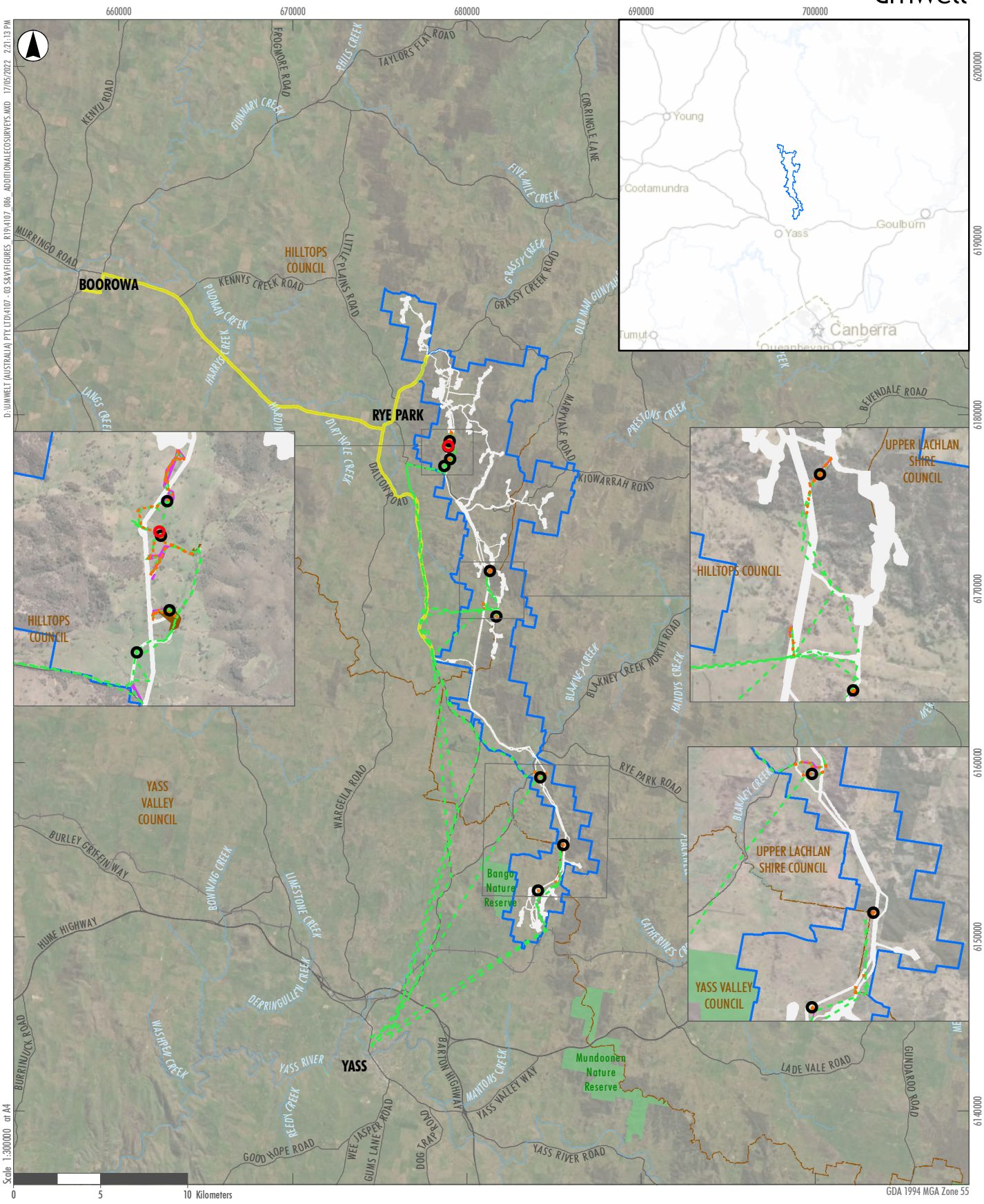
The additional survey was undertaken in accordance with BAM (2020) for ecosystem credits. However, targeted species credit surveys were not undertaken in accordance with BAM (2020) in that multiple seasonal survey programs were not undertaken specifically for MOD 2. Rather the approach applied for MOD 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, V50, that was updated on 24 November 2021. 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, correspondence was received on 12 May 2022.

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**	**271**
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**	**777**
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**	**352**
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**	**683**
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**	**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*	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**	**1,020**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	**305**	**8.11**	**-1.65**	**270**	**8.12**	**-1.64**	**178**
-	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**	**945**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	**271**	**11.12**	**0.96**	**309**	**11.12**	**+0.96**	**229**
-	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	623	297	623	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]	622	295	600	271
Total Proportional Number of CEEC Credits [1]	**917**		**871**	

[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 *Moderate to Good*	0.77	25	0.73	-0.04	0.73	**-0.04**
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*	5.72	130	5.84	0.12	5.75	**0.03**
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*	19.92	576	19.23	-0.69	19.25	**-0.67**
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*	17.53	304	13.89	-3.64	13.75	**-3.78**
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*	82.83	2,645	65.77	-17.06	64.85	**-17.98**

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 *Derived Native Grassland*	174.92	1,582	157.33	-17.59	158.13	**-16.79**
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*	8.69	152	8.82	0.13	9.71	**1.02**
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*	80.57	840	64.08	-16.49	64.09	**-16.48**
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	1.29	**0.36**
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*	111.08	0	111.28	0.2	113.82	**2.74**

[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	3,673
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	407
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	917
Squirrel Glider	103.23	3,507	82.16	2,993	-21.07	-514	84.59	-18.64	1,965
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	871

[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 5.1**, 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 5.1** 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 5.1 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	494
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	2,327
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	1,020
superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	305	8.11	270	8.12	178
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	426
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	1,346
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	945
superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	271	11.12	309	11.12	229
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*).

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

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

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

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

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

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

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

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

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

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

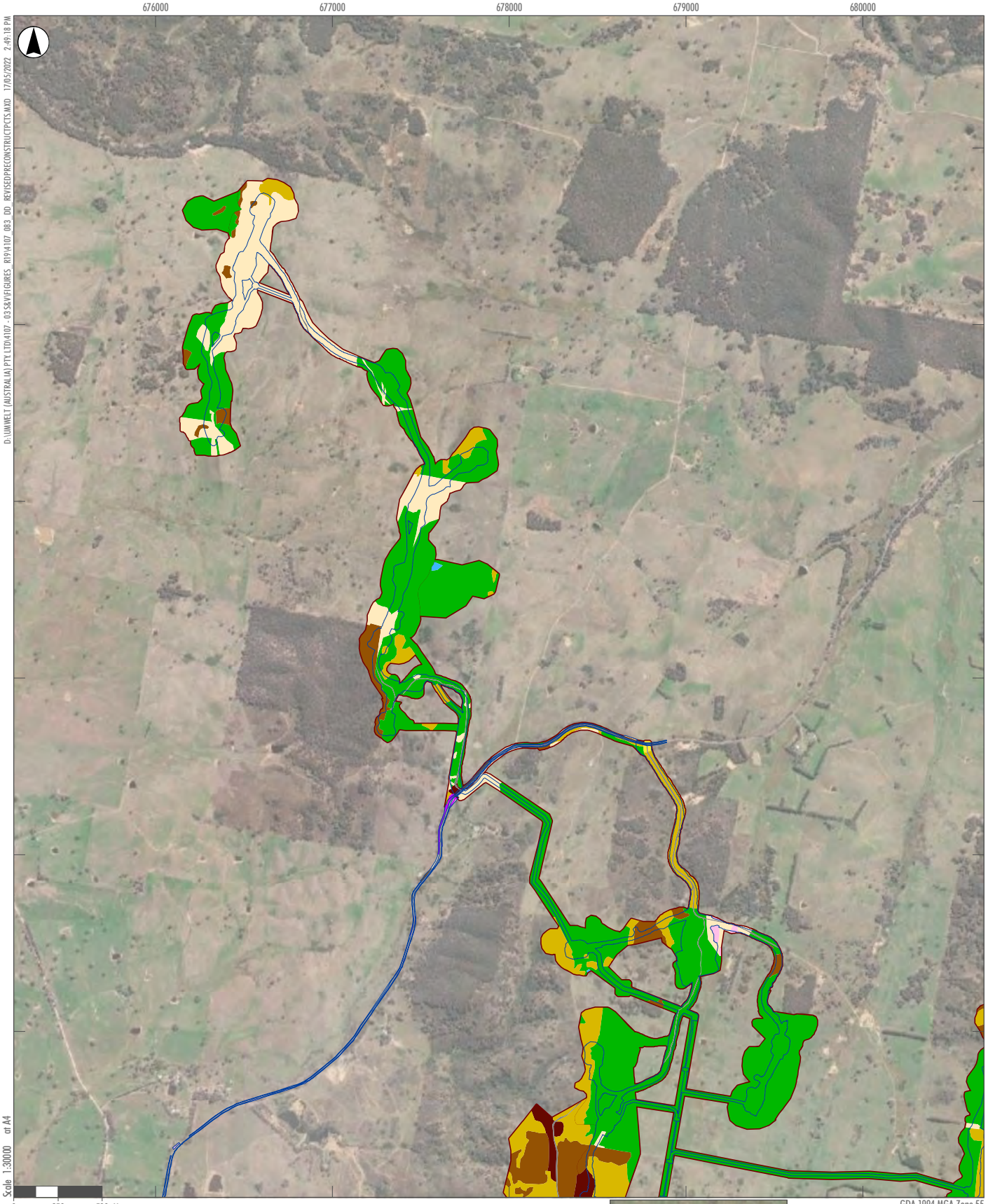
Umwelt 2021a. Rye Park Wind Farm – Confirmation of Credit Liabilities (October 2021).

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

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

APPENDIX A

Plant Community Types and Vegetation Zones

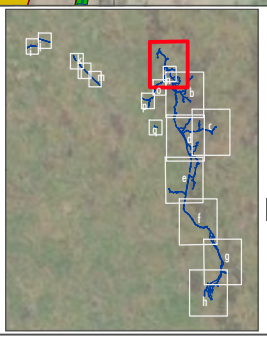


Legend

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

PCT, Condition in the Rye Park Wind Farm

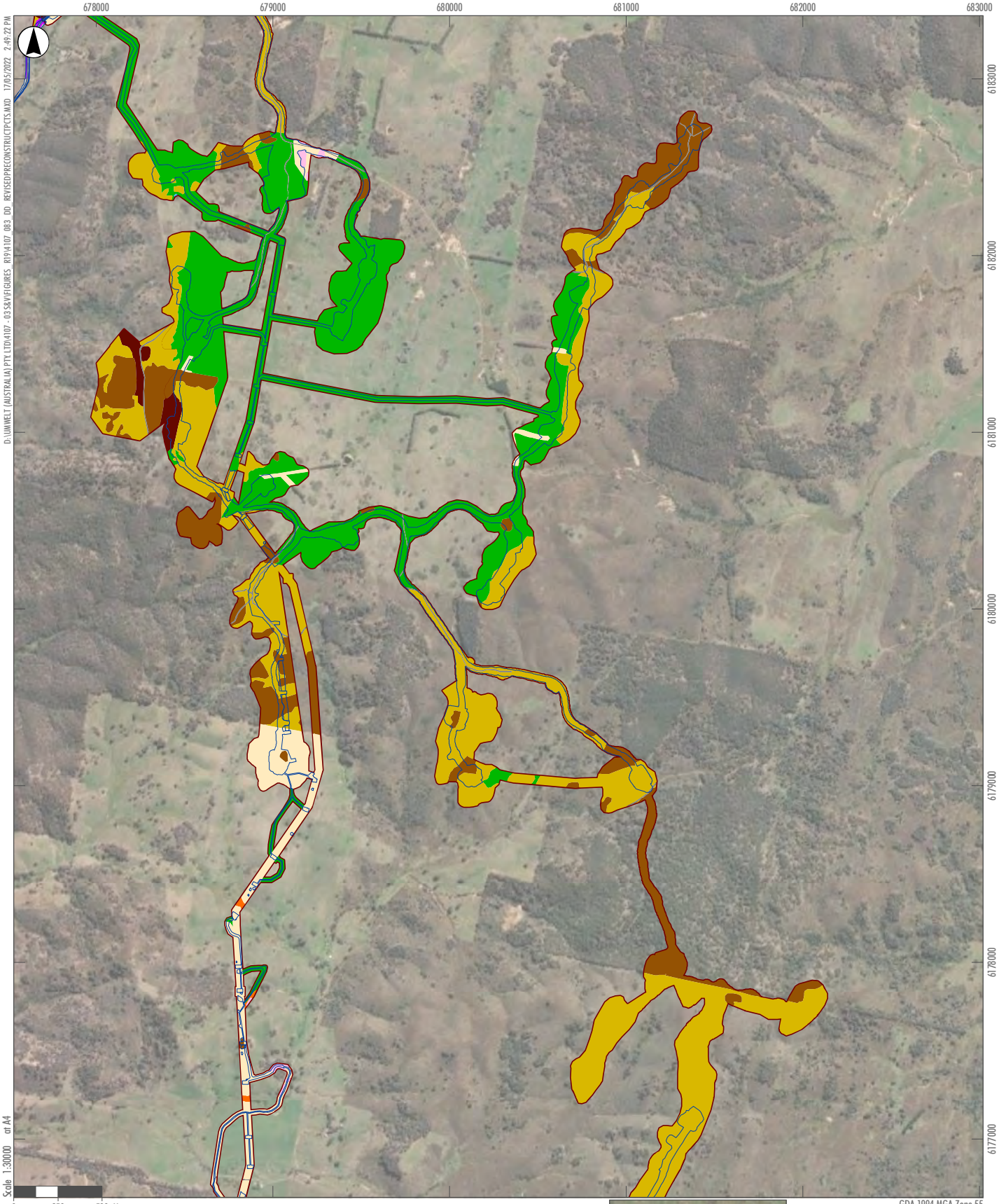
- Zone 1 -289 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- 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)

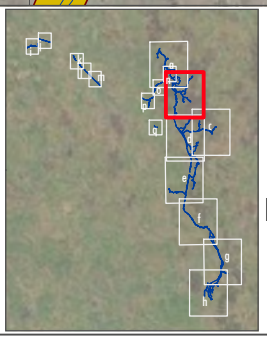


Legend

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

PCT, Condition in the Rye Park Wind Farm

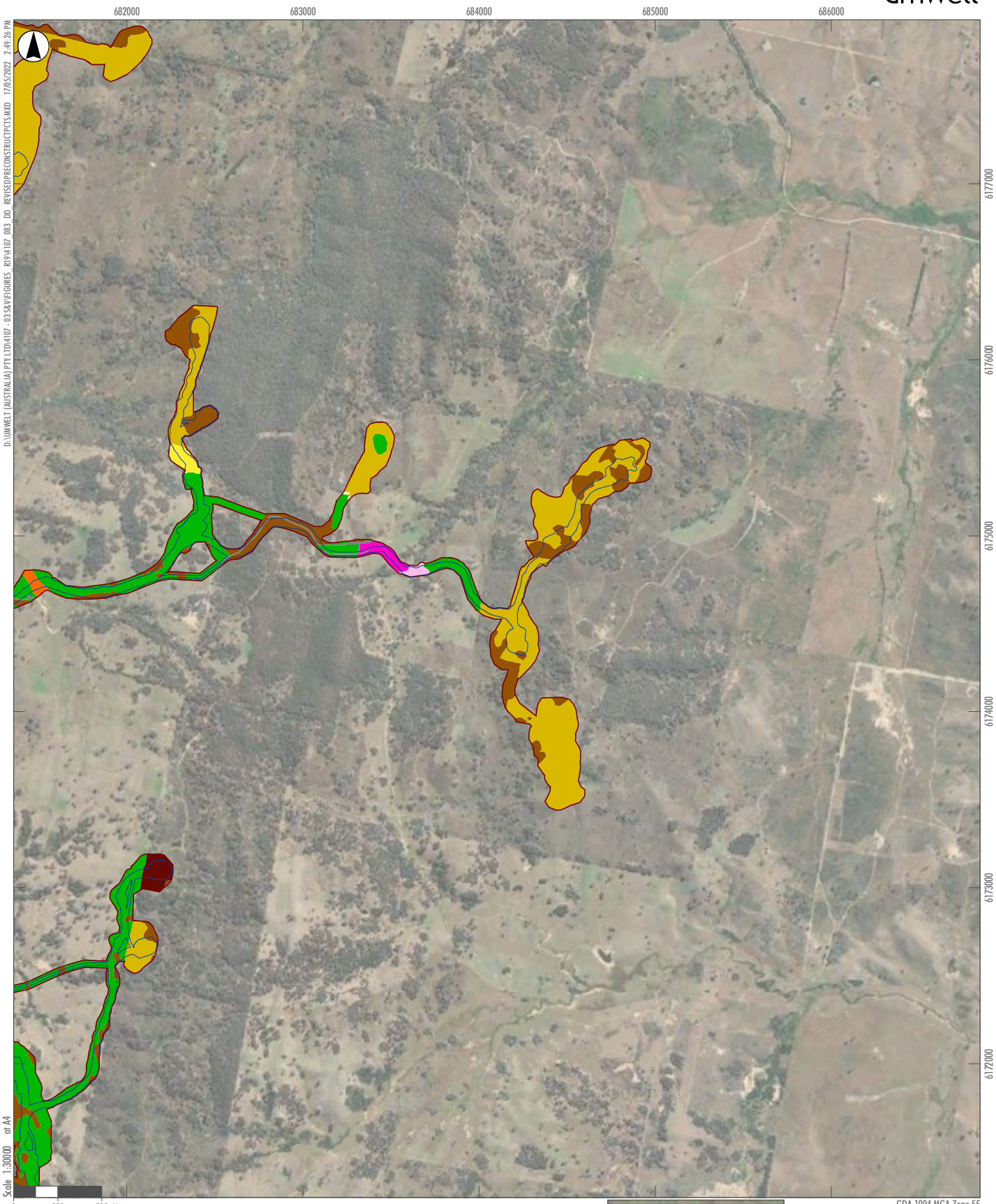
- Zone 1 -289 - Moderate to Good
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native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

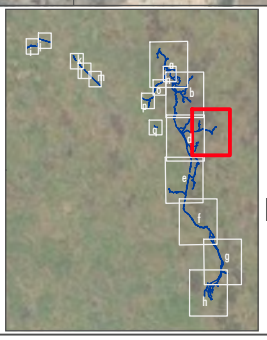


Legend

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

PCT, Condition in the Rye Park Wind Farm

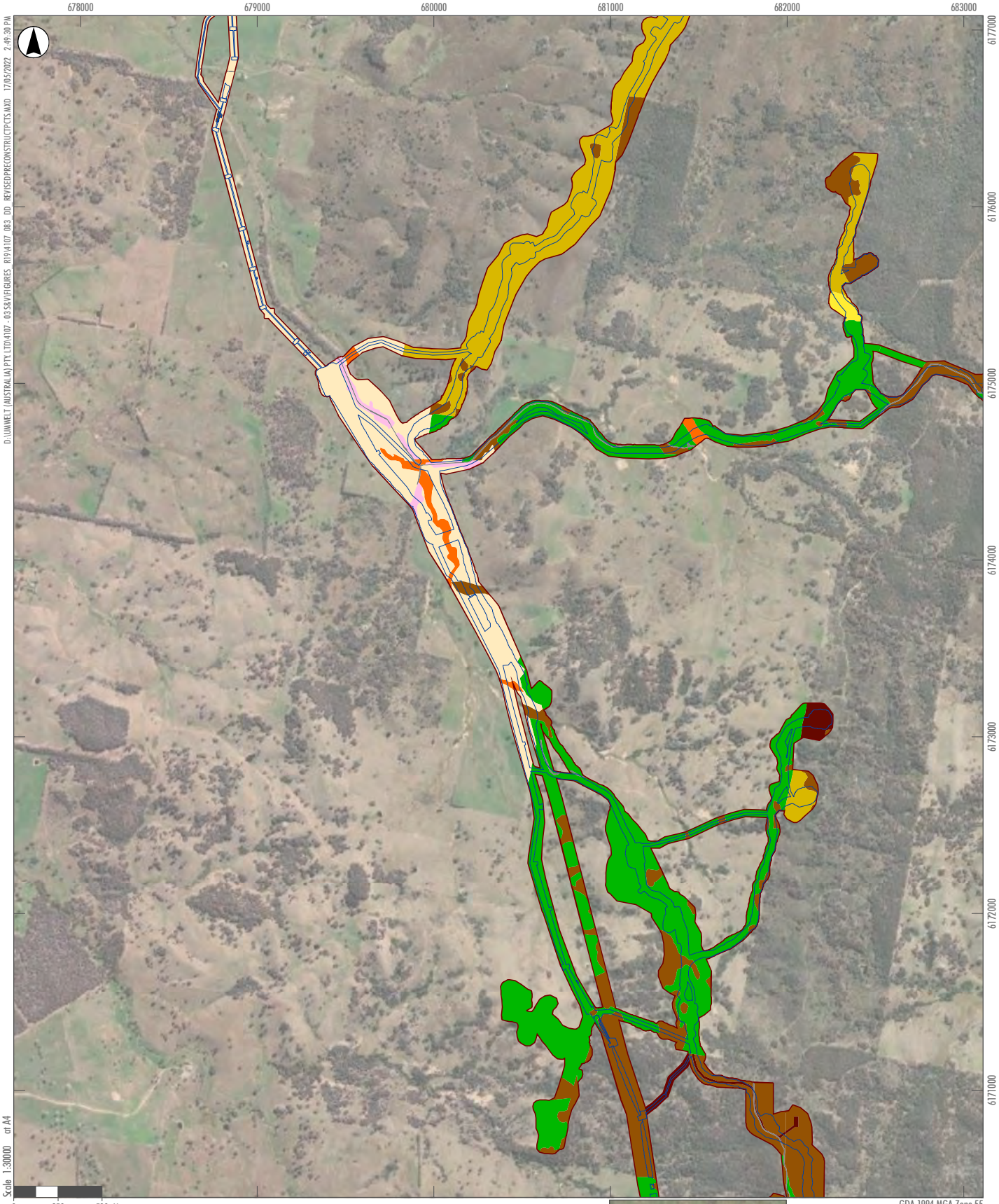
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 -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

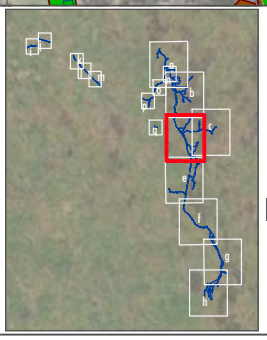


Legend

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

PCT, Condition in the Rye Park Wind Farm

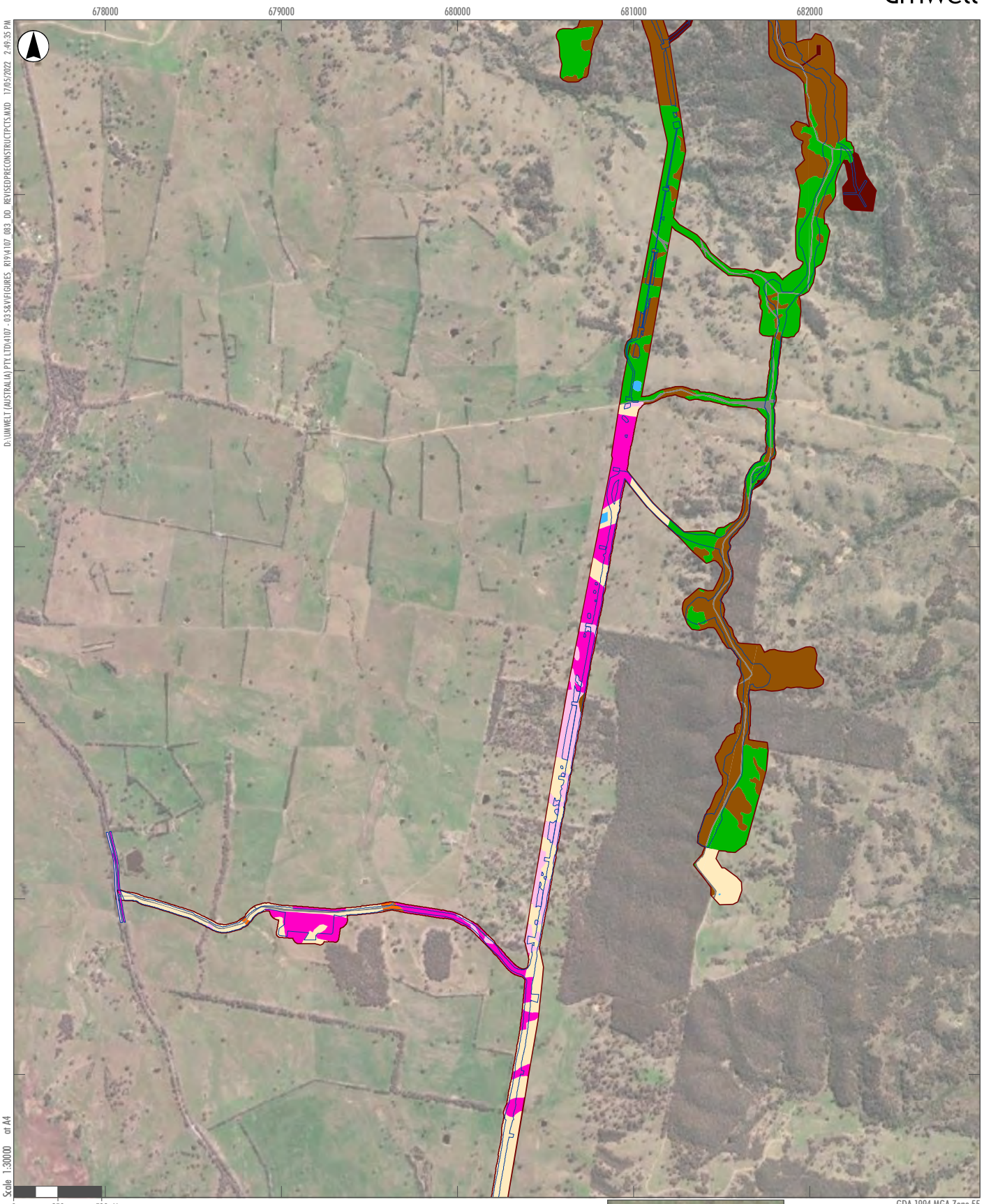
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- 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)

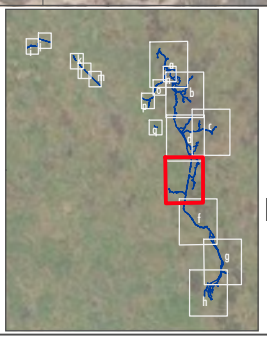


Legend

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

PCT, Condition in the Rye Park Wind Farm

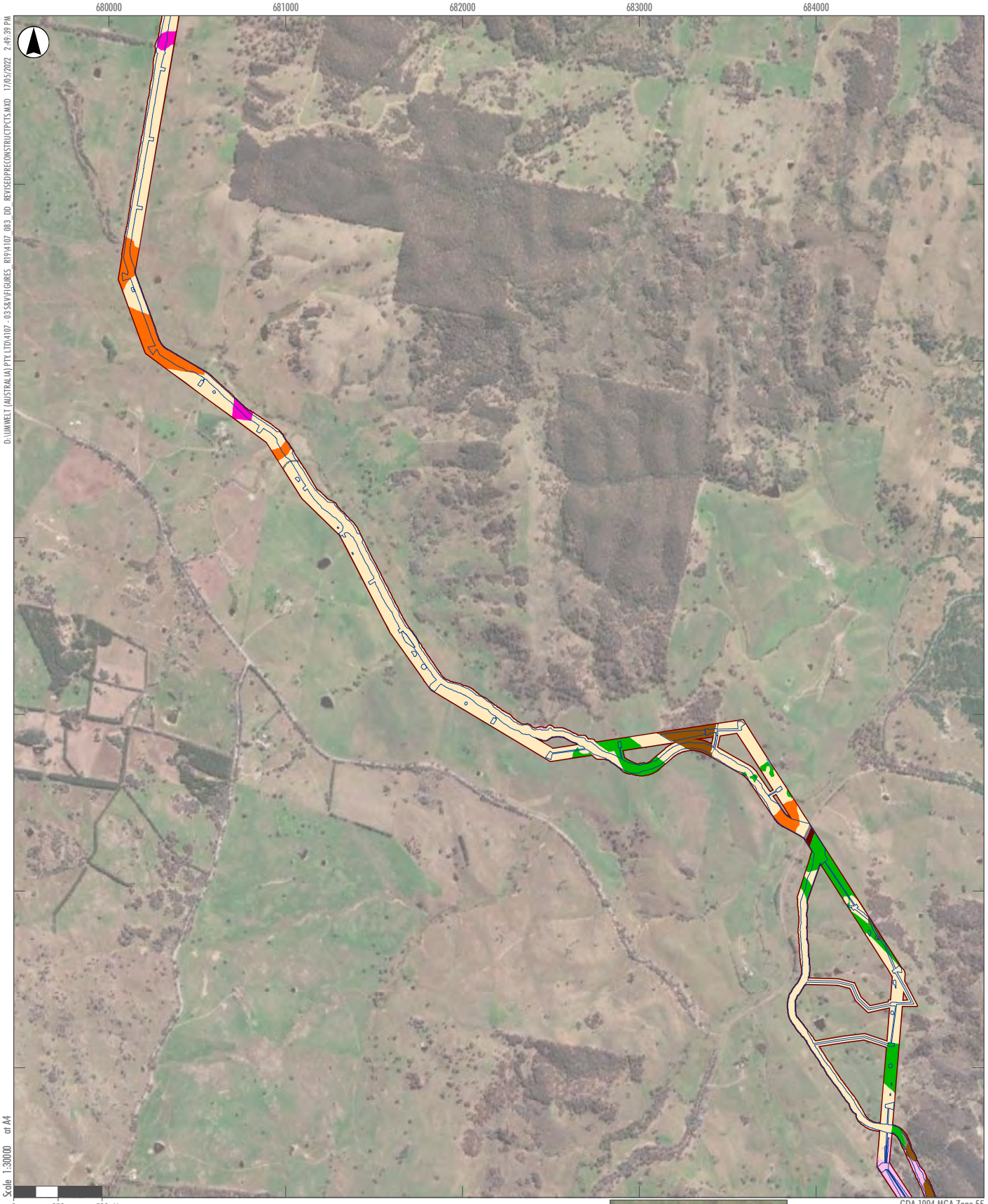
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads
- Water Body



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)

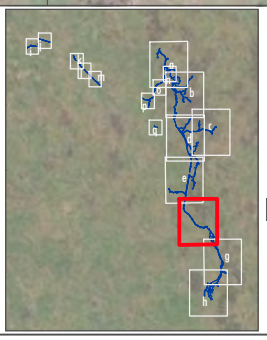


Legend

- 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

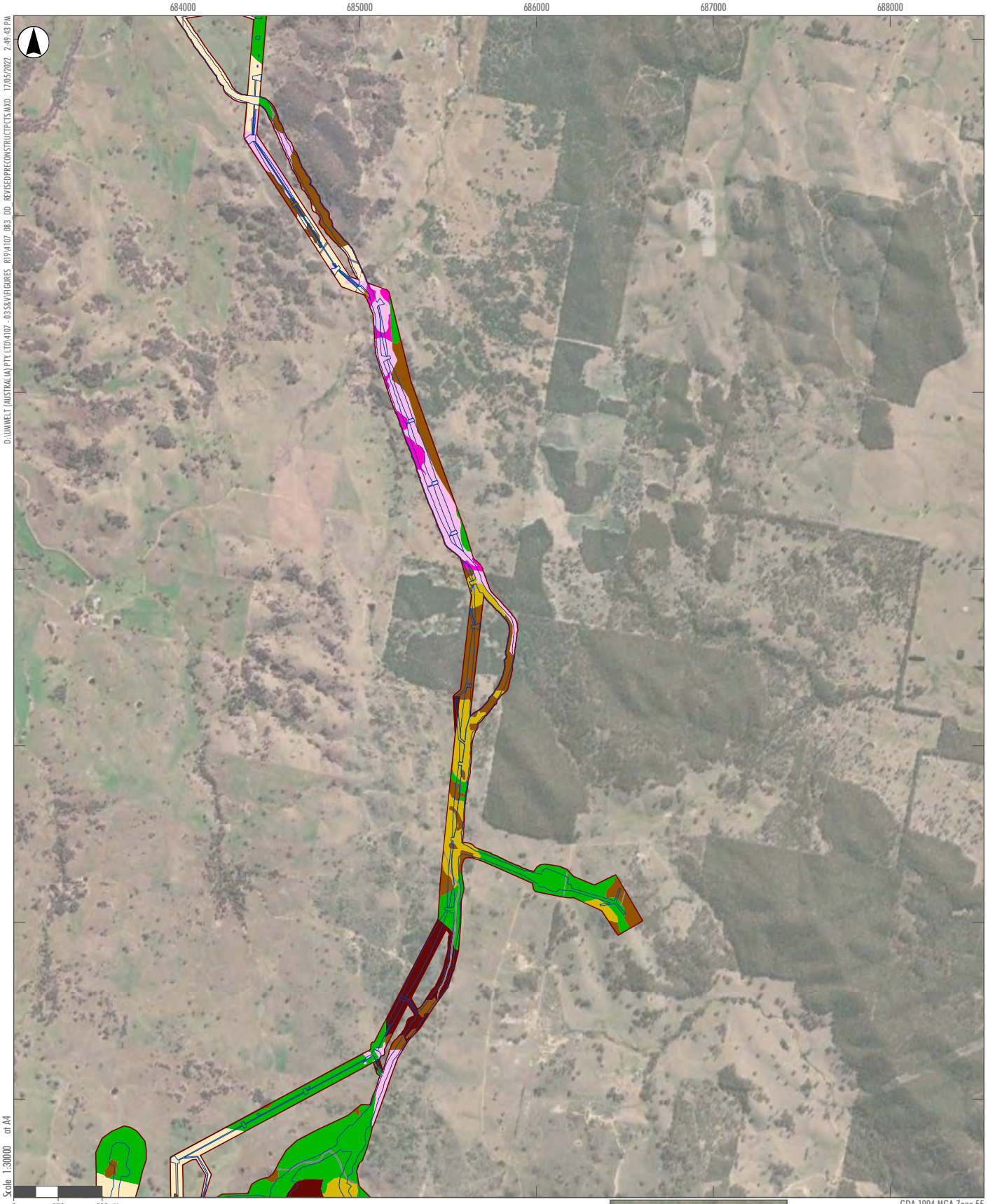


APPENDIX A.f

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

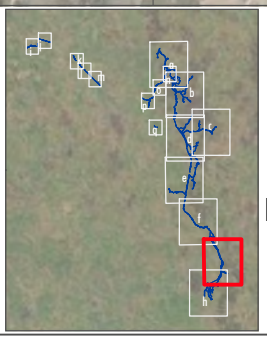


Legend

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

PCT, Condition in the Rye Park Wind Farm

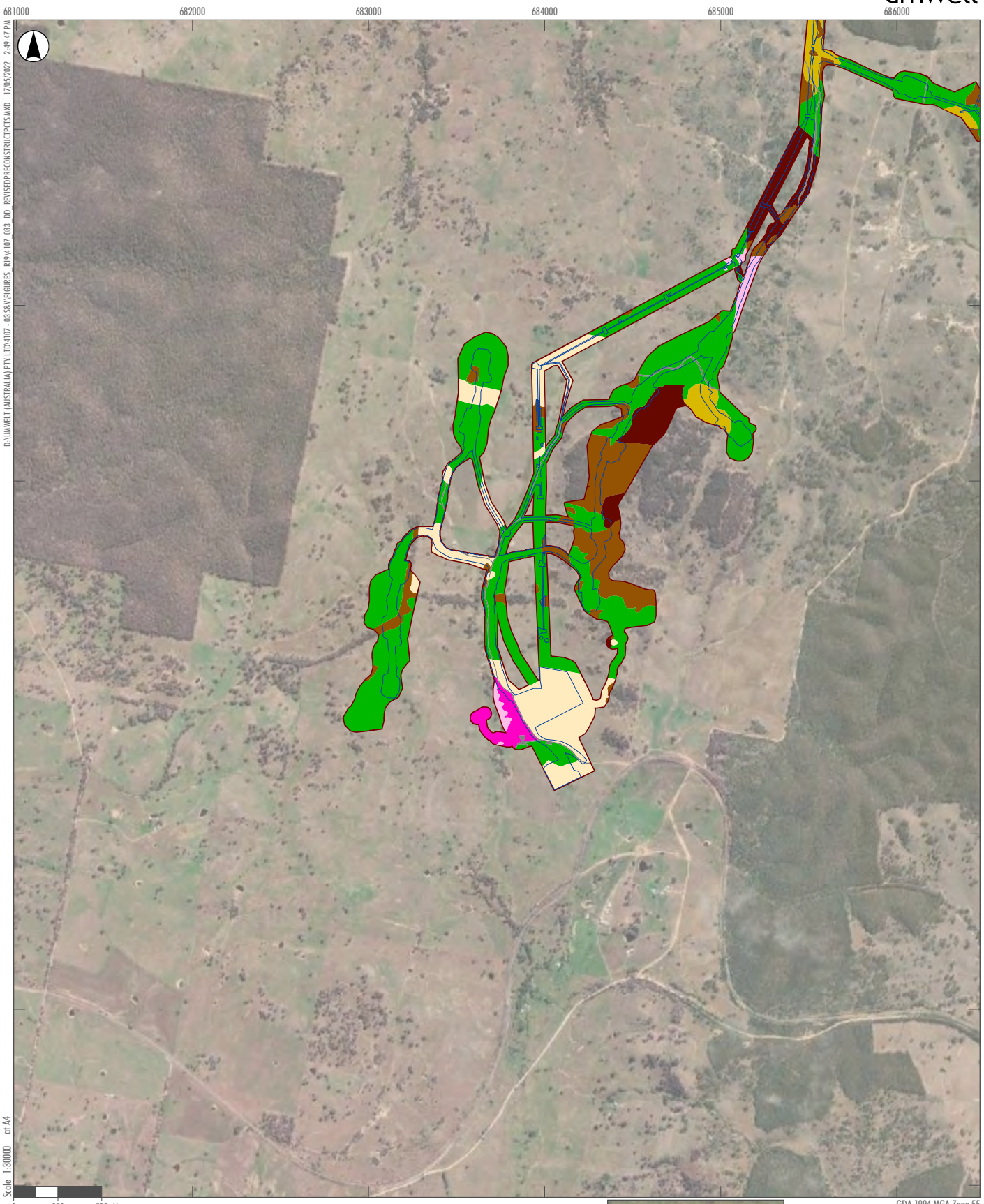
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native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



APPENDIX A.g

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

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

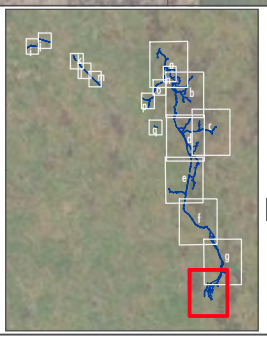


Legend

- 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
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.h

Plant Community Types and Vegetation Zones in the 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

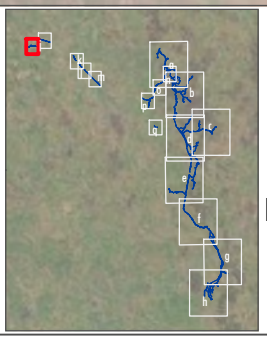
PCT, Condition in the Rye Park Wind Farm

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

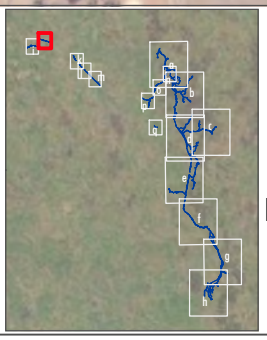
Revised Pre-Construction Development Footprint

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

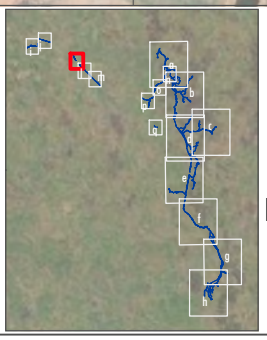
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

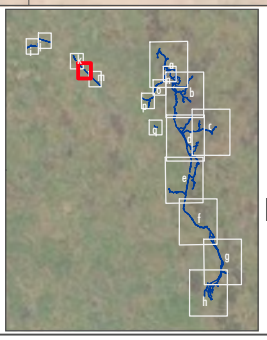
Revised Pre-Construction Development Footprint

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

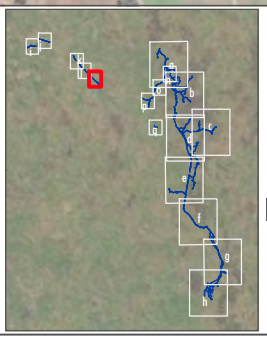
Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

Zone 3 -350 - Moderate to Good

Zone 10 -Non-native Vegetation

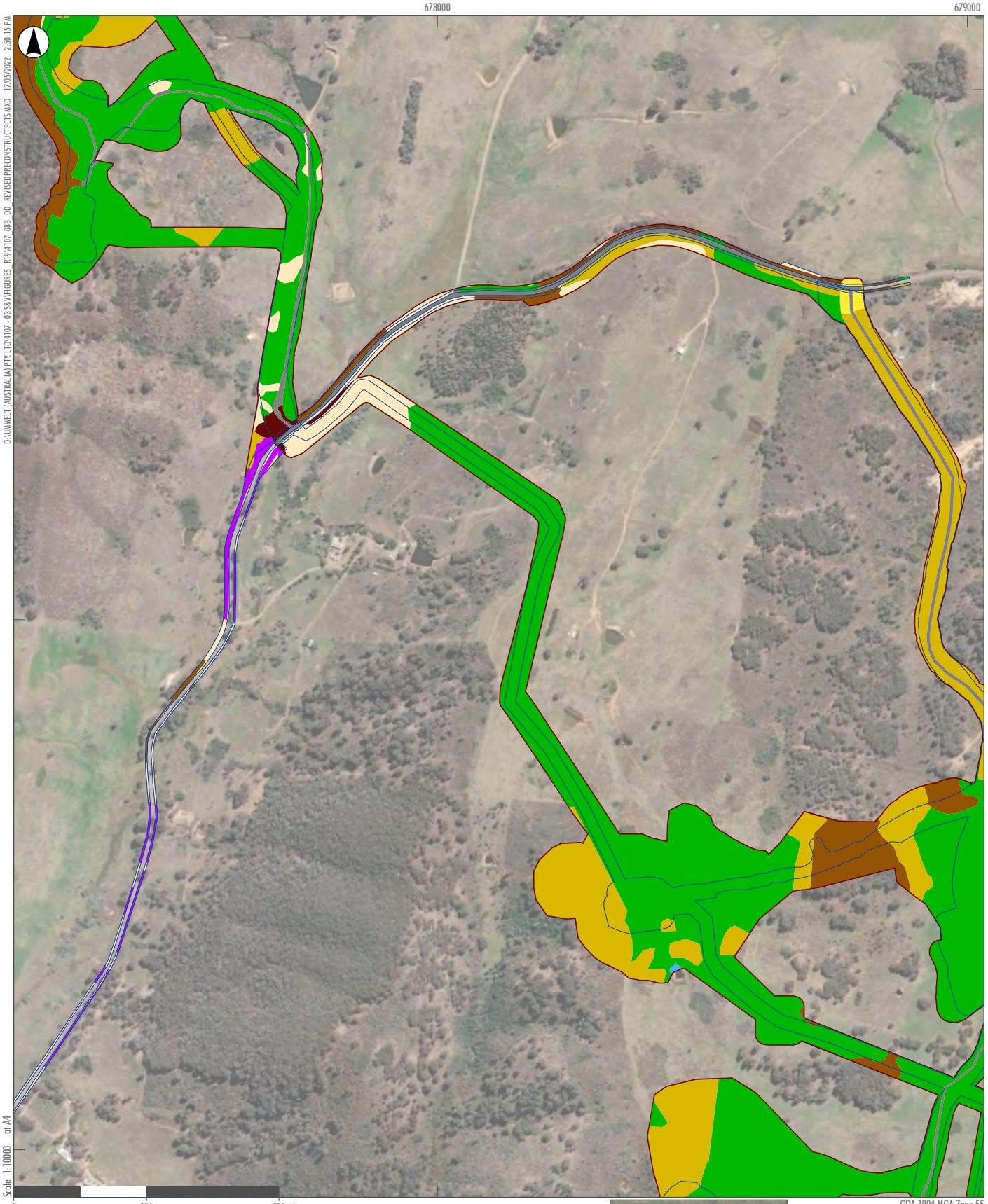
Access Tracks/Roads



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)

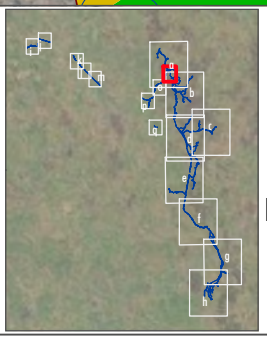


Legend

- 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

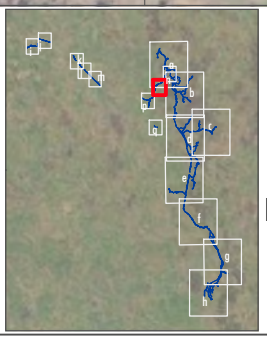
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

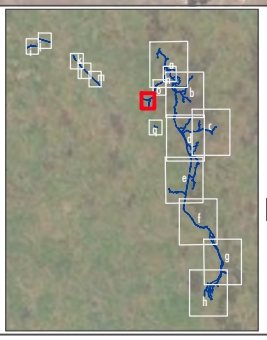
PCT, Condition in the Rye Park Wind Farm

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

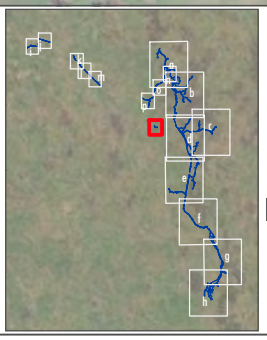
Revised Pre-Construction Development Footprint

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

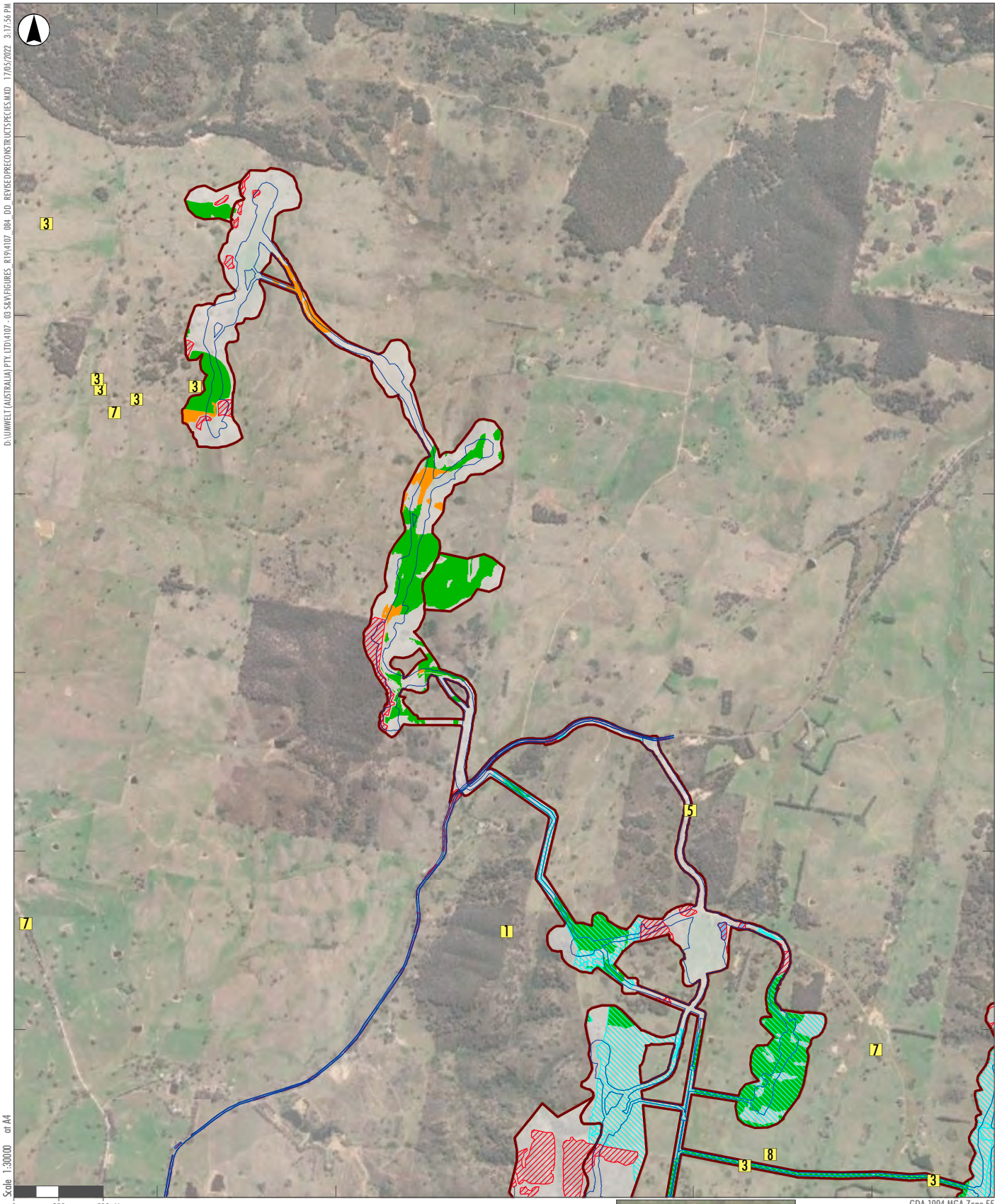
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

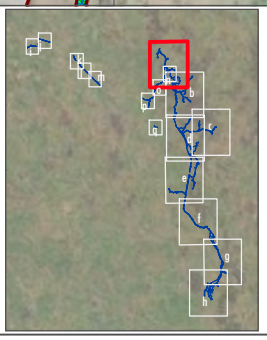
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

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

Threatened Species Habitat

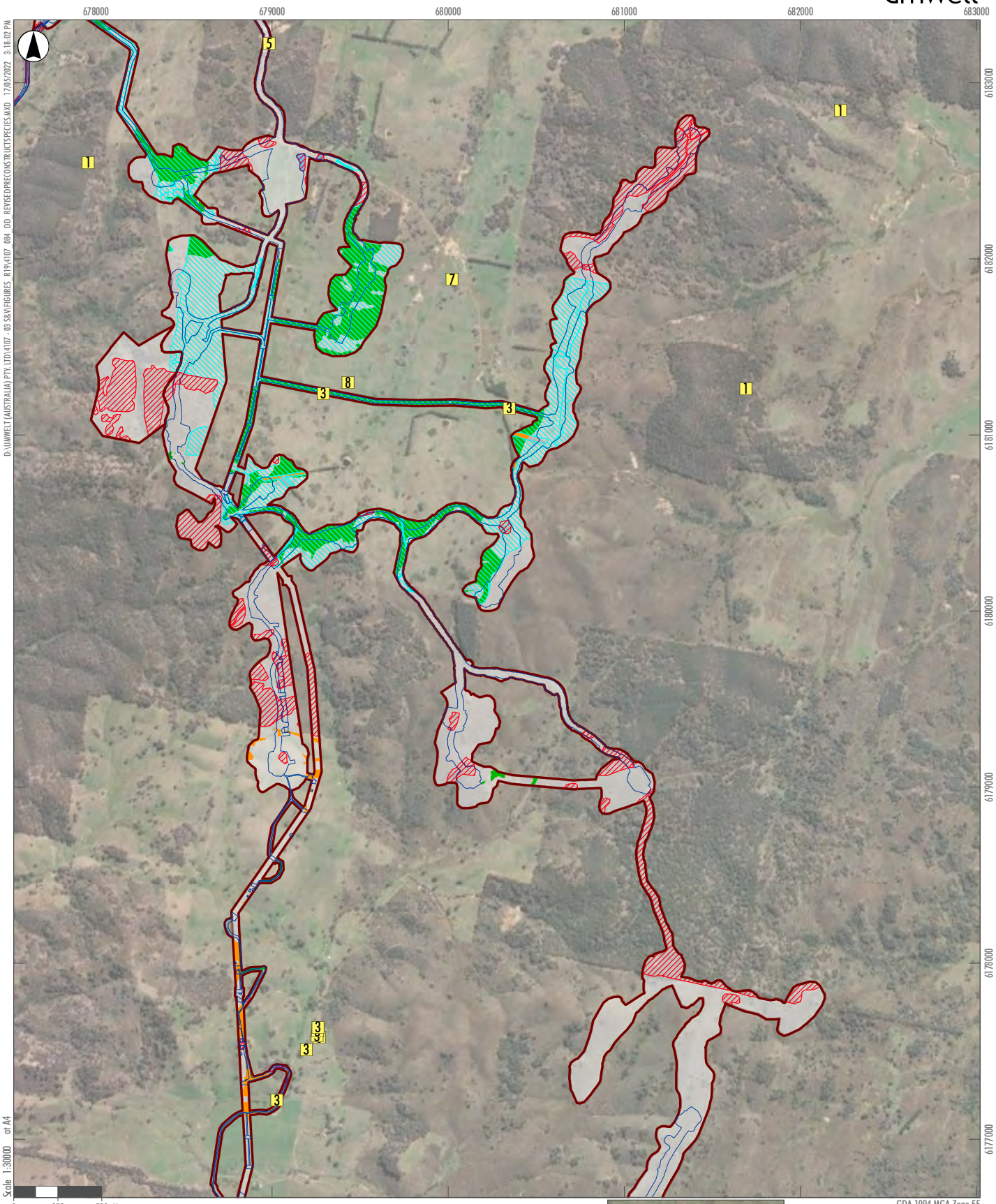
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



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

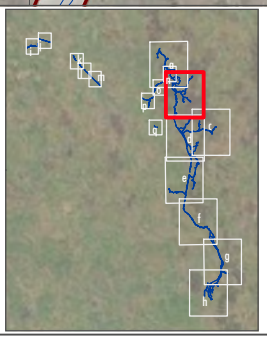
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

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

Threatened Species Habitat

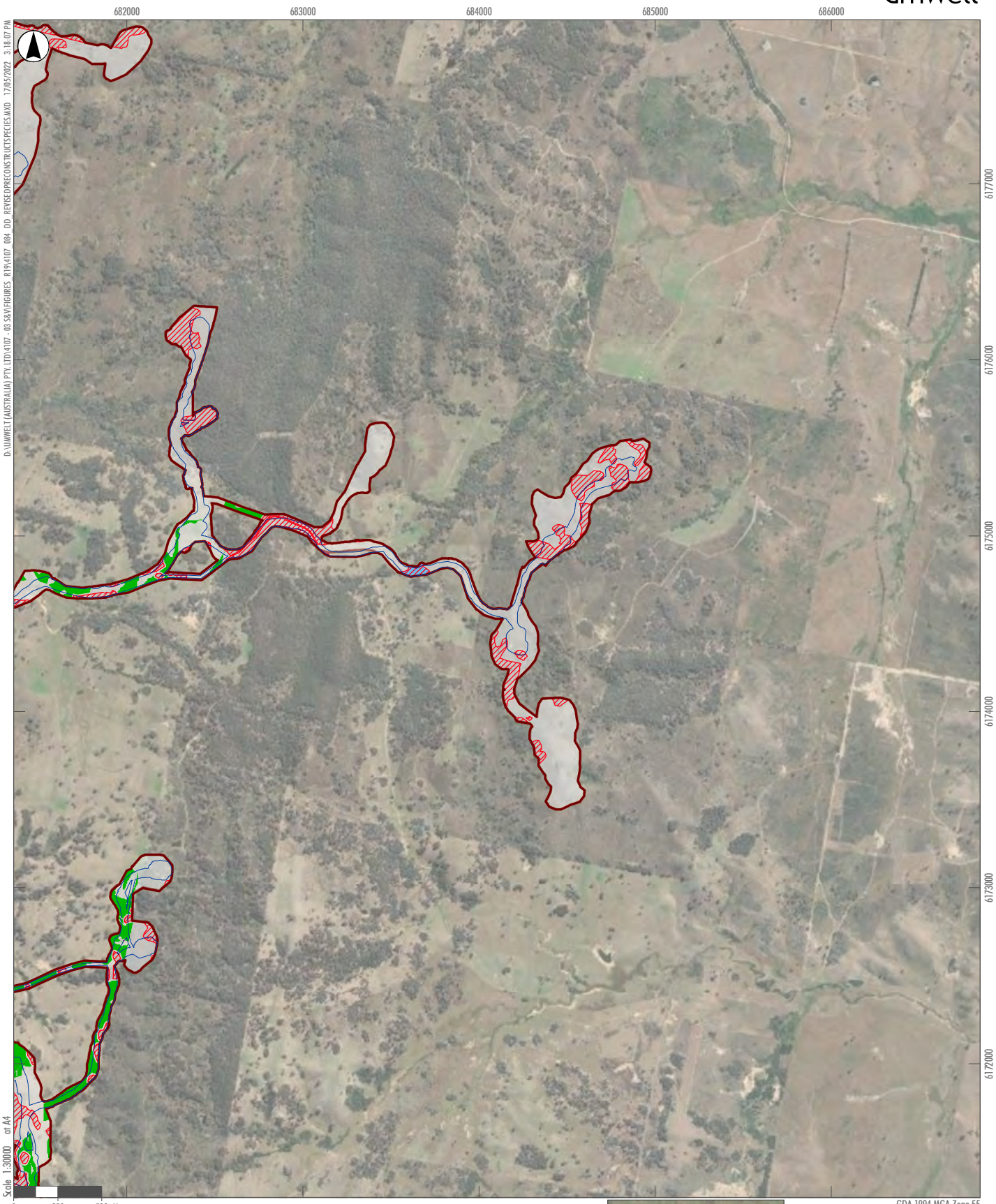
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



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)

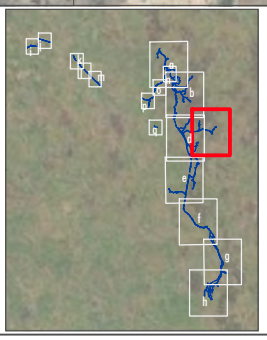


Legend

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

Threatened Species Habitat

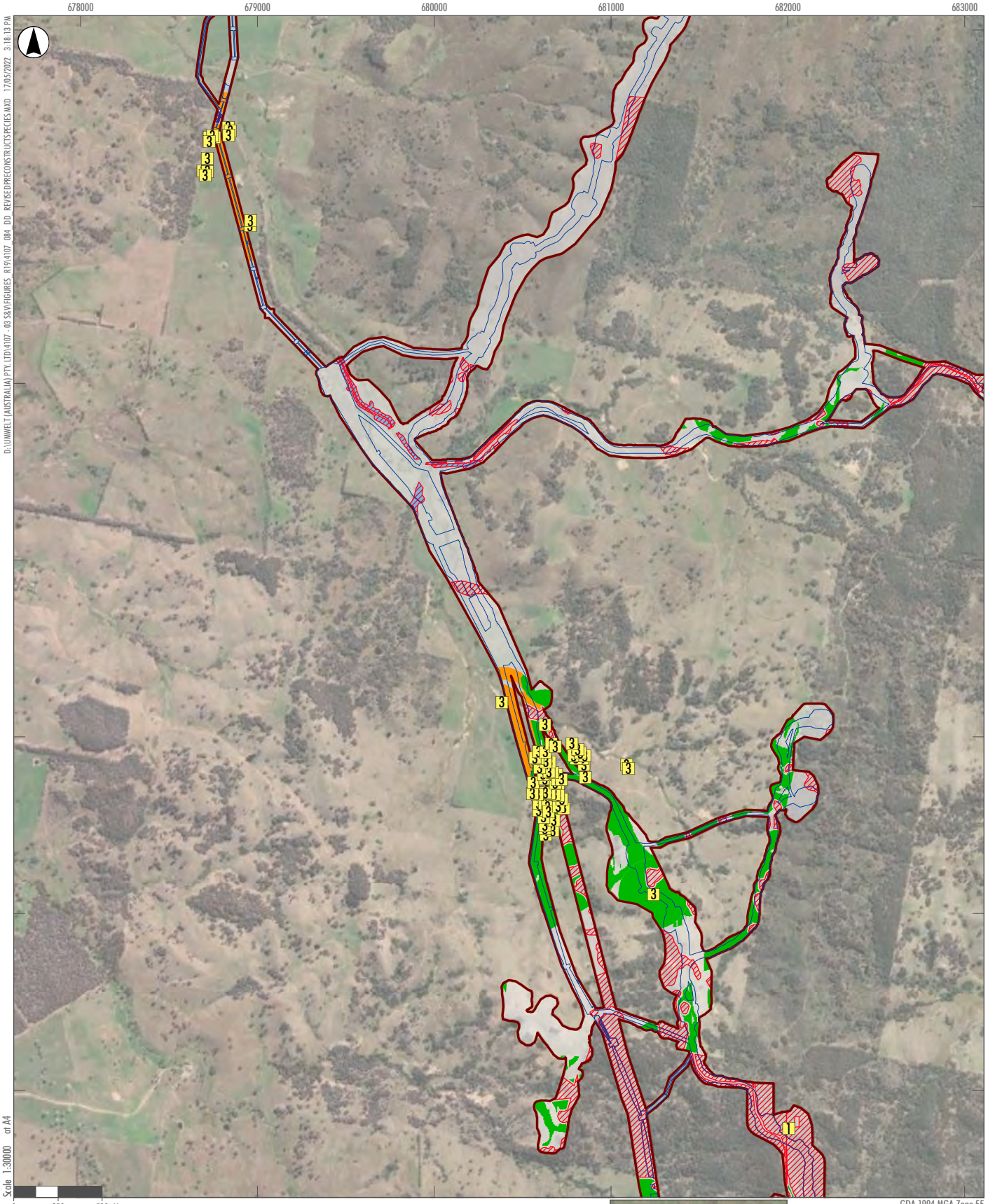
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



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

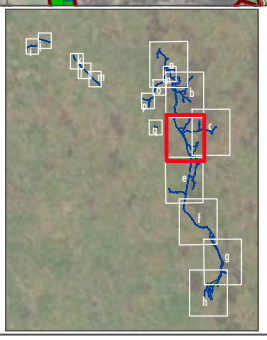
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

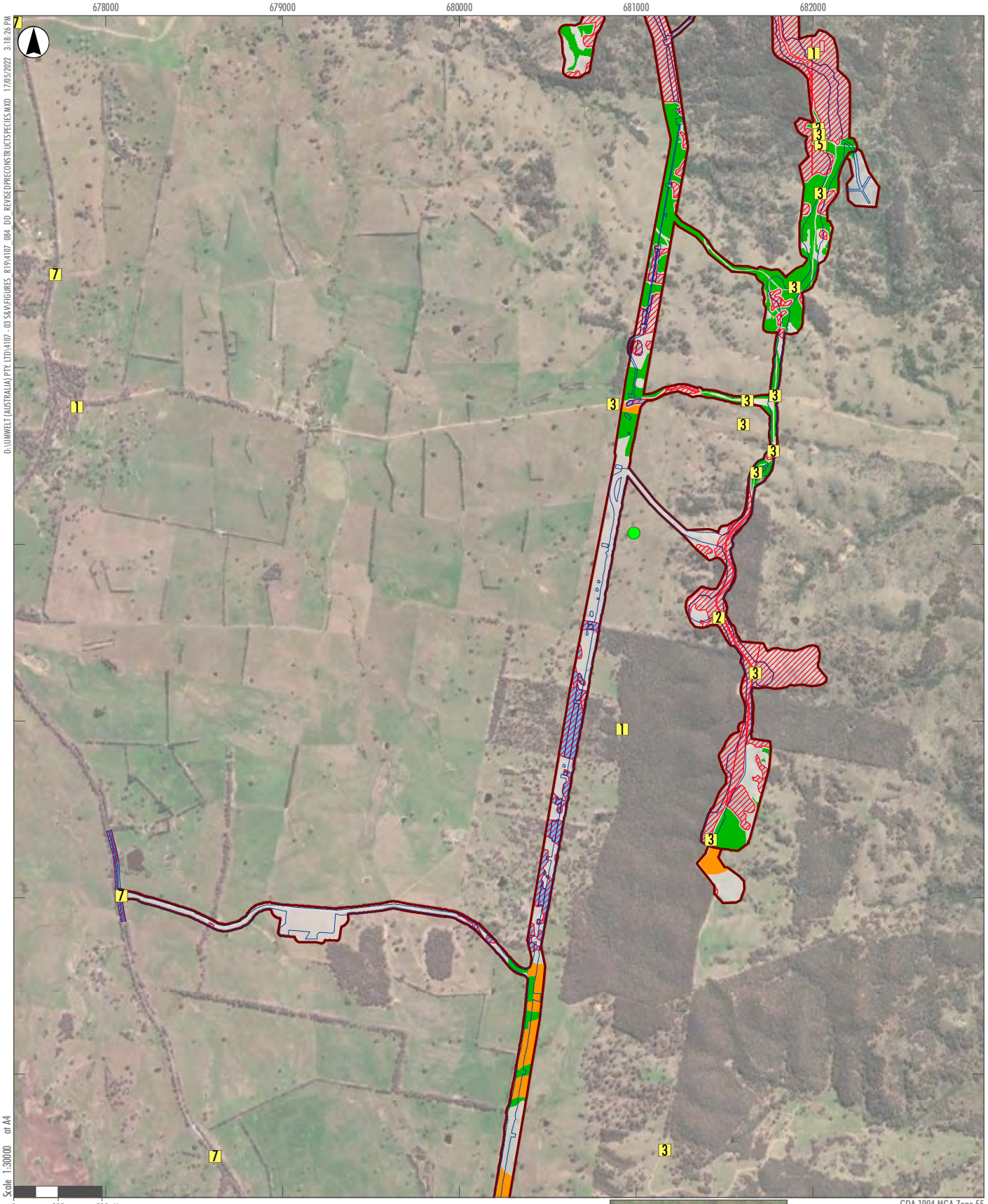


APPENDIX B.d

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

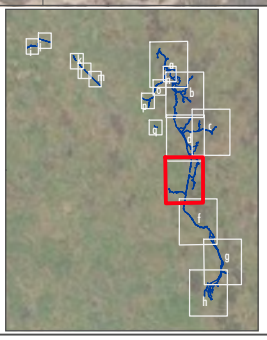
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

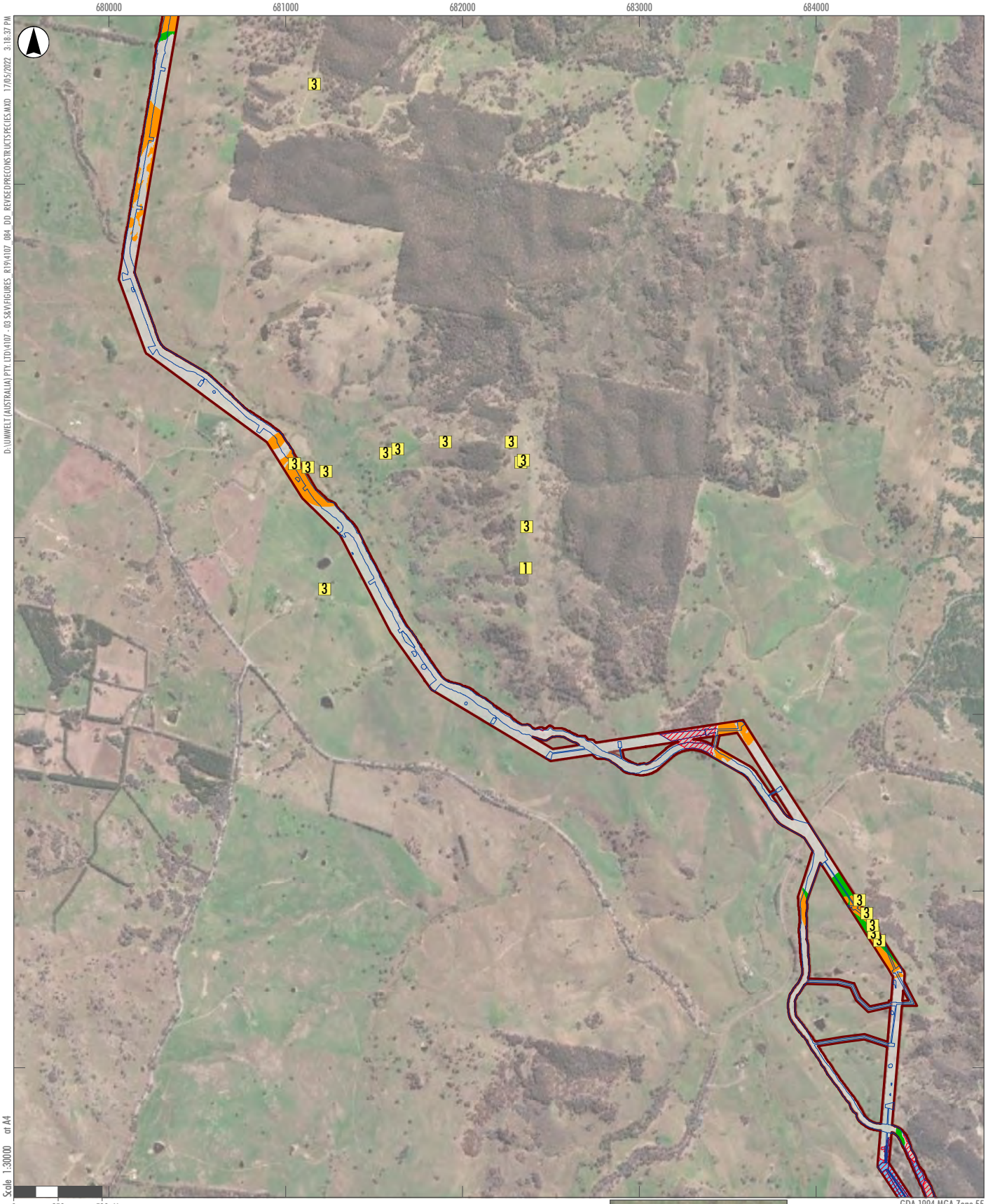
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



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

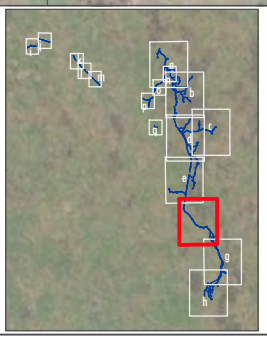
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth

Threatened Species Habitat

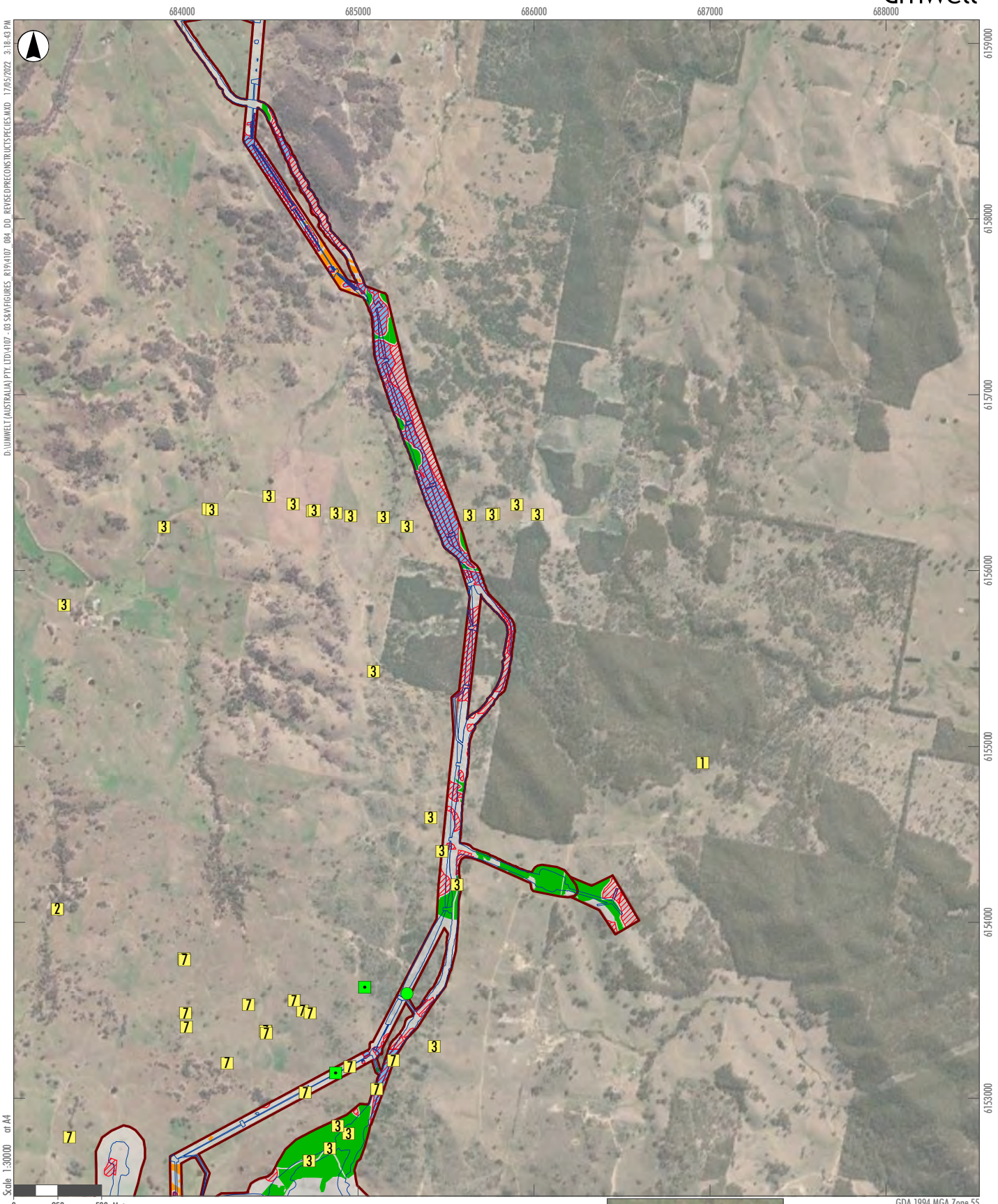
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



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

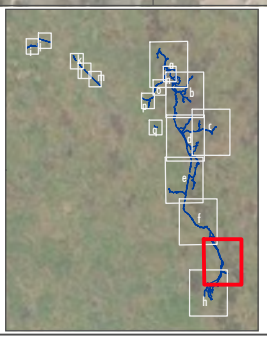
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

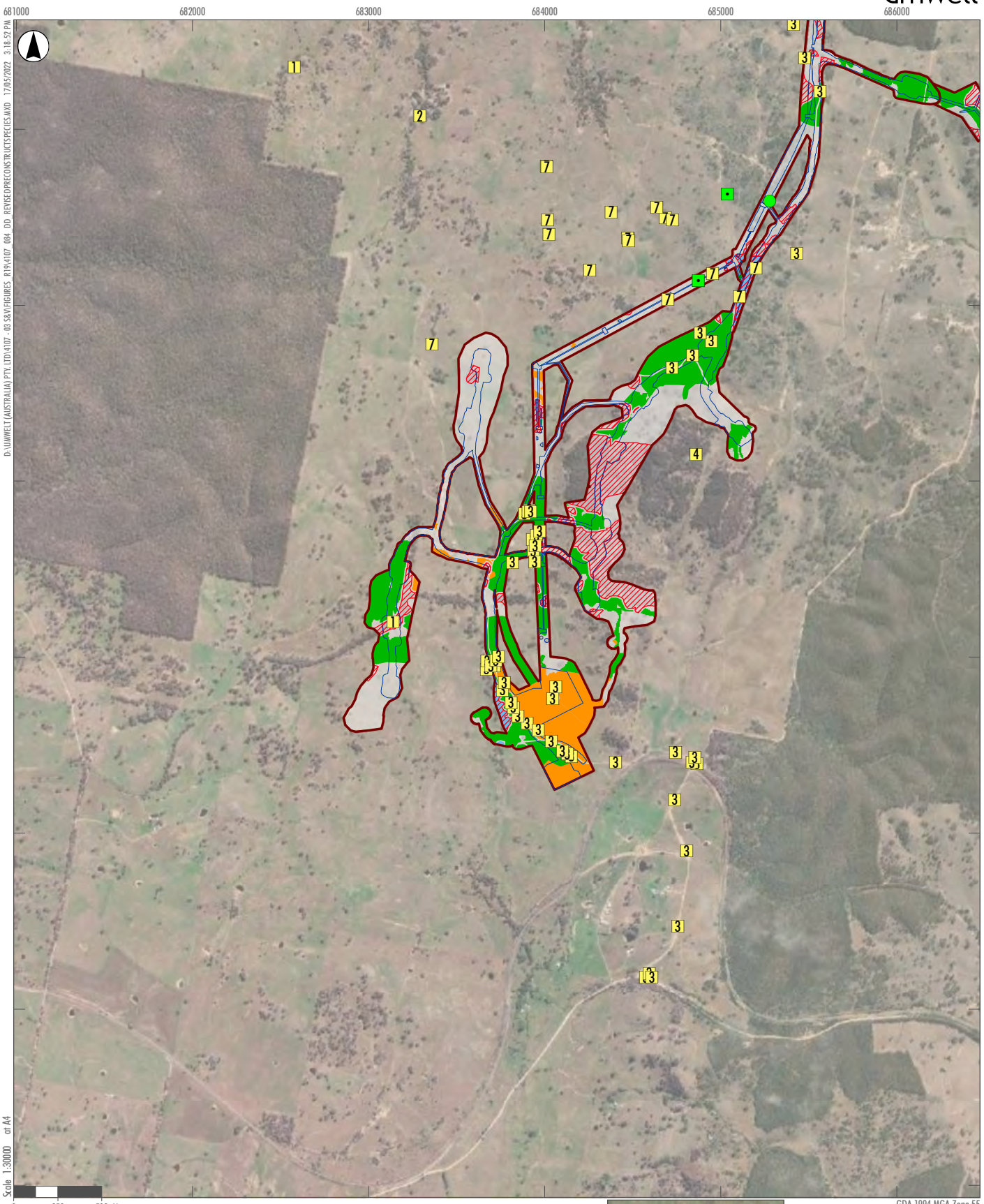
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



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

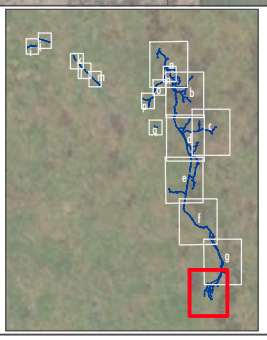
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

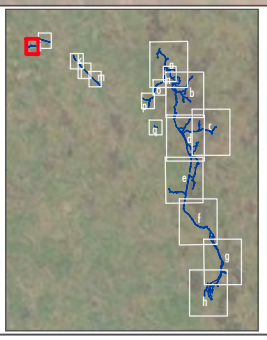
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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)

D:\UMWELT (AUSTRALIA) PTY. LTD\4107 - 03 S&V\FIGURES_R19\4107_084_DD_REVISEDPRECONSTRUCTSPECIES.MXD 17/05/2022 3:19:04 PM

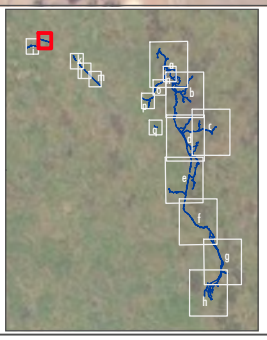
Scale 1:10000 at A4

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

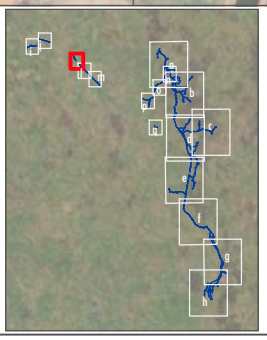
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

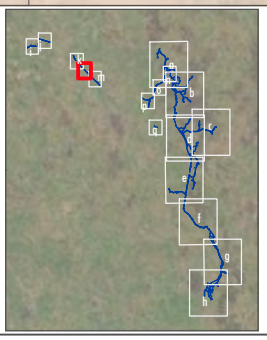
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

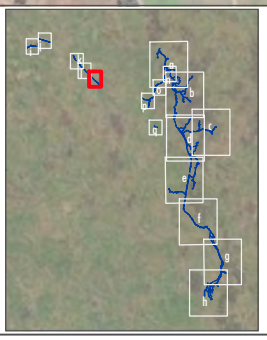
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

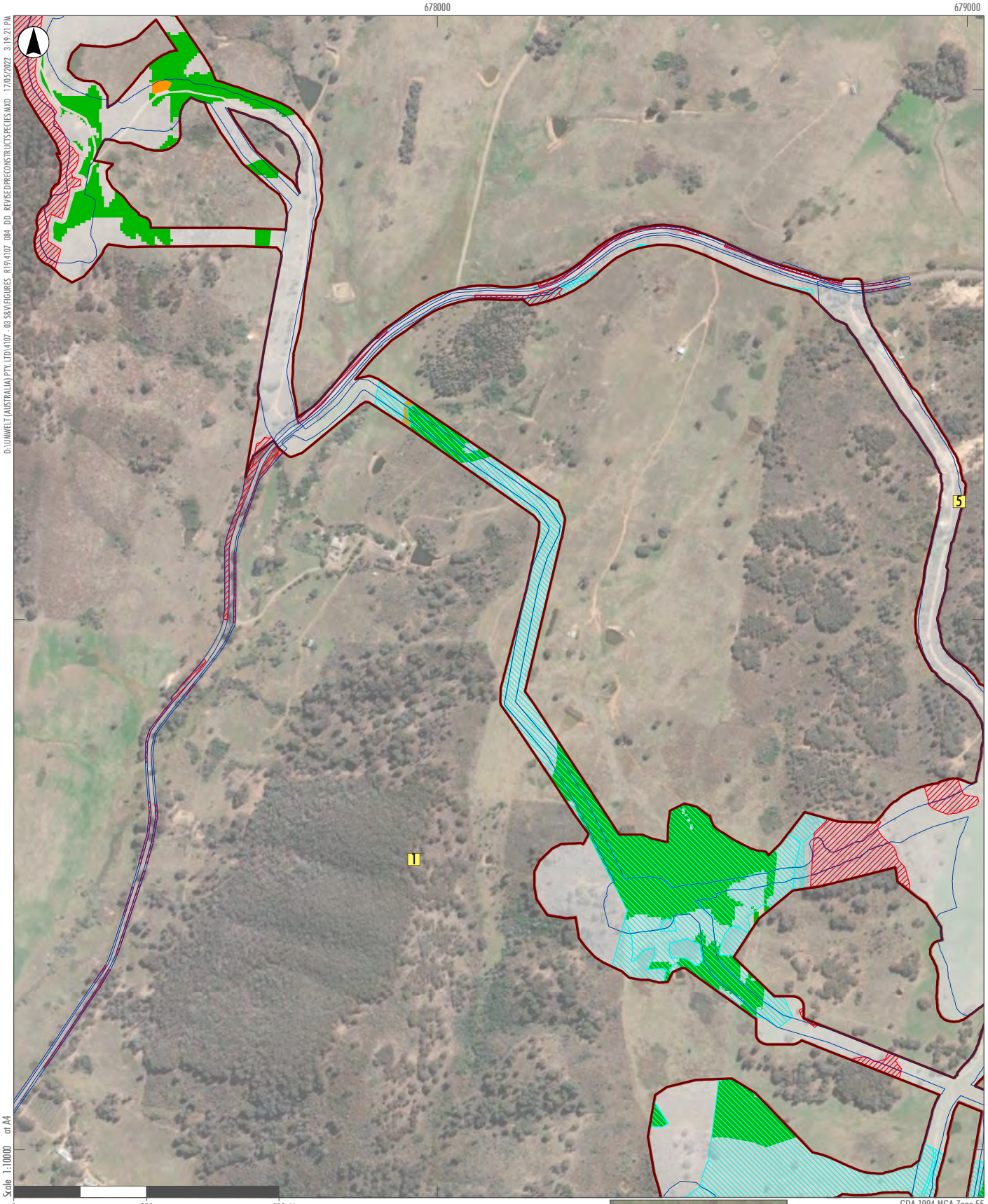
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



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)



D:\UMWELT (AUSTRALIA) PTY. LTD\4107 - 03 S&V\FIGURES_R19\4107_084_DD_REVISEDPRECONSTRUCTSPECIES.MXD 17/05/2022 3:19:21 PM

Scale 1:10000 at A4

Legend

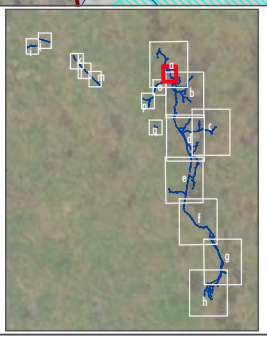
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

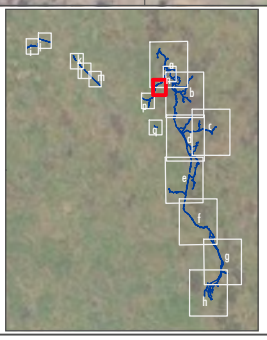
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

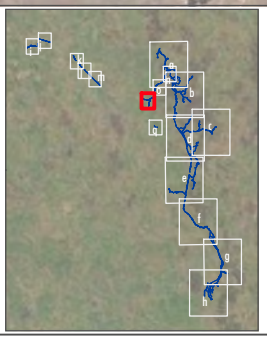
- Revised Pre-Construction Development Footprint
- Superb Parrot - Breeding Habitat

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

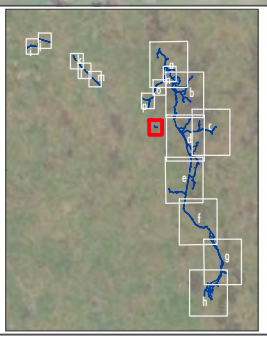
- Revised Pre-Construction Development Footprint
- Superb Parrot - Breeding Habitat

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)



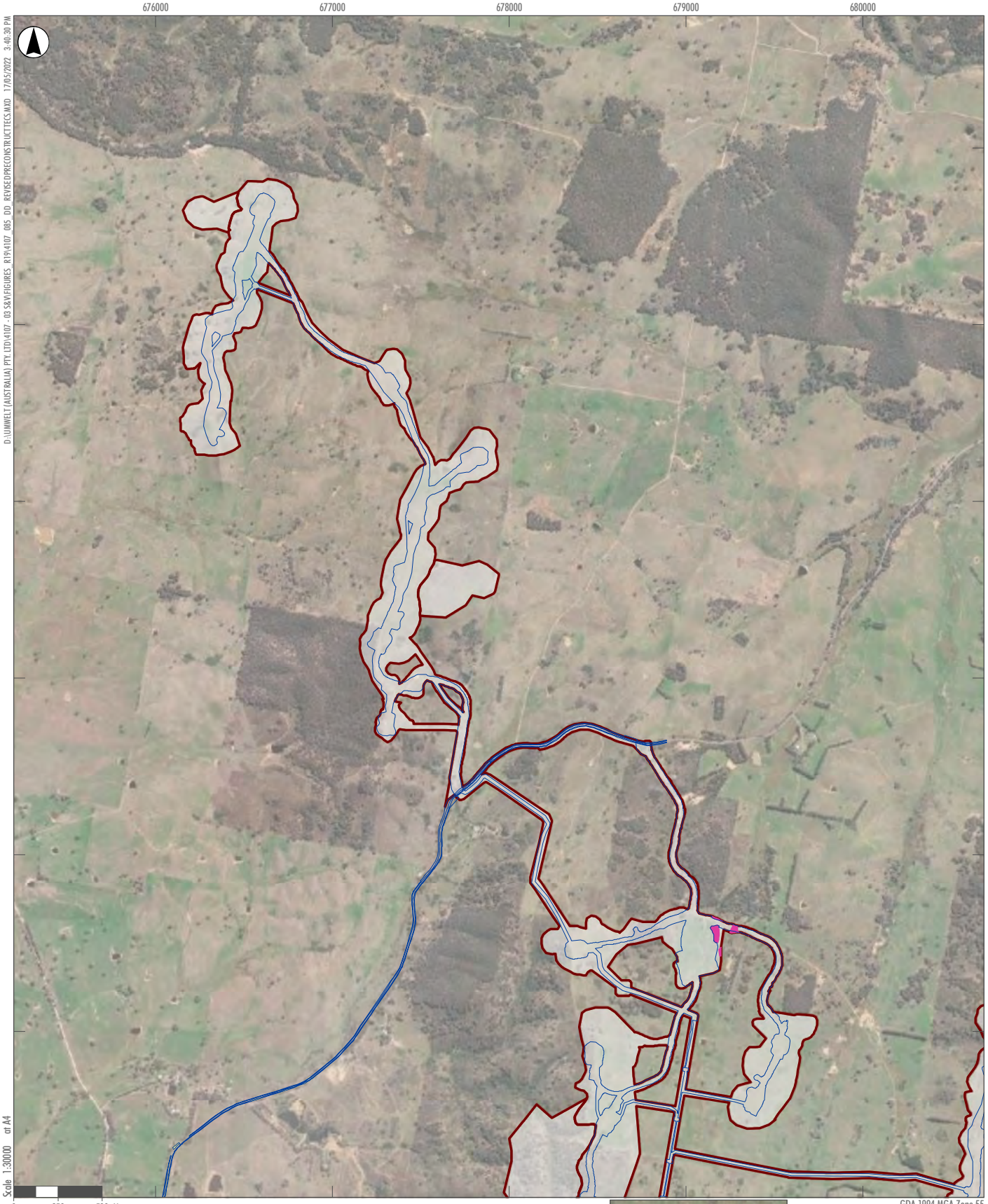
APPENDIX B.q

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

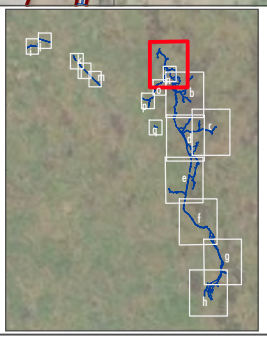
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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)

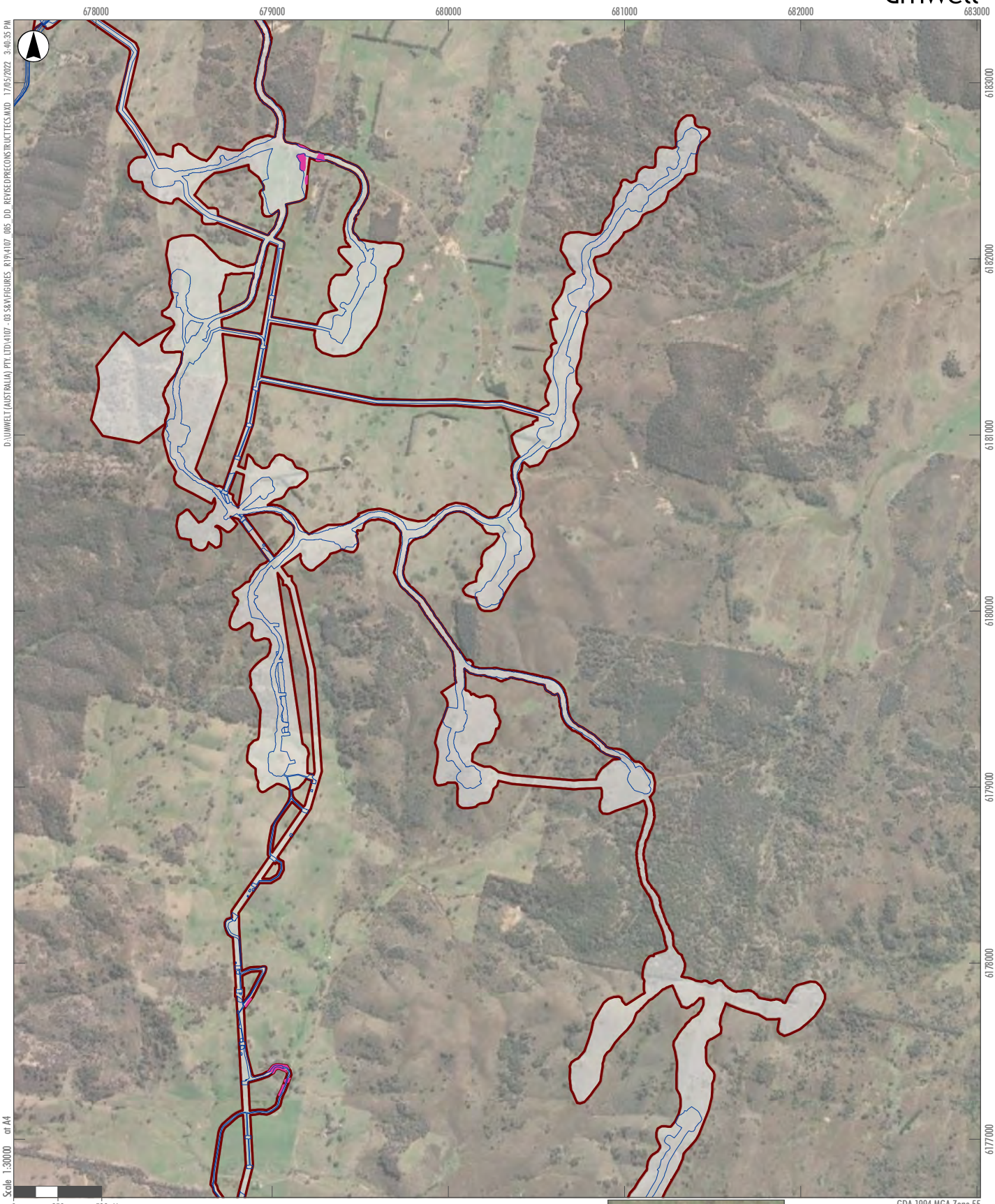
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



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)

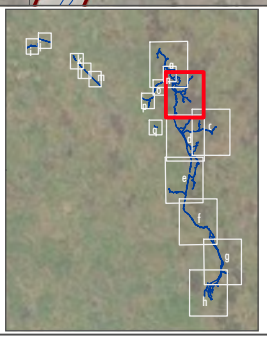


Legend

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

Threatened Ecological Communities (BC Act & EPBC Act)

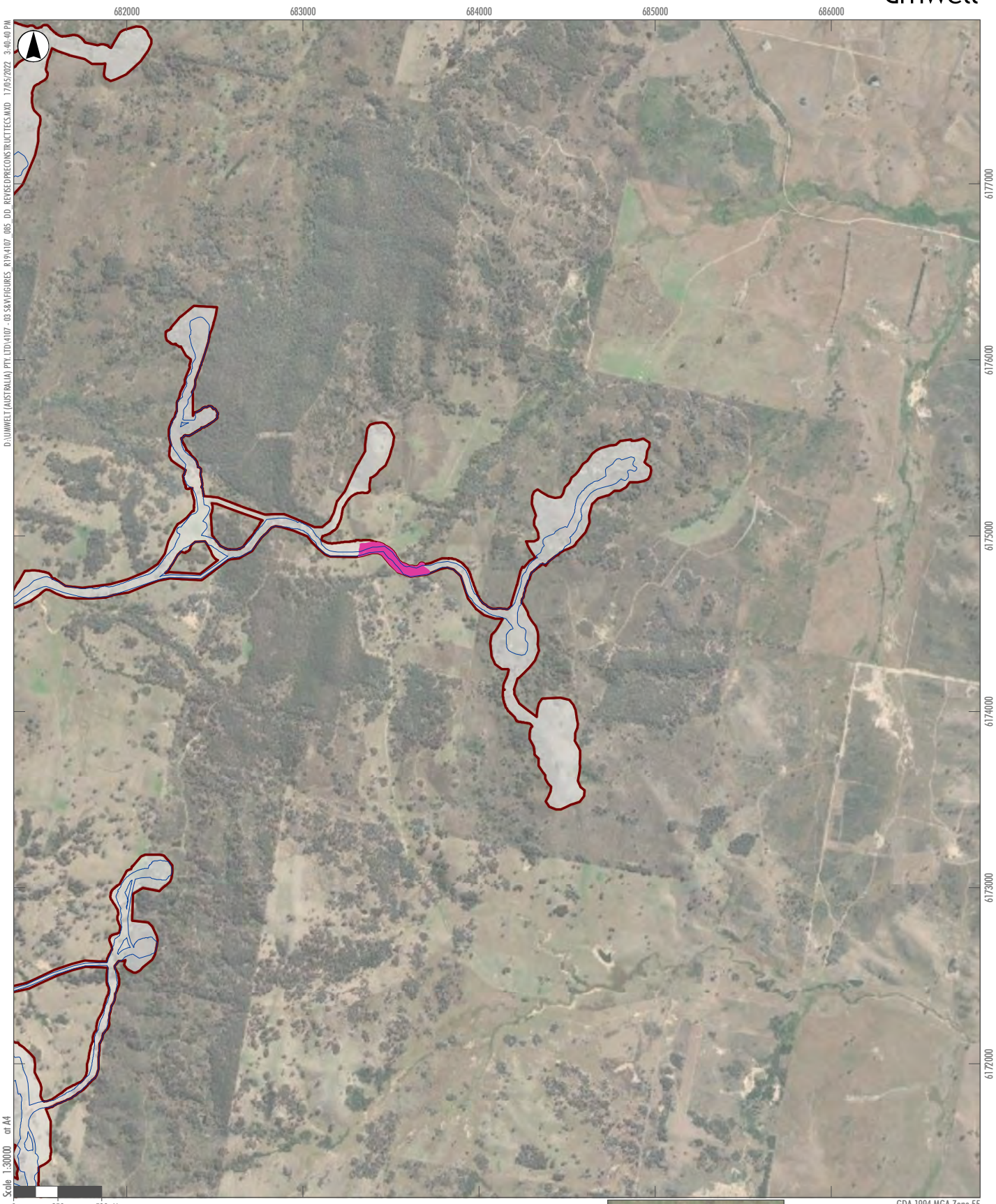
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



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)



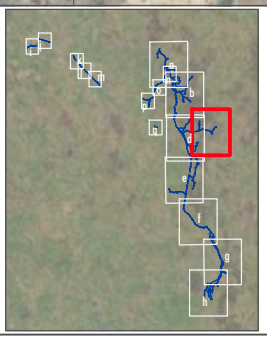
Legend

Revised Pre-Construction Development Footprint

Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act & EPBC Act)

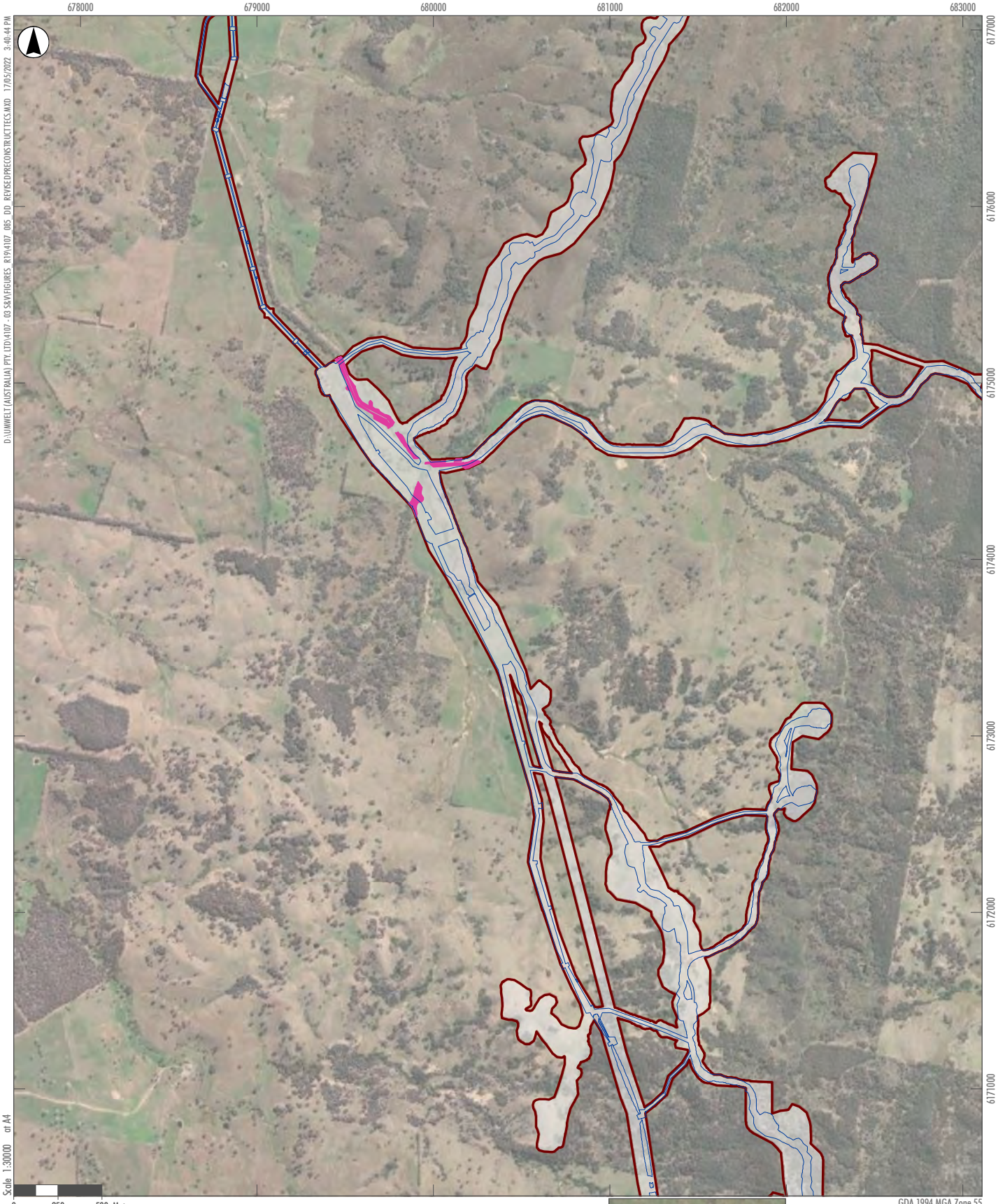
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



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)



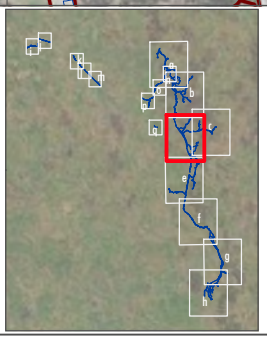
Legend

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)

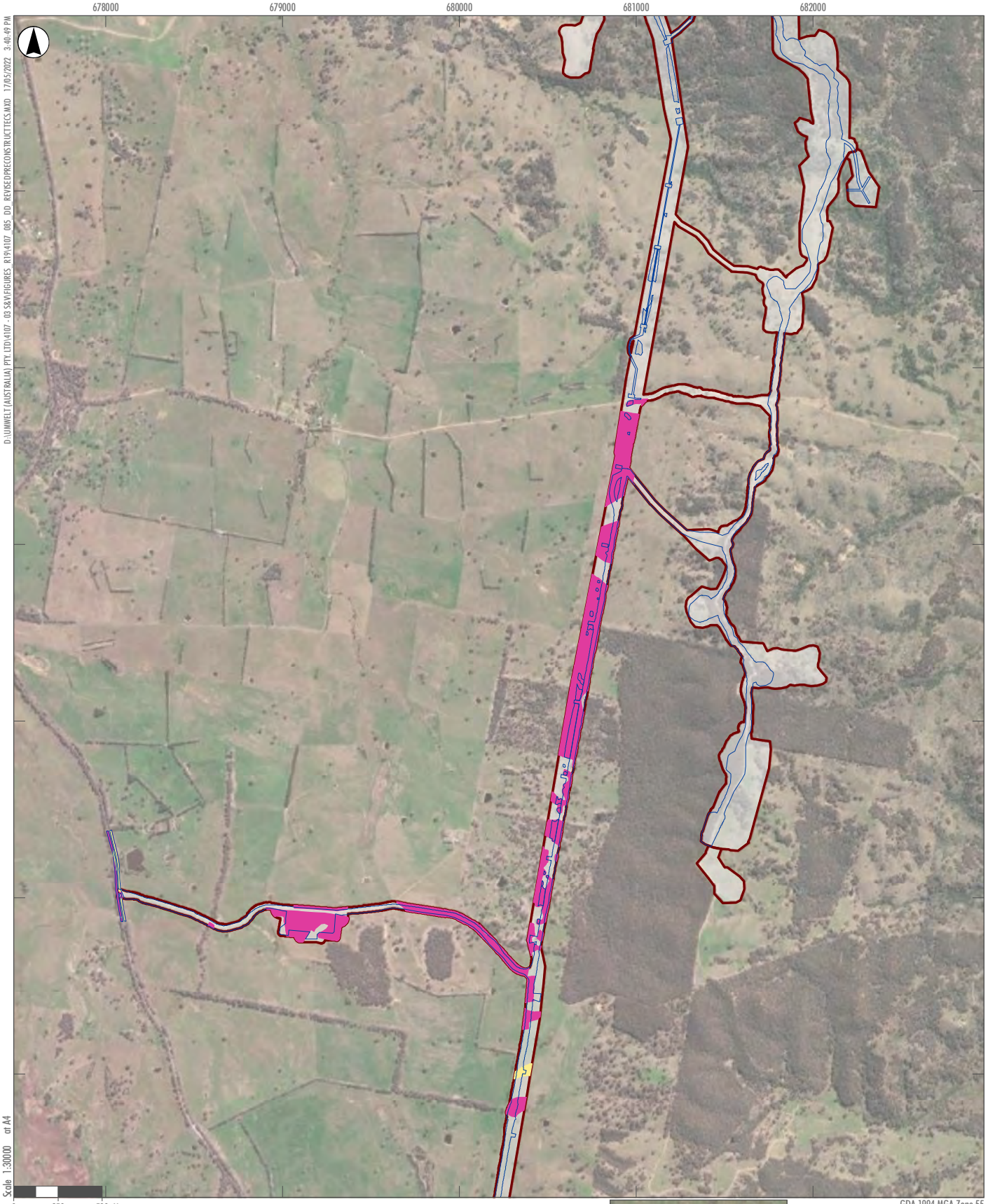


APPENDIX C.d

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

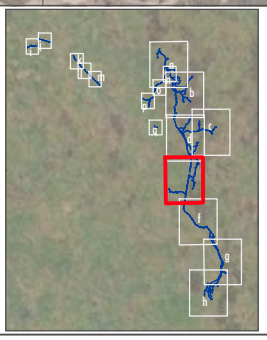
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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)

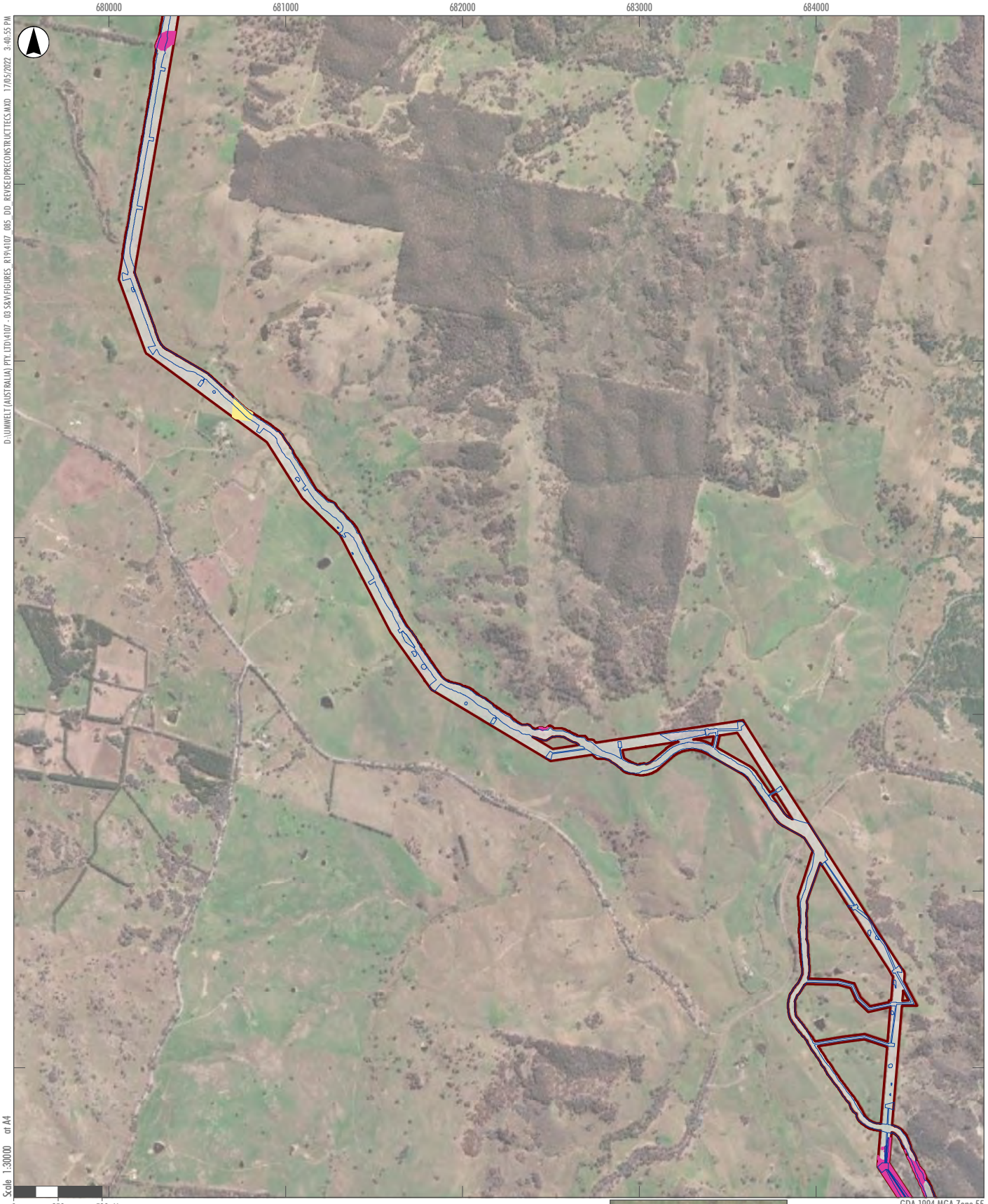
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



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

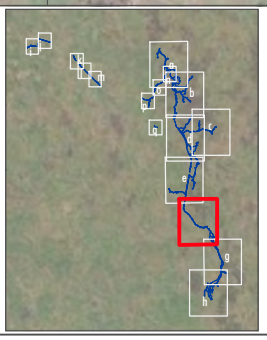
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

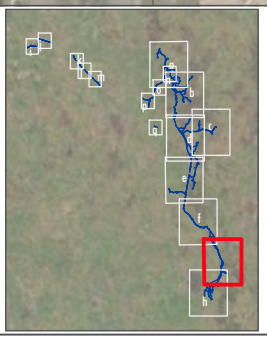
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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)

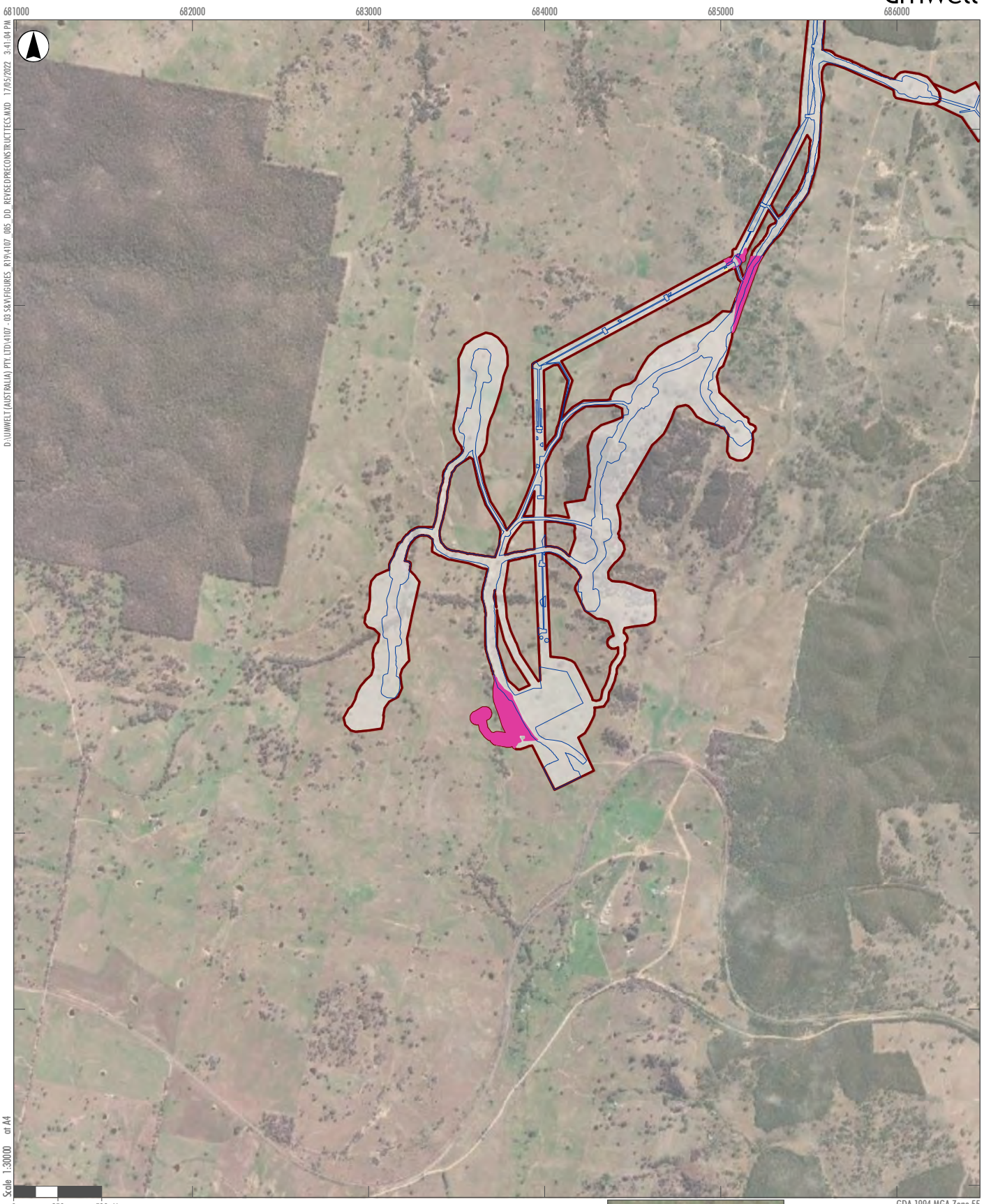
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



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

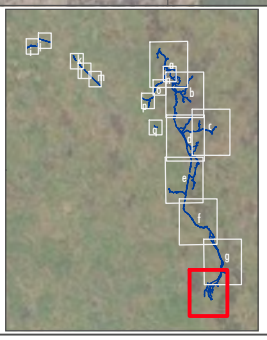
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

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

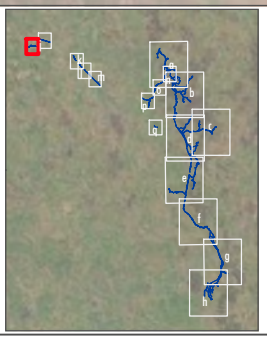
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

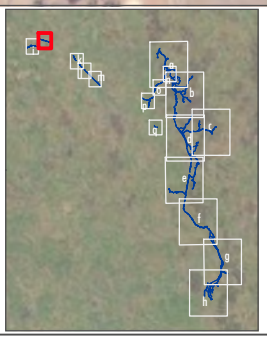
Scale 1:10000 at A4

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

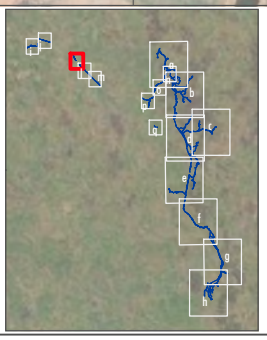
Revised Pre-Construction Development Footprint

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

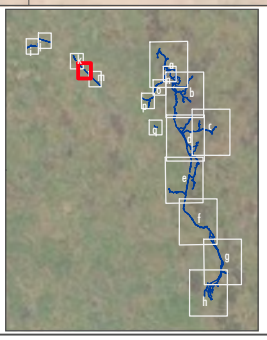
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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

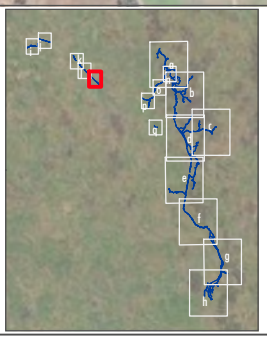
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

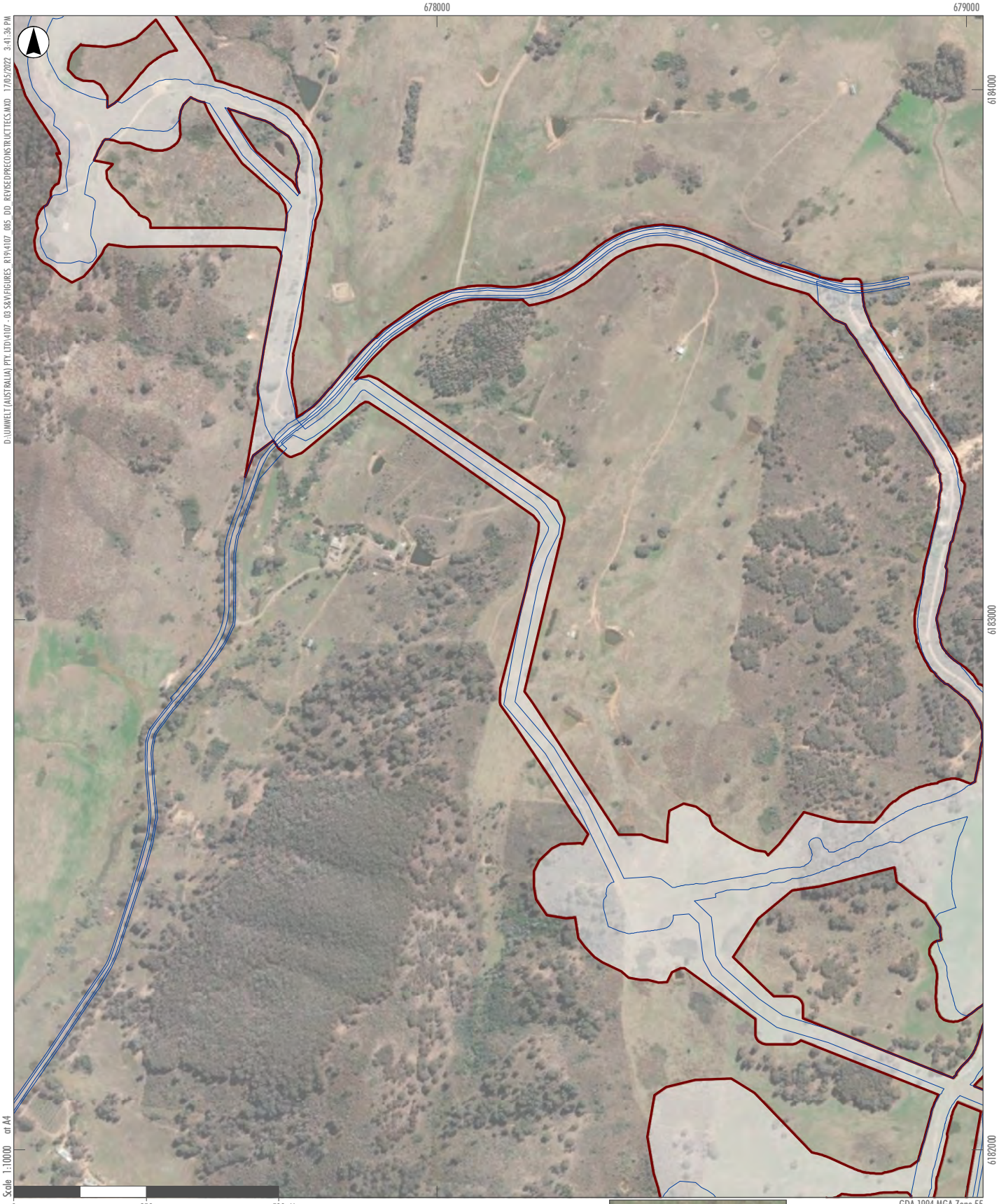
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.m

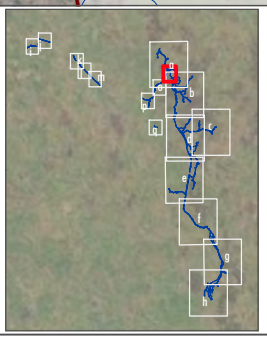
Threatened Vegetation Communities in the Pre-Construction Development Footprint

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

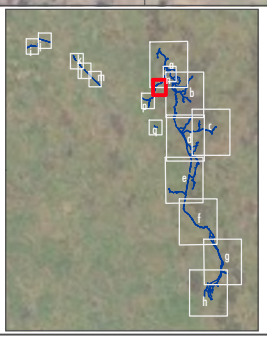
Revised Pre-Construction Development Footprint

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

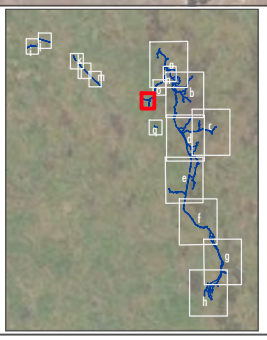
Revised Pre-Construction Development Footprint

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

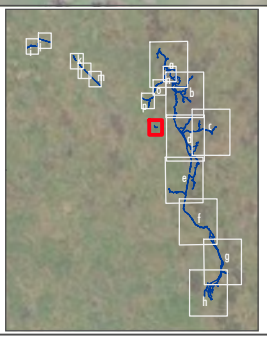
GDA 1994 MGA Zone 55

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	BAM data last updated * 24/11/2021
Assessor Name Bill Wallach	Assessor Number BAAS17068	BAM Data version * 50
Proponent Names Tilt Renewables	Report Created 16/05/2022	BAM Case Status Open
Assessment Revision 10	Assessment Type Major Projects	Date Finalised To be finalised

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

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
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	1821	506	2327

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.

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

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.

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_Moderate Good_Remnant	Yes	777	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_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.

Species Credit Summary

BAM Biodiversity Credit Report (Like for like)

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	1020.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	8.1	178.00
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	Spp	IBRA subregion
	Myotis macropus / Southern Myotis	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion

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

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00010359/BAAS17068/18/00012902

Proposal Name
Rye Park SWS IBRA - Mod 2

BAM data last updated *
24/11/2021

Assessor Name
Bill Wallach

Assessor Number
BAAS17068

BAM Data version *
50

Proponent Name(s)
Tilt Renewables

Report Created
16/05/2022

BAM Case Status
Open

Assessment Revision
10

Assessment Type
Major Projects

Date Finalised
To be finalised

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

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
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	1821	506	2327.00

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.
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_ModerateGood_Remnant	Yes	777	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_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.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Remnant	Yes (including artificial)	777	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_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.

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	1020.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	8.1	178.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	49.4	702.00

Credit Retirement Options

Like-for-like options

	Spp	IBRA region
Delma impar/ Striped Legless Lizard	**Delma impar**/Striped Legless Lizard	Any in NSW

Delma impar/ Striped Legless Lizard	**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	BAM data last updated * 24/11/2021
Assessor Name Bill Wallach	Assessor Number BAAS17068	BAM Data version * 50
Proponent Names Tilt Renewables	Report Created 16/05/2022	BAM Case Status Open
Assessment Revision 10	Assessment Type Major Projects	Date Finalised To be finalised

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

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
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	1183	163	1346

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.

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_Moderate Good_Remnant	Yes	683	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_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_Moderate Good_Acacia	Yes	97	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.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant , 350_Moderate**	40.2	945.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.1	229.00
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

BAM data last updated *
24/11/2021

Assessor Name
Bill Wallach

Assessor Number
BAAS17068

BAM Data version *
50

Proponent Name(s)
Tilt Renewables

Report Created
16/05/2022

BAM Case Status
Open

Assessment Revision
10

Assessment Type
Major Projects

Date Finalised
To be finalised

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

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
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	1183	163	1346.00

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.

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	**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.
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_ModerateGood_Remnant	Yes	683	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_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_ModerateGood_Acacia	Yes	97	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.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Remnant	Yes (including artificial)	683	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_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_ModerateGood_Acacia	Yes (including artificial)	97	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.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 350_Moderate**	40.2	945.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.1	229.00
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

Newcastle | Perth | Canberra | Brisbane | Sydney | Orange

T| 1300 793 267 E| info@umwelt.com.au www.umwelt.com.au

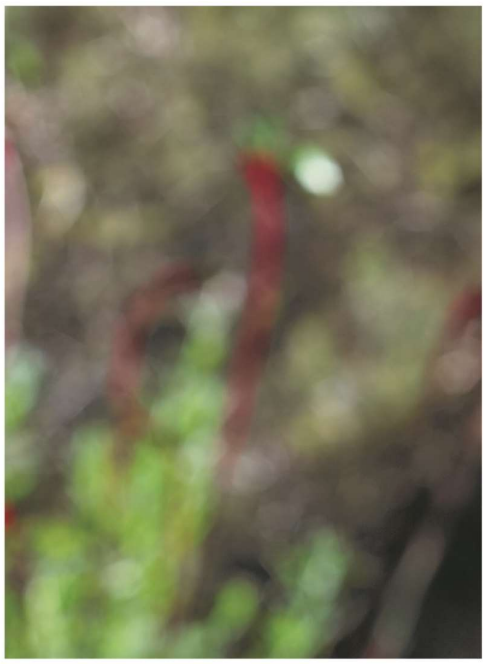
Appendix E: Third Addendum to the Aboriginal Cultural Heritage Assessment

THIRD ADDENDUM ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Rye Park Wind Farm Modification 2

May 2022

Project Number: 19-143



NSW • ACT • QLD • VIC
W. www.nghconsulting.com.au

DOCUMENT VERIFICATION

Project Title:	Rye Park Wind Farm Modification 2
Project Number:	19-143
Project File Name:	19-143 RPWF 3rd Addendum ACHA FINAL – redacted for public release

Revision	Date	Prepared by	Reviewed by	Approved by
DRAFT	3/05/2022	Bronwyn Partell	Matthew Barber	Matthew Barber
DRAFT v1.1	6/05/2022	Bronwyn Partell	Matthew Barber	James Beckett
FINAL – redacted for public release	07/06/2022	Bronwyn Partell		

NGH Pty Ltd prints all documents on environmentally sustainable paper including paper made from bagasse (a by-product of sugar production) or recycled paper.

W. www.nghconsulting.com.au

E. ngh@nghconsulting.com.au

BEGA - ACT & SOUTH EAST NSW
Suite 11, 89-91 Auckland Street
(PO Box 470) Bega NSW 2550
T. (02) 6492 8333

NEWCASTLE - HUNTER & NORTH COAST
Unit 2, 54 Hudson Street
Hamilton NSW 2303
T. (02) 4929 2301

BRISBANE
Suite 4, Level 5, 87 Wickham Terrace
Spring Hill QLD 4000
T. (07) 3129 7633

SYDNEY REGION
Unit 18, Level 3, 21 Mary Street
Surry Hills NSW 2010
T. (02) 8202 8333

CANBERRA - NSW SE & ACT
Unit 8, 27 Yallourn Street
(PO Box 62) Fyshwick ACT 2609
T. (02) 6280 5053

WAGGA WAGGA - RIVERINA & WESTERN NSW
35 Kincaid Street (PO Box 5464)
Wagga Wagga NSW 2650
T. (02) 6971 9696

GOLD COAST
19a Philippine Parade
(PO Box 466 Palm Beach QLD 4221)
Tugun QLD 4224 **T.** (07) 3129 7633

WODONGA
Unit 2, 83 Hume Street
(PO Box 506) Wodonga VIC 3690
T. (02) 6067 2533

NSW • ACT • QLD • VIC
W. www.nghconsulting.com.au
ABN 31 124 444 622 ACN 124 444 622

TABLE OF CONTENTS

Introduction 1

Aboriginal Consultation 1

Archaeological Context 2

Survey results 2

Potential Impacts 2

Recommendations 2

1 Introduction 1

1.1 Additional Areas 2

1.2 Project Personnel 7

1.3 Report Format 7

2 Aboriginal Consultation 8

2.1 Aboriginal Community Feedback 9

3 Review of Aboriginal Archaeological Context 10

3.1.1 AHIMS Search 10

3.1.2 Other Register Searches 15

3.1.3 Rye Park Wind Farm Archaeological Background 16

3.1.4 Archaeological Site Location Model 20

3.1.5 Comment on Existing Information 21

4 Archaeological Investigation Results 22

4.1 Survey strategy 22

4.2 Survey coverage 22

4.3 Survey Results 27

4.3.1 Stone Artefacts 28

4.3.2 Potential Archaeological Deposits 31

4.4 Discussion 31

5 Cultural heritage values and statement of significance 32

6 Proposed Activity 33

6.1 History and Landuse 33

6.2 Proposed Development Activity 34

6.3 Assessment of Harm 34

6.4 Impacts to Values 34

7 Avoiding or Mitigating Harm 38

7.1 Consideration of ESD Principles 38

7.2 Consideration of Harm 38

7.3 Mitigation of Harm 38

8 Legislative Context 39

9 Recommendations 40

10 References 42

APPENDIX A Consultation Log 43

APPENDIX B AHIMS Extensive Search Results 44

FIGURES

Figure 1-1. RPWF: General location. 3

Figure 1-2. Rye Park Wind Farm – Additional areas requiring heritage assessment. 4

Figure 1-3. Rye Park Wind Farm – Areas outside the consented development that were assessed in prior Aboriginal heritage assessments. 5

Figure 1-4. Rye Park Wind Farm – Areas outside the consented development that were assessed in prior Aboriginal heritage assessments. 6

Figure 3-1. AHIMS search results. 11

Figure 3-2. AHIMS sites within the project area. 12

Figure 4-1. Field Survey Results. 30

TABLES

Table 3-1 Breakdown of previously recorded Aboriginal sites in the region. 10

Table 3-2 Sites recorded during initial survey and addendum survey of the Rye Park Wind Farm (NSW Archaeology 2013a & 2015). 13

Table 3-3 Sites recorded during initial survey and addendum survey of the Rye Park Wind Farm (NSW Archaeology 2013a & 2015). 14

Table 3-4 Historic Heritage listing of local significance within 5km of the proposal area. 16

Table 3-5. Aboriginal heritage items – avoid impacts 18

Table 3-6. Aboriginal heritage items – minimise impacts. 19

Table 3-7. Aboriginal heritage items – excavations 20

Table 4-1 Transect information. 23

Table 6-1. Aboriginal heritage sites previously assessed that fall within the proposed development corridor. 35

Table 6-2. Identified risk to sites recorded for this Addendum. 37

ACRONYMS AND ABBREVIATIONS

ACHA	Aboriginal Cultural Heritage Assessment
AFT	Artefact Scatter
AHIMS	Aboriginal heritage information management system
ASL	Above sea level
BCD	(former) NSW Biodiversity and Conservation Division, now Heritage NSW
DECCW	Department of Environment, Climate Change and Water was previously responsible for heritage matters in NSW before becoming the Office of Environment and Heritage in 2011
DPIE	Department of Planning, Industry and Environment
EIA	Environmental impact assessment
ESD	Ecologically Sustainable Development
ha	hectares
IF	Isolated Find
km	kilometres
LALC	Local Aboriginal Land Council
LEP	Local Environment Plan
m	metres
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NSW	New South Wales
OEH	(former) Office of Environment and Heritage NSW, now Heritage NSW
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
RPWF	Rye Park Wind Farm
SEARs	The Secretary of the Department of Planning and Environment Environmental Assessment Requirements
SSD	State Significant Development

EXECUTIVE SUMMARY

INTRODUCTION

NGH Pty Ltd (NGH) was contracted by Rye Park Renewable Energy Pty Ltd to undertake an Aboriginal Cultural Heritage Assessment (ACHA), including two prior addendums, for the approved State Significant Development (SSD) project, the Rye Park Wind Farm (RPWF) (Development Consent SSD 6693). Subsequent to the finalisation of the Rye Park Wind Farm Modification ACHA and initial two addendums, a modification to the consented development has been proposed including additional areas outside the previous heritage assessments. These additional and previously unassessed areas, totalling 11.17 ha, were identified for inclusion in the modified Rye Park Wind Farm footprint (Figure 1-2). These areas are referred to in this addendum report as the additional areas.

It is understood that ground disturbance associated with the proposed additional areas of the Rye Park Wind Farm modification footprint have the potential to impact on Aboriginal heritage sites and objects which are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act).

This addendum report documents the Aboriginal heritage assessment undertaken for the 11.17 ha of the proposed additional areas of the RPWF modification footprint to investigate the presence of any Aboriginal sites, assess impacts to cultural heritage values, continue to consult with the registered Aboriginal parties and provide management strategies to mitigate any potential impacts within the additional areas. This addendum report is intended to be read in conjunction with the Aboriginal heritage studies conducted to date as the background analysis, predictive modelling and general discussion detailed therein continues to be relevant to the analysis undertaken in this addendum and are therefore not repeated. The Aboriginal heritage studies undertaken to date for the development are documented in the following reports:

- NSW Archaeology 2013 Rye Park Wind Farm Aboriginal Cultural Heritage Assessment. Unpublished report for Epuron Pty Ltd.
- NSW Archaeology 2015 Addendum Rye Park Wind Farm Aboriginal Cultural Heritage Assessment. Unpublished report for Rye Park Renewables Pty Ltd.
- NSW Archaeology 2017 Rye Park Wind Farm Aboriginal Heritage Management Plan Draft v4. Unpublished report for Rye Park Renewables Pty Ltd.
- NGH 2020a Rye Park Wind Farm Modification Aboriginal Cultural Heritage Assessment. Unpublished report for Rye Park Renewables Pty Ltd.
- NGH 2020b Addendum Aboriginal Cultural Heritage Assessment. Rye Park Wind Farm Additional Areas Unpublished report for Rye Park Renewables Pty Ltd.
- NGH 2021a Second Addendum Aboriginal Cultural Heritage Assessment. Rye Park Wind Farm Additional Areas Unpublished report for Rye Park Renewables Pty Ltd.

ABORIGINAL CONSULTATION

The consultation with Aboriginal stakeholders has been undertaken in accordance with clause 80C of *the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* and updated clause 60 of the *National Parks and Wildlife Amendment Regulation 2019* following the consultation steps outlined in the Guidelines for *Aboriginal cultural heritage consultation requirements for proponents 2010* (ACHCRP). All consultation undertaken for the original RPWF

Modification ACHAR is outlined and documented in the original report. Consultation about the additional areas has been a continuation of this process in accordance with advice provided by Heritage NSW.

ARCHAEOLOGICAL CONTEXT

Based on previous findings in the region, including archaeological surveys and site recordings within the Rye Park Wind Farm, there is potential for archaeological evidence to occur throughout the proposed additional areas of the Rye Park Wind Farm. This is most likely to be in the form of stone artefacts, scarred trees or as potential archaeological deposits (PAD).

SURVEY RESULTS

Survey transects were undertaken on foot and traversed the proposed additional areas. While the survey was impeded by poor visibility across the majority of the proposed additional areas, a number of exposures were present that were inspected. There was one isolated stone artefact, and one area of PAD recorded as a result of the survey.

POTENTIAL IMPACTS

The current and previous archaeological investigations of the proposal area have clearly identified that there are Aboriginal archaeological sites present within the proposal area. There were two Aboriginal archaeological sites located during the survey for the proposed additional areas to the Rye Park Wind Farm Modification. The proposed works in additional areas for the modified RPWF development will have the potential to harm archaeological sites. The identified Aboriginal objects will not be individually harmed, with the harm coming from the destruction of the archaeological context of the site. It would be proposed that all Aboriginal objects facing harm as a result of the modified development be mitigated through salvage collection and reburial in a safe location, as outlined in Section 7.3.

RECOMMENDATIONS

It is recommended that:

1. The archaeological sites within the proposed additional areas have presented a low-density concentration of surface artefacts that have been assessed to hold a low scientific value. Based on the assessment of the sites and in consideration of discussions with the Aboriginal representatives during the fieldwork, it is not considered necessary to prevent all development of the proposal area, or for total avoidance of the Aboriginal heritage sites identified within the proposed works corridors.
2. The two Aboriginal sites recorded as a result of this assessment are to be avoided with a minimum 5m buffer. This includes all artefacts described in Section 4.3.1 of this report as:

Site Name	AHIMS Site ID	Site Type
IF20	51-4-0445	Isolated Artefact
PAD 4	NA	Potential Archaeological Deposit

3. Recommendations of prior RPWF Heritage Assessments (NSW Archaeology 2013 & 2015, NGH 2020a, 2020b and 2021a) and the RPWF CHMP (NGH 2021) must be adhered to.

4. Further subsurface salvage will be required at the following locations if the ground disturbance is proposed to be increased as a result of MOD 2 in the following sites:

Site Name	AHIMS Site ID	Site Type
AFT2 + PAD	51-4-0430	Artefact Scatter + Potential Archaeological Deposit
AFT3 + PAD	51-5-0327	Artefact Scatter + Potential Archaeological Deposit
SU30/L2	51-1-0153	Artefact Scatter + Potential Archaeological Deposit
PAD 1	NA	Potential Archaeological Deposit

5. If any objects suspected of being Aboriginal in origin, that are not described in this or previous ACHARs for the RPWF or detailed in the development consent, the unexpected finds procedure as outlined in the RPWF CHMP (NGH 2021) must be followed.
6. In the unlikely event that human remains are discovered during the development works, all work must cease in the immediate vicinity. Heritage NSW, the local police and the RAPs should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.
7. Further archaeological assessment would be required if other proposed activity extends beyond the area of the current or previous investigations, as per Condition 25 of the CoC and the CHMP (NGH 2021). This would include consultation with the registered Aboriginal parties and may include further field survey and subsurface testing.
8. An update to the CHMP (NGH 2020) must be completed to incorporate the two newly identified archaeological sites. In the instance of any modification to the CoC the CHMP would be reviewed and if revisions of the plan are required the plan would be submitted to the Planning Secretary for approval and comply with the CoC Schedule 5 Condition 2c (Revision of Strategies, Plans and Programs) which states that:

   "*Any modification to the conditions of this consent (unless the conditions require otherwise), the Applicant must review and, if necessary, revise the strategies, plans, and programs required under this consent to the satisfaction of the Planning Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Planning Secretary for approval*."

1 INTRODUCTION

NGH Pty Ltd (NGH) was contracted by Rye Park Renewable Energy Pty Ltd to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed modification application for the State Significant Development (SSD) project, the Rye Park Wind Farm (RPWF) (Development Consent SSD 6693). An Aboriginal Cultural Heritage Assessment Report (ACHAR) (NGH 2020) was prepared for the initial modification, with two subsequent addendum ACHARs also completed (NGH 2020, NGH 2021a) for the modification. The RPWF was originally granted Sate Significant Development (SSD-6693) planning approval on the 22 May 2017 for the construction and operation of up to 92 wind turbine generators and associated infrastructure. Modification 1 (MOD 1) Development Consent SSD-6693 was granted on 15 April 2021 for the construction and operation of up to 77 wind turbine generators with a 200m tip height and associated infrastructure.

Subsequent to the finalisation of the Modification 1 application, additional areas outside the previous heritage assessments were identified for inclusion in the Modification 2 (MOD 2) proposal for the Rye Park Wind Farm footprint (Figure 1-2). These areas are referred to in this third addendum report as the 'additional areas' and cover a combined total of 11.17 ha.

As with the previously completed heritage assessments, it is understood that ground disturbance associated with the proposed additional areas of the Rye Park Wind Farm modification footprint have the potential to impact on Aboriginal heritage sites and objects which are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act).

This addendum report documents the Aboriginal heritage assessment undertaken for the 11.17 ha for the proposed additional areas of the RPWF modification footprint to investigate the presence of any Aboriginal sites, assess impacts to cultural heritage values, continue to consult with the registered Aboriginal parties and provide management strategies to mitigate any potential impacts within the additional areas. This addendum report is intended to be read in conjunction with the Aboriginal heritage studies conducted to date as the background analysis, predictive modelling and general discussion detailed therein continues to be relevant to the analysis undertaken in this addendum and are therefore not repeated. The Aboriginal heritage studies undertaken to date for the development are documented in the following reports:

- NSW Archaeology 2013 Rye Park Wind Farm Aboriginal Cultural Heritage Assessment. Unpublished report for Epuron Pty Ltd.
- NSW Archaeology 2015 Addendum Rye Park Wind Farm Aboriginal Cultural Heritage Assessment. Unpublished report for Rye Park Renewables Pty Ltd.
- NSW Archaeology 2017 Rye Park Wind Farm Aboriginal Heritage Management Plan Draft v4. Unpublished report for Rye Park Renewables Pty Ltd.
- NGH 2020a Rye Park Wind Farm Modification Aboriginal Cultural Heritage Assessment. Unpublished report for Rye Park Renewables Pty Ltd.
- NGH 2020b Addendum Aboriginal Cultural Heritage Assessment. Rye Park Wind Farm Additional Areas Unpublished report for Rye Park Renewables Pty Ltd.
- NGH 2021A Second Addendum Aboriginal Cultural Heritage Assessment. Rye Park Wind Farm Additional Areas Unpublished report for Rye Park Renewables Pty Ltd.

It is intended that this addendum report will be submitted as part of the Rye Park Wind Farm Modification 2 Application. Continued Aboriginal consultation, survey results, coverage and impact

assessment are detailed in this addendum to inform the recommendation and mitigation strategies to minimise impacts within the additional areas for the Rye Park Wind Farm modification.

1.1 ADDITIONAL AREAS

The additional areas, being those areas that fall outside prior heritage assessments undertaken for the RPWF was subject to survey and will be assessed in this third addendum ACHA for the Rye Park Wind Farm MOD 2. These areas are highlighted in Figure 1-2.

The additional areas, totalling 11.17 ha, include the following portions of privately owned property within the RPWF:

- One section of approximately 500m x 30m on private property, Lots 2 and 3 DP1066057
- One section of approximately 300m x 20m on private property, Lot 3 DP1066057
- One section of approximately 350m x 20m on private property, Lot 72 DP754136
- One section of approximately 90m x 20m on private property, Lot 1 DP222985
- One section of approximately 150m x 90m on private property, Lot 1 DP222985
- One section of approximately 250m x 30m on private property, Lot 1 DP222985
- One section of approximately 230m x 200m on private property, Lot 1 DP222985
- One section of approximately 500m x 25m on private property, Lot 1 DP DP222985
- One section of approximately 100m x 20m on private property, Lot 17 DP754136
- One section of approximately 345m x 30m on private property, Lots 130 and 132 DP754099

Further to the additional areas for MOD 2, other areas of the consented wind farm development totalling 51.28 ha have been previously surveyed and assessed within previous RPWF Aboriginal heritage assessments. This includes some areas proposed as part of the Rye Park Wind Farm MOD 2 and these areas have not been resurveyed and assessed as part of this third addendum ACHA report. For reference, the other areas previously surveyed and assessed, including portion of the MOD 2 areas are shown in Figure 1-3 and Figure 1-4.

As a result of the previous survey effort and the assessment of the additional areas, all land that is proposed as part of MOD 2 has been subject to Aboriginal heritage assessment.

Figure 1-1. RPWF: General location.

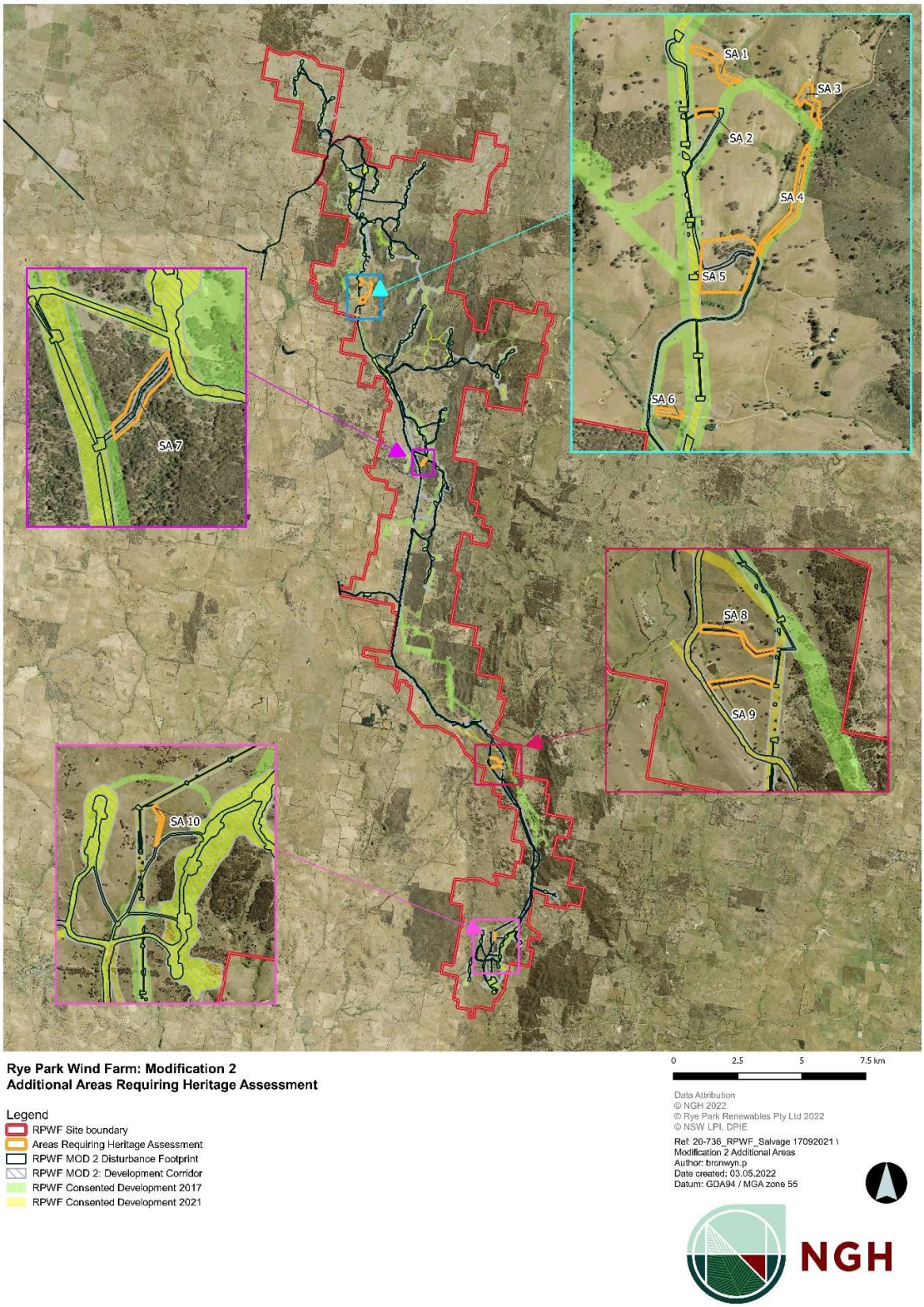


Figure 1-2. Rye Park Wind Farm – Additional areas requiring heritage assessment.

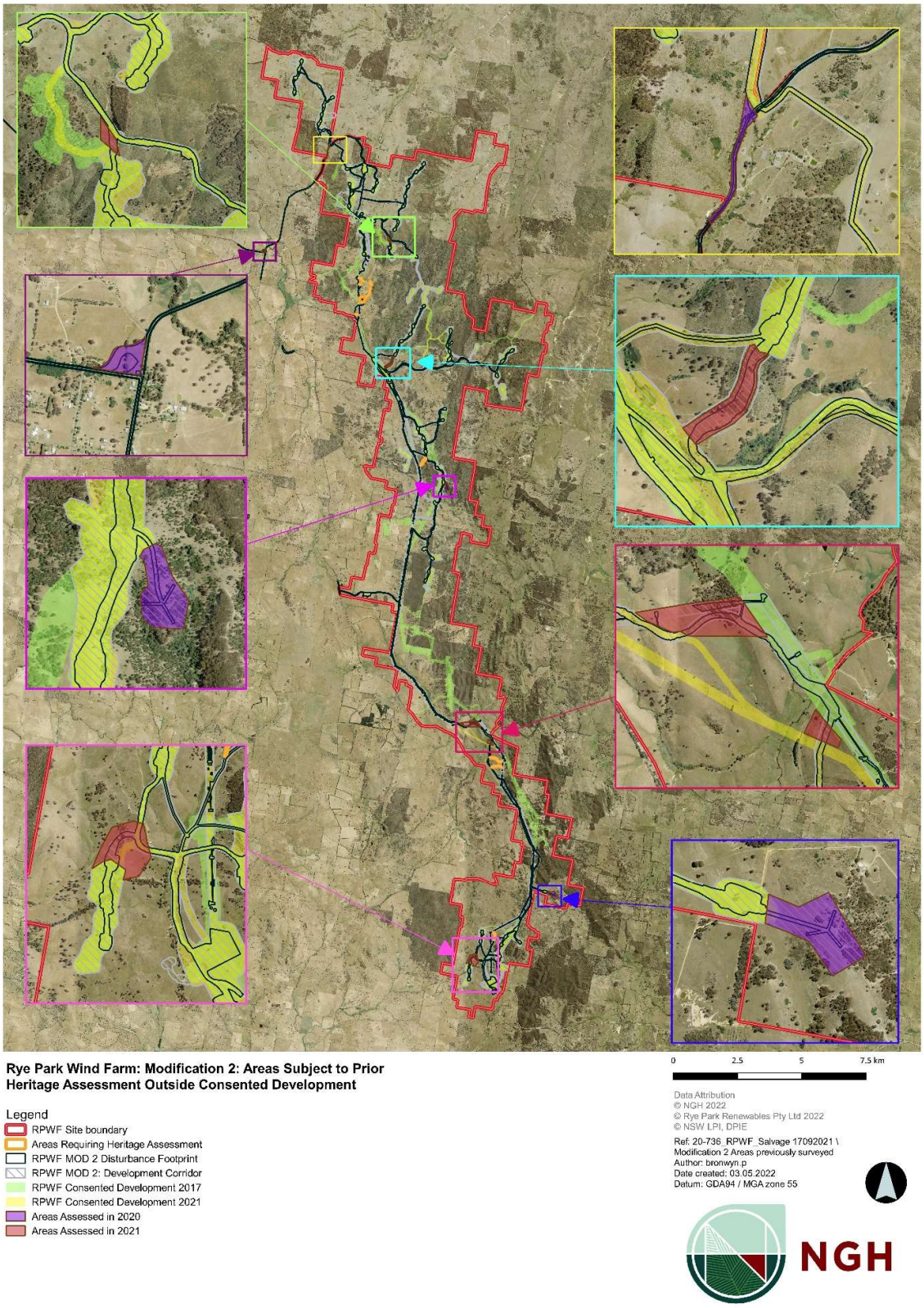


Figure 1-3. Rye Park Wind Farm – Areas previously assessed in prior Aboriginal heritage assessments.

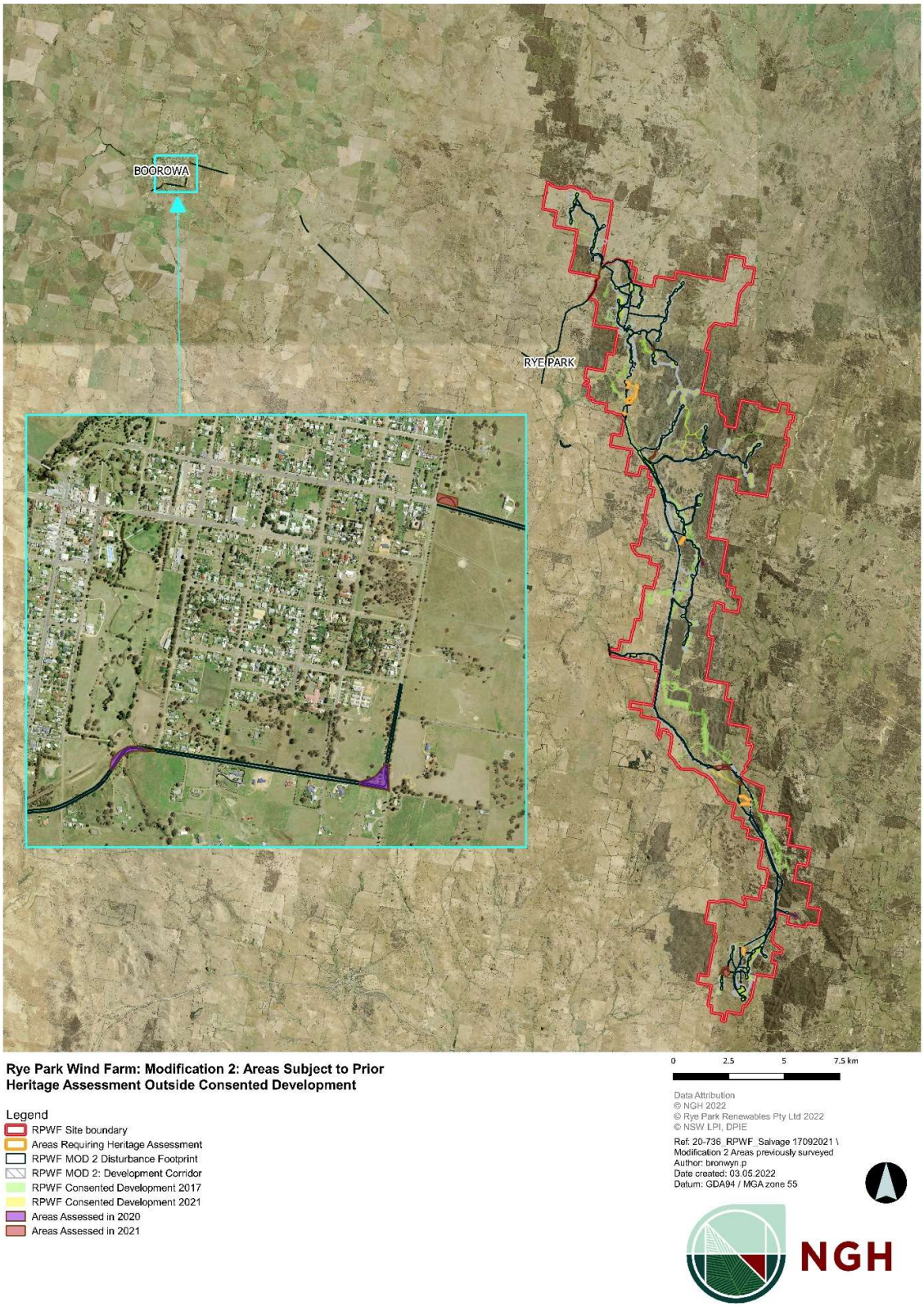


Figure 1-4. Rye Park Wind Farm – Areas previously assessed in prior Aboriginal heritage assessments.

1.2 PROJECT PERSONNEL

The addendum assessment was undertaken by NGH archaeologist Bronwyn Partell, including research, Aboriginal community consultation, field survey and report preparation. NGH archaeologist Kosta Contos also attended the field survey, and Matthew Barber reviewed the report.

The fieldwork for the proposed additional areas was organised and the two registered parties who participated in the previous modification proposal fieldwork (2019-2021) were again asked to participate in the fieldwork (Onerwal LALC and the Buru Ngunawal Aboriginal Corporation). The fieldwork was conducted over five days between the 2nd and 3rd of November 2021 and the 17th and 19th of January 2022.

Further detail and an outline of the consultation process is provided in Section 2.

1.3 REPORT FORMAT

The purpose of this addendum ACHA report is to provide an assessment of the Aboriginal cultural values associated with the proposed additional areas to the Rye Park Wind Farm Modification 2 and to assess the cultural and scientific significance of any identified Aboriginal heritage sites within the proposed additional areas in the context of the larger wind farm assessment.

The objectives of the assessment were to:

- Continue Aboriginal consultation as specified in clause updated clause 60 of the *National Parks and Wildlife Amendment Regulation 2019*, using the consultation process outlined in the ACHCRP*;*
- Undertake an assessment of the archaeological and cultural values of the proposed expansion areas and any Aboriginal sites therein;
- Assess the cultural and scientific significance of any archaeological material;
- Assess the potential impacts of the proposal on the heritage objects, and
- Provide management recommendations for any objects found.

As the consultation from the initial RPWF modification was ongoing, Modification 2 has been assessed through an Addendum ACHAR of the Modification Application.

For consistency, we have assumed that an Aboriginal Cultural Heritage Assessment (ACHA) is required, as per the original development Secretary's Environmental Assessment Requirements (SEARs). Advice provided from Heritage NSW regarding the proposed modifications confirmed that this additional assessment is viewed as a continuation of the original project and continued consultation with the Registered Aboriginal Parties (RAPs) for the Rye Park Wind Farm is sufficient in this instance and new advertisement for the Modification is not required.

For the purposes of this assessment, we have prepared the report in accordance with the following:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011);
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010a), and
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (ACHCRP) (OEH 2010b).

2 ABORIGINAL CONSULTATION

It had been confirmed previously by BCD (now Heritage NSW) that the additional assessment required for the modification areas is considered as a continuation of the Rye Park Wind Farm project. Consequently, continued consultation with the previously Registered Aboriginal Parties (RAPs) for the Rye Park Wind Farm is considered adequate in this instance. Accordingly, we have assumed this is still the case for the additional area of this addendum report.

As outlined in the ACHAR, the consultation process began in 2012 for the Aboriginal Cultural Heritage Assessment Report (ACHAR) (Dibden, 2013). Consultation with Aboriginal stakeholders was undertaken in accordance with the guidelines set out in the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (NSW DEC July 2005) and OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b).

As a result of this process, five Aboriginal groups registered their interest in the project as listed below;

- Onerwal LALC;
- Buru Ngunawal Aboriginal Corporation;
- Gundungurra Aboriginal Heritage Association Inc;
- Carl and Tina Brown; and
- Gunjeewong Cultural Heritage Aboriginal Corporation.

NGH has consulted with the Aboriginal community throughout the modification assessment, in line with the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.* To date this has included the following steps:

- Confirmation from BCD (now Heritage NSW) that continued consultation for the RAPs for the Rye Park Wind Farm is considered adequate in this instance on the 5th of July 2019; and
- Notification of the proposed modifications and need for additional survey to the Registered Aboriginal Parties on the 15th of August 2019.
- The methodology was provided to the RAPs for comment on 22nd August 2019, with no comments received in reply.
- Fieldwork was completed with participation from representatives of the Onerwal LALC and Buru Ngunawal Aboriginal Corporation.
- Draft ACHAR sent to RAPs for comment on 6th April 2020, with no comments received in reply.
- Notification of the addendum ACHA, additional areas and the need for field survey was sent to the RAPs on 30th June 2020.
- Fieldwork was completed with participation from representatives of the Onerwal LALC and Buru Ngunawal Aboriginal Corporation.
- Draft Addendum ACHA sent to RAPs for comment 22nd December 2020, with no comments received in reply.
- Notification of the 2nd addendum ACHA, additional areas and the need for field survey was sent to the RAPs on 22nd December 2020.
- Fieldwork was completed with participation from representatives of the Onerwal LALC and Buru Ngunawal Aboriginal Corporation, 17th and 18th February 2021.
- Draft 2nd Addendum ACHA sent to RAPs for comment on 19th March 2021, comments received in reply from BNAC 10th April 2021).
- Notification of the proposed modifications and need for additional survey to the Registered Aboriginal Parties on the 5th of October 2022. Methodology provided to RAPs (existing methodology), with no comments received.
- Fieldwork was completed with participation from representatives of the Onerwal LALC and Buru Ngunawal Aboriginal Corporation November 2nd and 3rd 2021.

- Notification sent to RAPs informing more fieldwork is required for the additional areas, fieldwork was completed with participation from representatives of the Onerwal LALC and Buru Ngunawal Aboriginal Corporation between 17th to 19th January 2022.
- Draft 3rd Addendum ACHA sent to RAPs for comment on **6th May 2022 (this document)**. No feedback was received in response to the draft Addendum ACHA.

The RAPs were informed of the proposed changes to the modification footprint, referred to as the additional areas. They were informed the methodology for the field survey of the additional areas is the same as that of the prior Rye Park Wind Farm Modification ACHA and two subsequent addendums. The RAPs who participated in the initial ACHA survey were then asked to participate in the survey of the additional areas. The fieldwork was carried out on the 2nd and 3rd of November 2021, by NGH archaeologists Bronwyn Partell and Kosta Contos with two representatives from the Aboriginal community, Cynthia Bell (Onerwal LALC) and Karen Denny (Buru Ngunawal Aboriginal Corporation). Additional fieldwork was completed between the 17th and 19th of January 2022 by NGH archaeologists Bronwyn Partell and Kosta Contos with one representative from the Aboriginal Community, Trish Taylor (Onerwal LALC).

The draft of this *Addendum 3 Aboriginal Cultural Heritage Assessment Report* for the proposed additional areas of the Rye Park Wind Farm Modification **(this document)** was forwarded to each registered Aboriginal party inviting comment on the results, the significance assessment and the recommendations. A minimum of 28 days will be allowed for responses to the document.

2.1 ABORIGINAL COMMUNITY FEEDBACK

Community consultation occurred throughout the project. The draft addendum report was provided to each of the Registered Aboriginal Parties (RAPs) and feedback was sought on the recommendations, the assessment and any other issues that may have been important.

No feedback was received in response to the draft Addendum ACHA.

3 REVIEW OF ABORIGINAL ARCHAEOLOGICAL CONTEXT

3.1.1 AHIMS Search

The Aboriginal Heritage Information Management System (AHIMS) provides a database of previously recorded Aboriginal heritage sites. A search provides basic information about any sites previously identified within a search area. However, a register search is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected and details of any sites located have been provided to AHIMS to add to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area. On 13 September 2019, two extensive searches of the AHIMS database were undertaken over an area of approximately 20 km x 20 km centred over the proposal area. These results have since expired, and a subsequent search was completed on February 25th, 2021, and again on May 3rd, 2022, using the same parameters (detailed below). The updated AHIMS search confirmed that no further Aboriginal heritage sites than those identified within previous searches have been recorded within the boundary of the current project area.

Search 1:

Client Service ID: 697810

From: Lat -34.7366, Long 148.6617

To: Lat -34.3977, Long 149.1991

Buffer: 50m

Aboriginal sites: 116

Aboriginal Places: 0

Search 2:

Client Service ID: 697811

From: Lat -34.7788, Long 148.8368

To: Lat 34.4963, Long 149.3312

Buffer: 50m

Aboriginal Sites: 94

Aboriginal Places: 1

A total of 210 sites were detected across both searches, however after duplicates were removed there were a total of 181 sites. Of these, three sites have been destroyed by other developments, and one is listed as a deleted site. Table 3-1 below shows the site types previously recorded in the region. Figure 3-1 shows the location of AHIMS sites in relation to the proposal area, whilst Figure 3-2 shows the location of registered AHIMS sites within the proposal area.

Table 3-1 Breakdown of previously recorded Aboriginal sites in the region.

Site Type	Number
Artefact	148
Artefact, Potential Archaeological Deposit (PAD)	4
Modified Tree	10
PAD	9
Burial	4
Habitation Structure, Hearth	2
Hearth	1
Grinding Groove	2
Burial + Artefact	1
TOTAL	**181**

Figure 3-1. AHIMS search results. (Information Redacted)

Figure 3-2. AHIMS sites within the project area. (Information Redacted)

There are a number of previously recorded AHIMS sites located within the project area. These sites are the result of the prior archaeological investigations for the Rye Park Wind Farm and are outlined in Tables 3-2 and 3-3 below. These results show a clear dominance of stone artefact site types, which can be largely attributed to the durability of the raw material.

Table 3-2 Sites recorded during initial survey and addendum survey of the Rye Park Wind Farm (NSW Archaeology 2013a & 2015).

AHIMS	Site Name	Survey recorded
51-5-0203	SU3/L1	Initial survey 2013
51-5-0207	SU3/L2	Initial survey 2013
51-4-0284	SU4/L1	Initial survey 2013
51-5-0204	SU6/L1	Initial survey 2013
51-5-0205	SU7/L1	Initial survey 2013
51-5-0206	SU8/L1	Initial survey 2013
51-4-0286	SU15/L1	Initial survey 2013
51-4-0285	SU18/L1	Initial survey 2013
51-4-0287	SU21/L1	Initial survey 2013
51-1-0117	SU23/L1	Initial survey 2013
51-4-0288	SU23/L2	Initial survey 2013
51-4-0289	SU23/L3	Initial survey 2013
51-1-0118	SU24/L1	Initial survey 2013
N/A	SU17/L1	Initial survey 2013
N/A	SU17/L2	Initial survey 2013
N/A	SU27/L1	Initial survey 2013
51-1-0149	SU28/L1	Additional survey 2015
51-1-0150	SU28/L2	Additional survey 2015
51-1-0151	SU29/L1	Additional survey 2015
51-1-0152	SU30/L1	Additional survey 2015
51-1-0153	SU30/L2	Additional survey 2015
51-1-0154	SU30/L3	Additional survey 2015
51-4-0341	SU33/L1	Additional survey 2015
51-4-0342	SU33/L2	Additional survey 2015
51-4-0343	SU33/L3	Additional survey 2015
51-4-0344	SU33/L4	Additional survey 2015
51-4-0345	SU33/L5	Additional survey 2015

51-4-0346	SU33/L6	Additional survey 2015
51-4-0347	SU34/L1	Additional survey 2015
51-5-0263	SU37/L1	Additional survey 2015
51-5-0264	SU.37/L2	Additional survey 2015
51-5-0267	SU37/L3	Additional survey 2015
51-5-0348	SU40/L1	Additional survey 2015
51-5-0349	SU42/L1	Additional survey 2015
51-5-0266	SU47/L1	Additional survey 2015
51-5-0267	SU47/L2	Additional survey 2015

Table 3-3 Sites recorded during initial survey and addendum survey of the Rye Park Wind Farm (NSW Archaeology 2013a & 2015).

AHIMS ID	Site Name	Survey Recorded
51-5-0332	AFT 1	NGH Modification ACHA 2020
51-5-0333	AFT 2	NGH Modification ACHA 2020
51-5-0334	AFT 3	NGH Modification ACHA 2020
51-4-0428	AFT 4	NGH Modification ACHA 2020
51-4-0429	AFT 5	NGH Modification ACHA 2020
51-4-0418	AFT 6	NGH Modification ACHA 2020
51-5-0338	AFT 7	NGH Addendum ACHA 2021
51-5-0335	AFT 1 + PAD	NGH Modification ACHA 2020
51-4-0430	AFT 2 + PAD	NGH Modification ACHA 2020
51-5-0327	AFT 3 + PAD	NGH Modification ACHA 2020
51-5-0326	AFT 4 + PAD	NGH Modification ACHA 2020
51-5-0327	AFT 5 + PAD	NGH Modification ACHA 2020
51-5-0331	IF 1	NGH Modification ACHA 2020
51-5-0330	IF 2	NGH Modification ACHA 2020
51-4-0427	IF 3	NGH Modification ACHA 2020
51-4-0425	IF 4	NGH Modification ACHA 2020
51-4-0426	IF 5	NGH Modification ACHA 2020

51-4-0424	IF 6	NGH Modification ACHA 2020
51-4-0423	IF 7	NGH Modification ACHA 2020
51-4-0422	IF 8	NGH Modification ACHA 2020
51-5-0329	IF 9	NGH Modification ACHA 2020
51-5-0328	IF 10	NGH Modification ACHA 2020
51-4-0421	IF 11	NGH Modification ACHA 2020
51-4-0419	IF 12	NGH Modification ACHA 2020
51-4-0420	IF 13	NGH Modification ACHA 2020
51-1-0165	IF14	NGH Addendum ACHA 2020
51-1-0164	IF15	NGH Addendum ACHA 2020
51-4-0417	IF 16	NGH Addendum ACHA 2020
51-5-0340	IF17	NGH Addendum ACHA 2021
51-5-0399	IF18	NGH Addendum ACHA 2021
51-5-0434	IF19	NGH Addendum ACHA 2021
N/A	PAD 1	NGH Modification ACHA 2020
N/A	PAD 2	NGH Modification ACHA 2020
N/A	PAD 3	NGH Modification ACHA 2020
N/A	Cultural Tree 1	NGH Modification ACHA 2020
N/A	Cultural Tree 2	NGH Addendum ACHA 2020
N/A	Cultural Tree 3	NGH Addendum ACHA 2020
N/A	Cultural Tree 4	NGH Addendum ACHA 2020
N/A	Resource: Quartz deposit	NGH Modification ACHA 2020

3.1.2 Other Register Searches

There are no historic heritage listings of Commonwealth, National, or NSW State Significance within the proposal area for the Rye Park Wind Farm. The proposal area falls between three Local Government Areas (LGAs); Hilltops LGA, Upper Lachlan LGA and Yass Valley LGA. The locally significant historic heritage listings within the vicinity of the proposal area are listed between two Local Environment Plans (LEPs); Yass Valley LEP (2013) and the Upper Lachlan LEP (2010). There are four heritage items of local significance within 5 km of the proposal area, as outlined in Table 3-4 and shown in Figure 3-5. No current historic heritage listings will be impacted upon as a result of the proposed works.

Table 3-4 Historic Heritage listing of local significance within 5km of the proposal area.

LEP	ID	Site Name	Distance to Proposal Area
Yass Valley LEP (2013)	A297	Coolalie Limestone kilns and quarry	830m south-west
Yass Valley LEP (2013)	A298	Coolalie Settlement Site (former)	1.2km south
Yass Valley LEP (2013)	I001	Blackburn (Homestead, garden and outbuildings)	3.2km west
Upper Lachlan LEP (2010)	I094	Mundoonen Nature Reserve	4.3km south-east

3.1.3 Rye Park Wind Farm Archaeological Background

Prior to the heritage assessments being undertaken for the Rye Park Wind Farm (NSW Archaeology 2013a & 2015) there have been no previous archaeological studies conducted within the project area and few had been undertaken within the immediate local area. For complete background research setting see NSW Archaeology (2013a and 2015 and NGH 2020).

Results of the initial surveys for the Rye Park Wind Farm (NSW Archaeology, 2013 & 2015) were used to establish an archaeological modelling of the project area.

- The high ridge crests on which the turbines are proposed have low archaeological sensitivity, potential and significance.
- Valleys near water courses have some archaeological sensitivity, heritage value and significance.
- Artefact density is likely to be higher in open valleys and artefacts can be expected to be distributed across discrete landforms, especially close to streams.
- The proposed wind farm setting generally has low archaeological and cultural potential and sensitivity. The exception to this is flats and basal simple slopes adjacent and close to higher order streams (Dibden 2015).

The recommendations from the NSW Archaeology assessments previously undertaken in the Rye Park Wind Farm project area are summarised below.

- The mitigation measures, if any, as noted in the assessments should be observed.
- A program of archaeological excavation be conducted in Aboriginal Artefact locales SU30/L1, SU30/L2, SU30/L3 and SU33/L3 as a form of impact mitigation to off-set overall development impacts.
- If the proposed work extended beyond the assessment area additional archaeological assessment may be required.
- A Cultural Heritage Management Plan should be developed (draft completed, Dibden 2017a)
- Personnel working on site should receive Aboriginal Cultural Heritage Awareness Training.
- Cultural heritage should be included in any environmental audits undertaken (Dibden 2013a & 2015).

The NSW Minister of Planning approved the construction and operation of the RPWF on the 22 May 2017 (Development Consent SSD 6693). In the Development Consent, Consent condition 24 outlines the

protection of Aboriginal Heritage Items for the approved project. Within this condition there are three points (a, b and c) outlining the management and mitigation requirements regarding Aboriginal Heritage. The details of these points outline the identified sites where impact (direct or indirect) was to be avoided, where impact is to be minimised, and also where detailed archaeological test excavations and salvage of PADs is required if impact cannot be avoided.

NGH was contracted by Rye Park Renewable Energy Pty Ltd to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed modification application for the State Significant Development (SSD) project, the Rye Park Wind Farm (RPWF) (NGH, 2020). An Addendum ACHA (NGH 2020) was undertaken following the completion of the ACHA to incorporate additional areas for the proposed development.

The proponent proposed to modify the existing approval to increase the turbine tip height from 157m to 200m and reduce the number of turbines from 92 to 80. The indicative design of the modified RPWF included additional site infrastructure, works and activities beyond that approved in the Conditions of Consent (CoC) for the RPWF or subject to Aboriginal heritage assessment. Any proposed works or activities in areas beyond (as well as removal of areas) that were approved in the CoC for the project must be sufficiently assessed prior to the submission of a modification application, this includes the assessment of Aboriginal cultural heritage. The modification application must be approved by the Department of Planning, Industry and Environment (DPIE) prior to any works or activities commencing beyond that approved in the CoC for any SSD Project.

The combined allotments that make the Rye Park Wind Farm cover a total area of approximately 13,528ha, while the development envelope for the modification proposal covers only 1,303ha of this area. The survey area for the Modification covered approximately 414ha including the external road widening. The survey NGH conducted for the original modification had an effective survey of 8.11% across the 16 landform types surveyed. Overall, it was considered that the surface survey of the Rye Park Wind Farm modification proposal area had sufficient and effective survey coverage. The results identified were considered a true reflection of the nature of the Aboriginal archaeological record present within the proposal area.

There were three archaeological site types identified during the field survey, artefact scatters and isolated finds of stone stools, as well as Potential Archaeological Deposits (PADs) indicating the potential for artefacts to be remaining below the surface. A total of 26 archaeological sites were recorded, featuring 67 stone artefacts located on the ground surface at 24 locations, as well as 8 areas of PAD (NGH 2020). Subsequent to the submission of the Modification 1 application, additional areas were added to the development proposal. These additional areas were assessed through a second Addendum ACHA (NGH 2021a), which resulted in the identification of a further 4 archaeological sites featuring artefacts on the ground surface.

Table 3-4 below provides a summary of Aboriginal Heritage sites to be avoided, and Table 3-5 provides a summary of Aboriginal Heritage sites to be impacted by the approved and modified development footprints. Sites to be subject to further assessment through subsurface testing are identified in Table 3-6. A number of mitigation measures were recommended in the Rye Park Wind Farm Modification ACHA and subsequent Addendum ACHA's (NGH 2020; NGH 2021A). These recommendations included that further archaeological assessment would be required if the proposal activity extends beyond the areas assessed in the prior Rye Park Wind Farm ACHARs. The current assessment is being undertaken in line with the recommendations of the prior Rye Park Wind Farm Aboriginal heritage assessments.

Table 3-5. Aboriginal heritage items – avoid impacts

Site ID	Impact	Identified
Flakney Creek 1	Avoid	AHIMS
Cultural Tree 1	Avoid	NGH Addendum ACHA 2020
Cultural Tree 2	Avoid	NGH Addendum ACHA 2020
Cultural Tree 3	Avoid	NGH Addendum ACHA 2020
AFT 3	Avoid	NGH Modification ACHA 2020
AFT 6	Avoid	NGH Modification ACHA 2020
AFT 1 + PAD	Avoid	NGH Modification ACHA 2020
AFT 5 + PAD	Avoid	NGH Modification ACHA 2020
IF 11	Avoid	NGH Modification ACHA 2020
PAD 2	Avoid	NGH Modification ACHA 2020
PAD 3	Avoid	NGH Modification ACHA 2020
Cultural Tree	Avoid	NGH Modification ACHA 2020
Resource: Quartz deposit	Avoid	NGH Modification ACHA 2020
SU3/L1	Avoid	NSW Archaeology
SU6/L1	Avoid	NSW Archaeology
SU7/L1	Avoid	NSW Archaeology
SU8/L1	Avoid	NSW Archaeology
SU15/L1	Avoid	NSW Archaeology
SU17/L2	Avoid	NSW Archaeology
SU23/L1	Avoid	NSW Archaeology
SU23/L2	Avoid	NSW Archaeology
SU24/L1	Avoid	NSW Archaeology
SU27/L1	Avoid	NSW Archaeology
SU30/L1	Avoid	NSW Archaeology
SU30/L3	Avoid	NSW Archaeology
SU33/L3	Avoid	NSW Archaeology
SU37/L1	Avoid	NSW Archaeology

SU37/L2	Avoid	NSW Archaeology
SU37/L3	Avoid	NSW Archaeology
SU40/L1	Avoid	NSW Archaeology
SU47/L1	Avoid	NSW Archaeology
SU47/L2	Avoid	NSW Archaeology

Table 3-6. Aboriginal heritage items – minimise impacts.

Site ID	Impact	Identified
Flakney Creek	Minimize / Undertake Surface Salvage	AHIMS Registered Site (Prior to RPWF)
AFT 1	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
AFT 2	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
AFT 4	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
AFT 5	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
AFT 7	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2021
IF 1	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
IF 2	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
IF 3	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
IF 4	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
IF 5	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
IF 6	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
IF 10	Minimize / Undertake Surface Salvage	NGH Modification ACHA 2020
IF12	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2020
IF13	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2020
IF14	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2020
IF15	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2020
IF16	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2020
IF17	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2021
IF18	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2021
IF19	Minimize / Undertake Surface Salvage	NGH Addendum ACHA 2021

Table 3-7. Aboriginal heritage items – excavations

Site ID	Impact	Identified
AFT 2 + PAD	Minimize / Undertake Salvage Excavations or Testing	NGH Modification ACHA 2020
AFT 3 + PAD	Minimize / Undertake Salvage Excavations or Testing	NGH Modification ACHA 2020
AFT 4 + PAD	Minimize / Undertake Salvage Excavations or Testing	NGH Modification ACHA 2020
PAD 1	Minimize / Undertake Salvage Excavations or Testing	NGH Modification ACHA 2020
SU17/L1	Minimize / Undertake Salvage Excavations or Testing	NSW Archaeology
SU30/L2	Minimize / Undertake Salvage Excavations or Testing	NSW Archaeology

3.1.4 Archaeological Site Location Model

The Aboriginal site modelling for the region to date suggests that there is a strong association between the presence of potential resources for Aboriginal use and the presence of archaeological sites. Areas directly associated with water and or elevated ground appear to have the greatest potential for identification of Aboriginal cultural material. There are exceptions to this however, and relatively low-lying floodplain areas also have potential for the identification of isolated artefacts or campsites.

Based on the results of the previous archaeological investigations within the Rye Park Wind Farm, and through extrapolation of sites from the general area, it is possible to provide the following model of site location in relation to the proposal area.

Isolated Artefacts – are present across the entire landscape, in varying densities. As Aboriginal people traversed the entire landscape for thousands of years, such finds can occur anywhere and indicate the presence of isolated activity, dropped or discarded artefacts from hunting or gathering expeditions or the ephemeral presence of short-term camps. This feature has been recorded previously within the current proposal area and other isolated finds could occur. This feature is therefore likely to occur.

Hearths/Ovens – are identified by burnt clay used for heat retainers. Some are recorded in the district in association with resource locations. However, they could occur either independently or in association with other Aboriginal cultural features such as artefact scatters. Hearths are generally considered to be limited, one-off use or reused a few times and are smaller concentrations. Ovens are considered to represent larger features, often extending over a larger area and can include other material such as bone. No such sites have been recorded in the area and therefore such sites are less likely to occur.

Stone artefact scatters – representing camp sites or flaking and maintenance activity can occur across the landscape, usually in association with some form of resource or landscape. Water bodies, such as rivers, ephemeral creeks or clay pans can also be a focus of Aboriginal occupation. This feature has been recorded previously within the current proposal area and low-density artefact scatters are likely to occur.

Burials – are generally found within mound sites, in elevated sandy contexts or in association with rivers and major creeks or coastal sand bodies. No such sites have been recorded in the area and therefore such sites are less likely to occur.

Scarred Trees – these require the presence of old growth trees and are likely to be concentrated along major waterways and around swampy areas. There are patches of remnant vegetation within and adjacent to the proposal area, given the land use history this site type is less likely to occur but still has potential to be located within the proposal area.

Stone resources – are areas where people used natural stone resources as a source material for flaking. This requires geologically suitable material outcropping to be accessible. The proposal area contains only small natural outcroppings stone, with no large sources of suitable material, therefore while there is potential within the proposal area this feature is unlikely to occur.

Shell Middens – are the agglomeration of shell material disposed of after consumption. Such places are found along the edges of significant waterways, swamps and billabongs in inland contexts and beaches, lagoons, estuaries, lakes and headlands in coastal contexts. The proposal area is intersected by waterways, however these would not currently be considered significant making it unlikely for shell midden sites to occur.

In summary, there are landforms within the proposal area directly associated with water and or elevated ground which have the greatest potential for the identification of Aboriginal cultural material. Nonetheless, given that Aboriginal people have lived in the region for tens of thousands of years, there is potential for archaeological evidence to occur throughout the area, this is most likely to be in the form of stone artefacts.

3.1.5 Comment on Existing Information

The AHIMS database is a record of those places that have been identified and had site cards submitted to Heritage NSW. It is not a comprehensive list of all places in NSW as site identification relies on an area being surveyed and on the submission of site forms to AHIMS. There are likely to be many areas within NSW that have yet to be surveyed and therefore have no sites recorded. However, this does not mean that sites are not present.

Within the current proposal area there have been three previous archaeological investigations. The information relating to site patterns, their age and geomorphic context is little understood. The robustness of the AHIMS survey results is therefore considered to be low for the present investigation. There are likely to be many sites that exist that have yet to be identified. Past land use activity has moderately disturbed the archaeological record and there are likely to be places that retain *in situ* archaeological material.

With regard to the limitations of the information available, archaeologists rely on Aboriginal parties to divulge information about places with cultural or spiritual significance in situations where non archaeological sites may be threatened by development. To date, we have not been told of any such places within the proposal area, however, there is always the potential for such places to exist, but concerning the current proposed works area, no such places or values have been identified.

4 ARCHAEOLOGICAL INVESTIGATION RESULTS

4.1 SURVEY STRATEGY

The intention of the survey was to cover as much ground surface as possible within the proposed additional areas given it had not been assessed in the original survey conducted for the Rye Park Wind Farm. The strategy therefore was to walk across the additional areas to achieve maximum coverage. The team were able to walk in lines, at a similar pace, allowing for maximum survey coverage and maximum opportunity to identify any heritage features. The survey team consisted of a minimum of three people which allowed a 45-60m wide tract of the survey section to be surveyed with each transect.

Any mature trees with the proposed eastern expansion area were also inspected for any evidence of Aboriginal scarring (Long 2005).

NGH believes that the survey strategy was comprehensive and the most effective way to identify the presence of Aboriginal heritage sites within the additional areas. Discussions were held in the field between the archaeologist and the Aboriginal community representatives present to ensure all were satisfied and agreed with the spacing and survey methodology.

The additional areas for the Rye Park Wind Farm Modification proposal cover transitioning landforms from elevated ridge lines and crests to steep gullies, spurs and saddles. These landforms present a similar context to those previously identified within the Rye Park Wind Farm Modification ACHA.

The field survey was undertaken over five days between the 2nd and 3rd of November 2021 and the 17th and 19th of January 2022. Notes were made about visibility, photos taken, and any possible Aboriginal features were inspected, assessed, and recorded if deemed to be Aboriginal in origin.

4.2 SURVEY COVERAGE

Survey transects were undertaken on foot and traversed the proposed additional areas. Visibility within the survey area was variable however as a whole it generally had low visibility averaging less than 5% overall. The effective visibility in the area ranged from 90% in exposures to less than 5% in areas with a dense grass cover. Between the survey participants, over the course of the field survey, approximately 10.78 km of transects were walked across the proposed additional areas, which total 11.17 ha in area.

Table 4-1 below shows the calculations of effective survey coverage and Plates 1-16, show examples of the landforms and visibility within the proposed additional areas.

Allowing for an effective view width of 5 m for each person and given the variability in the ground visibility across the proposal site overall the survey effectively examined 11.33% of the proposed additional areas. Despite this low coverage, it is considered that the survey of the Rye Park Wind Farm proposed additional areas was enough to understand the nature of the terrain and archaeological potential and therefore was sufficient to draw conclusion about the presence or potential for Aboriginal heritage object to occur. The results of the survey are considered a true reflection of the nature of the Aboriginal archaeological record present within the proposed additional areas.

Table 4-1 Transect information.

Survey Area	Landform	Number of Survey Transects	Exposure type	Project area (ha)	Surveyed area (length m x width m)	Survey area (m2)	Average Visibility %	Effective coverage (area x visibility) m2	Project area surveyed (ha)	Percentage of Project area effectively surveyed	Archaeological result
1	Crest, Slope, Gully	2	Patchy eroded areas amongst grass. Rough vehicle track, animal tracks and exposures around trees.	0.6118	440m x 10m	4,400m^2	3%	132	0.0132	2.16	IF20
2	Slope	2	Patchy erosion exposures amongst grass, and animal tracks.	0.2134	160m x 10m	1,600m^2	5%	80	0.008	3.75	NIL
3	Slope, spur, gully	10	Animal tracks and exposures around trees, some small patchy erosion scours. Some rough vehicle tracks.	4.1606	2,200m x 20m	44,000m^2	10%	4,400	0.44	10.57	NIL
4	Elevated Flat (Creek), gully, gentle slope	4	Rough vehicle tracks, informal creek crossing, erosion along creek banks and exposure around trees and buildings.	0.6201	1,080m x 20m	21,600m^2	15%	3,240	0.0324	5.25	PAD 4
5	Flat	2	Animal tracks and exposures around trees, some small patchy erosion scours.	0.9943	940m x 10m	9,400m^2	5%	470	0.047	4.73	NIL
6	Gentle Slope	4	Driveway, exposures around trees, some small patchy erosion scours.	0.253	400m x 20m	8,000m^2	25%	2,000	0.02	7.9	NIL

Survey Area	Landform	Number of Survey Transects	Exposure type	Project area (ha)	Surveyed area (length m x width m)	Survey area (m2)	Average Visibility %	Effective coverage (area x visibility) m2	Project area surveyed (ha)	Percentage of Project area effectively surveyed	Archaeological result
7	Slope, Spur	4	Erosion scours, rough vehicle tracks and animal tracks. Exposures around the base of trees.	1.9658	1,440m x 20m	28,800m^2	20%	5,760	0.576	29.3	NIL
8	Gentle Slope	4	Animal tracks and exposures around trees, some small patchy erosion scours.	0.1793	400m x 20m	8,000m^2	10%	800	0.08	44.62	NIL
9	Gentle Slope	4	Animal tracks and exposures around trees, some small patchy erosion scours.	1.3741	1,520m x 20m	30,400m^2	5%	1,520	0.152	11.06	NIL
10	Gentle Slope, Drainage Line	4	Animal tracks and exposures around trees, some small patchy erosion scours.	0.7964	560m x 20m	11,200m^2	5%	560	0.056	7.03	NIL
	TOTALS	**40**		**11.17**		**167,400m^2**			**1.8962**	**11.33%**	**IF20, PAD 4**

Plate 1 Survey Area 1, animal tracks (kangaroo) in rough vehicle track exposures.	*Plate 2 Survey Area 1, context. View facing north-east.*
Plate 3 Survey Area 2, context. View facing north.	*Plate 4 Survey Area 2, context. View facing east.*
Plate 5 Survey Area 3, context. View facing south.	*Plate 6 Survey Area 3, context. View facing north-west.*

Plate 7 Survey Area 3 looking into survey area 4, context. View facing east.	*Plate 8 Survey Area 4. Context facing north.*
Plate 9 Survey Area 5, context. View facing west.	*Plate 10 Survey Area 5, view facing north.*
Plate 11 Survey Area 5, context. View facing south.	*Plate 12 Survey Area 6, context. View facing east.*

Plate 13 Survey Area 7, context. View facing south west.	*Plate 14 Survey Area 8, context. View facing west.*
Plate 15 Survey Area 9, context. View facing south.	*Plate 16 Survey Area 10, context. View facing south east.*

4.3 SURVEY RESULTS

The visibility during survey was predominantly poor, however there were a number of exposures present that were inspected. There was one isolated stone artefact recorded during the survey. Discussions were held in the field with the representatives present to assess the potential for subsurface throughout the surveyed areas, resulting in the recording of one PAD (

Figure 4-1). Aside from this identified area of potential, based on the land use history, an appraisal of the landscape, soil, level of disturbance and the results from the field survey, it was concluded that there was negligible potential for the presence of intact subsurface deposits with high densities of objects or cultural material within the proposed additional areas.

The Aboriginal representative present during the fieldwork noted that if any further development or ground disturbance works were proposed outside these additional areas and the areas assessed in the previous Rye Park Wind Farm surveys that additional assessment would be required.

4.3.1 Stone Artefacts

There was one isolated stone artefact (IF) located during the survey of the proposed additional areas for the Rye Park Wind Farm Modification 2 application (Figure 4-1).

IF20 (AHIMS 51-4-0445)

IF 20 was located in an area of exposure along a vehicle track on the top of a hill crest. The visibility of the general area was low from 0-10%, with the artefact located in an exposure with 65% visibility. The artefact was located in a small clearing with patches of erosion exposure amongst grass growth adjacent to vehicle tracks. No potential for subsurface material was identified at this location. The recorded artefact is a white quartz flake with a faceted, broad platform and broken feather termination. The dimensions of the flake measure 19mm length x 5mm width x 11mm thickness. Figure 4-1 highlights the location of IF 20, and Plates 17-18 below show the site context and artefact *in situ*.

Plate 17 Close up view of IF20 in situ.	*Plate 18 IF20 site context, view facing north from the artefact location.*

*Figure 4-1. Field Survey Results. (*Information Redacted*)*

4.3.2 Potential Archaeological Deposits

PAD 4

PAD 4 is located in a sheltered area on an elevated creek bank that forms a flat elevated area within a gully landform. This naturally protected landform would be sheltered from extreme weather to some degree due to the steep hills surrounding the location. The elevated flat lies along the banks of an unnamed perennial creek line with a soil profile featuring a silty topsoil over a yellow to cream coloured silty clay with gravel/stone inclusions that is common across the proposal area. During the survey the visibility averaged 15% with 35% exposure. A rough vehicle track runs through the PAD area providing exposed ground. The area has also been largely cleared of vegetation, with one mature tree remaining along the eastern boundary of the PAD area. There were no surface artefacts recorded at this location, with the PAD reflecting potential archaeological material remaining below the ground surface. Plates 19 and 20 provide a visual site context.

Plate 19. PAD 4 site context, view facing south.	*Plate 20. PAD 4 ground surface visibility.*

4.4 DISCUSSION

The results of previous archaeological surveys in the Rye Park region, and within the Rye Park Wind Farm project area show that there are sites and artefacts present in varying densities across the landscape. The predictions based on the modelling for the proposed MOD 2 additional areas were that stone artefacts, PADs and scarred trees were the most likely manifestation of Aboriginal occupation of the area. The lack of sites identified within the proposed additional areas is not surprising given the poor surface visibility and steep inclines of some landforms. The lack of sites recorded within the additional assessed areas is also likely to be reflective of the sparse and dispersed nature of stone artefacts within the project area and therefore the results are considered an accurate reflection of the archaeological potential of the assessment area.

The results of this additional survey for the proposed MOD 2 does not negate the need for further surveys to occur in any other areas of proposed activity for the Rye Park Wind Farm that extend beyond the areas assessed in this report and the previous Rye Park Wind Farm ACHAs.

5 CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

The assessment of the significance of Aboriginal archaeological sites is currently undertaken largely with reference to criteria outlined in the ICOMOS Burra Charter (Marquis-Kyle & Walker 1994). Criteria used for assessment are:

- *Social or Cultural Value*: In the context of an Aboriginal heritage assessment, this value refers to the significance placed on a site or place by the local Aboriginal community – either in a contemporary or traditional setting.
- *Scientific Value*: Scientific value is the term employed to describe the potential of a site or place to answer research questions. In making an assessment of Scientific Value issues such as representativeness, rarity and integrity are addressed. All archaeological places possess a degree of scientific value in that they contribute to understanding the distribution of evidence of past activities of people in the landscape. In the case of flaked stone artefact scatters, larger sites or those with more complex assemblages are more likely to be able to address questions about past economy and technology, giving them greater significance than smaller, less complex sites. Sites with stratified and potentially in situ sub-surface deposits, such as those found within rock shelters or depositional open environments, could address questions about the sequence and timing of past Aboriginal activity, and will be more significant than disturbed or deflated sites. Groups or complexes of sites that can be related to each other spatially or through time are generally of higher value than single sites.
- *Aesthetic Value*: Aesthetic values include those related to sensory perception and are not commonly identified as a principal value contributing to management priorities for Aboriginal archaeological sites, except for art sites.
- *Historic Value*: Historic value refers to a site or place's ability to contribute information on an important historic event, phase or person.
- *Other Values*: The Burra Charter makes allowance for the incorporation of other values into an assessment where such values are not covered by those listed above. Such values might include Educational Value.

All sites or places have some degree of value, but of course, some have more than others. In addition, where a site is deemed to be significant, it may be so on different levels or contexts ranging from local to regional to national, or in very rare cases, international. Further, sites may either be assessed individually, or where they occur in association with other sites the value of the complex should be considered.

SOCIAL OR CULTURAL VALUE

While the true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people, as a general concept, all sites hold cultural value to the local Aboriginal community. An opportunity to identify cultural and social value was provided to all the registered Aboriginal stakeholders for this proposal through the draft reporting process.

It was clear from the conversations held in the field that all sites hold cultural value to the local Aboriginal community, and that the natural landscape holds cultural value. There were no sites cultural significance identified by RAP representatives during the survey of the additional areas for the MOD 2 application.

SCIENTIFIC (ARCHAEOLOGICAL) VALUE

As described in this report, two archaeological sites have been recorded within the proposed additional modification areas for the RPWF (one isolated stone artefact and one PAD).

The research potential of the isolated stone artefact (IF20) located during this assessment is considered to be low as the single artefact holds little potential for research other than the location. The presence of the site can and has been used to assist in the development of site modelling for the local landscape and could be used to compare with other artefact assemblages from open camp site locations. The impact to the scientific values of the artefacts is considered low. The impact to the scientific value of the site, were it to be impacted by the current proposal is considered low, as the artefact identified would not provide any further information about Aboriginal occupation of the area other than their existence within the landscape. While the artefact itself is intrinsically interesting in terms of the base technical information, the scientific significance is low in terms of further research potential.

The research potential and scientific value of the Potential Archaeological Deposit (PAD 4) is unable to be assessed due to the unconfirmed presence of a site. A PAD refers to an identified potential for intact archaeological deposits to occur below the ground surface and is not always accompanied by surface artefacts, as is the case with PAD 4. The location itself is an identification of the potential for archaeological deposits to remain preserved, however represents an unknown entity which cannot be accurately assessed until further investigations in the way of archaeological test excavations have occurred.

AESTHETIC VALUE.

There are no aesthetic values associated with the identified archaeological sites per se, apart from the presence of Aboriginal artefacts in the landscape.

OTHER VALUES

There are no other known heritage values associated with the proposed additional areas. The additional areas may have some educational value (not related to archaeological research) through educational material provided to the public about the Aboriginal occupation and use of the area. The presentation of educational material about the Aboriginal occupation and use of the area could be developed in consultation with the local Aboriginal community.

6 PROPOSED ACTIVITY

As noted in Section 1.1 the proposed additional areas of the Rye Park Wind Farm MOD 2 development footprint includes both private parcels of land and road corridors totalling a combined area of 11.17 hectares. This includes all land likely to be directly impacted by the proposed additional areas of the modified development footprint for the Rye Park Wind Farm. The ground disturbances resulting from proposed works in the additional areas range greatly from an overhead transmission line to the creation of new access tracks. Thus, works in the proposed additional areas will include ground disturbances as a part of the planned activities.

6.1 HISTORY AND LANDUSE

Previous use of the land prior to the current project proposal is largely farming with a combination of grazing and agriculture, there are also a number of residential dwellings, associated structures and dirt track roads intersecting the proposal area. These previous impacts have caused significant disturbance to the ground surface at specific localities throughout the proposal area, however the majority of the area is relatively undisturbed. It is considered that the archaeological record within the proposal area has not been overtly compromised by prior land-use activities.

6.2 PROPOSED DEVELOPMENT ACTIVITY

As noted above in Section 1, the proposal is for a MOD 2 application for the RPWF, which includes additional areas that will be subject to ground disturbing and construction activities that are outside the areas previously assessed. The proposed additional areas were covered partially by prior investigations in 2013, 2015, 2020, and 2021, therefore this survey is targeted to areas identified that were not previously assessed for heritage impacts.

The proposed works the subject of MOD 2 are in addition to the modification application for the approved Rye Park Wind Farm development proposal (MOD 1) that includes changes to layout due to realignment of access roads for construction of the wind farm and associated transmission lines.

6.3 ASSESSMENT OF HARM

The current and previous archaeological investigations of the proposal area have clearly identified that there are Aboriginal archaeological sites present. With the current proposed works, it is not possible to avoid harm to all of the sites described in Section 4.3 of this report. The proposed level of ground disturbance would be high and therefore likely to totally impact the sites if they were not avoided. This would be considered a direct impact on the sites and the Aboriginal objects by the development in its present form.

In reference to the proponent's proposal and the archaeology recorded, there would potentially be a low level of impact on the archaeological record as a result of the proposed MOD 2 for the RPWF. The type and degree of harm proposed to the recorded sites is outlined in Table 6-1.

The proposed works in additional areas for the modified RPWF development will avoid the archaeological sites recorded as a result of this assessment (IF 20, PAD 4). While these sites are to be avoided, there are previously recorded Aboriginal objects that occur within the MOD 2 development footprint. These Aboriginal objects will not be individually harmed, with the harm coming from the destruction of the archaeological context of the site. It would be proposed that all Aboriginal objects facing harm as a result of the modified development be mitigated through salvage collection and reburial in a safe location, as outlined in Section 7.3.

6.4 IMPACTS TO VALUES

The values potentially impacted by the proposed modified development are any social and cultural values attributed to the artefacts and the sites by the local Aboriginal community. The extent to which the total or partial loss of the sites would impact on the community is only something the Aboriginal community can articulate.

The impact to the scientific values if the artefacts were to be impacted by the current proposal is considered low, as there were no artefacts identified within the MOD 2 development footprint that could provide any further information to the archaeological record other than their existence within the landscape. The values potentially impacted by the development include these scientific values and any social and cultural values attributed to the artefacts and the sites by the local Aboriginal community. The extent to which the total or partial loss of the sites would impact on the community is only something the Aboriginal community can articulate. The intrinsic values of the artefacts themselves may be affected by the development of the proposal area. Any removal of the artefacts, or their breakage would reduce the low scientific value they retain.

Previous heritage assessments for the RPWF have included an outline of the impact to values of 19 archaeological sites that also fall within the development footprint for the MOD 2 application. Of these sites, all 19 will remain consistent with the prior impact assessments that have been completed (refer to CHMP

NGH 2021a), and 18 of the sites have already been salvaged (NGH in prep). Table 6-1 below outlines the previous recommendations for these sites, and their current site status.

Table 6-1. Aboriginal heritage sites previously assessed that fall within the proposed development corridor.

AHIMS No.	Site Name	Originally Recorded	Recommendation	Status
51-5-0332	AFT 1	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-5-0333	AFT 2	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-4-0428	AFT 4	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-4-0429	AFT 5	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-4-0430	AFT 2 + PAD	NGH ACHA 2020	Minimise impact / undertake salvage excavations.	Salvage excavations have already been completed for small corridor with low density results, however if the ground disturbance is to increase upon the current construction corridor, further salvage excavations will be required.
51-5-0327	AFT 3 + PAD	NGH ACHA 2020	Minimise impact / undertake salvage excavations.	Salvage excavations have already been completed for small corridor with low density results, however if the ground disturbance is to increase upon the current construction corridor, further salvage excavations will be required.
51-1-0153	SU30/L2	NSW Archaeology 2015	Minimise impact / undertake salvage excavations.	Salvage excavations have already been completed for small corridor with low density results, however if the ground disturbance is to increase upon the current construction corridor, further salvage excavations will be required.
NA	PAD 1	NGH ACHA 2020	Minimise impact / undertake salvage excavations.	Salvage excavations have already been completed for small corridor with low density results, however if the ground disturbance is to increase upon the current construction corridor, further salvage excavations will be required.
51-4-0425	IF 4	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-4-0424	IF 6	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.

51-4-0422	IF 8	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-5-0329	IF 9	NGH ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-1-0165	IF 14	NGH Addendum ACHA 2020	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-4-0287	SU21/L1	NSW Archaeology 2013	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-4-0289	SU23/L3	NSW Archaeology 2013	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-1-0149	SU28/L1	NSW Archaeology 2015	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-1-0150	SU28/L2	NSW Archaeology 2015	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-1-0151	SU29/L1	NSW Archaeology 2015	Minimise impact / undertake surface salvage.	Site has already been salvaged. No further mitigation required.
51-4-0058	Flakney Creek	AHIMS Registered site (prior to RPWF)	Minimise impact / undertake surface salvage.	Surface salvage required if site cannot be avoided.

Table 6-2. Identified risk to sites recorded for this Addendum.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
51-4-0445	IF 20	Good. The area is superficially disturbed through general use with vehicle and animal trails. The area has been cleared of native vegetation with thick grass covered hindering visibility. Erosion of topsoil creating exposures, artefact located in exposure adjacent to vehicle tracks.	Low	Indirect (change of wider landscape and site context)	Nil	No loss of value	MOD 2 development will avoid impact to this site with a minimum 5m buffer zone in place. If impact cannot be avoided, surface salvage will be required before construction can commence.
NA	PAD 4	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming.	Low	Nil – the development will avoid this site.	Nil	No loss of value	MOD 2 development will avoid impact to this site with a minimum 5m buffer zone in place. If impact cannot be avoided, subsurface salvage will be required before construction can commence.

7 AVOIDING OR MITIGATING HARM

7.1 CONSIDERATION OF ESD PRINCIPLES

Consideration of the principles of Ecologically Sustainable Development (ESD) and the use of the precautionary principle was undertaken when assessing the harm to the sites and the potential for mitigating impacts to the sites recorded during the survey for the proposed additional areas for the Rye Park Wind Farm MOD 2. The main consideration was the cumulative effect of the proposed impact to the sites and the wider archaeological record. The precautionary principle in relation to Aboriginal heritage implies that development proposals should be carefully evaluated to identify possible impacts and assess the risk of potential consequences.

The principle of inter-generational equity requires the present generation to ensure that the health and diversity of the archaeological record is maintained or enhanced for the benefit of future generations. We believe that the diversity of the archaeological record is not compromised by the proposed development particularly given the existing disturbed nature of the sites and that stone artefacts are the most common site type so far recorded within the local area.

7.2 CONSIDERATION OF HARM

It may not be possible to avoid all known sites due to the construction requirements of the RPWF modified project. While it is possible to avoid impact from some areas through the strategic placement of overhead powerline poles and infrastructure components, this will not be possible for all sites recorded within the proposal area.

The archaeological sites within the proposed additional areas have presented a low-density concentration of artefacts, which have been assessed to hold low scientific value. Based on the assessment of the sites and in consideration of discussions with the Aboriginal representatives during the fieldwork, it is not considered necessary to prevent all development of the proposed additional areas, or for total avoidance of the Aboriginal heritage sites identified within the proposed works corridors.

7.3 MITIGATION OF HARM

Mitigation of harm to cultural heritage sites generally involves some level of detailed recording to preserve the information contained within the site or setting aside areas as representative samples of the landform to preserve a portion of the site. Mitigation can be in the form of minimising harm, through slight changes in the development plan or through direct management measures of the artefacts. Mitigation to harm of sites IF 20 and PAD 4 may be possible through avoidance.

It is recommended that any surface artefact sites to be impacted by the development are salvaged by an archaeologist with representatives from the RAPs and removed from the areas where potential harm is to occur prior to the proposed works commencing. The artefacts should be collected and reburied in a safe area (in accordance with Requirement 26 of the Code of Practice), as close as possible to their original location, which will not be subject to any ground disturbance, unless otherwise requested by the RAPs.

8 LEGISLATIVE CONTEXT

Aboriginal heritage is primarily protected under the NPW Act and as subsequently amended in 2010 with the introduction of the *National Parks and Wildlife Amendment (Aboriginal Objects and Places) Regulation 2010*. The aim of the NPW Act includes:

> The conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including but not limited to places, objects and features of significance to Aboriginal people.

An Aboriginal object is defined as:

> Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons on non-Aboriginal extraction and includes Aboriginal remains.

Part 6 of the NPW Act concerns Aboriginal objects and places and various sections describe the offences, defences and requirements to harm an Aboriginal object or place. The main offences under section 86 of the NPW Act are:

- A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- A person must not harm an Aboriginal object.
- For the purposes of this section, "circumstances of aggravation" are:
    - that the offence was committed in the course of carrying out a commercial activity, or
    - that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.
- A person must not harm or desecrate an Aboriginal place.

Under section 87 of the NPW Act, there are specified defences to prosecution including authorisation through an Aboriginal Heritage Impact Permit (AHIP) or through exercising due diligence or compliance through the regulation.

Section 89A of the Act also requires that a person who is aware of an Aboriginal object, must notify the Director-General in a prescribed manner. In effect this section requires the completion of OEH AHIMS site cards for all sites located during heritage surveys.

Section 90 of the NPW Act deal with the issuing of an AHIP, including that the permit may be subject to certain conditions.

The EP&A Act is legislation for the management of development in NSW. It sets up a planning structure that requires developers (individuals or companies) to consider the environmental impacts of new projects. Under this Act, cultural heritage is considered to be a part of the environment. This Act requires that Aboriginal cultural heritage and the possible impacts to Aboriginal heritage that development may have been formally considered in land-use planning and development approval processes.

Proposals classified as State Significant Development or State Significant Infrastructure under the EP&A Act have a different assessment regime. As part of this process, Section 90 harm provisions under the NPW Act are not required, that is, an AHIP is not required to impact Aboriginal objects. However, the Department of Planning and Environment is required to ensure that Aboriginal heritage is considered in the environmental

impact assessment process. The Department of Planning and Environment will consult with other departments, including Heritage NSW prior to development consent being approved.

The Rye Park Wind Farm modification proposal is a State Significant Development and will therefore be assessed via this pathway, which does not negate the need to carry out an appropriate level of Aboriginal heritage assessment or the need to conduct Aboriginal consultation in line with the requirements outlined by the OEH *Aboriginal cultural heritage consultation requirements for proponents 2010* (OEH 2010b).

9 RECOMMENDATIONS

The recommendations are based on the following information and considerations:

- Results of the archaeological survey;
- Consideration of results from the previous Rye Park Wind Farm heritage assessments;
- Results of consultation with the registered Aboriginal parties;
- Appraisal of the proposed development, and
- Legislative context for the development proposal.

It is recommended that:

1. The archaeological sites within the proposed additional areas have presented a low-density concentration of surface artefacts that have been assessed to hold a low scientific value. Based on the assessment of the sites and in consideration of discussions with the Aboriginal representatives during the fieldwork, it is not considered necessary to prevent all development of the proposal area, or for total avoidance of the Aboriginal heritage sites identified within the proposed works corridors.
2. The two Aboriginal sites recorded as a result of this assessment are to be avoided with a minimum 5m buffer. This includes all artefacts described in Section 4.3.1 of this report as:

Site Name	AHIMS Site ID	Site Type
IF20	51-4-0445	Isolated Artefact
PAD 4	NA	Potential Archaeological Deposit

3. Recommendations of prior RPWF Heritage Assessments (NSW Archaeology 2013 & 2015, NGH 2020a, 2020b and 2021a) and the RPWF CHMP (NGH 2021b) must be adhered to.
4. Further subsurface salvage will be required at the following locations if the ground disturbance is proposed to be increased as a result of MOD 2 in the following sites:

Site Name	AHIMS Site ID	Site Type
AFT2 + PAD	51-4-0430	Artefact Scatter + Potential Archaeological Deposit
AFT3 + PAD	51-5-0327	Artefact Scatter + Potential Archaeological Deposit
SU30/L2	51-1-0153	Artefact Scatter + Potential Archaeological Deposit
PAD 1	NA	Potential Archaeological Deposit

5. If any objects suspected of being Aboriginal in origin, that are not described in this or previous ACHARs for the RPWF or detailed in the development consent, the unexpected finds procedure as outlined in the RPWF CHMP (NGH 2021B) must be followed.
6. In the unlikely event that human remains are discovered during the development works, all work must cease in the immediate vicinity. Heritage NSW, the local police and the RAPs should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.
7. Further archaeological assessment would be required if other proposed activity extends beyond the area of the current or previous investigations, as per Condition 25 of the CoC and the CHMP (NGH 2021B). This would include consultation with the registered Aboriginal parties and may include further field survey and subsurface testing.
8. An update to the CHMP (NGH 2020) must be completed to incorporate the two newly identified archaeological sites. In the instance of any modification to the CoC the CHMP would be reviewed and if revisions of the plan are required the plan would be submitted to the Planning Secretary for approval and comply with the CoC Schedule 5 Condition 2c (Revision of Strategies, Plans and Programs) which states that:

   "*Any modification to the conditions of this consent (unless the conditions require otherwise), the Applicant must review and, if necessary, revise the strategies, plans, and programs required under this consent to the satisfaction of the Planning Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Planning Secretary for approval*."

10 REFERENCES

NGH (2020a), *Aboriginal Cultural Heritage Assessment Report: Rye Park Wind Farm Modification*, report prepared for Rye Park Renewable Energy Pty Ltd.

NGH (2020b), *Addendum Aboriginal Cultural Heritage Assessment Report: Rye Park Wind Farm Modification*, report prepared for Rye Park Renewable Energy Pty Ltd.

NGH (2021a). *Second Addendum Aboriginal Cultural Heritage Assessment Report: Rye Park Wind Farm Modification*, report prepared for Rye Park Renewable Energy Pty Ltd.

NGH (2021b). *Rye Park Wind Farm Cultural Heritage Management Plan*. Report prepared for Zenviron Pty Ltd.

NGH 2022 (in prep.) *Rye Park Wind Farm Archaeological Salvage Report*. Report prepared for Zenviron Pty Ltd.

NSW Archaeology., 2013. *Rye Park Wind Farm. Aboriginal Cultural Heritage Assessment*. Unpublished report to Epuron Pty Ltd.

NSW Archaeology., 2015. *Rye Park Wind Farm. Addendum Aboriginal Cultural Heritage Assessment.* Unpublished report to Epuron Pty Ltd.

NSW Archaeology 2017 *Cultural Heritage Management Plan*. Draft v4. Unpublished report to Epuron Pty. Ltd.

OEH 2010a, *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

OEH 2010b, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

OEH 2011, *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

APPENDIX A CONSULTATION LOG *(INFORMATION REDACTED)*

APPENDIX B AHIMS EXTENSIVE SEARCH RESULTS *(INFORMATION REDACTED)*

Appendix F: 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		

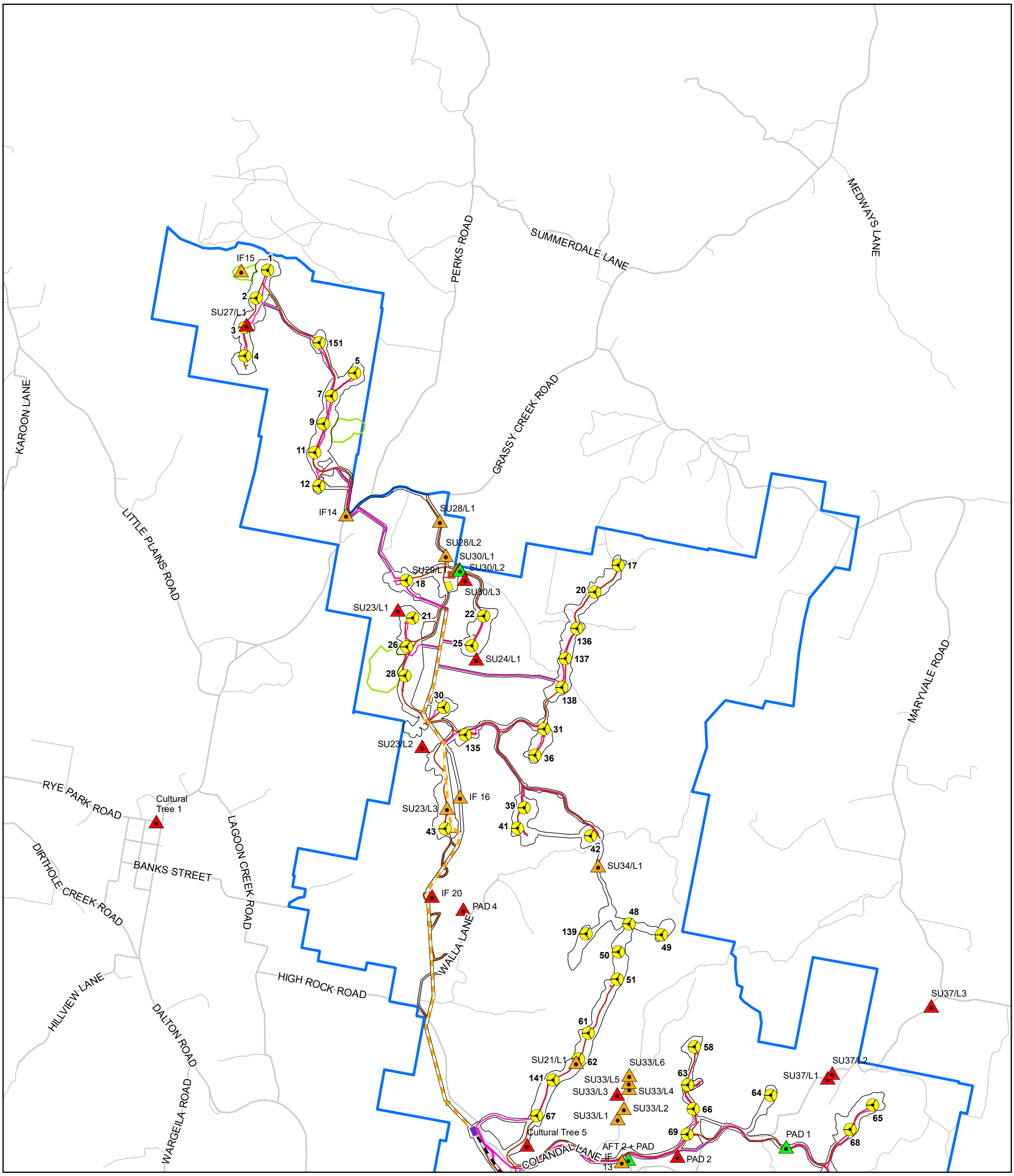
Table 2: Aboriginal heritage items – minimise impacts

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	N/A
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

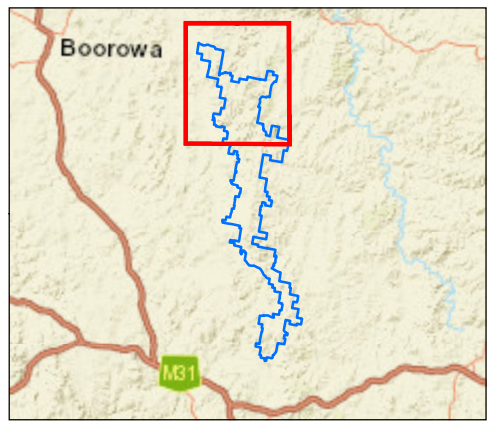
- Avoid Impact
- Minimise Impacts / Undertake Surface Salvage
- Minimise Impact / Undertake Salvage Excavations

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

Date: 06/05/2022
Version: C

0 1 2
Kilometres
GDA 1994 MGA Zone 55
1:50,000

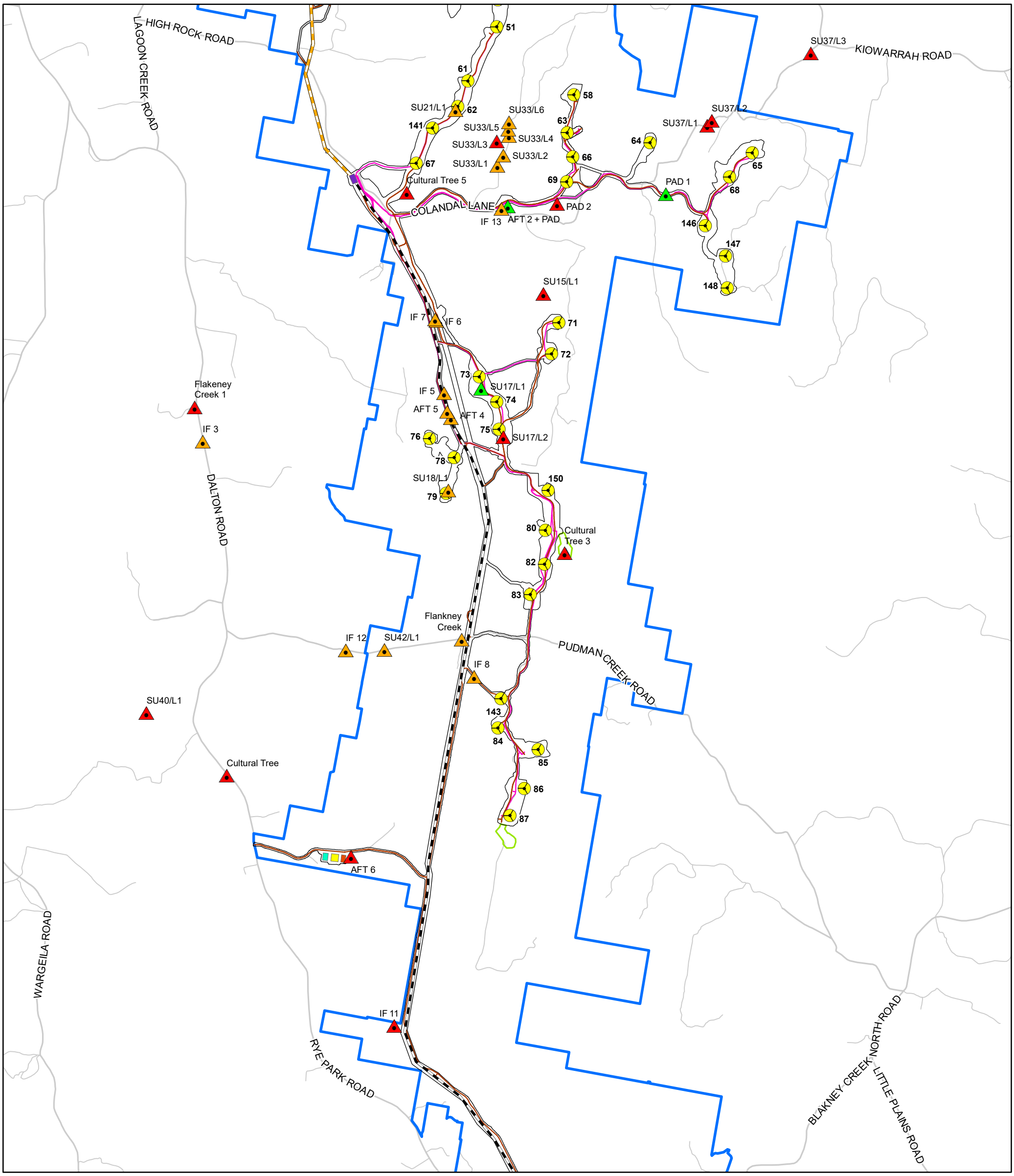


Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_RL144B_Aboriginal Heritage Items_20220506.mxd

Rye Park Wind Farm

Aboriginal Heritage Items

renewables



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

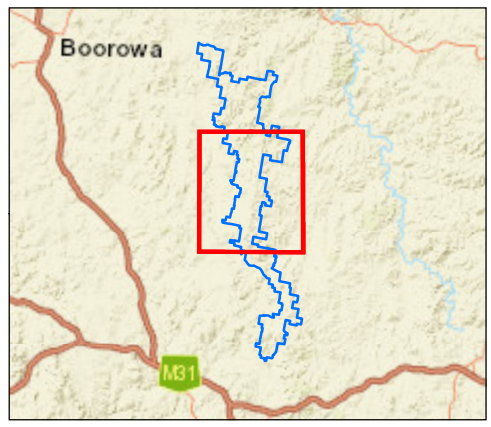
- Avoid Impact
- Minimise Impacts / Undertake Surface Salvage
- Minimise Impact / Undertake Salvage Excavations

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

Date: 06/05/2022
Version: C

0 1 2
Kilometres
GDA 1994 MGA Zone 55
1:50,000



Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_RL144B_Aboriginal Heritage Items_20220506.mxd

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.

N

Date: 06/05/2022
Version: C

0 1 2
Kilometres
GDA 1994 MGA Zone 55
1:50,000

Boorowa
M31

Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_RL144B_Aboriginal Heritage Items_20220506.mxd

Rye Park Wind Farm

Aboriginal Heritage Items

renewables