Goyder South Hybrid Renewable Energy Facility
Pygmy Blue-tongue Lizard (PBTL) Management Plan

Goyder South Hybrid Renewable Energy Facility Pygmy Blue-tongue Lizard (PBTL) Management Plan

30 November 2023

Version 5

Prepared by EBS Ecology for NEOEN Australia Pty Ltd

Document Control					
Revision No.	Date issued	Authors	Reviewed by	Date Reviewed	Revision type
1	26/11/2021	EBS Ecology	EBS Ecology	26/11/2021	Draft
2	10/12/2021	EBS Ecology	EBS Ecology	10/12/2021	Draft
3	28/06/2022	EBS Ecology	EBS Ecology	28/06/2022	Final
4	22/09/2023	EBS Ecology	EBS Ecology	22/09/2023	Final
5	30/11/2023	EBS Ecology	EBS Ecology	30/11/2023	Final

Distribution of Copies			
Revision No.	Date issued	Media	Issued to
1	26/11/2021	Electronic	Tom Jenkins, NEOEN Australia Pty Ltd
2	10/12/2021	Electronic	Tom Jenkins, NEOEN Australia Pty Ltd
3	28/06/2022	Electronic	Tom Jenkins, NEOEN Australia Pty Ltd
4	22/09/2023	Electronic	Inès Béchameil, NEOEN Australia Pty Ltd
5	30/11/2023	Electronic	Inès Béchameil and Ralph Mitchell, NEOEN Australia Pty Ltd

EBS Ecology Project Number: E90101K

CITATION: EBS Ecology (2023) Goyder South Hybrid Renewable Energy Facility Pygmy Blue-tongue Lizard (PBTL) Management Plan. Report to NEOEN Australia Pty Ltd. EBS Ecology, Adelaide.

Cover photograph: A Pygmy Blue-tongue Lizard (Tiliqua adelaidensis).

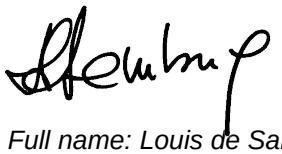
EBS Ecology
112 Hayward Avenue
Torrensville, South Australia 5031
t: 08 7127 5607
http://www.ebsecology.com.au
email: info@ebsecology.com.au

DECLARATION OF ACCURACY

Declaration of Accuracy

In making this declaration, I am aware that section 491 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the Environment Protection and Biodiversity Conservation Regulation 2000 (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this decision.

Signed:



Full name: Louis de Sambucy
Position: Managing Director
Organisation: Neoen Australia Pty Ltd
EPBC Referral Number: 2021/8958; 2021/8957; 2021/8959
Name of Action Management Plan this document and declaration refers to: Goyder South Hybrid Renewable Energy Facility Pygmy Blue-tongue Lizard (PBTL) Management Plan.
Date: 30 November 2023

GLOSSARY AND ABBREVIATION OF TERMS

AS	Australian Standard
brumation	A state of torpor (see torpor) exhibited by reptiles.
Business day	a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the action.
CEMP	2021/8959: the Construction Environmental Management Plan required under and currently approved in accordance with the requirements of condition 9 of the **SA development approval**.
Clear/Clearing	the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation.
cm	centimetres
Commence operation / Commencement of operation	2021/8959: the first instance the transmission line and substation are used for commercial purposes.
Construct / Construction	the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding the installation of temporary fences and signage.
Cth	Commonwealth
DAWE	Department for Agriculture, Water and the Environment (now DCCEEW)
DCCEEW	Department of Climate Change, Energy, the Environment and Water
Declared weed	A plant that is regulated under the *Landscape South Australia Act 2019* due to its threat to primary industry, the natural environment and public safety.
Department	The Australian Government agency responsible for administering the **EPBC Act**.
DEW	Department for Environment and Water (South Australian Government)
DoE	Department of the Environment (Australian Government; now DAWE)
DotEE	Department of the Environment and Energy (Australian Government; now DAWE)
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities (Australian Government; now DAWE)
EBS Ecology	Environment and Biodiversity Services Pty Ltd – trading as EBS Ecology

Environmental Management Plan Guidelines	the *Environmental Management Plan Guidelines*, Commonwealth of Australia 2014.
environmental offset	A measure that compensates for the residual adverse impacts of an action on the environment (DSEWPC 2012a).
EPA	Environment Protection Authority (South Australian)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPC Contractor	Engineering, Procurement and Construction Contractor
ESCP	Erosion and Sedimentation Control Plan
GLC	Green Light Corporation (the Construction Contractor)
Goyder South Hybrid Renewable Energy Facility	A renewable energy development located between Burra and Robertstown in the Mid North of South Australia, The Goyder South Hybrid Renewable Energy Facility includes the proposed actions described in the EPBC Act referrals 2021/8957, 2021/8958, 2021/8959 and 2021/8960 (as shown in Figure 1).
GPS	Global Positioning System (a satellite based radionavigation system)
ha	hectare(s)
HSE	Health, Safety and Environment
IECA	International Erosion Control Association
impact	2021/8958: (verb) any event which has the potential to, or does, impact on one or more protected matter. 2021/8959: (verb) to cause any measurable direct or indirect disturbance or harmful change as a result of any activity associated with the action.
Infrastructure footprint	The area in which all Project infrastructure (including, but not limited to, access tracks, WTGs, hardstands and electrical reticulation) is constructed and operated. • Note that the CEMP uses the term 'Development Footprint' for this. • Note that some areas within the infrastructure footprint which are impacted during construction will be rehabilitated post construction as outlined in the CEMP.
IUCN	International Union for Conservation of Nature
km	kilometre(s)
m	metre(s)
Minister	The Australian Government **Minister** administering the **EPBC Act** including any delegate thereof.
mm	millimetres

MSDS	Material Safety Data Sheet
MW	Megawatt
NEOEN	NEOEN Australia Pty Ltd
New or increased impact	A new or increased environmental impact or risk relating to any **protected matter**, when compared to the likely impact of implementing the action management plan that has been approved by the **Minister** under conditions 3 and 4, including any subsequent revisions approved by the **Minister,** as outlined in the *Guidance on 'new or increased impact' relating to changes to approved management plans under EPBC Act environmental* approvals, Commonwealth of Australia 2017.
NPW Act	*National Parks and Wildlife Act 1972* (South Australian)
OMP	Offset Management Plan
Operation	2021/8957 and 2021/8958: All activities that occur after the components of the final wind turbine generator are installed. 2021/8959: the usage of the transmission line and substation for the purposes of transforming and/or redistributing electric current.
PBTL	Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*)
PBTL OMP	Goyder South PBTL Offset Management Plan
PBTL Management Plan	The *Goyder South Hybrid Renewable Energy Facility PBTL Management Plan* prepared by EBS Ecology for NEOEN Australia Pty Ltd (version 3 of 28 June 2022 or subsequent versions thereof; i.e., this document, which is now version 4 of 29 August 2023).
PBTL Recovery Plan	*Recovery Plan for the Pygmy Bluetongue Lizard Tiliqua adelaidensis* (Duffy *et al.* 2012)
PCC	Pre-clearance check: A detailed and targeted environmental field survey of the proposed infrastructure footprint prior to the commencement of ground disturbance works, to identify environmental issues (such as the presence of fauna, particularly threatened fauna, or waterways) that require management prior to and during construction works.
PCQM	Point-centred Quarter Method
Plan(s)	Any of the documents required to be prepared, approved by the **Minister**, implemented by the approval holder and published on the **website** in accordance with the conditions of approval attached to the EPBC Act approvals (2021/8957; 2021/8958; 2021/8959) (includes action management plans and/or strategies).
this Plan	This PBTL Management Plan
Project	The Goyder South Project (incorporating Stage 1A, Stage 1B and the Overhead Transmission Line and Substation West)
Project Area	The area (or boundary) in which the Project will be located, as shown in mapping.

Project Owner	NEOEN Australia Pty Ltd
Protected matter(s)	A matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval (2021/8957; 2021/8958 and 2021/8959) has effect.
Pygmy Blue-tongue Lizard habitat	2021/8958: **Pygmy Blue-tongue Lizard habitat** means remnant native grassland or grassy woodland with a sparse overstorey of trees, represented in the map at Attachment C by the areas shown enclosed by the green line labelled as 'Pygmy Blue-tongue Lizard habitat'. 2021/8957: **Pygmy Blue-tongue Lizard habitat** means remnant native grassland or grassy woodland with a sparse overstorey of trees, represented in the map at Attachment C by the areas shown enclosed by the green line labelled as 'Pygmy Blue-tongue Lizard habitat'. 2021/8959: **Pygmy Blue-tongue Lizard habitat** means remnant native grassland and grassy woodland with a sparse overstorey of trees, including but not limited to the areas represented on the map Attachment F as shown: a) Shaded in dark green and enclosed by a light green line and labelled as 'PBTL habitat Likely'; and b) Shaded in light green and enclosed by a dark green line and labelled as 'PBTL habitat Potential'.
RAMP	Revised action management plan.
residual impact	The remaining, unavoidable impacts (DSEWPC 2012a).
SA	South Australia / South Australian
SA development approval	The approved development application number 422/V009/20 R1 (or subsequent approved revisions thereof) granted under section 131 (19) of the *Planning, Development and Infrastructure Act 2016* (SA) for the **Goyder South Hybrid Renewable Energy Facility.**
SEB	Significant Environmental Benefit
Sensitive ecological data	Data as defined in the *Sensitive Ecological Data – Access and Management Policy V1.0*, Commonwealth of Australia 2013.
Significant impact(s)	**impacts** which are important, notable, or of consequence, having regard to their context or intensity, and assessed within the framework of the *Matters of National Environmental Significance – Significant Impact Guidelines 1.1*, Commonwealth of Australia 2013.
sp.	species (singular)
spp.	species (plural)
SPRAT	Species Profile and Threats

Torpor	A state of decreased physiological activity in an animal, usually by reduced body temperature and metabolic rate, which enables animals to survive extended cold periods, particularly the winter months.
Website	A set of related web pages located under a single domain name attributed to the approval holder and available to the public.
WEC	Wildlife Ethics Committee
WTG(s)	Wind Turbine Generator(s)

Table of Contents

1 INTRODUCTION 1
1.1 Background 1
1.1.1 Previous reports 4
1.2 Objectives 4

2 PBTL MANAGEMENT PLAN REVISION (AUGUST 2023) 6

3 COMPLIANCE 7
3.1 Management of compliance with relevant conditions associated with the EPBC Act approvals 14

4 PBTL PROFILE 16
4.1 Conservation status 16
4.2 Ecology and biology 16
4.2.1 Description 16
4.2.2 Historical and current distribution 16
4.2.3 Habitat 17
4.2.4 Populations 17
4.2.5 Behaviour 17
4.2.6 Diet 18
4.2.7 Reproduction 18
4.2.8 Activity timeframes 18
4.3 Known and/or potential threats 19
4.4 PBTL Occurrence within the Project Area 21
4.4.1 PBTL occurrence pre EPBC Act approval 21
4.4.2 PBTL occurrence post EPBC Act approval 25
4.4.3 Proximity assessment 33

5 IMPACTS TO PBTLS 39
5.1 Mitigation measures to avoid and/or minimise potential direct and indirect impacts to PBTLs associated with the Project 43
5.2 Estimated residual impact to PBTLs within the Project Area 43

6 RISK ASSESSMENT OF POTENTIAL IMPACTS 44
6.1 Limitations associated with the risk assessments 47

7 MANAGEMENT TARGETS, PERFORMANCE INDICATORS AND TRIGGERS .. 48

8 RESPONSE MEASURES AND CORRECTIVE ACTIONS 49

9 PERMITS, LICENCES AND APPROVALS 50

10 IMPLEMENTATION OF PBTL MANAGEMENT PLAN 51
10.1 Permit System 51
10.2 PBTL Management Plan roles and responsibilities 52
10.3 Risks to implementation of this Plan 53
10.4 Review and revision of this Plan 55
10.5 Submission and publication of this Plan 55

11 CONSTRUCTION MANAGEMENT MEASURES 57
11.1 General construction management measures 58
11.2 Weed and pest management measures 61
11.3 Soil erosion and drainage management measures 64
11.4 Dust management measures 67
11.5 Noise and vibration management measures 68
11.6 Waste management measures 69
11.7 Hazardous materials and dangerous goods management measures 70

12 OPERATIONAL MANAGEMENT MEASURES 73
12.1 General operational management measures 74
12.2 Weed and pest management measures 76
12.3 Soil erosion and drainage management measures 78
12.4 Dust management measures 79
12.5 Waste management measures 79
12.6 Hazardous materials and dangerous goods management measures 80

13 PBTL RELOCATION PROCEDURE 82

14 DETAILED MONITORING AND REPORTING 90

15 IMPORTANT CONTACTS 92
15.1 PBTL Recovery Team 92

16 REFERENCES/BIBLIOGRAPHY 93

17 APPENDICES 97

Appendix 1. Initial Common Asset EPBC Act approval 97
Appendix 2. Letter from the Department 20/09/2022. 99
Appendix 3. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959). 101
Appendix 4. Permit T40145 106
Appendix 5. Risk assessment criteria and associated matrix. 109
Appendix 6. Risk assessment criteria and associated matrix for the risk assessment in Table 16. 111

Appendix 7. PBTL Relocation (including monitoring) Risk Assessment and Management. 112

List of Tables

Table 1. Current proposed stages and corresponding EPBC approvals for the Goyder South Project. 2
Table 2. Commitments to achieve the objectives of the PBTL Management Plan. 5
Table 3. Relevant conditions of approval attached to the EPBC approvals. 8
Table 4. PBTL activity throughout the year. 19
Table 5. Known and potential threats to the PBTL and associated impacts (adapted from Duffy *et al.* 2012). 19
Table 6. Likely and Potential PBTL habitat within the Stage 1A and Stage 1B Project Areas. 22
Table 7. PBTL observations within likely and potential habitat across Stage 1A and Stage 1B. 22
Table 8. Additional PBTL habitat found post EPBC Act approvals. 25
Table 9. Summary of potential impacts to PBTL habitat and PBTL individuals prior to EPBC Act approvals. 39
Table 10. Revised overall impact to PBTL habitat (including impacts to PBTL habitat pre- and post-EPBC Act approvals). 40
Table 11. Likely direct impacts and potential indirect impacts to PBTLs during construction and operation of the Goyder South Project. 41
Table 12. Risk assessment of potential impacts during construction. 45
Table 13. Risk assessment of potential impacts during operation. 46
Table 14. Management targets, performance indicators and triggers. 48
Table 15. Overview of roles and responsibilities associated with implementation of this Plan. 52
Table 16. Assessment of risks to achieving the PBTL Management Plan's environmental objectives and associated risk management strategies that will be applied. 54
Table 17. General construction management measures. 58
Table 18. Weed and pest management. 61
Table 19. Soil erosion and drainage management measures. 64
Table 20. Dust management. 67
Table 21. Noise and vibration management. 68
Table 22. Waste management. 69
Table 23. Hazardous materials and dangerous goods management. 70
Table 24. General operational management measures. 74
Table 25. Weed and pest management. 76
Table 26. Soil erosion and drainage management. 78
Table 27. Dust management. 79
Table 28. Waste management. 79
Table 29. Hazardous materials and dangerous goods management. 80
Table 30. PBTL relocation procedure. 83
Table 31. Detailed monitoring and reporting. 90
Table 32. Important contacts. 92
Table 33. Likelihood of risk occurring. 109

Table 34. Consequence of risk occurring. 109
Table 35. Risk assessment matrix. 109
Table 36. Management actions required for each risk rating. 110
Table 37. Likelihood of risk occurring. 111
Table 38. Consequence of risk occurring. 111
Table 39. Risk assessment matrix. 111
Table 40. Risk assessment of the PBTL relocation process, associated management / mitigation measures and residual risk rating. 112

List of Figures

Figure 1. Current proposed stages of the Goyder South Project. 3
Figure 2. A Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*). Photo by EBS Ecology. 16
Figure 3. A PBTL at the entrance of its burrow. 18
Figure 4. An adult and two juvenile PBTLs in a burrow. 18
Figure 5. Location of PBTLs and PBTL habitat (likely and potential) within Stage 1A and Stage 1B pre EPBC Act approval (refer to Figure 5 for more detail). 23
Figure 6. Location of PBTLs within Stage 1A and Stage 1B pre EPBC Act approval. Note that some PBTLs are now located outside of the Stage 1B Project Area boundary as the boundary has changed slightly since the EPBC referral. 24
Figure 7. Overview map of PBTLs and PBTL habitat within the broader Goyder South Project Area pre-EPBC Act approval and post-EPBC Act approval. Refer to the following figures for more detail. 26
Figure 8. PBTLs and PBTL habitat within Stage 1A pre-EPBC Act approval and post-EPBC Act approval. Refer to the following figures for more detail. 27
Figure 9. PBTLs and PBTL habitat found [redacted] in Stage 1A, post-EPBC Act approval. 28
Figure 10. PBTLs found at [redacted] in Stage 1A post-EPBC Act approval, within PBTL habitat identified pre-EPBC Act approval. 29
Figure 11. PBTLs and PBTL habitat within the Stage 1B Project Area pre-EPBC Act approval and post-EPBC Act approval. Refer to the following figure for more detail. 30
Figure 12. PBTLs and PBTL habitat within the Stage 1B Project Area pre-EPBC Act approval and post-EPBC Act approval (with PBTLs and PBTL habitat in the Common Asset Project Area, found post-EPBC Act approval also shown). 31
Figure 13. PBTLs and PBTL habitat found within the Common Asset (Substation and OTL) Project Area post-EPBC Act approval (with PBTLs and PBTL habitat found post-EPBC Act approval in the surrounding Stage 1B Project Area also shown). 32
Figure 14. Overview of buffers placed on WTGs, with individual PBTL records (Refer to Figure 15 for more detail). 34
Figure 15. Buffers placed on WTGs in Stage 1A, along with individual PBTL records and PBTL habitat (some of Stage 1B is also shown). Refer to the next figure for more detail. 35
Figure 16. PBTLs located in close proximity to WTGs in Stage 1A (with some in Stage 1B also shown). 36

Figure 17. Buffers placed on WTGs in Stage 1B, along with individual PBTL records and PBTL habitat (some of Stage 1A is also shown). Refer to the next figure for more detail. 37
Figure 18. PBTLs located in close proximity to WTGs in Stage 1B (with some in Stage 1A also shown). 38
Figure 19. Page 1 of the initial Common Asset EPBC Act approval. Refer to the following figure for relevant conditions of approval. 97
Figure 20. Page 2 of the initial Common Asset EPBC Act approval, where the PBTL Management Plan is not stated in the conditions of approval. 98
Figure 21. Letter from the Department 20/09/2022 (page 1 of 2). 99
Figure 22. Letter from the Department 20/09/2022 (page 2 of 2). 100
Figure 23. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 1). 101
Figure 24. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 2). 102
Figure 25. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 3). 103
Figure 26. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 4). 104
Figure 27. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 5). 105
Figure 28. Permit T40145 (Page 1 of 3). 106
Figure 29. Permit T40145 (Page 2 of 3). 107
Figure 30. Permit T40145 (Page 3 of 3). 108

1 INTRODUCTION

This *PBTL Management Plan* (Pygmy Blue-tongue Lizard Management Plan; this Plan) has been prepared for the Goyder South Hybrid Renewable Energy Facility (the Goyder South Project; the Project) to outline the likely and potential direct and indirect impacts to the PBTL (Pygmy Blue-tongue Lizard; *Tiliqua adelaidensis*) and their habitat during construction and operation, and the proposed management measures that will be implemented to avoid, minimise and/or mitigate them. It must be read and implemented in conjunction with the *Goyder South Wind Farm Construction Environmental Management Plan* (Succession Ecology, 2023a), which is referred to as the CEMP, as well as the *Flora and Fauna Management Plan* (Succession Ecology 2023b), the *Goyder South Hybrid Renewable Energy Facility PBTL Translocation Plan* (EBS Ecology 2022) and the *Goyder South Hybrid Renewable Energy Facility PBTL Offset Management Plan* (EBS Ecology 2023).

Furthermore, and in accordance with specific conditions of approval associated with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approvals obtained for the Project from the Department of Climate Change, Energy, the Environment and Water (DCCEEW; the Department), this PBTL Management Plan is required to be implemented for the duration of each EPBC Act approval. More information on the EPBC Act approvals obtained for the Project is provided in the following section, while more information on the specific conditions of approval associated with each EPBC Act approval is provided in Section 3.

1.1 Background

NEOEN Australia Pty Ltd (NEOEN) is developing the Goyder South Project between Burra and Robertstown in the Mid North of South Australia (SA). The Project combines wind, solar and energy storage in one integrated project and will be capable of delivering a steady, reliable, dispatchable output of power throughout the day and night. The Goyder South Project will generate more than 4,800,000 MWh of power annually and is comprised of:

- A wind farm of up to 163 turbines with a capacity of up to 1200 Megawatts (MW), a maximum hub height of 121 metres (m), a maximum blade length of 78 m and an overall maximum height (tip height) of 199 m;
- A solar farm (across two sites) of up to 3000 hectares (ha) of solar panels with a capacity of up to 600 MW;
- An energy storage facility (lithium-ion battery) with a capacity of up to 900 MW / 1,800 MWh (2 hours);
- Associated infrastructure for connection to the electricity grid including three substations, access tracks, underground connection cabling and overhead transmission lines;
- Permanent operations and maintenance compounds;
- Temporary construction compounds for both wind and solar components, including concrete batching plants; and
- A number of meteorological masts (in addition to those already on the site) to record wind speed and other meteorological data, both pre- and post- construction.

As the Goyder South Project will total up to $3 billion in investment, NEOEN propose to implement the Project in stages, with each stage having its own legal entity, construction contracts and financing packages. An overview of each stage currently proposed for development, along with the corresponding EPBC Act approvals sought and obtained is outlined in Table 1. Note that a variation to the conditions attached to the EPBC Act approval obtained for the Common Asset (Overhead Transmission Line (OTL) and Substation) was received, as outlined in Table 1.

Table 1. Current proposed stages and corresponding EPBC approvals for the Goyder South Project.

Project stage / Proposed Action	Legal entity	EPBC Referral Reference	EPBC Referral Decision	Date EPBC Approval Received	Approval expiry date
Stage 1A (38 WTGs and associated infrastructure)	Goyder Wind Farm 1A Pty Ltd	2021/8958	Controlled Action	5/07/2022	31/12/2057
Stage 1B (37 WTGs and associated infrastructure)	Goyder Wind Farm 1B Pty Ltd	2021/8957	Controlled Action	15/08/2022	31/12/2057
Common Asset (OTL and Substation)	Goyder Wind Farm Common Asset Pty Ltd	2021/8959	Controlled Action	22/08/2022	31/12/2057
			Variation of conditions attached to approval	Variation received 19/12/2022	(31/12/2057)
Battery	NEOEN Australia Pty Ltd	2021/8960	Not a Controlled Action	N/A	N/A

Each of the currently proposed stages of the Project are shown in Figure 1. Other components of the Goyder South Project, including the remaining wind farm areas, the two solar farms, overhead transmission lines and substations are considered to be potential future stages as they are not currently commercially viable and there is currently no immediate prospect of these components/stages proceeding to construction.

PBTLs and PBTL habitat will be impacted by the Stage 1A, Stage 1B and Common Asset components of the Project. As such, this PBTL Management Plan has been prepared for these components to outline the likely and potential direct and indirect impacts to PBTLs and PBTL habitat during construction and operation, and the proposed management measures that will be implemented to avoid, minimise and/or mitigate them.

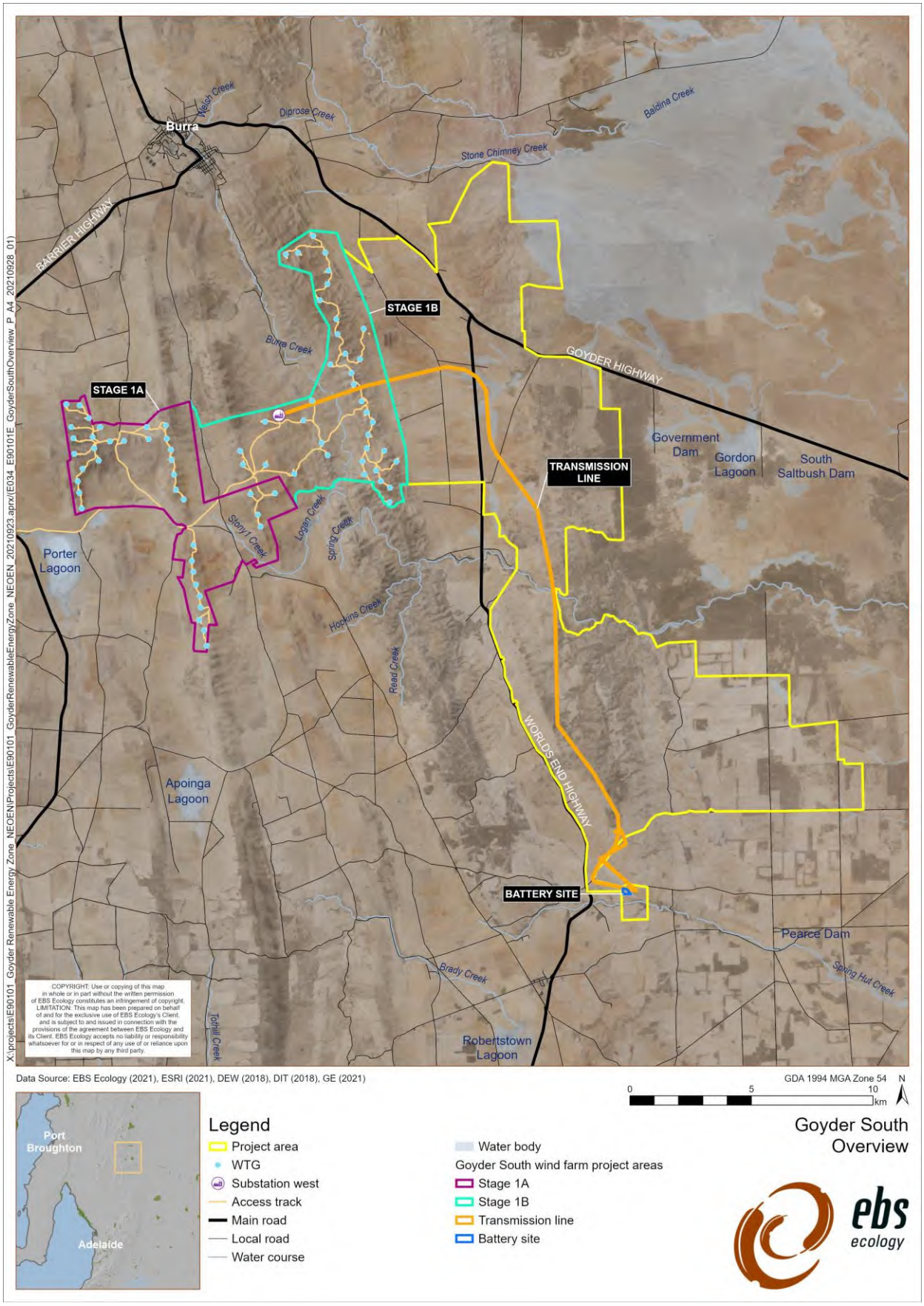


Figure 1. Current proposed stages of the Goyder South Project.

1.1.1 Previous reports

The following reports and documentation should be referred to for important background and supporting information:

- *Goyder South Hybrid Renewable Energy Facility Flora and Fauna Assessment* (EBS Ecology 2020);
- *Goyder – Pygmy Bluetongue Lizard Survey March 2021* (EBS Ecology 2021a);
- EPBC Act referral: *2021/8958 – Goyder South Hybrid Renewable Energy Facility – Wind Farm 1A, 10km south Burra SA* (EBS Ecology 2021b);
- EPBC Act referral: *2021/8957 – Goyder South Hybrid Renewable Energy Facility – Wind Farm 1B, 5km south Burra SA* (EBS Ecology 2021c);
- EPBC Act referral: *2021/8959 - Goyder South Hybrid Renewable Energy Facility – OTL and Substation, Worlds End SA* (EBS Ecology 2021d);
- *Goyder South Hybrid Renewable Energy Facility: Stage 1A Preliminary Documentation (EPBC 2021/8958)* (EBS Ecology 2022a);
- *Goyder South Hybrid Renewable Energy Facility: Stage 1B Preliminary Documentation (EPBC 2021/8957)* (EBS Ecology 2022b);
- *Goyder South Hybrid Renewable Energy Facility: Overhead Transmission Line and Substation West Preliminary Documentation (EPBC 2021/8959)* (EBS Ecology 2022c);
- *Goyder Wind Farm Construction Environmental Management Plan* (Succession Ecology 2023a);
- *Flora and Fauna Management Plan: Goyder South Hybrid Renewable Energy Facility Sub-Stage A: Windfarm Stages 1A and 1B* (Succession Ecology 2023b);
- *Goyder South Hybrid Renewable Energy Facility PBTL Translocation Plan* (EBS Ecology 2022d).

1.2 Objectives

The objectives of this PBTL Management Plan are to:

- Outline and address the specific conditions of approval associated with each EPBC Act approval, that are relevant to the PBTL;
- Provide profile information on the PBTL;
- Provide information on the location of PBTLs within the Goyder South Project Area;
- Avoid and minimise impacts to PBTL individuals and their habitat during construction and operation phases of the Goyder South Project;
- Ensure that there is no disturbance to PBTL habitat outside of the infrastructure footprint;
- Ensure that micro-siting does not result in additional disturbance to PBTL habitat; and
- Provide a procedure for relocating PBTLs, including monitoring post relocation.

NEOEN is committed to implementing this PBTL Management Plan during construction and operation, for the duration of the EPBC Act approvals. A table of commitments to achieve the above objectives and a reference to where the commitments are detailed in this PBTL Management Plan is provided in Table 2.

NEOEN will not commence operation unless this PBTL Management Plan has been approved by the Australian Government Minister administering the EPBC Act, in writing.

Table 2. Commitments to achieve the objectives of the PBTL Management Plan.

Objectives	Commitment	Reference (linked)
Outline and address the specific conditions of approval associated with each EPBC Act approval, that are relevant to the PBTL.	NEOEN is committed to complying with the specific conditions of approval associated with each EPBC Act approval.	Table 3 (in Section 3)
Provide profile information on the PBTL.	Profile information on the PBTL is provided in this PBTL Management Plan.	Section 4
Provide information on the location of PBTLs within the Goyder South Project Area.	This PBTL Management Plan has been revised to include new information on the location of PBTLs found within the Goyder South Project Area post-EPBC Act approvals (as well as PBTLs found pre-EPBC Act approvals).	Section 4.4
Avoid and minimise impacts to PBTL individuals and their habitat during construction and operation phases of the Goyder South Project.	NEOEN is committed to avoiding and minimising impacts to PBTL individuals and their habitat during construction and operation phases of the Goyder South Project	Section 5.1
Ensure that there is no disturbance to PBTL habitat outside of the infrastructure footprint.	NEOEN is committed to ensuring that there is no disturbance to PBTL habitat outside of the infrastructure footprint via implementation of this PBTL Management Plan, including specific management targets, performance indicators and triggers, construction and operation management measures.	Section 7; Section 11; Section 12
Ensure that micro-siting does not result in additional disturbance to PBTL habitat.	Infrastructure will not be micro-sited if it does not result in a reduction of potential impacts to PBTLs and PBTL habitat and NEOEN commits that micro-siting will not increase impacts to PBTL and/or PBTL habitat.	Section 5.1
Provide a procedure for relocating PBTLs, including monitoring post relocation.	NEOEN is committed to implementing the PBTL relocation procedure, including monitoring post relocation, which is provided in this PBTL Management Plan.	Section 13; Section 14

2 PBTL MANAGEMENT PLAN REVISION (AUGUST 2023)

This PBTL Management Plan has been revised to include specific conditions associated with the approvals obtained in accordance with the *Environment Protection and Biodiversity Protection Act 1999* (EPBC Act) for the Project to impact on PBTLs and PBTL habitat. The specific conditions associated with the EPBC Act approvals, relevant to this PBTL Management Plan, are presented in Table 3 in Section 3.

Understanding of PBTL occurrence and habitat within the Goyder South Project Area has evolved significantly over time, particularly after EPBC Act approvals were received and more detailed and targeted pre-clearance check (PCC) surveys and micro-siting surveys were undertaken.

PCC surveys of the proposed infrastructure footprint have been undertaken on site, prior to the commencement of ground disturbance works. In accordance with the environmental management measures outlined in the Project's CEMP, Flora and Fauna Management Plan and this PBTL Management Plan, all areas required for construction of project infrastructure, including areas required temporarily during construction, are subject to a PCC survey prior to the commencement of any ground disturbance works, such as vegetation removal, topsoil stripping, excavation and other earthworks, During PCC surveys, additional PBTLs and PBTL habitat have been found in areas that were not previously identified or mapped as PBTL habitat. Furthermore, some additional PBTLs have been found in areas that had previously been identified and mapped as PBTL habitat, but where individual PBTL records had not yet been recorded.

Similarly, in accordance with the environmental management measures outlined in the Project's CEMP, Flora and Fauna Management Plan and this PBTL Management Plan, infrastructure which will impact upon PBTLs and PBTL habitat, will be micro-sited (i.e., shifted and/or adjusted slightly) away from PBTLs, wherever possible, to avoid and/or minimise direct impacts to PBTLs and PBTL habitat, as much as possible. As such, when PBTLs have been located within the proposed infrastructure footprint during PCC survey, additional surveys for PBTLs (i.e., micro-siting surveys) have been undertaken within the adjacent areas to determine if the proposed infrastructure footprint could be micro-sited away from the PBTLs. During micro-siting surveys, additional PBTLs and PBTL habitat have also been found in areas that were not previously identified and mapped as PBTL habitat. Furthermore, some additional PBTLs have been found in areas that had previously been identified and mapped as PBTL habitat, but where individual PBTL records have not yet been recorded.

As such, this PBTL Management Plan has been revised to include the additional PBTLs and PBTL habitat found during PCC and micro-siting surveys and to ensure that likely and potential direct and indirect impacts to the PBTLs and PBTL habitat during construction and operation of the Project are avoided, minimised and mitigated as much as possible. In particular, Section 4.4 has been revised to include information on the additional PBTLs and PBTL habitat found, and Section 5.2 has also been revised to include impacts to the additional PBTLs and PBTL habitat found during PCC and micro-siting surveys.

3 COMPLIANCE

This PBTL Management Plan has been prepared by EBS Ecology in accordance with the following relevant pieces of legislation, policies and guidelines:

- **Commonwealth**
  - *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
    - A previous version of this PBTL Management Plan *(version 3, dated 28 June 2022)* was submitted to the Department as an attachment to the Preliminary Documentation for the Stage 1A and Stage 1B EPBC Referrals (2021/8958; 2021/8957) which were subsequently approved on 5 July 2022 and 28 July 2022, respectfully (Table 1).
    - This PBTL Management Plan has been updated (to version 4) to include relevant conditions associated with the EPBC Act approvals, which are provided in Table 3 on the following page.
  - *Recovery Plan for the Pygmy Blue-tongue Lizard* (Duffy *et al*. 2012; herein referred to as the PBTL Recovery Plan)
  - *Pygmy Bluetongue Lizards: Best Practice Management Guidelines for Landholders* (Schofield 2006)
  - *Environmental Management Plan Guidelines, Commonwealth of Australia* (DotE 2014)
- **State**
  - *Planning, Development and Infrastructure Act 2016* (PDI Act)
  - Development Approval granted for application ID: 5332; Application number: 422/V009/20 on 3 March 2021.
  - *National Parks and Wildlife Act 1972* (NPW Act)
    - A number of Permits are required (refer to Section 9 for more detail).
  - *Animal Welfare Act 1985*
- **Local**
  - There are no relevant local policies, legislation, guidelines and approval conditions as of November 2021.

Table 3. Relevant conditions of approval attached to the EPBC approvals.

Stage 1A (2021/8958)	Comment / Reference	Stage 1B (2021/8957)	Comment / Reference	Common Asset (OTL and Substation) (2021/8959) (Variation)	Comment / Reference
Construction/clearance limits		**Construction/clearance limits**		**Impact limits**	
1. To minimise **impacts** to **protected matters**, the approval holder must not: c. **clear** more than 8.04 ha of **Pygmy Blue-tongue Lizard habitat** within the **project area**;	Table 9; Table 10	1. To minimise **impacts** to **protected matters**, the approval holder must not: c) **clear** more than 2.61 ha of **Pygmy Blue-tongue Lizard habitat** within the **project area**;	Table 9; Table 10	1. The approval holder must not: ab) clear more than 3.88 ha of **Pygmy Blue-tongue Lizard habitat** within the **project area**; ac) translocate and/or relocate or otherwise **impact** more than 60 **Pygmy Blue-tongue Lizards**;	Table 10; Section 13
Environmental Management Plans		**Environmental Management Plans**		**Environmental Management Plans**	
2. To minimise **impacts** to **protected matters** during the **construction** and **operation** of the wind farm, the approval holder must implement the Construction Environmental Management Plan (CEMP) as required under condition 9 of the **SA development approval**.	Section 2; Section 10	2. To minimise **impacts** to **protected matters** during **construction** and **operation**, the approval holder must implement the **CEMP**.	Section 2; Section 10	2. To minimise **impacts** to **protected matters** during **construction** and **operation**, the approval holder must implement the **CEMP**.	Section 2; Section 10
3. For the protection of the **Pygmy Blue-tongue Lizard**, the approval holder must implement the **PBTL Management Plan** for the duration of this approval.	This document	3. For the protection of the **Pygmy Blue-tongue Lizard**, the approval holder must implement the **PBTL Management Plan** for the duration of this approval.	This document	3A) The approval holder must submit a PBTL Management Plan for the **Minister's** approval. If the **Minister** approves the PBTL Management Plan, then the approval holder must implement the PBTL Management Plan approved by the **Minister**.	This document
				3B) The approval holder must not **commence operation** unless the PBTL Management Plan has been approved by the **Minister** in writing.	Section 1.2
				3C) The implementation of the PBTL Management Plan must achieve the following environmental objectives:	
				a) avoid, mitigate and rehabilitate impacts of the action on pygmy blue-tongue lizard and pygmy blue-tongue lizard habitat; and	Section 1.2 and Section 5.1
				b) impacts of the Action to Pygmy Blue-tongue Lizard and Pygmy Blue-tongue Lizard habitat do not exceed those specified at condition 1 of this approval.	Table 10 in Section 5

Stage 1A (2021/8958)	Comment / Reference	Stage 1B (2021/8957)	Comment / Reference	Common Asset (OTL and Substation) (2021/8959) (Variation)	Comment / Reference
				3D) The PBTL Management Plan must be consistent with the **Environmental Management Plan Guidelines**, and must include:	Section 3
				a) details of the relevant **EPBC Act protected matter/s** and a reference to **EPBC Act** approval conditions to which the plan refers.	Section 4 and this table.
				b) a table of commitments made in the plan to achieve the environmental objectives, and a reference to exactly where these commitments are detailed in the plan.	Table 2
				c) commitments capable of ensuring that the environmental objectives are achieved, including details of the methods for planning, undertaking and monitoring the outcomes of any proposed relocation and/or translocation of **Pygmy Blue-tongue Lizards**, which must be consistent with the South Australian government Permit to Take Protected Animals from the Wild and Release Protected Animals to the Wild for conservation purposes (Permit number: T40145).	Section 13; Section 14
				d) reporting and review mechanisms to demonstrate compliance with the commitments made in the plan.	Section 14; Section 10.4
				e) an assessment of risks relating to achieving the environmental objectives and risk management strategies and/or mitigation measures that will be applied to address identified risks.	Section 10.3
				f) impact avoidance, mitigation and/or repair measures, and the timing of those measures.	Section 5; Section 11; Section 12
				g) a monitoring program, which must include: i) measurable performance indicators ii) trigger values for corrective actions iii) the timing and frequency of monitoring, ensuring monitoring is capable of	Section 14

Stage 1A (2021/8958)	Comment / Reference	Stage 1B (2021/8957)	Comment / Reference	Common Asset (OTL and Substation) (2021/8959) (Variation)	Comment / Reference
				detecting trigger values and changes in the performance indicators; and iv) proposed corrective actions if trigger values are reached.	
Submission and publication of plans		**Submission and publication of plans**		**Submission and publication of plans**	
15. The approval holder must: a. submit **plans** electronically to the **Department** for approval by the **Minister**; b. unless otherwise agreed to in writing by the **Minister**, publish each **plan** on the **website** within 20 **business days** of the date: i. of this approval decision if the version of the **plan** to be implemented is specified in these conditions; ii. the **plan** is approved by the **Minister** if these conditions require that the **plan** be approved by the **Minister**; or; iii. the **plan** is approved by a responsible State minister of State authority if the **plan** is required as part of the **SA development approval**; iv. a revised action management plan is submitted to the **Minister** or the **Department** if the **plan** is submitted in accordance with condition 23; c. exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public; and d. keep **plans** published on the **website** until the end date of this approval.	Section 10.5	13. The approval holder must: a. submit **plans** electronically to the **Department** for approval by the **Minister**; b. unless otherwise agreed to in writing by the **Minister**, publish each **plan** on the **website** within 20 **business days** of the date: i. of this approval decision if the version of the **plan** to be implemented is specified in these conditions; or ii. the **plan** is approved by the **Minister** if these conditions require that the **plan** be approved by the **Minister**; or; iii. the **plan** is approved by a responsible State minister of State authority if the **plan** is required as part of the **SA development approval**; iv. a revised action management plan is submitted to the **Minister** or the **Department** if the **plan** is submitted in accordance with condition 23; c. exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public; and d. keep **plans** published on the **website** until the end date of this approval.	Section 10.5	11. The approval holder must: a. submit **plans** electronically to the **Department** for approval by the **Minister**; b. unless otherwise agreed to in writing by the **Minister**, publish each **plan** on the **website** within 20 **business days** of the date: i. of this approval decision if the version of the plan to be implemented is specified in these conditions; or ii. the **plan** is approved by the **Minister** if these conditions require that the **plan** be approved by the **Minister**; or iii. the **plan** is approved by the responsible State minister or State authority if the **plan** is required as part of the **SA development approval**. iv. a revised action management plan is submitted to the **Minister** or the **Department** if the **plan** is submitted in accordance with condition 23; c. exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public; and d. keep **plans** published on the **website** until the end date of this approval.	Section 10.5

Stage 1A (2021/8958)	Comment / Reference	Stage 1B (2021/8957)	Comment / Reference	Common Asset (OTL and Substation) (2021/8959) (Variation)	Comment / Reference
16. The approval holder must ensure that any **monitoring data** (**including sensitive ecological data**), surveys, maps, and other spatial and metadata required under a **plan** is prepared in accordance with the *Guidelines for biological survey and mapped data*, Commonwealth of Australia (2018), and submitted electronically to the **Department** in accordance with the requirements of the **plan**.	Section 14	14. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under a **plan** is prepared in accordance with the **Guidelines for biological survey and mapped data**, Commonwealth of Australia (2018), and submitted electronically to the **Department** in accordance with the requirements of the **plan**.	Section 14	12. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under a **plan** is prepared in accordance with the **Guidelines for Biological Survey and Mapped Data**, and submitted electronically to the **Department** in accordance with the requirements of the **plan**.	Section 14
Revision of action management plans		**Revision of action management plans**		**Revision of action management plans**	
23. The approval holder may, at any time, apply to the **Minister** for a variation to an action management plan approved by the **Minister** or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the **EPBC Act**. If the **Minister** approves a revised action management plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.	Section 10.5	21. The approval holder may, at any time, apply to the **Minister** for a variation to an action management plan approved by the **Minister** or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the **EPBC Act**. If the **Minister** approves a revised action management plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.	Section 10.5	19. The approval holder may, at any time, apply to the **Minister** for a variation to an action management plan approved by the **Minister** or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the **EPBC Act**. If the **Minister** approves a revised action management plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.	Section 10.5
24. The approval holder may choose to revise an action management plan approved by the **Minister** under conditions 3 and 4, or as subsequently revised in accordance with these conditions, without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the RAMP would not be likely to have a **new or increased impact**.	Section 10.5	22. The approval holder may choose to revise the action management plan approved by the **Minister** under condition 3, or as subsequently revised in accordance with these conditions, without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the RAMP would not be likely to have a **new or increased impact**.	Section 10.5	20. The approval holder may choose to revise the action management plan approved by the **Minister** under condition 3, or as subsequently revised in accordance with these conditions, without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the RAMP would not be likely to have a **new or increased impact**.	Section 10.5

Stage 1A (2021/8958)	Comment / Reference	Stage 1B (2021/8957)	Comment / Reference	Common Asset (OTL and Substation) (2021/8959) (Variation)	Comment / Reference
25. If the approval holder makes the choice under condition 24 to revise an action management plan without submitting it for approval, the approval holder must: a. notify the **Department** in writing that the approved action management plan has been revised and provide the **Department** with: i. an electronic copy of the RAMP; ii. an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP; iii. an explanation of the differences between the approved action management plan and the RAMP; iv. the reasons the approval holder considers that taking the action in accordance with the RAMP would not be likely to have a **new or increased impact**; and v. written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 **business days** after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the **Department**. b. subject to condition 27, implement the RAMP from the RAMP implementation date.	Section 10.5	23. If the approval holder makes the choice under condition 22 to revise an action management plan without submitting it for approval, the approval holder must: a. notify the **Department** in writing that the approved action management plan has been revised and provide the **Department** with: i. an electronic copy of the RAMP; ii. an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP; iii. an explanation of the differences between the approved action management plan and the RAMP; iv. the reasons the approval holder considers that taking the action in accordance with the RAMP would not be likely to have a **new or increased impact**; and v. written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 **business days** after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the **Department**. b. subject to condition 25, implement the RAMP from the RAMP implementation date.	Section 10.5	21. If the approval holder makes the choice under condition 20 to revise an action management plan without submitting it for approval, the approval holder must: a. notify the **Department** in writing that the approved action management plan has been revised and provide the **Department** with: i. an electronic copy of the RAMP; ii. an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP; iii. an explanation of the differences between the approved action management plan and the RAMP; iv. the reasons the approval holder considers that taking the action in accordance with the RAMP would not be likely to have a **new or increased impact**; and v. written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 **business days** after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the **Department**. b. subject to condition 23, implement the RAMP from the RAMP implementation date.	Section 10.5

Stage 1A (2021/8958)	Comment / Reference	Stage 1B (2021/8957)	Comment / Reference	Common Asset (OTL and Substation) (2021/8959) (Variation)	Comment / Reference
26. The approval holder may revoke their choice to implement a RAMP under condition 24 at any time by giving written notice to the Department. If the approval holder revokes the choice under condition 24, the approval holder must implement the action management plan in force immediately prior to the revision undertaken under condition 24.	Noted	24. The approval holder may revoke their choice to implement a RAMP under condition 22 at any time by giving written notice to the **Department**. If the approval holder revokes the choice under condition 22, the approval holder must implement the action management plan in force immediately prior to the revision undertaken under condition 22.	Noted	22. The approval holder may revoke their choice to implement a RAMP under condition 20 at any time by giving written notice to the **Department**. If the approval holder revokes the choice under condition 20, the approval holder must implement the action management plan in force immediately prior to the revision undertaken under condition 20.	Noted
27. If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the RAMP would be likely to have a new or increased impact, then: a. condition 24 does not apply, or ceases to apply, in relation to the RAMP; and b. the approval holder must implement the action management plan specified by the **Minister** in the notice.	Noted	25. If the **Minister** gives a notice to the approval holder that the **Minister** is satisfied that the taking of the action in accordance with the RAMP would be likely to have a **new or increased impact**, then: a. condition 22 does not apply, or ceases to apply, in relation to the RAMP; and b. the approval holder must implement the action management plan specified by the **Minister** in the notice.	Noted	23. If the **Minister** gives a notice to the approval holder that the **Minister** is satisfied that the taking of the action in accordance with the RAMP would be likely to have a **new or increased impact**, then: a. condition 20 does not apply, or ceases to apply, in relation to the RAMP; and b. the approval holder must implement the action management plan specified by the **Minister** in the notice.	Noted
28. At the time of giving the notice under condition 27, the Minister may also notify that for a specified period of time, condition 24 does not apply for one or more specified action management plans.	Noted	26. At the time of giving the notice under condition 25, the **Minister** may also notify that for a specified period of time, condition 22 does not apply for one or more specified action management plans.	Noted	24. At the time of giving the notice under condition 23, the **Minister** may also notify that for a specified period of time, condition 20 does not apply for one or more specified action management plans.	Noted
Note: conditions 24, 25, 26 and 27 are not intended to limit the operation of section 143A of the **EPBC Act** which allows the approval holder to submit a revised action management plan, at any time, to the **Minister** for approval.	Noted	**Note:** conditions 22, 23, 24 and 25 are not intended to limit the operation of section 143A of the **EPBC Act** which allows the approval holder to submit a revised action management plan, at any time, to the **Minister** for approval.	Noted	**Note:** conditions 20, 21, 22 and 23 are not intended to limit the operation of section 143A of the **EPBC Act** which allows the approval holder to submit a revised action management plan, at any time, to the **Minister** for approval.	Noted

3.1 Management of compliance with relevant conditions associated with the EPBC Act approvals

The Stage 1A and Stage 1B EPBC Act approvals include a ***Condition of Approval*** that the ***PBTL Management Plan*** be implemented for Stage 1A and Stage 1B. However, the initial Common Asset EPBC Act approval (Appendix 1) did not include a ***Condition of Approval*** that the ***PBTL Management Plan*** be implemented for the Common Asset, as PBTLs and PBTL habitat were not known to occur within the Common Asset Project Area at the time of EPBC Act referral, and as such, the ***PBTL Management Plan*** was not applicable to the Common Asset at that time.

This ***PBTL Management Plan*** outlines a process where any additional PBTLs or PBTL habitat that is found is designated as PBTL habitat, and management measures outlined in the Plan are implemented. For example, Table 14 in Section 7 of this ***PBTL Management Plan*** outlines management targets, performance indicators and triggers, including the following trigger:

- "*Discovery of PBTL individual or population (outside of previously observed areas).*"

Section 8 of this ***PBTL Management Plan*** outlines response measures and corrective actions in the event that one of the triggers in Section 7 occurs, including a process where:

> "*If live PBTL individuals or populations are discovered (in areas not previously identified as PBTL habitat), the following actions are to be taken:*
>
> - *All works will cease in the immediate vicinity until an appropriately qualified ecologist provides advice and relocates PBTLs if necessary;*
> - *The area is designated as PBTL habitat and the management measures outlined in Section 11 and Section 12 are to be implemented;*"

As outlined previously, additional PBTLs and PBTL habitat have been found during PCC surveys and micro-siting surveys, in areas that were not previously identified or mapped as PBTL habitat. Additional PBTLs and PBTL habitat have been found within Stage 1A, Stage 1B and the Common Asset Project Areas of the Goyder South Project. As such, the *discovery of PBTL individual or population (outside of previously observed areas)* trigger was reached, and the abovementioned associated response measures and corrective actions process outlined in Section 8 has been implemented.

Although the initial Common Asset EPBC Act approval did not include a ***Condition of Approval*** that the ***PBTL Management Plan*** be implemented for the Common Asset, the ***PBTL Management Plan*** was implemented for the Common Asset immediately upon discovery of PBTLs within the Common Asset Project Area. As the PBTLs were found during PCC surveys, no construction works had been undertaken yet and the area where the PBTLs were found was designated as PBTL habitat. Additional survey for PBTLs was undertaken within and adjacent to the proposed infrastructure footprint to further understand the extent of their occurrence, micro-siting options and likely impacts.

Furthermore, Neoen consulted with the Department regarding the additional PBTLs and PBTL habitat discovered within Stage 1A, Stage 1B and the Common Asset Project Areas, and compliance with the EPBC Act approvals, meeting with representatives from the Department on multiple occasions, including

18/08/2022, 7/09/2022, 8/09/2022 and 16/09/2022. A Letter from the Department is provided in Appendix 2 for reference.

As the initial Common Asset EPBC Act approval prevented impact to PBTLs and PBTL habitat, and did not include a ***Condition of Approval*** that the ***PBTL Management Plan*** be implemented, a variation to the Common Asset EPBC Act approval was sought and obtained (dated 19 December 2022; refer to Appendix 3). The Common Asset EPBC Act approval *Variation* includes ***Conditions of Approval*** which:

- Allow for clearance of up to **3.88 ha** of PBTL Habitat (within the OTL and Substation Project Area)
- Allow for translocation and/or relocation of up to 60 PBTLs
- Require impact/clearance of up to 3.88 ha of PBTL Habitat to be Offset (for example, via inclusion in the PBTL Offset Area)
- Require implementation of the ***PBTL Management Plan***.

After consultation, meetings and correspondence from the Department (Appendix 2), it is EBS' and Neoen's understanding that impact to the *additional* PBTLs and PBTL habitat discovered in the Stage 1A and Stage 1B Project Areas, ***does not*** require a *Variation* to the Stage 1A or Stage 1B EPBC Act approvals to include the additional PBTLs and PBTL habitat discovered with the PBTL habitat defined in the approvals; or to increase the clearing limit, as impact to *additional* PBTLs and PBTL habitat discovered is covered by the process outlined in the ***PBTL Management Plan*** (which was reviewed and accepted by DCCEEW during the EPBC Act referral and assessment process). As such, no variation to the Stage 1A and Stage 1B EPBC Act approvals has been, or will be, sought.

4 PBTL PROFILE

4.1 Conservation status

The PBTL (Figure 2) is listed as Endangered under the EPBC Act and Endangered under the NPW Act. These classifications are consistent with the International Union for Conservation of Nature (IUCN) (2001) criteria for listing species on the IUCN Red List System (Duffy *et al.* 2012).

Figure 2. A Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*). Photo by EBS Ecology.

4.2 Ecology and biology

4.2.1 Description

The PBTL is the smallest member of the genus *Tiliqua*, which consists of seven terrestrial lizard species commonly known as Bluetongues. The PBTL is a moderate sized skink that has a total length of less than 20 cm and a relatively heavy body, large head and short limbs. Its body colour varies from grey brown to orange brown and may include a series of black flecks along the back and flanks. The distinct orange coloured eye and black pupil are other distinguishing features of the species. Unlike other members of its genus, the PBTL has a pink tongue (Hutchinson *et al.* 1994; Duffy *et al.* 2012).

4.2.2 Historical and current distribution

The PBTL is endemic to South Australia, where its population is severely fragmented and occupies less than 500 square km (Duffy *et al.* 2012). The PBTL is now known from 31 sites extending from Peterborough in the north to Kapunda in the south, and to the South Hummocks (north of Port Wakefield) in the west (Duffy *et al.* 2012). The full extent of most populations is yet to be determined. Therefore, it is possible that

some apparently isolated populations may occur within larger, more contiguous populations (Schofield 2007).

Very little information exists on the past distribution of the species. The relative abundance of PBTL in European collections of specimens in the 19th century suggests that the species was formerly more common and has undergone a marked decrease in distribution (Shea 1992).

4.2.3 Habitat

PBTLs are known to occupy native grassland habitats. Even highly degraded grasslands (dominated by exotic species) are potential habitat, providing that the area is un-ploughed, and the soil structure remains intact (Milne 1999). The species has been recorded at sites dominated by species including *Austrostipa* spp. (Spear-grasses), *Rytidosperma* spp. (Wallaby Grasses), *Maireana* spp. (Bluebush), *Aristida behriana* (Brush Wire-grass) and *Lomandra* spp. (Iron-grasses) (Hutchinson *et al.* 1994, Souter *et al.* 2007). All known habitat is considered critical to the survival of the species (Duffy *et al.* 2012).

4.2.4 Populations

The total population size of the PBTL is uncertain. Prior to 2000, the population was estimated to be around 5,000 lizards, based on 10 known populations (Milne *et al.* 2000). Since this time, there are now 31 known PBTL populations (Duffy *et al.* 2012). Suitable habitats are largely on private land, and historically may have been under-surveyed due to access considerations. All PBTL populations are considered important due to the restricted and fragmented distribution of the species (Duffy *et al.* 2012).

More recently, due to the PBTL Recovery Plan efforts, university studies and proposed wind farm flora and fauna assessments, surveys of PBTLs have increased. Despite this, overall population size is hard to estimate due to natural fluctuations (due to a number of factors such as climatic conditions (including drought), habitat conditions, food availability and breeding opportunities).

4.2.5 Behaviour

PBTLs use unoccupied burrows of trapdoor (Mygalomorphae) and wolf (Lycosidae) spiders as refuges, basking sites and ambush points (Milne, Bull & Hutchinson 2003). The burrow entrances are circular in cross section, up to 20 millimetres (mm) in diameter, and lack any sign of excavated soil at the entrances (Hutchinson *et al.* 1994). The average depth of burrows is approximately 25 centimetres (cm), ranging from 10 to 75 cm (Souter *et al*. 2007).

PBTLs make no obvious external modifications to the burrows, except for a slight bevelling of the edges caused by their movement in and out of the burrows (Hutchinson *et al.* 1994). Burrow entrances are used as vantage points from which PBTLs are able to make short forays after any prey detected nearby. PBTLs are extremely sensitive to both movement and noise, retreating to their burrow if disturbed. They may deposit scats near the perimeter of the burrow entrance (Fenner & Bull 2010). Only one adult PBTL is found in each active burrow and individuals may utilise the same burrow for extended periods of time, with one study observing burrows occupied by the same individual for at least a two-year period (Bull *et al.* 2015).

Figure 3. A PBTL at the entrance of its burrow.

Figure 4. An adult and two juvenile PBTLs in a burrow.

4.2.6 Diet

PBTLs are omnivorous, mostly feeding on medium-sized arthropods that they ambush from their burrow (Hutchinson *et al.* 1994). Analyses of scats and stomach contents have recorded the remains of grasshoppers, ants, small spiders, beetles, snails, cockroaches and plant material (including *Dianella* spp. seed, possible chenopod material, and several leaves and flowers of introduced *Medicago* spp.) (Ehmann 1982; Hutchinson *et al.* 1994; Milne 1999; Fenner *et al.* 2007). PBTLs have been found to change their prey items opportunistically over spring and summer, with plant material incorporated in the diet to a greater extent as summer progresses (Fenner *et al.* 2007). Based on these dietary studies, it is likely that PBTLs require a high abundance of arthropod prey, habitat where efficient prey capture is possible, and particular plant species which form part of their diet (Fenner *et al.* 2007).

4.2.7 Reproduction

The PBTL has a spring mating season (October and November) (Milne and Bull 2000) and bears live young, like the other *Tiliqua* species. Males can reproduce from one year of age and females are sexually mature from approximately three years of age, and can have up to four young each season. Young are born between January and March, and disperse from the mother's burrow within weeks of their birth to find burrows of their own (Clarke 2000; Duffy *et al.* 2012; Milne and Bull 2000).

4.2.8 Activity timeframes

PBTL activity varies significantly throughout the year and is summarised in Table 4 (on the following page) and explained further below. Optimal and sub-optimal timeframes for monitoring PBTLs, as well as the timeframe to avoid monitoring PBTLs, are also presented in Table 4 and explained further below.

Table 4. PBTL activity throughout the year.

PBTL activity	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mating season												
Females heavily gravid												
Females with young												
Neonate dispersal												
Winter brumation												

The PBTL mating season is October to November. Females are heavily gravid (pregnant) in January and have young with them in their burrows from mid-January to mid-March. Neonate dispersal occurs in February and March. PBTLs go into brumation (a state of torpor exhibited by reptiles) over winter (June to August).

Males are more active during the mating season, moving away from their burrows to seek female mating partners (Schofield *et al.* 2012). Neonates and females are more active during late summer (February and March) as they disperse, with females shifting burrows if neonates do not leave the maternal burrow.

4.3 Known and/or potential threats

The PBTL Recovery Plan (Duffy *et al.* 2012) documents known and potential threats to the PBTL, along with known and/or potential impacts, which are summarised in Table 5. Note that not all threats documented in the PBTL Recovery Plan are necessarily relevant to the Goyder South Project.

Table 5. Known and potential threats to the PBTL and associated impacts (adapted from Duffy *et al.* 2012).

Known and/or potential threat	Known and/or potential impact
Changed land use - Ploughing	Direct mortality and displacement of both PBTLs and spiders.
	Destruction of PBTL and spider burrows.
	Soil destabilisation making any burrows subsequently dug by spiders (likely to be very few) unstable and unsuitable for PBTLs.
Changed land use - Ripping	Destruction of PBTLs and their burrows in the direct path of the ripping lines.
Changed land use - Inappropriate grazing regimes	Heavy grazing by hard-hoofed stock may lead to soil destabilisation, the filling of burrows in the dry season and the collapse of burrows in the wet season.
	Heavy grazing may also increase PBTL exposure to predators and/or reduce the availability of PBTL prey.
	Complete removal of grazing may lead to increased weed growth and/or a reduction in inter-tussock spaces, which may impact foraging and basking opportunities.
Changed land use - Other agricultural development	Any changes in areas occupied by PBTLs involving soil disturbance, clearing or habitat modification (e.g. establishment of saltbush pasture and viticulture) may be detrimental to the species.
Changed land use - Urban, industrial and infrastructure development	The establishment of buildings, roads, wind farms and telecommunications infrastructure may directly destroy PBTLs and their burrows, or disturb their native grassland habitat.
	Although wind farm WTGs are typically installed on hill slopes and crests, which are often not optimal PBTL habitat, access roads, underground cabling and other associated infrastructure, which are often developed on flats and lower slopes, have the potential to cause further loss and fragmentation of PBTL habitat, weed invasion and hydrological changes such as extra water runoff affecting soil structure.

Known and/or potential threat	Known and/or potential impact
	Shadow flicker, vibration and noise from WTGs may affect the ability of PTBLs to bask, feed and move around.
Weeds	High and dense growth of Wild Oats (*Avena barbata*) and other weeds may reduce opportunities for PBTLs to bask, catch insects and find mates.
	May render habitat unsuitable for burrowing spiders (Souter 2003).
	High disturbance weed control or control that affects native plant species may be detrimental to PBTL habitat.
Pesticides (Insecticides)	While direct impacts of insecticides on PBTLs are unknown, insecticides are known to cause illness or death in some reptiles (Khan & Law 2005; Pauli *et al.* 2010).
	Indirect impacts could include a reduction in the main food source group for PBTLs, which could affect their survivorship or reproduction rates; cumulative secondary poisoning; or a reduction in the abundance of burrowing spiders, which may reduce the availability of burrows suitable for PBTLs.
Herbicides	While direct impacts of herbicides on PBTLs are unknown, herbicides are known to cause fertility problems for small vertebrates (Pauli *et al.* 2010), and are therefore a potential threat to PBTLs.
Inappropriate fire regimes	Fires that occur in spring, when males are active, or in late summer and early autumn, when juveniles are dispersing, could be particularly detrimental.
	Fires at other times of the year (mid-summer, late autumn, early spring) may be of less consequence. Indeed, PBTLs have been found to take refuge from fire in their deep burrows, as a fire in December 2005 did not kill adult lizards or affect the subsequent fecundity of females. Declines initially observed in activity, foraging, body condition and juvenile survivorship following the fire were short lived, with no adverse impacts in subsequent years (Fenner & Bull 2007).
Habitat fragmentation	Small, isolated populations may suffer from inbreeding and are vulnerable to extinction from stochastic events (Smith 2006; Smith *et al.* 2009).
Planting (tall trees and shrubs)	There are no records of PTBLs living under trees, even in areas adjacent to open grassland where the species occurs. Furthermore, experiments have shown that artificial burrows established under trees quickly fill with soil and debris (Souter 2003).
	Planting trees and shrubs will alter the characteristics of the soil, litter and understorey plant community beneath their canopy, which may be detrimental to PBTLs.
	May increase predation risks for PBTLs by providing perches for birds to stalk burrows (compared to only hovering birds in open grassland).
	Will reduce the level of sunlight at ground level, which may result in PBTLs having to move further away from their burrows to bask, increasing predation risk.
Predators	Domestic dogs are known to take PBTLs.
	Foxes and cats are potential predators.
	Natural predators include Nankeen Kestrels (*Falco cenchroides*) and Eastern Brown Snakes (*Pseudonaja textilis*).
Fertilisers	May affect PBTLs by encouraging weed growth at the expense of native grasses.
Poaching	Despite the large fines and/or jail terms associated with poaching and smuggling threatened species, there is a risk that poachers could target PBTLs as Australian reptiles are generally in demand.
Climate change	Higher temperatures and altered rainfall regimes that are predicted under climate change may impact PBTLs, their prey and habitat.
	While the effects of climatic conditions on PBTLs remains largely unknown, surveys have recorded significantly lower fecundity, lower grass cover and more bare earth in 2007 and 2008 than in 2006, which may be linked to the prolonged drought in the region (A. Fenner *pers. comm.*, J. Schofield *pers. comm.*, in Duffy *et al.* 2012).
	PBTLs may be particularly vulnerable due to the isolation and small extent of the remaining populations and suitable habitat, and the very limited opportunities for dispersal if the current area of occupancy becomes unsuitable.

All PBTL habitats and populations, apart from one population which is formally protected (Tiliqua Nature Reserve), are considered to be potentially at risk from all of the threats summarised in Table 5 (Duffy *et al.*, 2012).

4.4 PBTL Occurrence within the Project Area

As stated previously in Section 2, understanding of PBTL occurrence and habitat within the Goyder South Project Area has evolved significantly over time, particularly after EPBC approvals were received and more detailed and targeted PCC and micro-siting surveys were undertaken. As such, this section is separated into two sub-sections: Section 4.4.1 *PBTL occurrence pre EPBC Act* approval and Section 4.4.2 *PBTL occurrence post EPBC* Act approval.

4.4.1 PBTL occurrence pre EPBC Act approval

Habitat within the Goyder South Project Area was characterised as either 'likely', 'potential' or 'unlikely' PBTL habitat by EBS Ecology during initial flora and fauna assessment for the Project during autumn and spring 2019 surveys based on suitable habitat attributes (EBS Ecology 2020). Suitable PBTL habitat attributes include spider burrows within native grasslands with or without an exotic component (PBTLs have also been detected in highly modified treeless grasslands), soil of heavy sandy loam (red-brown earth), footslopes of hills and sheltered areas of footslopes.

Likely PBTL habitat is classified based on several criteria. Firstly, any areas where PBTL have been recorded are considered Likely habitat. These known habitat areas are extended to incorporate adjacent areas that generally contain numerous spider burrows of suitable size and depth and are contiguous with known PBTL locations. If no PBTL are found within an area but the habitat is considered to be good – high quality PBTL habitat (consisting of grassland vegetation and extensive suitable spider burrows), the areas are also marked as Likely habitat.

Potential PBTL habitat is recorded in areas where no PBTL have been found. However, a low number of suitable spider holes are present in the area. The vegetation is considered to be poor-moderate quality for PBTL. Therefore, the likelihood of finding PBTL in these areas is lower and if found, it is likely to be scattered individuals.

Unlikely PBTL habitat includes areas that have been cropped/ploughed (including within the previous 5-10 years), areas lacking spider burrows, areas containing dense ground cover vegetation, steep terrain and exposed ridgelines and overly rocky areas, as these are unsuitable habitat attributes for PBTLs.

The weather and survey conditions were optimal for the duration of both survey periods due to low grass levels and fine/sunny conditions, which are important when searching for spider/PBTL burrows. Therefore, the results from the survey locations can be reported with a high degree of confidence. Refer to the *Goyder South Hybrid Renewable Energy Project: Flora and Fauna Assessment* (EBS Ecology 2020) for more detail on the habitat assessment.

Suitable PBTL habitat is mostly confined to the [redacted] of the [redacted] in the [redacted] of the Project Area. A total of 367.45 ha of likely habitat and 496.59 ha of potential habitat for PBTLs occurs within the Stage 1A and Stage 1B Project Areas, as summarised in Table 6.

Table 6. Likely and Potential PBTL habitat within the Stage 1A and Stage 1B Project Areas.

	Likely PBTL habitat (ha)	Potential PBTL habitat (ha)
Stage 1A (2021/8958)	24.63	22.70
Stage 1B (2021/8957)	342.82	106.44
Total	367.45	496.59

NOTE: The boundaries of the Stage 1A and Stage 1B Project Areas have changed slightly since the EPBC Referral.

A total of 24 PBTLs were observed within the Goyder South Project Area across both autumn and spring 2019 surveys, as summarised in Table 7. A follow up PBTL survey, which targeted locations where the proposed infrastructure layout (at the time of the survey) impacted mapped PBTL habitat, including three areas of likely PBTL habitat and six areas of Potential PBTL habitat, was undertaken in March 2021 by EBS Ecology. A total of 13 individual PBTLs were observed across three sites, as summarised in Table 7.

Table 7. PBTL observations within likely and potential habitat across Stage 1A and Stage 1B.

	2019 surveys (EBS Ecology 2020)		2021 targeted survey (EBS Ecology 2021d)	
	Likely PBTL habitat	Potential PBTL habitat	Likely PBTL habitat	Potential PBTL habitat
Stage 1A (2021/8958)	11	0	0	0
Stage 1B (2021/8957)	13	0	10	3
Total	24	0	10	3

Refer to the *Goyder – Pygmy Bluetongue Lizard Survey March 2021* (EBS Ecology 2021e) report for more detail on the targeted PBTL survey.

The location of Pygmy Blue-tongue Lizard habitat (as defined in the EPBC Act approvals for Stage 1A and Stage 1B) and PBTLs observed within Stage 1A and Stage 1B during the 2019 surveys and the follow up targeted PBTL survey (March 2021) is shown in Figure 5 and Figure 6 (on the following pages).

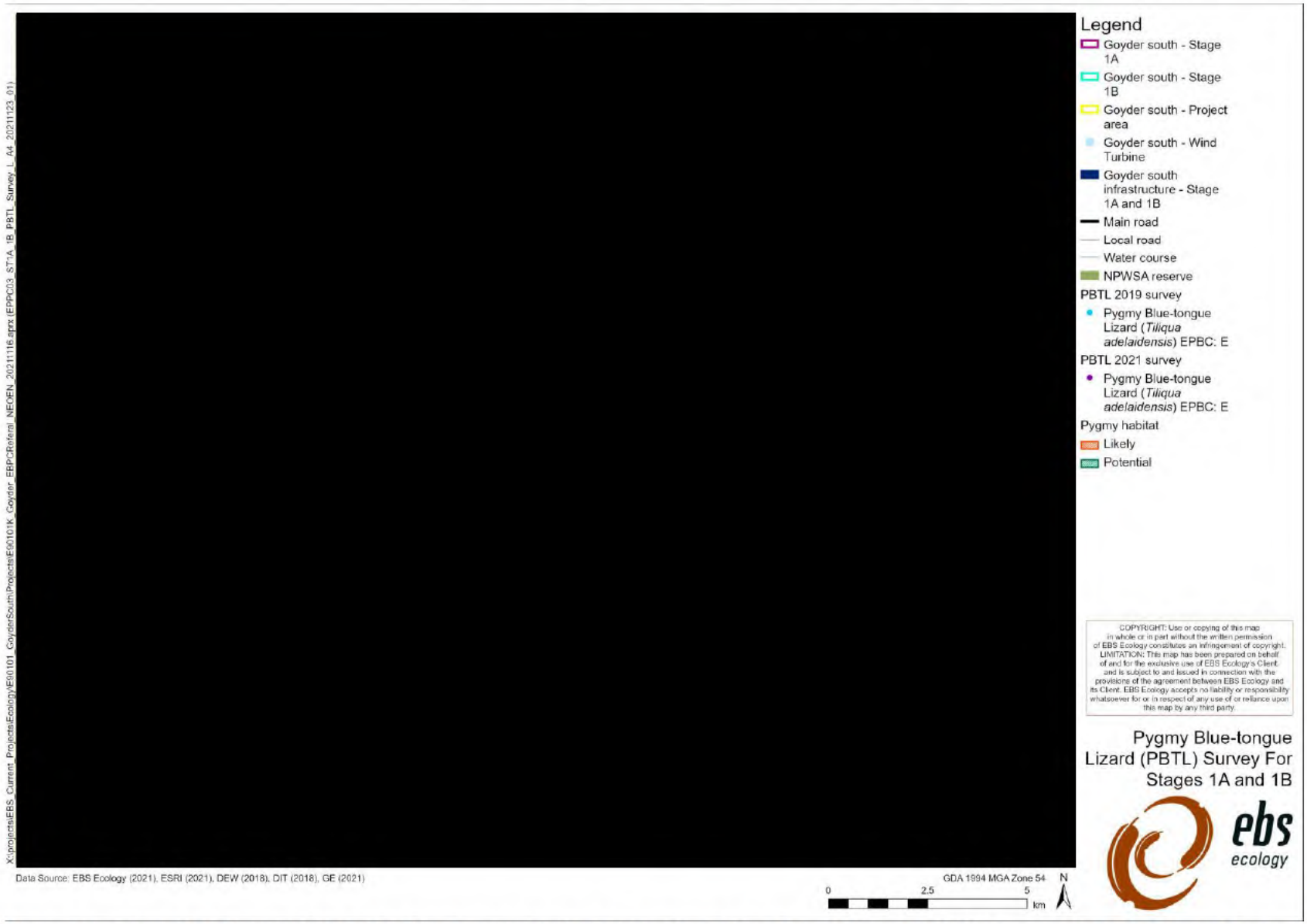


Figure 5. Location of PBTLs and PBTL habitat (likely and potential) within Stage 1A and Stage 1B pre EPBC Act approval (refer to Figure 5 for more detail).

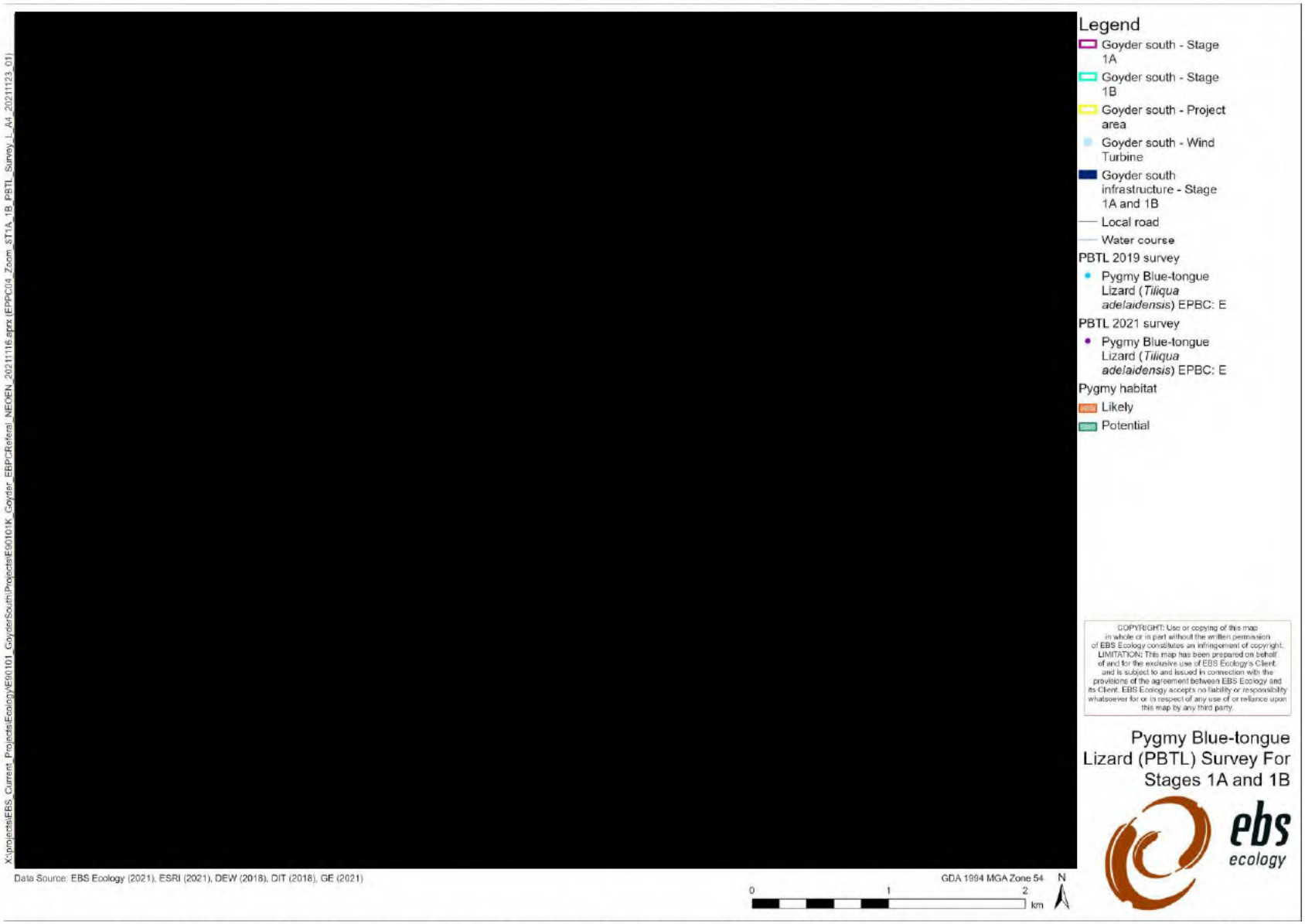


Figure 6. Location of PBTLs within Stage 1A and Stage 1B pre EPBC Act approval. Note that some PBTLs are now located outside of the Stage 1B Project Area boundary as the boundary has changed slightly since the EPBC referral.

4.4.2 PBTL occurrence post EPBC Act approval

As stated previously, understanding of PBTL occurrence and habitat within the Goyder South Project Area has evolved significantly over time, particularly after EPBC Act approvals were received and more detailed and targeted PCC and micro-siting surveys were undertaken. Additional PBTL habitat found during PCC and micro-siting surveys is summarised in Table 8 and shown in Figure 7 to Figure 13 on the following pages.

Table 8. Additional PBTL habitat found post EPBC Act approvals.

Project Stage / Proposed Action	Area of additional PBTL habitat found post EPBC Act approvals (ha)			Figure reference
	Potential	Likely	Total	
Stage 1A (EPBC 2021/8958) Approval received 5/07/2022	0	1.28	1.28	Figure 7 to Figure 10
Stage 1B (EPBC 2021/8957) Approval received 15/08/2022	143.35	137.11	280.45	Figure 11 and Figure 12
OTL and Substation (EPBC 2021/8959) Approval received 22/08/2022 Approval Variation received 19/12/2022	1.40	2.36	3.76	Figure 13

Note that the data in Table 8 has only been derived from the PCC and micro-siting surveys of the proposed infrastructure footprint, and as such, not all areas within the Goyder South Project Area have been surveyed (many areas outside of the proposed infrastructure footprint have not been surveyed for PBTLs). As such, it is highly likely that additional PBTLs and PBTL habitat, that have not been identified, occur in other areas within the Goyder South Project Area.

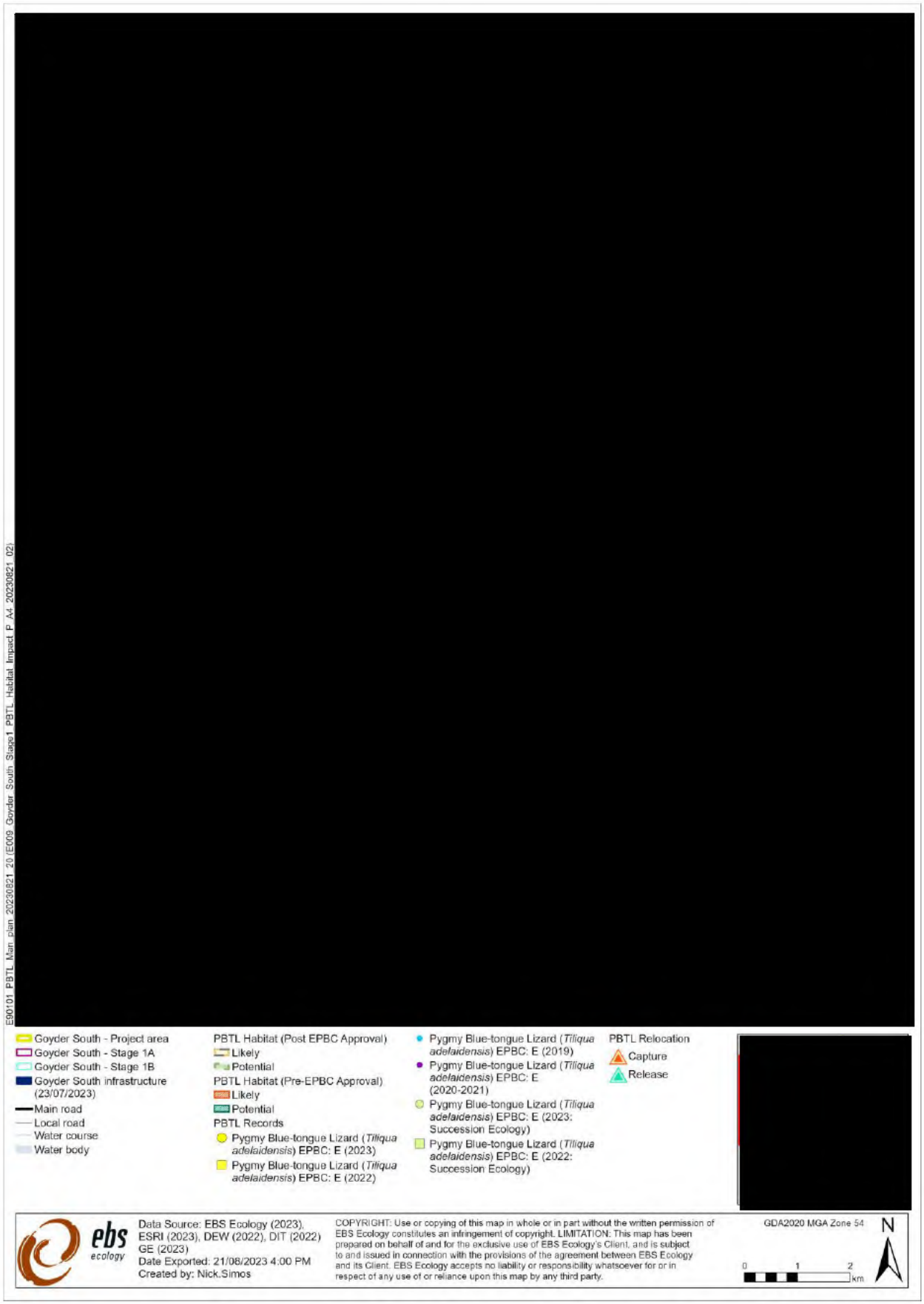


Figure 7. Overview map of PBTLs and PBTL habitat within the broader Goyder South Project Area pre-EPBC Act approval and post-EPBC Act approval. Refer to the following figures for more detail.

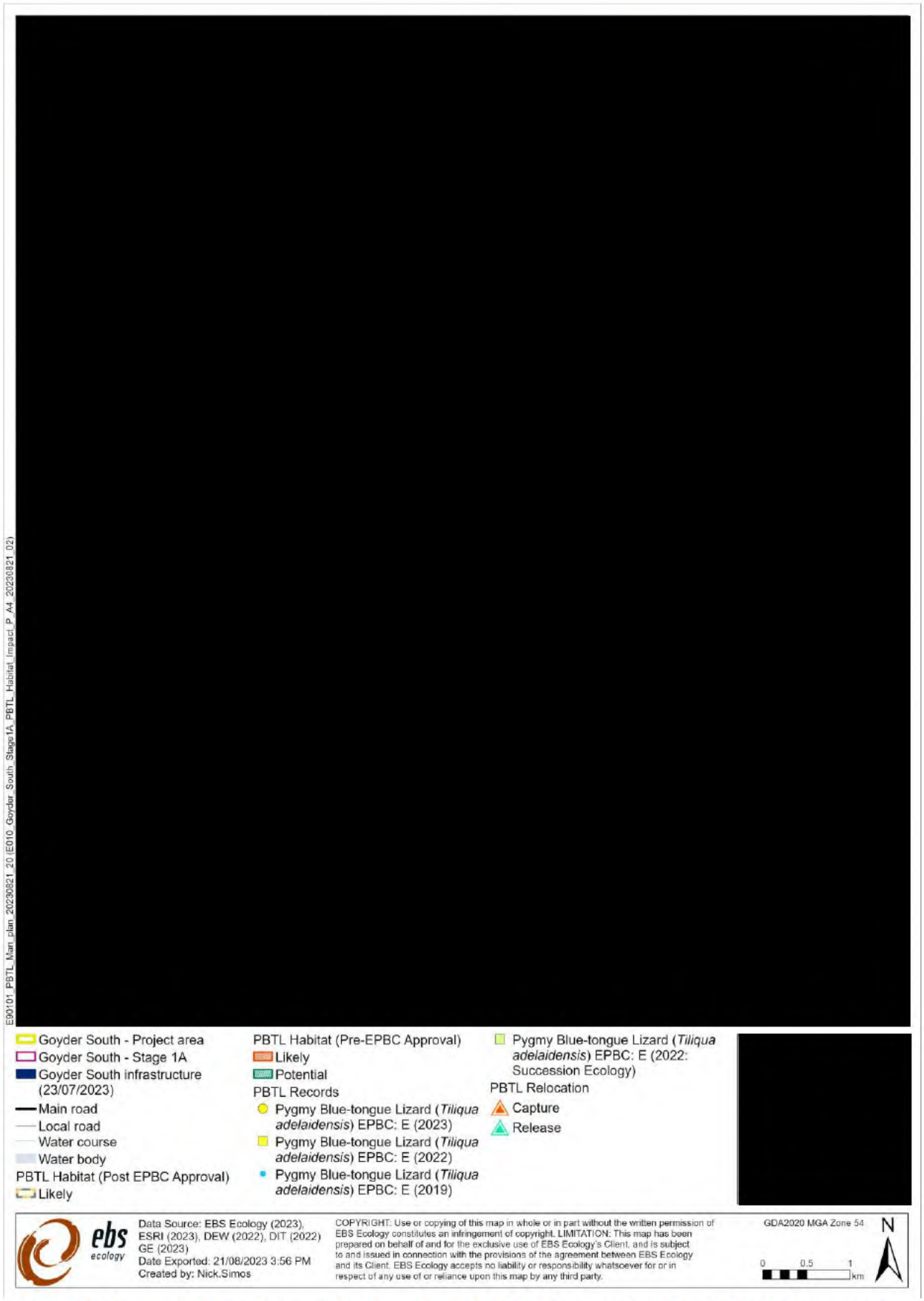


Figure 8. PBTLs and PBTL habitat within Stage 1A pre-EPBC Act approval and post-EPBC Act approval. Refer to the following figures for more detail.

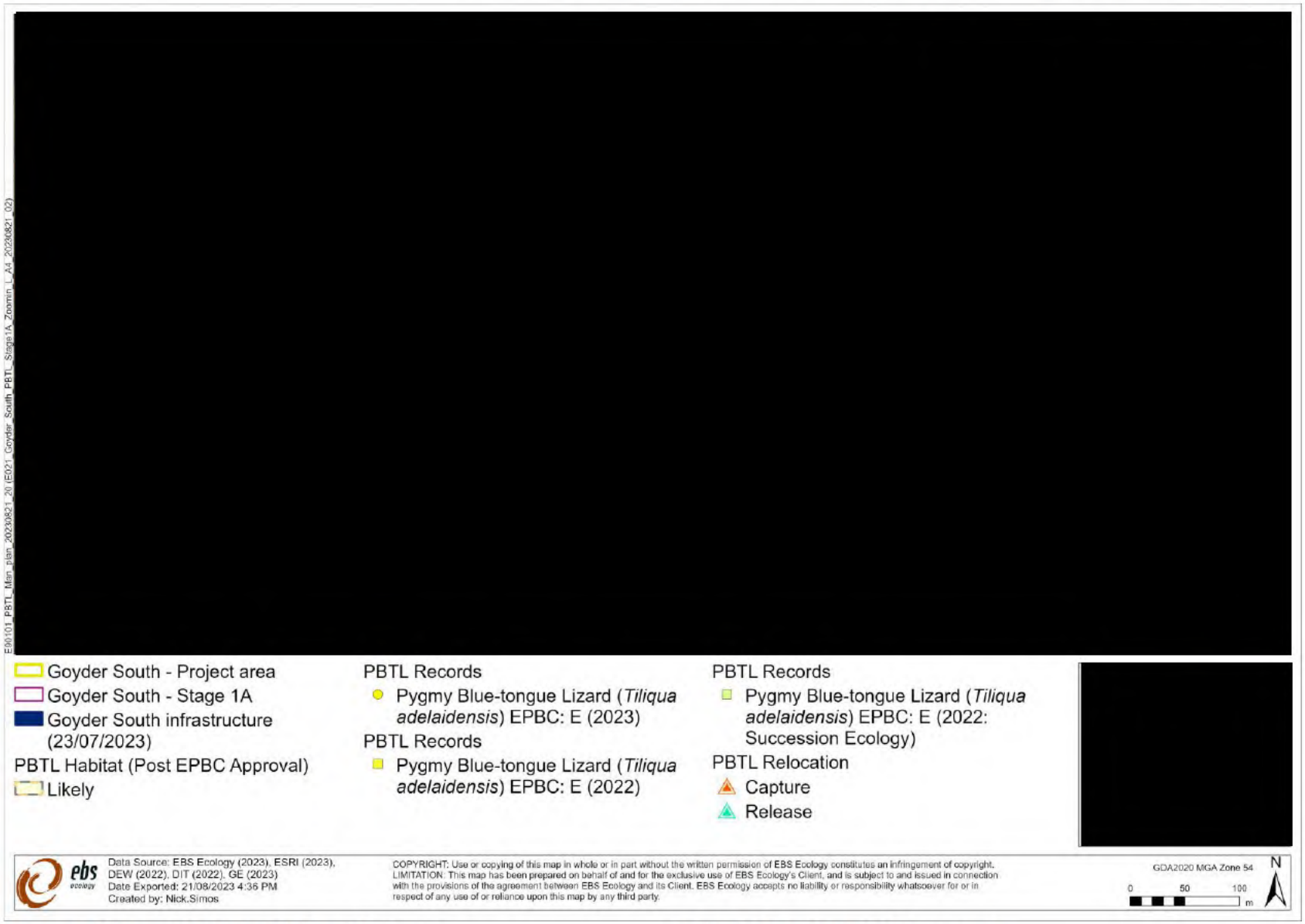


Figure 9. PBTLs and PBTL habitat found between [redacted] in Stage 1A, post-EPBC Act approval.

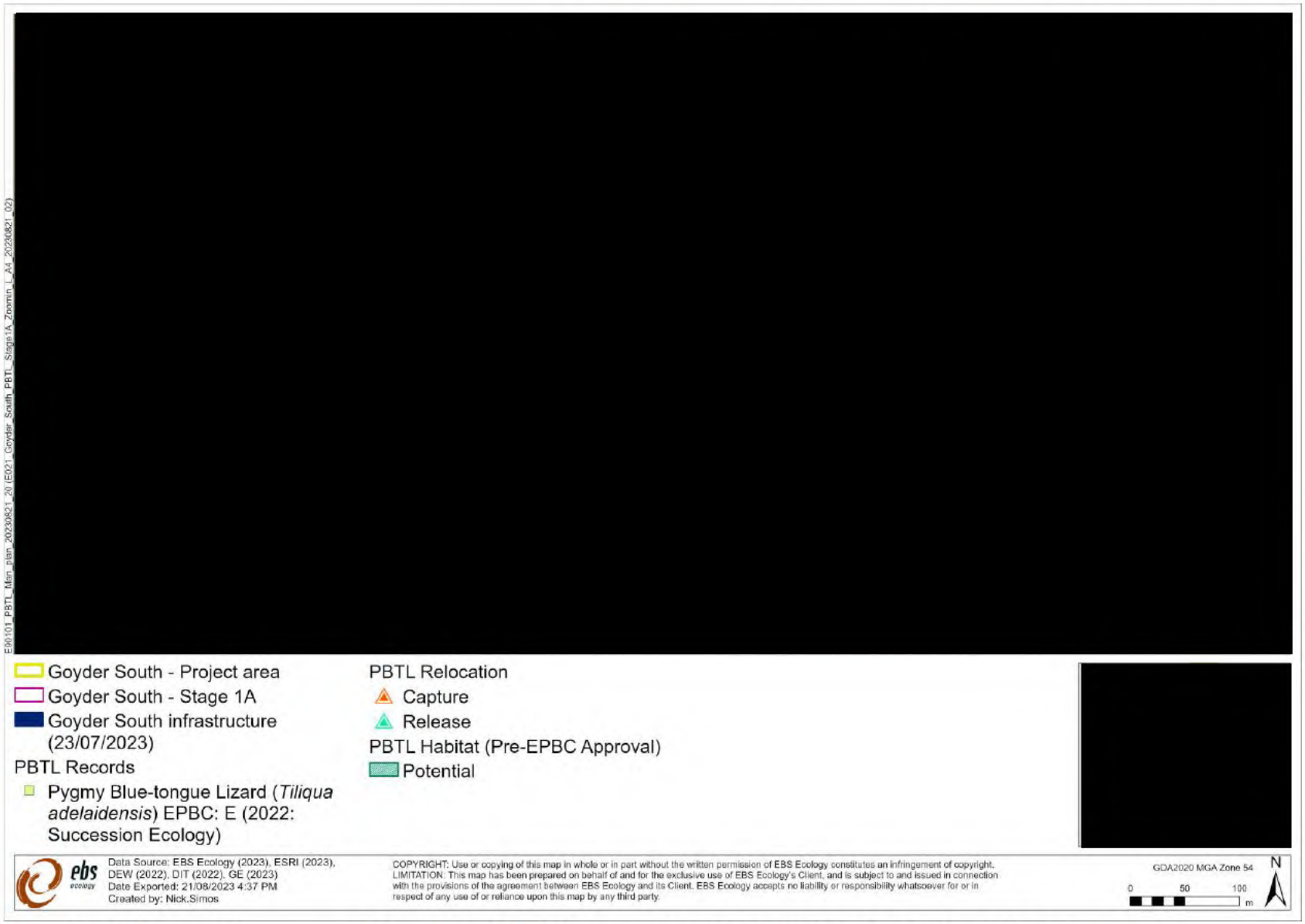


Figure 10. PBTLs found at [redacted] in Stage 1A post-EPBC Act approval, within PBTL habitat identified pre-EPBC Act approval.

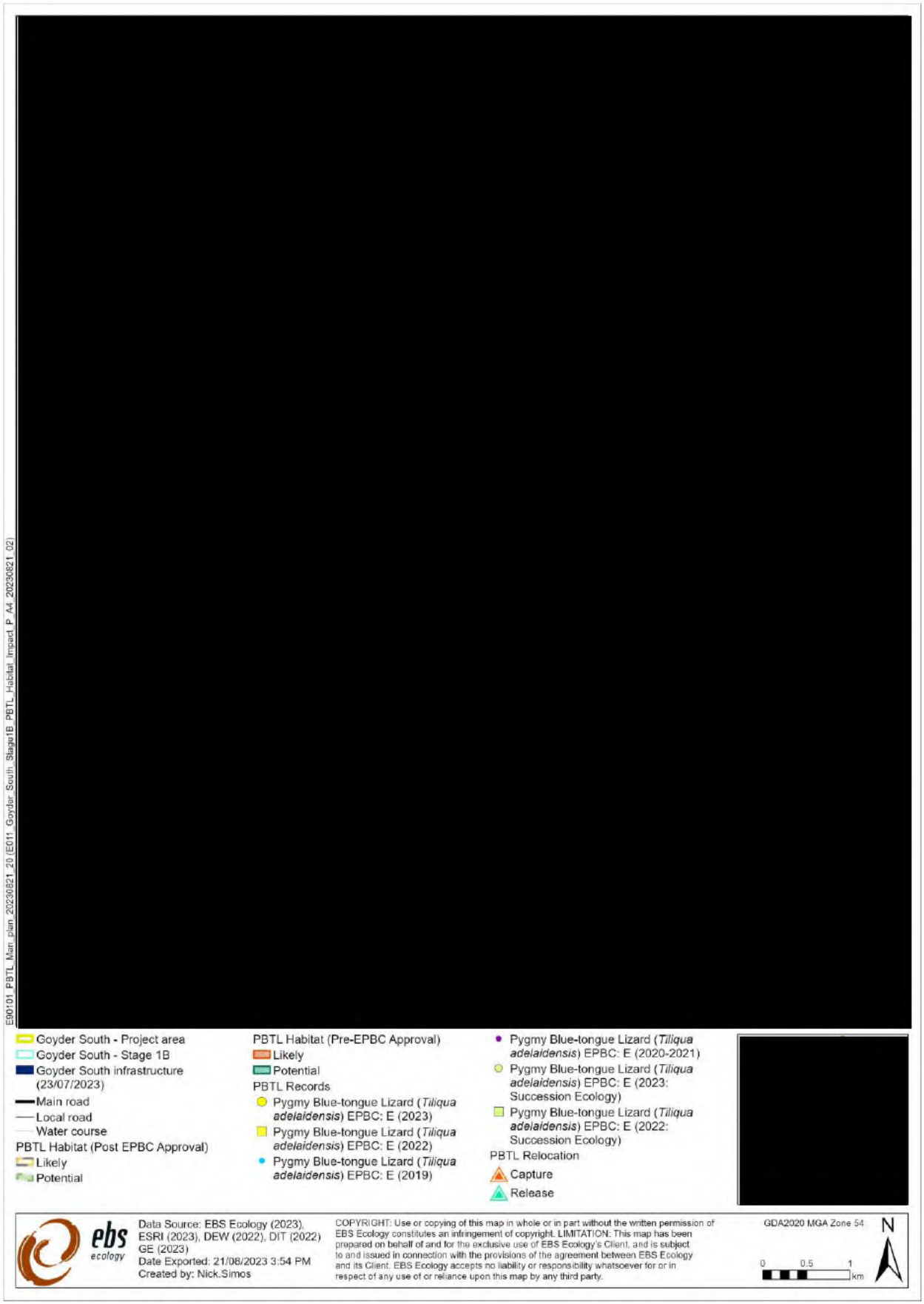


Figure 11. PBTLs and PBTL habitat within the Stage 1B Project Area pre-EPBC Act approval and post-EPBC Act approval. Refer to the following figure for more detail.

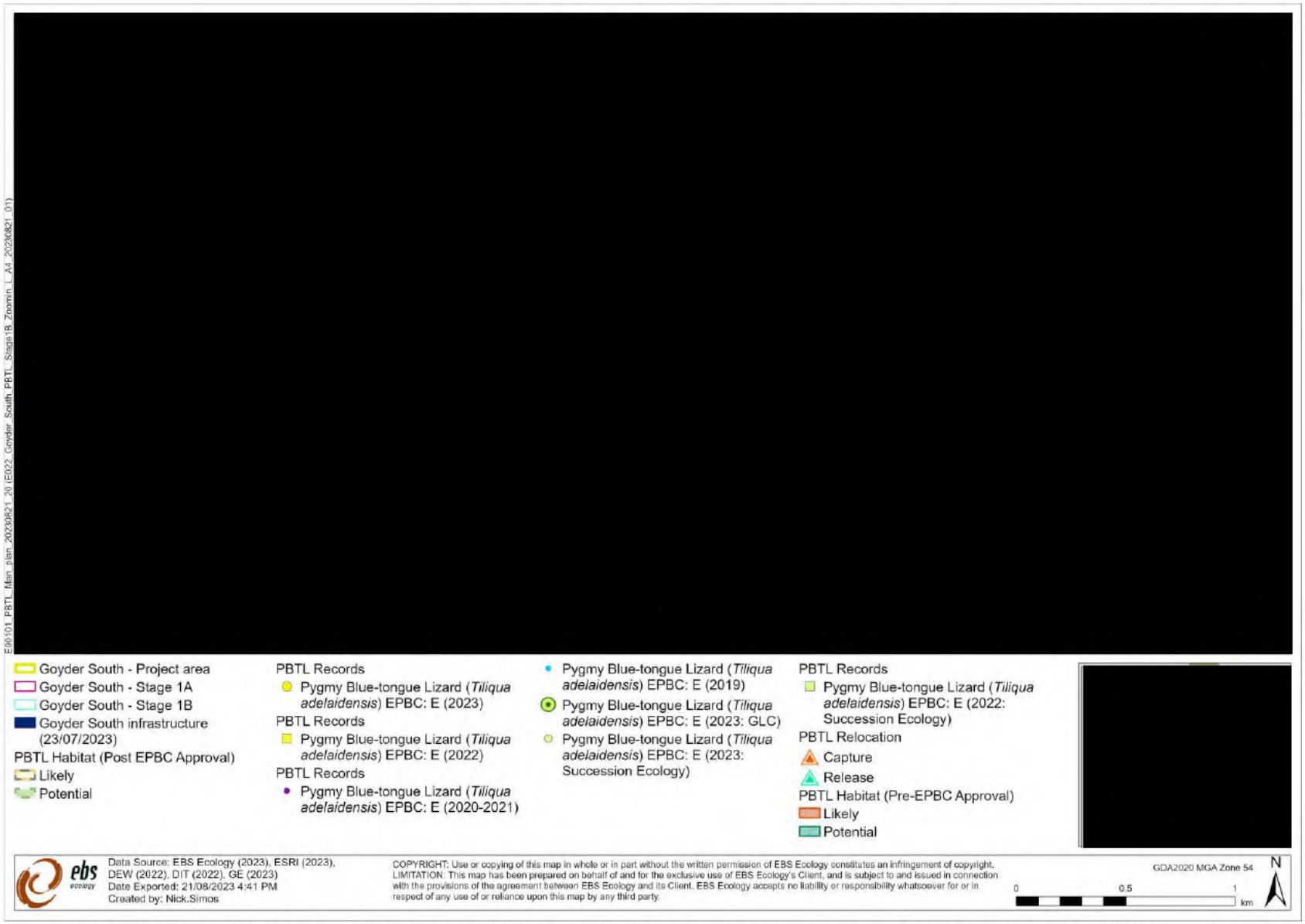


Figure 12. PBTLs and PBTL habitat within the Stage 1B Project Area pre-EPBC Act approval and post-EPBC Act approval (with PBTLs and PBTL habitat in the Common Asset Project Area, found post-EPBC Act approval also shown).

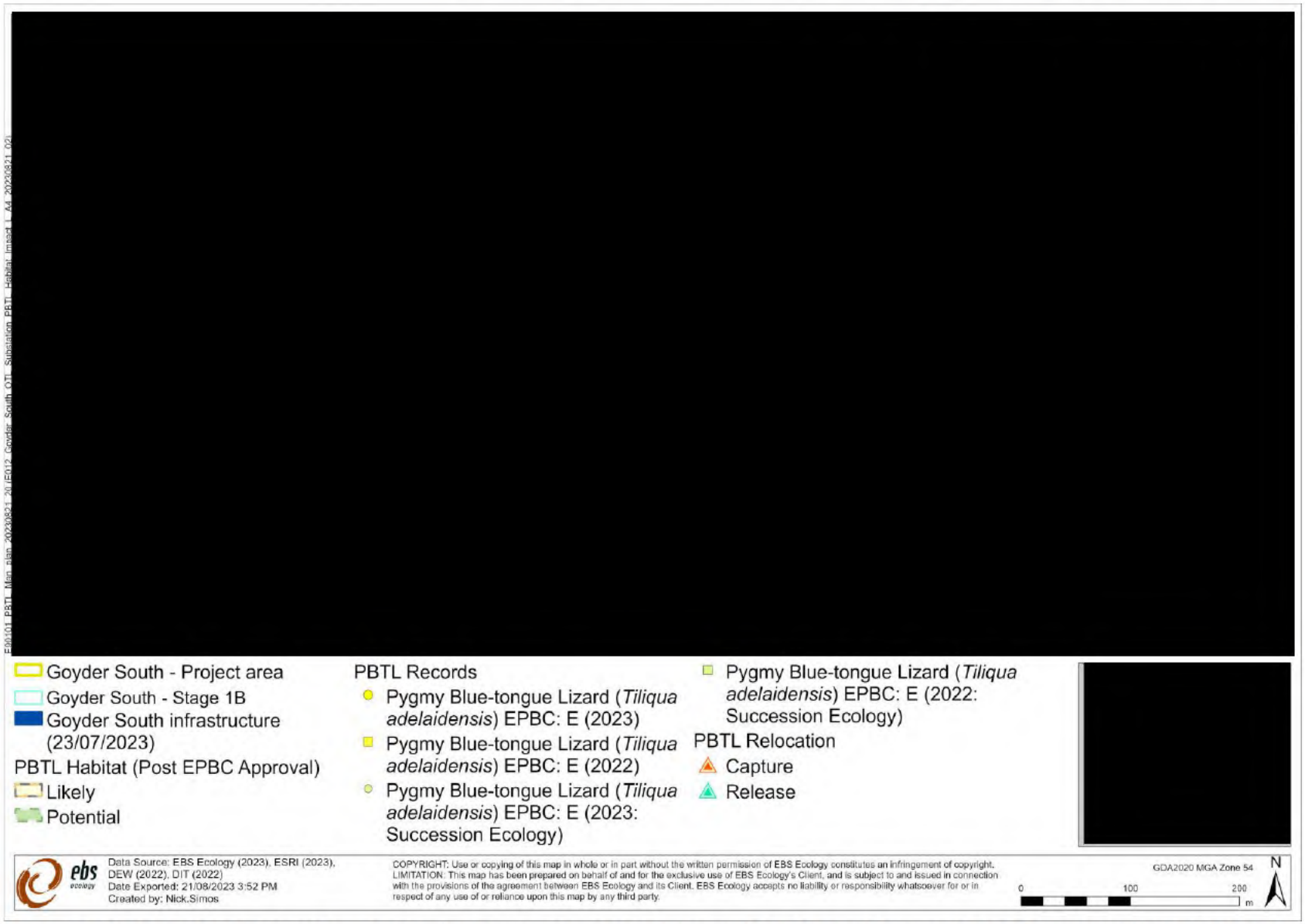


Figure 13. PBTLs and PBTL habitat found within the Common Asset (Substation and OTL) Project Area post-EPBC Act approval (with PBTLs and PBTL habitat found post-EPBC Act approval in the surrounding Stage 1B Project Area also shown).

4.4.3 Proximity assessment

In order to understand the potential for direct and indirect impacts to PBTLs, observations of PBTLs within the Goyder South Project Area have been mapped, along with WTGs with buffers in 250 m increments, using ArcMap GIS software. An overview map showing the buffers placed on WTGs in Stage 1A and Stage 1B, as well as PBTL records and habitat, is provided in Figure 14, while more detail is provided in Figure 15 to Figure 18.

Prior to PCC and micro-siting surveys, no PBTLs were known to occur within 0 - 250 m of a WTG, while only 12 PBTLs were known to occur within 250 – 500m of a WTG, 13 PBTLs within 500 – 750 m of a WTG, 8 PBTLs within 750 – 1000m of a WTG, and 4 PBTLs within 1250 – 1500 m of a WTG. However, since PCC and micro-siting surveys have been undertaken, numerous PBTLs are now known to occur within 0 – 250 m of a WTG, as shown in Figure 15 to Figure 18.

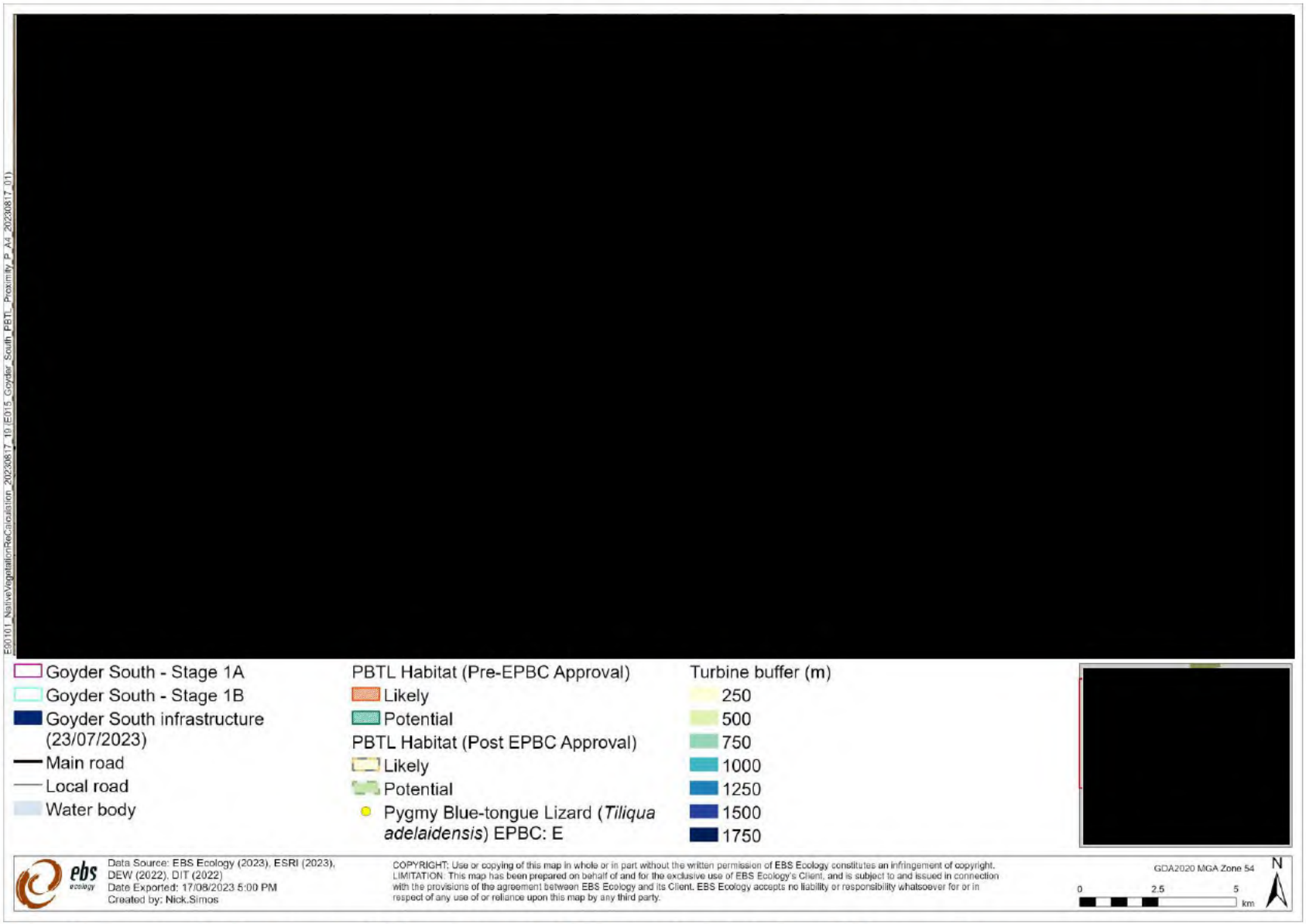


Figure 14. Overview of buffers placed on WTGs, with individual PBTL records (Refer to Figure 15 for more detail).

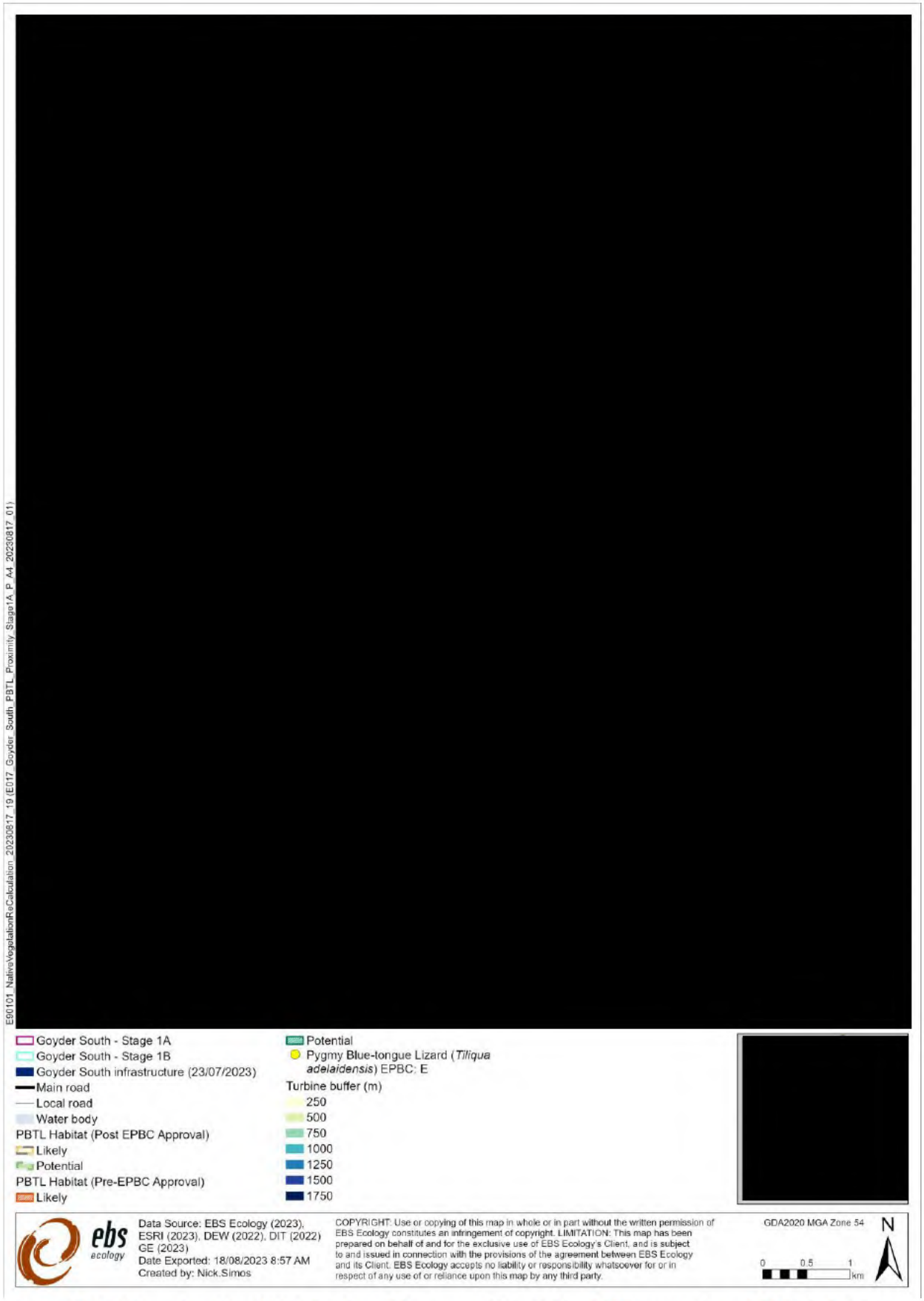


Figure 15. Buffers placed on WTGs in Stage 1A, along with individual PBTL records and PBTL habitat (some of Stage 1B is also shown). Refer to the next figure for more detail.

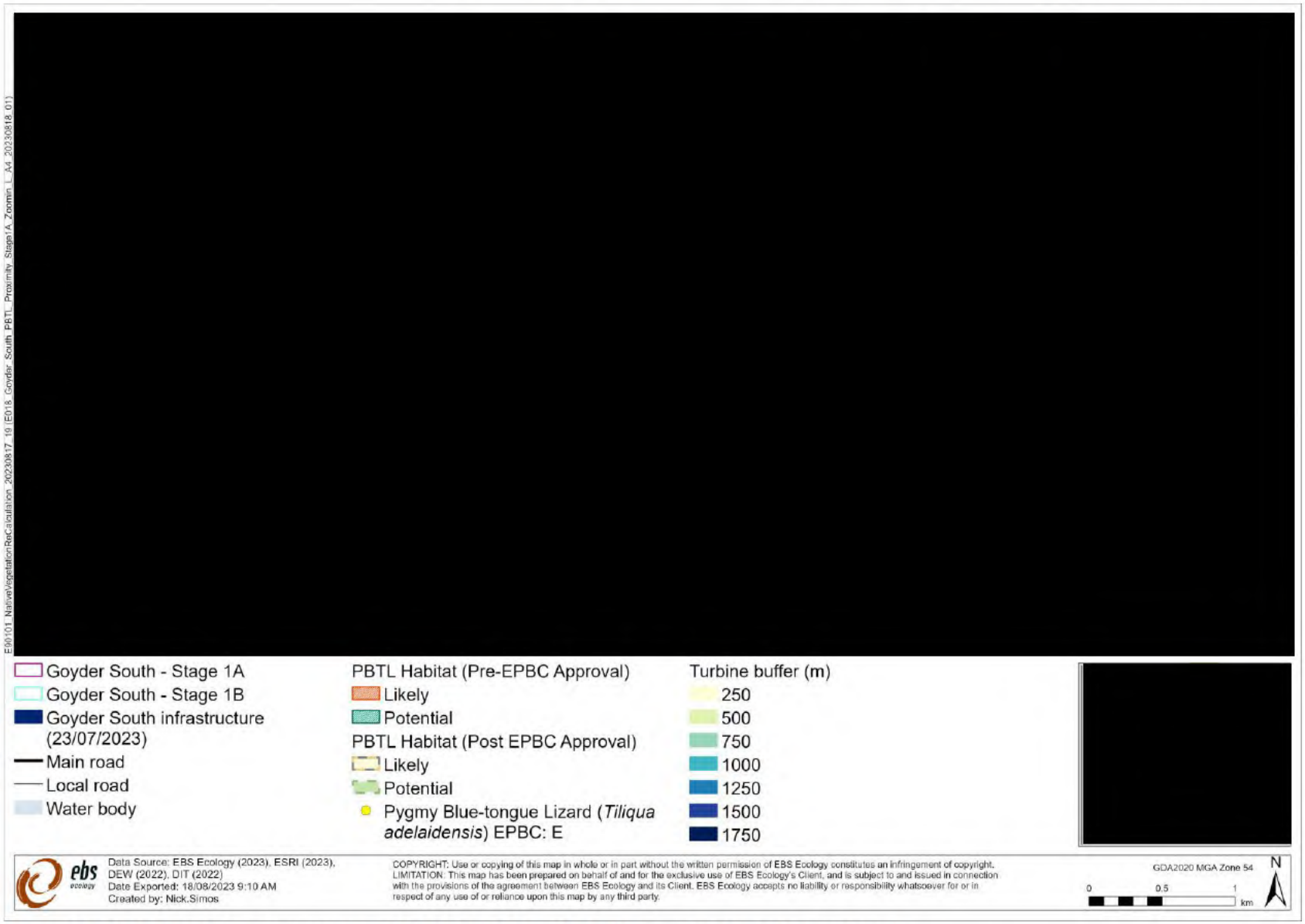


Figure 16. PBTLs located in close proximity to WTGs in Stage 1A (with some in Stage 1B also shown).

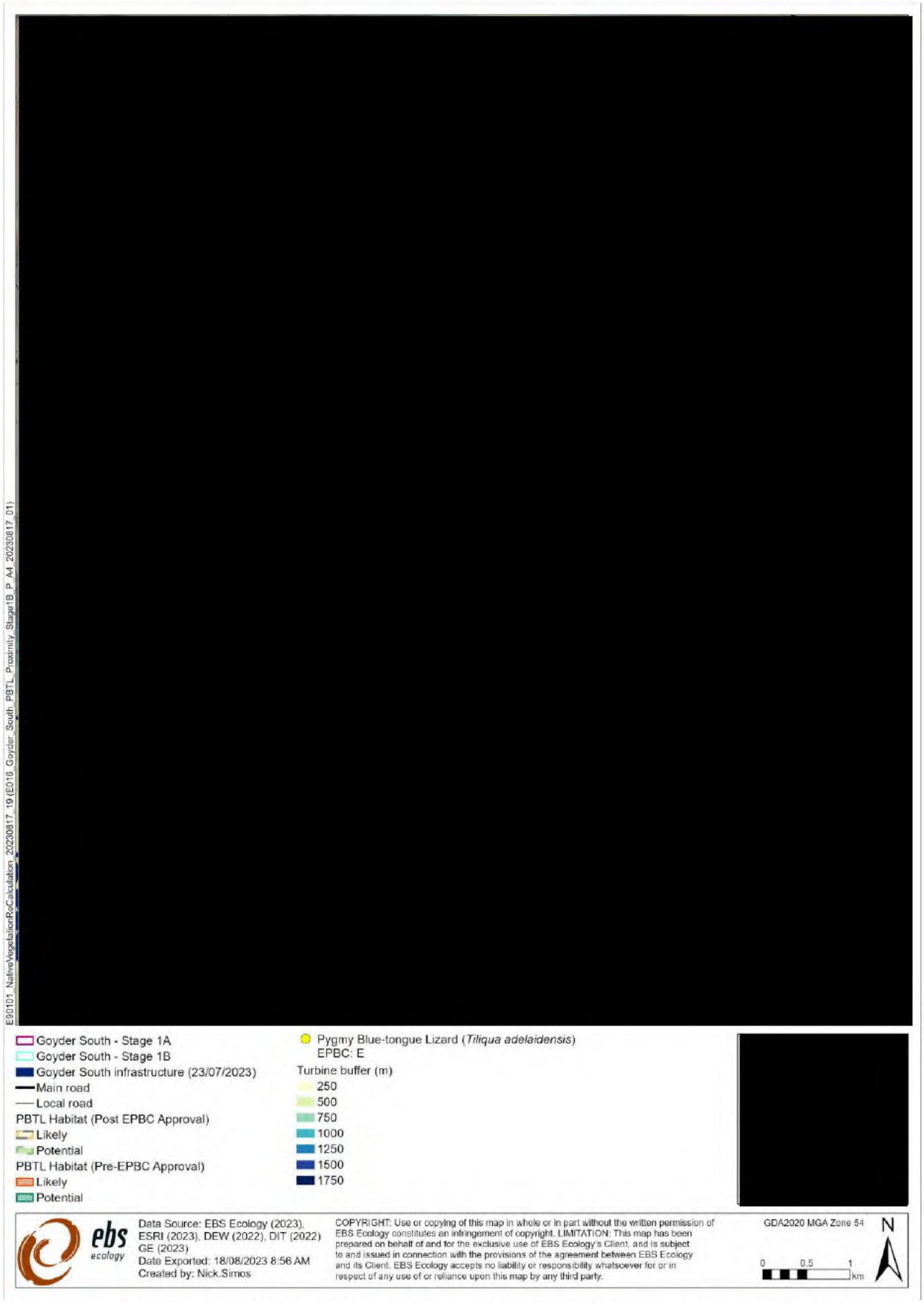


Figure 17. Buffers placed on WTGs in Stage 1B, along with individual PBTL records and PBTL habitat (some of Stage 1A is also shown). Refer to the next figure for more detail.

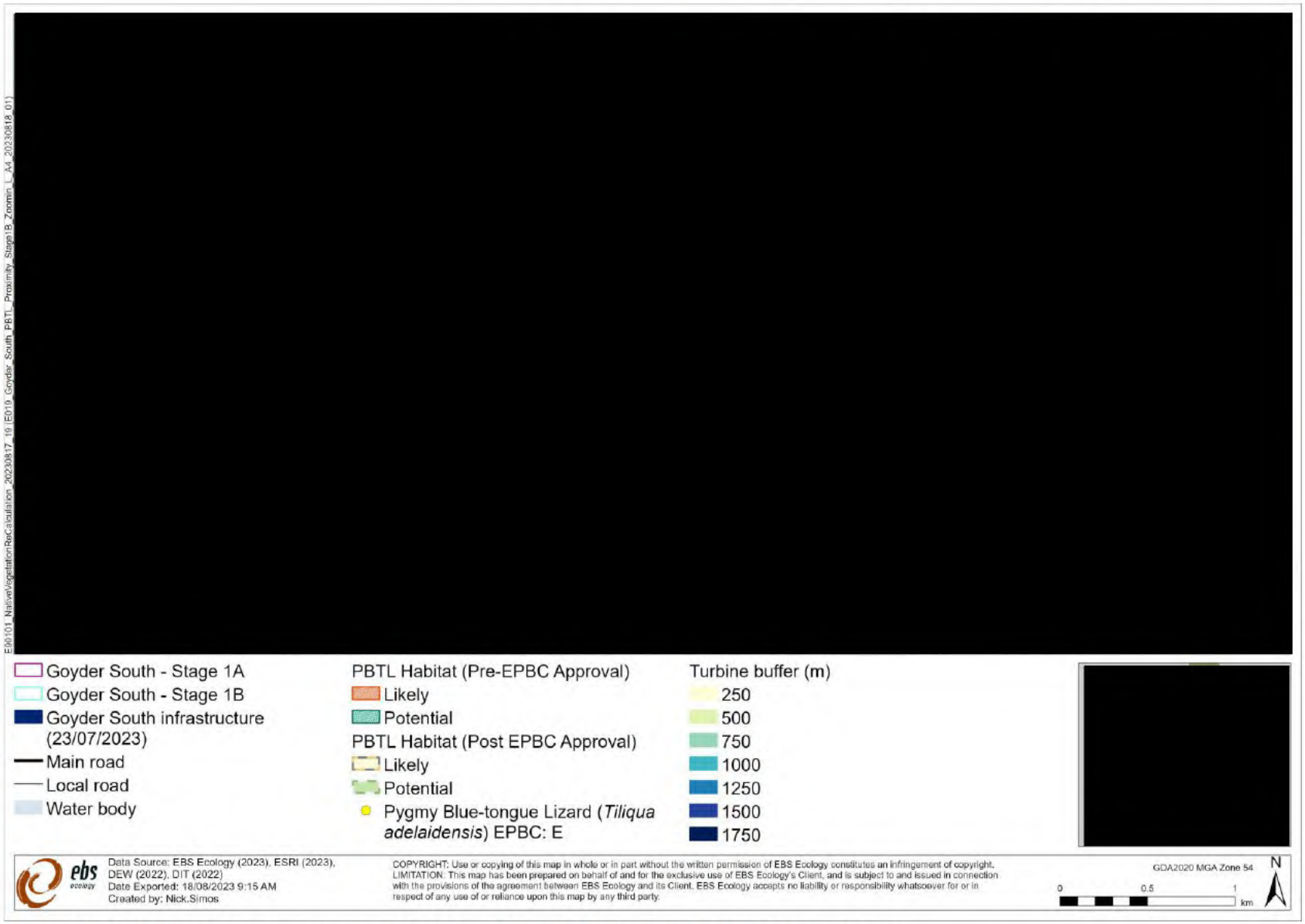


Figure 18. PBTLs located in close proximity to WTGs in Stage 1B (with some in Stage 1A also shown).

5 IMPACTS TO PBTLS

The following PBTL characteristics and/or traits have been taken into consideration when assessing potential and/or likely impacts to PBTLs associated with the Project:

- PBTLs use unoccupied burrows of trapdoor (Mygalomorphae) and wolf (Lycosidae) spiders as refuges, basking sites and ambush points (Milne, Bull & Hutchinson 2003);
- PBTLs are extremely sensitive to both movement and noise, retreating to their burrow if disturbed;
- PBTLs generally don't move far from their burrow (no more than 20 – 30 m) (Schofield 2015);
- PBTLs go into brumation (a state of torpor exhibited by reptiles) over winter (June/July/August) and many burrows become covered by debris, until the lizards become active again in spring (Schofield 2006);
- PBTLs breed in spring (October and November) and young are born from mid-January to mid-March, with juveniles dispersing from the mother's burrow within weeks of their birth to find burrows of their own (Clarke 2000; Duffy *et al.* 2012; Milne and Bull 2000);
- When PBTLs are not in brumation, the majority of the time they are either taking refuge within their burrow or basking with their back legs or tip of the tail remaining in the entrance of their burrow, waiting for passing invertebrate prey (Duffy *et al.* 2012). The only exception to this would be during the breeding season (October and November) when males are searching for mates (Hutchinson *et al.* 1994) and in February and March when juveniles are dispersing in search of their own burrow.

Prior to obtaining the EPBC Act approvals, assessment of Project design information (infrastructure footprint) determined that Stage 1A and Stage 1B of the Goyder South Project had the potential to directly impact approximately 1.25 ha of *Likely* PBTL habitat, 9.40 ha of *Potential* PBTL habitat and two individual PBTLs, as summarised in Table 9. No PBTLs or PBTL habitat was known to occur within the Common Asset (OTL and Substation) Project Area at the time.

Table 9. Summary of potential impacts to PBTL habitat and PBTL individuals prior to EPBC Act approvals.

	Likely PBTL habitat (ha)	Potential PBTL habitat (ha)	Total PBTL habitat (ha)	Number of individual PBTLs	Comment on impact to individual PBTLs
Stage 1A (2021/8958)	0.09	7.95	8.04	1	An underground cable route is proposed to be located where a single PBTL has been observed within likely PBTL habitat and as such may impact this PBTL.
Stage 1B (2021/8957)	1.16	1.45	2.61	1	An access track is proposed to be located where a single PBTL has been observed within likely PBTL habitat and as such may impact this PBTL.
Total	1.25	9.40		2	

However, as additional PBTL habitat was found within Stage 1A, Stage 1B and the Common Asset (OTL and Substation) Project Areas post-EPBC Act approval, Project design information (infrastructure footprint)

has been re-assessed to determine the likely direct impact to all known PBTL habitat within the Project Area. As such, the overall impact to PBTL habitat has been revised and is presented in Table 10, along with a breakdown of the impact to initial PBTL habitat (i.e., PBTL habitat pre-EPBC Act approvals) and impact to additional PBTL habitat (i.e., PBTL habitat discovered post-EPBC Act approvals).

Table 10. Revised overall impact to PBTL habitat (including impacts to PBTL habitat pre- and post-EPBC Act approvals).

	Impact to initial PBTL habitat (pre-EPBC Act approvals)			Impact to additional PBTL habitat (post-EPBC Act approvals)			Total Impact to PBTL Habitat
	Likely PBTL habitat (ha)	Potential PBTL habitat (ha)	Total PBTL habitat (ha)	Likely PBTL habitat (ha)	Potential PBTL habitat (ha)	Total PBTL habitat (ha)	
Stage 1A (2021/8958)	0.09	7.95	8.04	0.26	0	0.26	8.30
Stage 1B (2021/8957)	1.16	1.45	2.61	18.37	10.37	28.74	31.35
Common Asset (OTL and Substation) (2021/8959)	0	0	0	2.40	1.44	3.88	3.88
Totals	1.25	9.40	10.65	21.03	11.81	32.88	43.53

Likely direct impacts and potential indirect impacts to PBTL individuals and/or populations associated with development (i.e., construction) and/or operation of the Goyder South Project, are presented in Table 11.

Table 11. Likely direct impacts and potential indirect impacts to PBTLs during construction and operation of the Goyder South Project.

During construction	During operation	Comment
Likely direct impacts		
Direct loss of approximately 43.53 ha of PBTL habitat located within the infrastructure footprint (Table 10; Figure 7 to Figure 13 and Section 5.2).		Unavoidable.
Potential loss of PBTLs located within the infrastructure footprint (Figure 7 to Figure 13 and Section 5.2).		Where possible, the final location of underground cables and access tracks, will be micro-sited away from PBTLs during pre-construction surveys to avoid and/or minimise impacts to PBTLs as much as possible. Where micro-siting cannot avoid direct impact to PBTLs, the individual(s) will be relocated to the nearest suitable release site in accordance with the method outlined in the *Goyder South Hybrid Renewable Energy Facility PBTL Management Plan* (this document). PBTLs located within the infrastructure footprint for the [redacted] will be translocated to a translocation release site within the PBTL Offset Area, in accordance with the *Goyder South Hybrid Renewable Energy Facility PBTL Translocation Plan* (EBS Ecology 2022d) and the South Australian government *Permit to Take Protected Animals from the Wild and Release Protected Animals to the Wild for conservation purposes* (Permit number: T40145, which is included in Appendix 4).
Potential indirect impacts		
Clearance of 'Likely' and/or 'Potential' PBTL habitat outside the infrastructure footprint.	Clearance of 'Likely' and/or 'Potential' PBTL habitat outside the infrastructure footprint.	Avoidable through specific controls and management measures.
Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly striking PBTLs.	Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly striking PBTLs.	Avoidable through specific controls and management measures.
Pitfall (PBTLs getting trapped in trenches, pits and other open excavations).	Pitfall (PBTLs getting trapped in electrical pits).	Avoidable through specific controls and management measures.
Dust emissions smothering flora and supressing photosynthesis leading to loss of vegetation condition and PBTL habitat suitability.		Short term impact during construction only, which can be minimised through specific controls and management measures.

During construction	During operation	Comment
Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times).	Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times).	Difficult to predict likelihood and/or level of occurrence and likely consequence. During construction, any potential impact is expected to be short-term in nature and temporary. Furthermore, the Project Owner (NEOEN) will not have any direct control over grazing regimes as it is controlled by land holders / land managers. However, potential impacts will be identified during monitoring and corrective action undertaken if required.
Sedimentation of PBTL burrows and/or PBTL habitat from construction run-off (soil).	Sedimentation of PBTL burrows and/or PBTL habitat from run-off from access tracks.	Avoidable through specific controls and management measures.
Noise and vibration disturbance during construction.	Potential disturbance to PBTLs in close proximity to turbines from turbine noise and/or vibration.	Short-term impact during construction. Potential impacts of turbine noise and/or vibration are unknown.
Introduction of new weeds to the Project Area, or increase in weeds, through use of contaminated construction material, machinery and vehicles, leading to loss of vegetation condition and PBTL habitat suitability.	Introduction and/or spread of weeds from vehicles leading to loss of vegetation condition and PBTL habitat suitability.	Avoidable through specific controls and management measures.
Division and isolation of PBTL sub-populations by construction of vehicular access tracks.	Division and isolation of PBTL sub-populations through existence of vehicular access tracks.	Avoided and/or minimised through design process.
Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation of PBTL habitat.	Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation of PBTL habitat.	Avoidable through specific controls and management measures.
Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat.	Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat.	Avoidable through specific controls and management measures.
	Potential disturbance to PBTLs in close proximity to turbines from blade shadow flicker impacts such as: • Potential increase in predation of PBTLs by birds of prey (due to PBTLs becoming accustomed to shadows); • potential decrease in PBTL body condition due to PBTLs basking less; and • potential decrease in breeding due to PBTLs taking refuge in their burrow more often.	The potential or likelihood of this impact actually occurring is currently not known as it is not very well understood.

5.1 Mitigation measures to avoid and/or minimise potential direct and indirect impacts to PBTLs associated with the Project

Project infrastructure has specifically been designed and/or located to avoid direct impact to PBTLs and their habitat as much as possible. In addition, the location of infrastructure will be micro-sited (shifted and/or adjusted slightly) away from PBTLs, wherever possible, prior to the commencement of construction works to avoid and/or minimise direct impacts to PBTLs as much as possible. Infrastructure will not be micro-sited (shifted and/or adjusted slightly) if it does not result in a reduction of potential impacts to PBTLs and PBTL habitat and NEOEN commits that micro-siting will not increase impacts to PBTLs and/or PBTL habitat. Furthermore, the pre-construction survey will also identify any PBTLs and PBTL habitat within the infrastructure footprint that were not previously known about.

Where micro-siting cannot avoid direct impact to PBTLs, the individual(s) will be relocated to the nearest suitable release site in accordance with the procedure outlined in Section 13. However, due to the high density of PBTLs found within the infrastructure footprint for the [redacted], these PBTLs will be translocated to a translocation release site within the PBTL Offset Area, in accordance with the *Goyder South Hybrid Renewable Energy Facility PBTL Translocation Plan* (EBS Ecology 2022d) and the South Australian government *Permit to Take Protected Animals from the Wild and Release Protected Animals to the Wild for conservation purposes* (Permit number: T40145, which is included in Appendix 4). While every effort will be made to successfully relocate PBTLs impacted by Project infrastructure and ensure their ongoing survival, it is assumed that as a worst-case scenario, none of the relocated PBTLs will survive.

Furthermore, while the Project has the potential to cause indirect impacts to PBTLs, such as, but not limited to, sedimentation of burrows, noise and vibration, weeds, herbicide use and feral animals, these indirect impacts will be avoided and/or minimised during construction and operation of the Project via implementation of specific management measures contained within this PBTL Management Plan (Section 11 and 12). As such, the potential indirect impacts associated with erosion and stormwater drainage (i.e., sedimentation of PBTL burrows), weeds, herbicide use and feral animals are not expected to cause a significant impact on PBTLs.

5.2 Estimated residual impact to PBTLs within the Project Area

While Project infrastructure has specifically been designed and/or located to avoid impact to PBTLs and their habitat as much as possible, assessment of Project design information, specifically the infrastructure footprint, has determined that the Project will directly impact (clear) up to a total of 43.53 ha of PBTL habitat, based on the infrastructure footprint (Table 10; Figure 7 to Figure 13). As this impact is considered a residual impact, an EPBC Offset is required.

Refer to the Goyder South Hybrid Renewable Energy Facility PBTL Offset Management Plan (EBS Ecology 2023) for more detail.

6 RISK ASSESSMENT OF POTENTIAL IMPACTS

A risk assessment of potential impacts during construction as well as operation is provided in Table 12 and Table 13, respectively. Each potential impact has been given a rating in terms of likelihood and consequence, which are then combined to generate a risk rating. The likelihood and consequence ratings have been assessed prior to consideration of any control measures.

Implementation of specific construction management measures and operation management measures outlined in Section 11 and Section 12 (respectively) is expected to avoid and/or minimise the potential impacts to PBTLs and/or their habitat from occurring, and as such, reduce the risk rating. Therefore, a residual risk rating is also provided and is the risk after implementation of control measures.

Refer to Appendix 5 for the likelihood and consequence criteria and risk rating matrix.

Table 12. Risk assessment of potential impacts during construction.

Potential impact	Likelihood	Consequence	Risk Rating	Residual risk rating (after controls implemented)
Potential loss of PBTLs located within the infrastructure footprint	Almost certain	Catastrophic	Extreme	Medium
Clearance of PBTL habitat outside the approved clearance area	Possible	Catastrophic	High	Medium
Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly striking PBTLs	Likely	Major	High	Low
Pitfall (PBTLs getting trapped in trenches, pits and other open excavations)	Likely	Major	High	Low
Dust emissions smothering flora and supressing photosynthesis leading to loss of vegetation condition and PBTL habitat suitability	Likely	Moderate	High	Low
Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times)	Unlikely	Moderate	Medium	Low
Sedimentation of PBTL burrows and/or PBTL habitat from construction run-off (soil)	Likely	Major	High	Low
Noise and vibration disturbance during construction (potential impacts are unknown)	Possible (?)*	Minor (?)*	Medium (?)*	Medium (?)*
Introduction of new weeds to the Project Area, or increase in weeds, through use of contaminated construction material, machinery and vehicles, leading to loss of vegetation condition and PBTL habitat suitability	Likely	Major	High	Low
Division and isolation of PBTL sub-populations by construction of vehicular access tracks	Possible (?)*	Moderate (?)*	Medium (?)*	Medium (?)*
Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation of PBTL habitat	Likely	Moderate	High	Low
Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat	Possible	Moderate	Medium	Low

***(?) = indicative risk rating. Refer to *Limitations associated with the risk assessments* below Table 13 for more information.**

Table 13. Risk assessment of potential impacts during operation.

Potential impact	Likelihood	Consequence	Risk Rating	Residual risk rating (after controls implemented)
Clearance of PBTL habitat outside the approved clearance area	Unlikely	Moderate	Medium	Low
Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly striking PBTLs	Unlikely	Moderate	Medium	Low
Pitfall (PBTLs getting trapped in electrical pits)	Unlikely	Moderate	Medium	Low
Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times)	Unlikely	Moderate	Medium	Low
Sedimentation of PBTL burrows and/or PBTL habitat from run-off from access tracks	Unlikely	Moderate	Medium	Low
Introduction and/or spread of weeds from vehicles leading to loss of vegetation condition and PBTL habitat suitability	Unlikely	Moderate	Medium	Low
Potential disturbance to PBTLs in close proximity to turbines from turbine noise and/or vibration (potential impacts are unknown)	Possible (?)*	Major (?)*	High (?)*	High (?)*
Potential disturbance to PBTLs in close proximity to turbines from turbine blade shadow flicker impacts such as: • Potential increase in predation of PBTLs by birds of prey (due to PBTLs becoming accustomed to shadows); • potential decrease in PBTL body condition due to PBTLs basking less; and • potential decrease in breeding due to PBTLs taking refuge in their burrow.	Possible (?)*	Major (?)*	High (?)*	High (?)*
Division and isolation of PBTL sub-populations through existence of vehicular access tracks	Possible (?)*	Moderate (?)*	Medium (?)*	Medium (?)*
Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat	Unlikely	Moderate	Medium	Low

***(?) = indicative risk rating. Refer to *Limitations associated with the risk assessments* below for more information.**

6.1 Limitations associated with the risk assessments

The potential impact of noise and vibration during construction, and from turbines during operation, on PBTLs is not known as the potential impact of noise and vibration on PBTLs in general is poorly understood. Similarly, the potential impact of division and isolation of PBTL sub-populations by construction of vehicular access tracks and their existence during operation is not known, as it is not known if PBTLs will cross or not cross vehicular access tracks.

Furthermore, the potential impact of turbine blade shadow flicker on PBTLs during operation is not well understood. It may lead to impacts such as:

- Potential increase in predation of PBTLs by birds of prey (due to PBTLs becoming accustomed to shadows); or
- Potential decrease in PBTL body condition (due to PBTLs taking refuge in their burrow more often and basking less); and/or
- Potential decrease in breeding (due to PBTLs taking refuge in their burrow more often).

As such, it is difficult to determine the likelihood of these aspects having an impact on PBTLs and the consequence of any impact on the PBTLs. Therefore, in the absence of further information, only an indicative risk rating can be provided.

7 MANAGEMENT TARGETS, PERFORMANCE INDICATORS AND TRIGGERS

Table 14. Management targets, performance indicators and triggers.

Targets	Performance Indicators	Triggers
Access tracks and electrical cables are micro-sited to avoid or minimise relocation of PBTLs (where practicable).	Access tracks and electrical cables are micro-sited where practicable.	Any injured, trapped or killed PBTL. Any impact to retained PBTL habitat outside of the approved clearance area and/or the infrastructure footprint. Discovery of PBTL individual or population (outside of previously observed areas).
All PBTLs located within the infrastructure footprint (that can't be avoided by micro-siting) are relocated/translocated prior to construction works.	All PBTLs located within the Infrastructure footprint (that can't be avoided by micro-siting) are relocated/translocated prior to construction works.	
Construction and operation do not result in clearance of **Pygmy Blue-tongue Lizard habitat** in excess of the limits stated in the EPBC Act approvals (refer to Table 3 and EPBC Act approval documentation).	No clearance of **Pygmy Blue-tongue Lizard Habitat** in excess of the limits stated in the EPBC Act approvals (refer to Table 3 and EPBC Act approval documentation).	
Construction and operation do not result in clearance of PBTL habitat outside of the approved clearance area.	No clearance of PBTL habitat outside of the approved clearance area.	
Construction and operation do not result in injury to or death of PBTLs.	No injury to or death of PBTLs due to construction or operation activities.	
No vehicle or machinery impacts within retained PBTL habitat.	No vehicle or machinery impacts observed within retained PBTL habitat.	
No PBTLs subject to pitfall.	No PBTLs observed subject to pitfall.	
No excessive dust deposition within retained PBTL habitat as a result of project activities.	No excessive dust deposition observed within retained PBTL habitat.	
Construction and operation do not result in a significant alteration of grazing regime.	No significant alteration of grazing regime due to construction or operation.	
No sedimentation of retained PBTL burrows or PBTL habitat.	No sedimentation of retained PBTL burrows or PBTL habitat observed.	
Construction noise and vibration is minimised, where possible.	No excessive construction noise and vibration observed.	
No introduction of new weed species or increase in weeds within retained PBTL habitat.	No introduction of new weed species or increase in weeds observed within retained PBTL habitat.	
Division and isolation of PBTL sub-populations is avoided and/or minimised.	No avoidable division and isolation of PBTL sub-populations.	
No rubbish, waste materials or stockpiles within retained PBTL habitat.	No rubbish, waste materials or stockpiles observed within retained PBTL habitat.	
No hazardous chemicals or dangerous goods within retained PBTL habitat.	No hazardous chemicals or dangerous goods observed within retained PBTL habitat.	

8 RESPONSE MEASURES AND CORRECTIVE ACTIONS

If a trigger value occurs (Table 14), it will be reported as an environmental incident and an environmental incident investigation will be undertaken to determine the extent and cause and prevent it from occurring again.

Remediation and/or rehabilitation should also be undertaken, provided that it does not cause any further adverse impact (such as undesirable soil disturbance).

If injured or dead PBTL are found, the appropriately qualified ecologist will be notified immediately to investigate and determine the best course of action. The ecologist will be responsible for contacting the PBTL Recovery Team and providing notification of the incident (refer to Table 32 for contact details).

If live PBTL individuals or populations are discovered (in areas not previously identified as PBTL habitat), the following actions are to be taken:

- All works will cease in the immediate vicinity until an appropriately qualified ecologist provides advice and relocates/translocates PBTLs if necessary;
- The area is designated as PBTL habitat and the management measures outlined in Section 11 and Section 12 are to be implemented; and
- The PBTL Recovery Team is to be notified (refer to Table 32 for contact details).

9 PERMITS, LICENCES AND APPROVALS

The following permits, licences and approvals are required during both construction (PBTL survey, relocation/translocation and monitoring) and operation (PBTL monitoring) phases of the Goyder South Project):

- Permit to Destroy Wildlife under the NPW Act (Sections 53(1)(c), 53(1)(d)).
- Permits to 'take' and to 'release' PBTLs under the NPW Act (Sections 53(1)(d) and 55 respectively) (DEW Fauna Permit Unit). Permit T40145 is included in Appendix 4 for reference.
- Scientific research permit to monitor PBTLs (Sections 53(1)(a) and 53(1)b) of NPW Act) (DEW Research Permits).
- Licence for teaching, research or experimentation involving animals, required under the *Animal Welfare Act 1985*, (DEW Animal Welfare).
- Relevant South Australian Wildlife Ethics Committee (WEC) approvals must be obtained for the purposes of teaching, research or experimentation (required under the licence for teaching, research or experimentation involving animals).

Note: Allow a minimum of 4 weeks for processing applications for permits from DEW. For WEC approvals, allow for a 2-week submission deadline prior to WEC meetings held every 2 months, as well as 2 weeks processing).

10 IMPLEMENTATION OF PBTL MANAGEMENT PLAN

This PBTL Management Plan is proposed to be implemented as a sub-plan of the CEMP prepared by Succession Ecology for Green Light Corporation (GLC, the construction contractor). The CEMP will be implemented during the construction phase of Stage 1A, Stage 1B and the OTL & Substation West components of the Goyder South Project to reduce any associated adverse environmental impacts and satisfy regulatory requirements.

Refer to the CEMP for information on the following aspects:

- Work stages (schedule of works)
- Environmental Management System
- Project commitments and regulatory requirements
- Roles and responsibilities
- Implementation
    - Induction
    - Meeting and communication
    - Monitoring, inspections and auditing
    - Reporting
    - Review
    - Permit System (also outlined below)
    - Incident reporting and non-compliance
    - Complaints procedure
    - Management of Sub-contractors
    - Records distribution and control
- Management and mitigation measures
- Management sub-plans

Refer to Section 14 in this document for detailed PBTL monitoring requirements.

A Flora and Fauna Management Plan (FFMP) has also been prepared to describe how construction impacts on significant native flora and fauna will be managed and mitigated (Succession Ecology 2023b). The FFMP will be implemented as a sub-plan of the CEMP and describes additional details for implementation of mitigation actions on the Project site. As such, this PBTL Management Plan will be implemented as a sub-plan of the CEMP and in conjunction with the FFMP.

Once the construction phase has been completed, this PBTL Management Plan is proposed be implemented as a sub-plan of the Operational Environmental Management Plan.

10.1 Permit System

The CEMP includes implementation of a Permit System as follows (Succession Ecology *2023a*):

> *Site inspections will be used to control work activities on site. In order to proceed with work in an undisturbed area an inspection will be required, and this will need to be signed off by the Project, Construction or Environmental Manger for works to proceed. Following the*

same process an inspection can bring about a stop work when signed off by the Project, Construction or Environment Manager.

This Permit System will be used in conjunction with the pre-construction micro-siting procedure and PBTL relocation procedure presented in Section 11 and Section 13, to ensure that work in an undisturbed area (such as, but not limited to, clearing and grubbing, and excavation) will not commence until (1) survey for PBTLs, (2) micro-siting of infrastructure to avoid and/or minimise impacts to PBTLs and their habitat, and (3) relocation of PBTLs (if required) has been completed and approval provided for works to commence.

10.2 PBTL Management Plan roles and responsibilities

As stated previously, this PBTL Management Plan is proposed to be implemented as a sub-plan of the CEMP, which will be implemented during the construction phase of the Stage 1A, Stage 1B and Common Asset (OTL & Substation) components of the Project. As outlined in the CEMP, both NEOEN and GLC (within the Engineering, Procurement and Construction (EPC) Contractor) have a role in implementing the requirements of the CEMP. As this PBTL Management Plan is proposed to be implemented as a sub-plan of the CEMP, both NEOEN and GLC have a role in implementing this Plan. Refer to the CEMP for more detail on the roles and responsibilities of NEOEN, GLC and sub-contractors.

Once the construction phase has been completed, this PBTL Management Plan is proposed to be implemented as a sub-plan of the Operational Environmental Management Plan, which will be implemented by NEOEN.

It is anticipated that there will be three main roles associated with implementation of this Plan, the Construction Project Manager / Asset Manager (NEOEN); the Engineering, Procurement and Construction (EPC) Contractor and an Ecological Consultant (Contractor). The specific personnel fulfilling these roles may change over time, particularly across the lifetime of the Project. The aspects and/or tasks that each role is likely to be responsible for are outlined in Table 15. Project employees, contractors and sub-contractors will also have a role, as will the Department, which is also outlined in Table 15. Note that the specific responsibilities for each management measure during construction, operation, PBTL relocation and monitoring are provided in Section 11, Section 12, Section 13, Section 14, respectively.

Table 15. Overview of roles and responsibilities associated with implementation of this Plan.

Role	Aspects and/or tasks the role is responsible for
Construction Project Manager / Asset Manager (NEOEN)*	Currently NEOEN is the project developer and is responsible for the planning of the entire Goyder South Project, including seeking and obtaining relevant planning and environmental approvals under State and Federal legislation, as well as construction and operation of the Project. NEOEN intends to own and operate the Goyder South Project in the future and does not intend to sell the Project. The Construction Project Manager / Asset Manager (NEOEN)* will be responsible for implementing this Plan, including all the objectives outlined in Section 1.2. It is anticipated that the Construction Project Manager / Asset Manager (NEOEN)* will engage a suitably qualified Ecological Consultancy to assist with implementation of this Plan, including undertaking PBTL relocation/translocation, monitoring and reporting. However, implementation of this Plan will remain the responsibility of the Construction Project Manager / Asset Manager (NEOEN)*. The Construction Project Manager / Asset Manager (NEOEN)* must ensure that they do not commence operation** of the Project unless the Plan has been approved by the Minister in writing.

Role	Aspects and/or tasks the role is responsible for
	Should the Construction Project Manager / Asset Manager (NEOEN)* change in future, implementation of this Plan will remain the responsibility of whoever is the Construction Project Manager / Asset Manager (NEOEN)*.
EPC Contractor	The EPC Contractor is constructing Stage 1A, Stage 1B and the Common Asset (OTL and Substation) components of the Goyder South Project and is responsible for implementing the CEMP, and sub-plans such as the FFMP and this PBTL Management Plan. As such, the EPC Contractor will also be responsible for implementing this Plan during construction, including the management measures associated with construction works (Section 11).
Ecological Consultant (Contractor)	It is proposed that a suitably qualified and experienced Ecological Consultant (Contractor) will be responsible for assisting the Construction Project Manager / Asset Manager (NEOEN)* to implement this Plan. The same Ecological Consultant (Contractor) is likely to be required to undertake PBTL relocation/translocation, monitoring and reporting activities and likely to be responsible for reviewing and analysing monitoring data and results to determine the success (or failure) of management actions and recommending refinement/improvement, if required.
Project employees, contractors and sub-contractors	All Project employees, contractors and sub-contractors are responsible for reporting any PBTL sightings, including any individuals injured or killed, to the GLC HSE Manager and/or Construction Project Manager / Asset Manager (NEOEN)*, who shall report it as an environmental incident and undertake an environmental incident investigation (in accordance with Section 7 and Section 8).
The Department and the Minister	Review and approve this Plan (if appropriate). Review and approve a revised version of this Plan (if required).

***The Construction Project Manager (NEOEN) will change to Asset Manager (NEOEN) once Practical Completion is achieved under the Engineering, Procurement and Construction Contract.**
****Refer to the Glossary and Abbreviation of Terms for a definition of 'operation'.**

10.3 Risks to implementation of this Plan

There are a number of potential risks to achieving this Plan's environmental objectives, including the following:

- Indifference and/or lack of understanding of requirement for this Plan (EPBC Act approval conditions) leading to poor implementation of this Plan;
- Change of wind farm owner and/or operator (potentially leading to poor implementation of this Plan);
- Change of staff responsible for implementation of this Plan (i.e., Construction Project Manager / Asset Manager (NEOEN)) and lack of understanding of requirements within this Plan; and
- Change of Ecological Consultancy assisting NEOEN to implement this Plan and lack of understanding of requirements within this Plan.

These risks are outlined in Table 16, along with further commentary on each risk, the likelihood rating of each risk occurring, the consequence rating of each risk, the overall risk rating, risk management strategies and/or proposed contingency measures and who will be responsible for managing the risk. A qualitative risk assessment methodology was used to undertake the risk assessment, with the likelihood and consequence rating criteria, along with the corresponding risk rating matrix, provided in Appendix 6.

Table 16. Assessment of risks to achieving the PBTL Management Plan's environmental objectives and associated risk management strategies that will be applied.

Potential risk	Comment on risk	Likelihood of risk occurring	Consequence rating	Risk rating	Risk management strategies / Proposed contingency measures	Responsibility
Indifference and/or lack of understanding of requirement for this Plan (EPBC Act approval conditions) leading to poor implementation of this Plan, including the monitoring, analysis, adaptive management and reporting proposed within it.	Poor implementation of this Plan is likely to result in potential non-compliance with the EPBC Act approval conditions, which is undesirable for NEOEN.	Unlikely – Possible	Minor - Moderate	Medium	• Ensure this Plan addresses all the EPBC Act approval conditions (Table 3). • EPBC Act Approvals Annual Compliance Reports (which must be published to the Project's website on an annual basis and available until the approvals expire).	Construction Project Manager / Asset Manager (NEOEN) (assisted by Ecological Consultancy)
Change of wind farm owner and/or operator (potentially leading to poor implementation of this Plan).	NEOEN intend to own and operate Goyder South Stage 1A and Stage 1B wind farms as part of the Goyder South Hybrid Renewable Energy Facility and advise that they are unlikely to sell Goyder South wind farms.	Possible	Minor - Moderate	Medium	• EPBC Act approval (and conditions).	Construction Project Manager / Asset Manager (NEOEN) (assisted by Ecological Consultancy)
Change of staff responsible for implementation of this Plan (i.e., Construction Project Manager / Asset Manager (NEOEN)) and lack of understanding of requirements within this Plan.	Given the ~35 year expected duration of operation of the Stage 1A and Stage 1B wind farms, (with EPBC Approvals having effect until 31 December 2057) it is likely that the Construction Project Manager / Asset Manager (NEOEN) will change at times during implementation of this Plan.	Highly likely	Minor - Moderate	High	• Construction Project Manager / Asset Manager (NEOEN) to be inducted into this Plan. • Construction Project Manager / Asset Manager (NEOEN) to be involved in review of all reporting associated with this Plan. • Ecological Consultancy to ensure Construction Project Manager / Asset Manager (NEOEN) is invited to review all reporting associated with this Plan and assist the Construction Project Manager / Asset Manager (NEOEN) to understand the requirements.	Construction Project Manager / Asset Manager (NEOEN) (assisted by Ecological Consultancy)
Change of Ecological Consultancy assisting NEOEN to implement this Plan and lack of understanding of requirements within this Plan.	Given the ~35 year expected duration of operation of the Stage 1A and Stage 1B wind farms, (with EPBC Approvals having effect until 31 December 2057) it is likely that the Ecological Consultancy will change at times during implementation of this Plan.	Possible - Likely	Minor - Moderate	Medium	• NEOEN to ensure that they engage a suitably qualified and experienced Ecological Consultancy to assist with implementation of this Plan. • NEOEN to ensure they maintain accurate records and files, including this Plan and any reports associated with it.	Construction Project Manager / Asset Manager (NEOEN)

10.4 Review and revision of this Plan

This PBTL Management Plan is proposed to be reviewed and updated as required during construction and/or operation of the Project, for example if circumstances change, approvals are varied, or to incorporate alternate management measures or methods, such as new technologies.

As outlined in Section 2, this PBTL Management Plan has been revised in August 2023 to include specific conditions associated with the EPBC Act approvals relevant to PBTLs and PBTL habitat (Table 3 in Section 3) and to include the additional PBTLs and PBTL habitat discovered during PCC and micro-siting surveys (Section 4.4 and Section 5.2).

10.5 Submission and publication of this Plan

As outlined previously in Section 3, a previous version of this PBTL Management Plan (*version 3, dated 28 June 2022*) was submitted to the Department as an attachment to the Preliminary Documentation associated with the Stage 1A and Stage 1B EPBC Referrals (2021/8958; 2021/8957) which were subsequently approved on 5 July 2022 and 28 July 2022, respectfully (Table 1).

Section 143A of the EPBC Act allows the approval holder to submit a revised action management plan (RAMP), (such as this PBTL Management Plan), at any time, to the Minister for approval. However, the *conditions of approval* (attached to the EPBC approvals; Table 3) also state that the approval holder may choose to revise an action management plan approved by the Minister, or as subsequently revised in accordance with the *conditions of approval*, without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the RAMP would not be likely to have a new or increased impact.

As such, any revisions of this Plan will be submitted to the Department either for information or for approval by the Minister, in accordance with the *conditions of approval* (Table 3). Furthermore, any revisions of this Plan will be published on the Project's website as required by the *conditions of approval* (Table 3). It will remain on the Project's website until the end date of the relevant EPBC Act approvals, which is 31 December 2057.

Due to the risk of poaching of PBTLs, sensitive ecological data (such as information identifying the location of PBTLs and PBTL habitat) will be redacted from this Plan when it is published on the Project's website or provided to a member of the public.

If NEOEN decides to revise this Plan without submitting it for approval by the Minister, NEOEN will:

- notify the Department in writing that the approved action management plan has been revised and provide the Department with:
    - an electronic copy of the RAMP (i.e., this Plan);
    - an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP;
    - an explanation of the differences between the approved action management plan and the RAMP;

- the reasons NEOEN considers that taking the action in accordance with the RAMP would not be likely to have a new or increased impact; and
- written notice of the date on which NEOEN will implement the RAMP (RAMP implementation date), being at least 20 business days after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the Department.

NEOEN will implement the RAMP from the RAMP implementation date.

Refer to the *conditions of approval* outlined in Table 3 and attached to the EPBC Act approvals for more detail.

11 CONSTRUCTION MANAGEMENT MEASURES

Management measures to be implemented during construction are outlined in the tables on the following pages within this section, along with the location, timing, frequency and responsibility associated with each management measure.

11.1 General construction management measures

Table 17. General construction management measures.

Construction Management Measures	Location	Timing	Frequency	Responsibility
Pre-construction PBTL survey The PBTL relocation procedure detailed in Section 13 and developed by EBS Ecology is to be implemented. In summary: • Where any construction works (including, but not limited to, ground disturbing works such as clearing and grubbing and earthworks for vehicle access tracks, infrastructure and trenching) are required within '*Likely*' and/or '*Potential*' PBTL habitat (Figure 7 to Figure 13), a targeted PBTL search will be undertaken, by a suitably qualified ecologist(s) to establish the location of PBTLs; • Wherever practicable, the final location of infrastructure (WTGs, access tracks and underground electrical reticulation) within *'Likely'* and/or *'Potential'* PBTL habitat (Figure 7 to Figure 13) will be micro-sited (shifted slightly) to avoid and/or minimise impacting any PBTLs and the need to relocate PBTLs as much as possible; and • Any PBTLs within the infrastructure footprint that cannot be avoided will be relocated to the nearest suitable release site (as detailed in Section 13) to avoid direct impact (i.e. destruction) to PBTLs. Construction works (that involve ground disturbing activities, such as, but not limited to clearing and grubbing, and excavation) will not commence until PBTL relocation within specific areas or zones has been completed and approval provided for construction works to commence, in accordance with the Permit System outlined in Section 10.1 and the CEMP.	Within *'Likely'* and/or *'Potential'* PBTL habitat (Figure 7 to Figure 13) within the Infrastructure footprint.	Approximately 1-4 weeks prior to any construction works commencing.	Once.	EPC Contractor, NEOEN and Ecological Consultant
All staff and contractors will complete a detailed, site specific induction which provides an overview of PBTLs and potential impacts to PBTLs, as well as management measures associated with protection of PBTLs.	Site Office.	Prior to commencing any work on site.	Once (for each staff member and/or contractor).	EPC Contractor
Display a fact sheet on PBTLs (including images of PBTLs, habitat mapping, i.e. *'Likely'* and *'Potential'* PBTL habitat and breeding season dates when PBTLs are more active and dispersing, as a minimum).	On site notice boards and in lunch rooms.	During construction.	Ongoing.	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Hold toolbox meetings to highlight the importance of the species and ensure all staff and contractors are aware of the control measures to prevent impacting them.	Site Office.	Prior to commencing any construction works within *'Likely'* and *'Potential'* PBTL habitat.	Weekly.	EPC Contractor
Install signage and exclusion barriers/bunting.	Around the outside of *'Likely'* and *'Potential'* PBTL habitat adjacent to the Infrastructure footprint.	After PBTL relocation and prior to commencing any construction works in the Infrastructure footprint.	Once (ongoing).	EPC Contractor
Construct windrows (small soil berms) to delineate the boundary and prevent vehicles and construction equipment damaging habitat beyond the Infrastructure footprint.	On the edge of the Infrastructure footprint within *'Likely'* and *'Potential'* PBTL habitat.	As soon as possible during construction works.	Once (ongoing).	EPC Contractor
Ensure all physical PBTL control measures, such as windrows, sediment fencing, signage and exclusion barriers/bunting are checked and maintained on a regular basis (weekly as a minimum).	Wherever all physical PBTL control measures are located.	During construction.	Weekly (as a minimum).	EPC Contractor
Report any PBTL sightings, including any individuals injured or killed, to the Environment Manager, who shall report it as environmental incident and undertake an environmental incident investigation.	Infrastructure footprint.	During construction.	As required.	EPC Contractor / All staff
Apart from initial earthworks to construct access tracks and hardstand areas, ensure all vehicles and construction equipment always utilise existing farm tracks and dedicated access tracks and hardstands and avoid travel outside of these areas.	Project Area.	During construction.	Ongoing.	EPC Contractor / All Staff
Remind all staff and contractors to be vigilant when driving and look out for PBTLs.	Infrastructure footprint.	Regularly during daily pre-start meetings or during toolbox meetings (as required).	Ongoing, particularly during the PBTL breeding season (Oct to Nov).	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Do not leave trenches or pits open for more than 24 hours (where practicable). Where trenches or pits are required to remain open for more than 24 hours, install (immediately) a sediment fence barrier within 10 m of the edge of the trench or pit to prevent PBTLs entering it. The base of the sediment fence must be installed correctly (dug-in) to prevent PBTLs moving underneath it.	Within *'Likely'* or *'Potential'* PBTL habitat.	During construction.	Ongoing.	EPC Contractor
All trenches and excavations will be checked for trapped PBTLs and any trapped PBTLs will be released.	Within *'Likely'* or *'Potential'* PBTL habitat.	First thing in the morning and again in the afternoon prior to works finishing for the day.	Twice daily (morning and afternoon).	EPC Contractor
All cable junction pits (which may be required to stay open for extended amounts of time during construction) will be covered and/or fenced off (for example with a sediment fence) to prevent PBTLs entering them.	Within *'Likely'* or *'Potential'* PBTL habitat.	During construction.	Ongoing.	EPC Contractor
If a significant alteration of grazing regime (for example increased grazing or preferential grazing in particular areas) is observed (as part of monitoring) and considered to be potentially impacting PBTLs and/or their habitat, then it will need to be investigated by a suitably qualified ecologist and mitigation measures (such as new water points) implemented where possible.	Within *'Likely'* or *'Potential'* PBTL habitat.	During construction.	As required.	EPC Contractor

11.2 Weed and pest management measures

Table 18. Weed and pest management.

Construction Management Measures	Location	Timing	Frequency	Responsibility
Undertake a weed survey to understand existing weed conditions and potential impacts (e.g. spread) during construction.	Infrastructure footprint.	Prior to commencing any construction works.	Once.	EPC Contractor
Ensure that adequate signage is displayed to advise the Project Owner's officers, employees, agents and contractors (and any other persons for whom the EPC Contractor is responsible) of the need for vigilant weed and pest control protocol and the need to recognise declared biosecurity protocols.	Site entrance and Site Compound.	Prior to commencing any construction works.	Ongoing.	EPC Contractor
Remove or destroy all Declared and/or environmental weeds.	Infrastructure footprint.	Prior to commencing any construction works.	Once.	EPC Contractor
Ensure weed control methods are in accordance with the following from the *Recovery Plan for the Pygmy Bluetongue Lizard* (Duffy *et al.* 2012): • Use minimal disturbance weed control methods wherever possible; • If herbicide use is required: o Read and adhere to the guidelines and recommended quantities stated on the label of the herbicide container; o Ensure application occurs on a calm day to minimise drift and off-target damage; o Wherever possible, spot spray directly onto the target species; and o Avoid broadscale application of herbicide. Ensure any sub-contractor engaged to undertake weed control is aware of the above requirements.	Within *'Likely'* and *'Potential'* PBTL habitat in the Infrastructure footprint.	During weed control works.	Ongoing.	EPC Contractor
Display a fact sheet on Declared and environmental weeds known to occur within the Infrastructure footprint, on site notice boards and in lunch rooms.	Site Office.	Prior to commencing any work on site.	Ongoing.	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Install a designated wash-down bay to clean vehicles and construction equipment during construction works and prior to leaving site.	Site Compound.	Prior to commencing and during construction works.	Once	EPC Contractor
Ensure all vehicles and construction equipment are clean and free of soil material containing weed seed or propagules, prior to arriving on site. If vegetative material or earth is present, ensure that the equipment is washed down at an appropriate facility to prevent vegetative material or earth potentially containing weed seeds being brought in to the site.	Site entrance.	Prior to arriving on site.	Once (per vehicle / construction equipment).	EPC Contractor / All site personnel
Ensure all fill materials (e.g. sand, aggregate) imported to site are sourced from weed and pathogen free sites. The EPC Contractor is to keep all certificates and receipts from suppliers that specifies clean material.	Infrastructure footprint.	Every time fill materials are imported to site.	Ongoing.	EPC Contractor
If soil or fill material stockpiles become infested with weeds, undertake weed control (spray with herbicide).	Infrastructure footprint.	As soon as practicable and at least 10 – 14 days prior to moving material.	As required.	EPC Contractor
Store construction vehicles and equipment on constructed hardstands, away from areas of weed infestation.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Rehabilitate exposed and disturbed soils as soon as possible.	Infrastructure footprint.	As soon as possible during construction.	Ongoing.	EPC Contractor
Undertake weed control such as (but not limited to) slashing, spraying, or physical removal, prior to the weeds setting seed.	Infrastructure footprint.	As required during construction.	Ongoing.	EPC Contractor
Ensure construction compounds are kept neat and tidy at all times, to prevent pest animals from inhabiting the area.	Site Compounds.	During construction.	Ongoing.	EPC Contractor
Ensure food waste is placed in enclosed / covered bins, to prevent pest animals from accessing it.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Report and record rabbit / fox / feral cat sightings.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Rip or fill-in rabbit warrens.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Control pest animal species (particularly rabbits, foxes and feral cats) that may proliferate as a result of site activities. Ensure rabbit control is in accordance with the *Threat abatement plan for competition and land degradation by rabbits* (DotEE 2016) that includes management of rabbits through one of the following techniques: o Poison baiting; o Biological control agents; o Warren ripping and fumigation; o Fencing; o Harbour removal; and o Shooting.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor

11.3 Soil erosion and drainage management measures

Table 19. Soil erosion and drainage management measures.

Construction Management Measures	Location	Timing	Frequency	Responsibility
Develop a detailed Erosion and Sedimentation Control Plan (ESCP) for the overall site prior to disturbing any soil on site. Ensure the ESCP shows the type and location of all erosion and sediment controls and that they are implemented during construction as well as reviewed and updated regularly.	Project Area.	Prior to disturbing any soil.	Develop it once. Review and update it regularly.	EPC Contractor
Control measures, such as soil berms, cut-off drains, rock rip-rap, sediment fences, mulch berms and sediment traps, will be installed to: o Reduce stormwater runoff velocity to prevent erosion; and o Capture and remove sediment from stormwater runoff to prevent sedimentation of downstream habitats, drainage lines or watercourses. Control measures will be installed in accordance with *Best Practice Erosion and Sediment Control* (IECA 2008).	Infrastructure footprint.	Immediately upon commencement of disturbing soil.	Ongoing.	EPC Contractor
Ensure the weather forecast, particularly rainfall, is checked regularly and communicated to all staff and contractors during daily pre-start meetings.	Project Area.	During construction.	Checked regularly and communicated during daily pre-start meetings.	EPC Contractor
Limit vegetation clearing to the minimum required for construction works and safety, and where possible, retain established trees, native shrub understoreys and native grasslands.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Ensure that the area of disturbance and the length of time that areas are left exposed is minimised as much as possible through appropriate scheduling of activities.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Rehabilitate (for example rip and seed) exposed areas as soon as practicable.	Infrastructure footprint.	As soon as practicable.	Ongoing.	EPC Contractor
Utilise existing access tracks as much as possible and apart from initial earthworks to construct access tracks and hardstand areas, ensure all vehicles and construction equipment always utilise dedicated access tracks and hardstands within the wind farm and do not travel outside of these areas.	Project Area.	During construction.	Ongoing.	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Construct windrows (small soil berms) to direct stormwater into controls and prevent uncontrolled, and/or sediment laden, stormwater leaving the Infrastructure footprint and entering natural drainage lines.	As required adjacent to access tracks and hardstands.	Immediately upon commencement of constructing access tracks and hardstands.	Ongoing.	EPC Contractor
Manage stockpiles in accordance with the EPA *Guideline for stockpile management* and *Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry*.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
All spoil material (e.g. from trenches and pits) will be stockpiled on the uphill side of any exposed trench and sediment control, if required.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Rumble grids will be implemented to prevent vehicles exiting the site from dragging out sediment onto local roads. If required, vehicles will be washed down prior to leaving and wastewaters will be managed to prevent offsite impacts.	Site entrance/exit.	Prior to disturbing any soil.	Ongoing.	EPC Contractor
Ensure all erosion and sediment controls are checked for effective operation and maintained, repaired or improved.	Infrastructure footprint.	During construction.	Regularly (weekly as a minimum), particularly immediately prior to and after any significant rainfall event.	EPC Contractor
All natural drainage lines immediately downstream of the Infrastructure footprint will also be checked for signs of erosion and or sedimentation.	Immediately downstream of the Infrastructure footprint.	During construction.	Regularly, particularly after any significant rainfall event.	EPC Contractor
The temporary concrete batching plant, the washout pit / collection area, and any stormwater retention devices shall be positioned at least 50 m away from any environmentally sensitive locations.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
The adoption of best practice erosion and sediment controls at the site to reduce the potential movement of stormwater on to the batching plant site from outside of the hardstand area. Controls may include diversion berms, coir logs and diversion swales.	Concrete batching plant.	During construction.	Ongoing.	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Manage the placement of bulk materials for concrete batching. Avoid stockpiling in areas where these materials may be washed outside of the stormwater retention structures for the batching plant site. The placement of stockpiles of materials can be expected to consider the placement of erosion and sediment control devices and the likely path of stormwater movement across the site in order to reduce the potential for stormwater contact with these materials as the moves to retention structures.	Concrete batching plant.	During construction.	Ongoing.	EPC Contractor
Wastewater generated from the maintenance and cleaning of the batching plant and associated infrastructure will be contained within the washout pit / collection area.	Concrete batching plant.	During construction.	Ongoing.	EPC Contractor
Ensure sediment control measures / retention structures around concrete batching plant are maintained regularly to ensure effective operation at all times.	Concrete batching plant.	During construction.	Ongoing.	EPC Contractor
Where practicable, and where the water in the stormwater retention devices achieves necessary water quality standards for discharge, the water may be released offsite to ensure capacity is available within the retention device. Again, both passive and active water treatments may be adopted to ensure water quality standards can be achieved.	Concrete batching plant.	During construction.	Ongoing.	EPC Contractor
All washing out of concrete to be captured within lined non-permeable bund or skip and disposed of within construction and demolition waste.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor

11.4 Dust management measures

Table 20. Dust management.

Construction Management Measures	Location	Timing	Frequency	Responsibility
Limit vegetation clearing to the minimum required for construction works and safety and retain as much vegetation as possible.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Limit bare earth exposure to the minimum possible and use vegetation cover, mulch covers or other suitable methods where possible.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Use a water cart to spray access tracks, stockpiles and any other exposed soils.	Infrastructure footprint.	During construction.	As required.	EPC Contractor
Rehabilitate (revegetate) or allow natural regeneration of bare soils as soon as the area is no longer needed for construction.	Infrastructure footprint.	As soon as the area is no longer needed for construction.	Ongoing.	EPC Contractor
Minimise the height of stockpiles and avoid placing stockpiles in high wind areas (on the top of hills).	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Maintain stockpiles, for example stripped topsoil, in a condition which prevents windblown dust generation, especially during dry or windy conditions. This will include watering or covering of stockpiles with an appropriate erosion and sediment control solution.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Ensure vehicle loads that contain material likely to generate dust are covered, where practicable.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Ensure trucks and trailers are brushed down to remove loose soil and/or gravel prior to leaving site.	At site exit point(s).	Prior to leaving site.	As required.	EPC Contractor
Avoid activities that are likely to generate large amounts of dust, such as earthworks and loading soil and/or gravel materials into trucks, during high wind conditions, where possible.	Infrastructure footprint.	During high wind conditions.	As required.	EPC Contractor
Enforce a maximum speed limit of 40km/hr on sealed and unsealed access tracks, 10km/hr where access tracks are in construction and past landowner dwellings, past livestock and stationary work crew, where practicable.	Project Area.	During construction.	Ongoing.	EPC Contractor

11.5 Noise and vibration management measures

Table 21. Noise and vibration management.

Construction Management Measures	Location	Timing	Frequency	Responsibility
Discuss noise control measures during pre-start or toolbox meetings (for example prior to undertaking particularly noisy activities).	As appropriate.	Prior to undertaking particularly noisy activities.	Regularly during pre-start or toolbox meetings.	EPC Contractor
All construction works will be compliant with the requirements of the EPA Noise Policy (including no noise >45dB(A) (continuous) or >60dB(A) (maximum) outside of 7am-7pm Monday to Saturday).	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Ensure "all reasonable and practicable" noise mitigation measures outlined within the Project's Construction Noise and Vibration Management Plan.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor

11.6 Waste management measures

Table 22. Waste management.

Construction Management Measures	Location	Timing	Frequency	Responsibility
Plan concrete works carefully to minimise generation of excess concrete and associated residues.	Infrastructure footprint.	Prior to any concrete works.	As required.	EPC Contractor
Ensure waste concrete is directed to suitable washout pits and allowed to dry and taken to a licensed waste depot or where permitted by the EPA, crushed and reused on site (for example within road-base or turbine excavation backfill).	Infrastructure footprint.	During concrete works.	As required.	EPC Contractor
Capture sheeting, screens or similar are in place to capture waste materials during construction activities so as to not cause pollution or environmental nuisance.	Infrastructure footprint.	During concrete works.	As required.	EPC Contractor
Ensure all waste is stored on-site in such a manner so as to prevent any materials from entering a waterway or being blown away by the wind and no waste is buried on the site. Small items of waste should be kept in covered bins.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Ensure all solid and/or liquid waste is transported by an appropriately qualified waste contractor and transferred to a waste depot licensed to receive it and that all waste volumes/weights are recorded in the project waste register	Infrastructure footprint and off-site.	During construction.	Ongoing.	EPC Contractor
Lidded bins for office / food waste to minimise odours and attraction of pests and native animals or birds.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Ensure that ablutions waste is managed appropriately and tanks are regularly emptied by a licenced contractor.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor

11.7 Hazardous materials and dangerous goods management measures

Table 23. Hazardous materials and dangerous goods management.

Construction Management Measures	Location	Timing	Frequency	Responsibility
Develop a spill contingency plan on which to base an emergency response in case of a spill or accident involving chemicals. Any such spill may result in possible surface or ground water contamination.	Site office / Infrastructure footprint.	Prior to construction works commencing.	Develop once and update as required.	EPC Contractor
Regularly discuss hazardous materials and dangerous goods control measures during pre-start or toolbox meetings.	Site office.	During pre-start or toolbox meetings.	Regularly (weekly as a minimum).	EPC Contractor
All washing out of concrete to be captured within lined non-permeable bund or skip and disposed of within construction and demolition waste.	Infrastructure footprint.	During concrete works.	As required.	EPC Contractor
All hazardous materials and hydrocarbons will be appropriately transported, stored and handled during construction in accordance with relevant guidelines and regulations, to avoid release or impact to the environment. These guidelines primarily include the *Australian Code for the Transport of Dangerous Goods by Road and Rail* 7th Ed, AS 1940 and AS 3833.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Where these portable or freestanding chemical bunds are exposed to the weather, the bunds would be covered or otherwise monitored and drained to ensure the availability of bund capacity in the event of an uncontrolled release.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
The physical position of the chemical storage units, bunds and fuel storage containers that may be utilised will be subject to the requirements of the relevant supporting legislation. Broadly the placement will be in a location where impacts on the environment, including from the physical release of chemicals or odour, will be minimised.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Make provision for the spill catchment capacity to be at least the larger of 110% of the volume of the largest bulk container or 25% of the total capacity of all containers stored in a bunded area. All bunded areas are to have an impervious lining.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Drain bunded areas when necessary and test and dispose of accordingly, which may include using a licenced waste operator.	Infrastructure footprint.	During construction.	As required.	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Material Safety Data Sheets (MSDS) will be required for all hazardous materials kept on site. Procedures for mitigating specific impacts from materials will be governed by the appropriate MSDS.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
All hazardous materials and dangerous goods containers and storage areas will be clearly identified with labelling and signage.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Portable metal or plastic fuel containers of normal capacities up to and including 25 litres must comply with the requirements under AS/NZS 2906:2001 *Fuel containers - portable-plastic and metal*. Containers covered by this Australian Standard are suitable for use with leaded, unleaded and super grades of petrol, two-stroke engine fuel, and kerosene and distillate (diesel fuels).	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Minor storage quantities as per AS 1940 on open land will adhere to the following: • liquid will be kept at least 1.0 m from any boundary, workshop, dwelling or protected place, body of water, watercourse or environmentally sensitive area; • the ground around the store will be kept clear of combustible vegetation or refuse for a distance of at least 3.0 m; and • any potential flow or spillage will be prevented from reaching a protected place, watercourse or property boundary by such means as the use of natural ground slope, or the provision of a diversion channel, kerb or bund.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Adequately supplied spill kits will be kept within the vicinity of the worksite where such hazardous materials are used and stored (i.e. the batching plant site).	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Workers who transport, handle or use hazardous materials will be trained or have an appropriate level of experience relevant to the task and will be aware of emergency response procedures for spill events.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Refuelling infrastructure to be bunded and covered.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Refuel/lube machines are to be in bunded areas and are to be situated at least 40 m away from any waterway.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor
Undertake machinery maintenance on a sealed surface or suitable ground covering to capture spills.	Infrastructure footprint.	During construction.	As required.	EPC Contractor

Construction Management Measures	Location	Timing	Frequency	Responsibility
Empty hazardous substance containers will be identified and stored within a storage area designated for “empty containers” only. An “empty container” is a container that has had the material removed. These empty containers must be handled in accordance with the manufacturer’s instructions.	Infrastructure footprint.	During construction.	Ongoing.	EPC Contractor

12 OPERATIONAL MANAGEMENT MEASURES

Management measures to be implemented during operation are outlined in the tables on the following pages within this section, along with the location, timing, frequency and responsibility associated with each management measure.

12.1 General operational management measures

Table 24. General operational management measures.

Operational management measures	Location	Timing	Frequency	Responsibility
All staff and contractors will complete a detailed, site specific induction which provides an overview of PBTLs and covers potential impacts to PBTLs, as well as management measures associated with protection of PBTLs.	Site office.	Prior to commencing any work on site.	Once.	Asset Manager (NEOEN)
Display a fact sheet on PBTLs (including images of PBTLs, habitat mapping, i.e. *'Likely'* and *'Potential'* PBTL habitat, and breeding season dates when PBTLs are more active and dispersing, as a minimum).	On site notice boards and in lunch rooms.	During operation.	Ongoing.	Asset Manager (NEOEN)
Ensure all vehicles and equipment always utilise dedicated access tracks and hardstands within the wind farm and do not travel outside of these areas.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Hold toolbox meetings to highlight the importance of the species and ensure all staff and contractors are aware of the control measures to prevent impacting them.	Site office.	Prior to commencing any works within *'Likely'* and *'Potential'* PBTL habitat.	As required.	Asset Manager (NEOEN)
Remind all staff and contractors to be vigilant when driving and look out for PBTLs.	Site office / compound.	Regularly during daily pre-start meetings or during toolbox meetings (as required).	Ongoing, particularly during the PBTL breeding season (Oct to Nov).	Asset Manager (NEOEN)
Report any PBTL sightings, including any individuals injured or killed, to the Environment Manager, who shall report it as environmental incident and undertake an environmental incident investigation.	Infrastructure footprint.	During operation.	As required.	Asset Manager (NEOEN)
If a significant alteration of grazing regime (for example increased grazing or preferential grazing in particular areas) is observed (as part of monitoring) and considered to be potentially impacting PBTLs and/or their habitat, then it will need to be investigated by a suitably qualified ecologist and mitigation measures (such as new water points) implemented where possible.	Within *'Likely'* and *'Potential'* PBTL habitat in the Infrastructure footprint.	During operation.	As required.	Asset Manager (NEOEN)

Operational management measures	Location	Timing	Frequency	Responsibility
Where any operation and/or maintenance works that require ground disturbing activities are required (which will or may have the potential to impact PBTL habitat): • a targeted PBTL search will be undertaken within the Infrastructure footprint by a suitably qualified ecologist(s) to establish the location of PBTLs; • Wherever possible, the location of the maintenance works will be micro-sited (shifted) to avoid and/or minimise impacting any PBTLs and the need to relocate PBTLs as much as possible; and • Any PBTLs within the Infrastructure footprint that cannot be avoided will be relocated (as detailed in Section 13).	Within *'Likely'* and *'Potential'* PBTL habitat in the Infrastructure footprint.	Prior to commencing any operation and/or maintenance works that require ground disturbing activities (can be done on the same day of works commencing, or earlier, but no more than 1 week prior to works commencing).	As required.	Asset Manager (NEOEN)

12.2 Weed and pest management measures

Table 25. Weed and pest management.

Operational management measures	Location	Timing	Frequency	Responsibility
Implement standard hygiene practices (wash down vehicles) when bringing equipment, vehicles and other materials onto the site (e.g. for maintenance purposes) and by practicing minimal disturbance methods.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Conduct an annual survey to identify and monitor the location, extent and abundance of weed species, particularly Declared weed species within access tracks and hardstand areas.	Infrastructure footprint.	Annually (preferably at the same time of year each time).	Annually during operation of the Project.	Asset Manager (NEOEN)
Undertake weed control such as (but not limited to) slashing, spraying, or physical removal, prior to the weeds setting seed.	Infrastructure footprint.	Prior to weeds setting seed.	As required.	Asset Manager (NEOEN)
Ensure weed control methods are in accordance with the following from the *Recovery Plan for the Pygmy Bluetongue Lizard* (Duffy *et al.* 2012): • Use minimal disturbance weed control methods wherever possible; • If herbicide use is required: o Read and adhere to the guidelines and recommended quantities stated on the label of the herbicide container; o Ensure application occurs on a calm day to minimise drift and off-target damage; o Wherever possible, spot spray directly onto the target species; and o Avoid broadscale application of herbicide. Ensure any sub-contractor engaged to undertake weed control is aware of the above requirements.	Within *'Likely'* and *'Potential'* PBTL habitat.	During weed control works.	Ongoing.	Asset Manager (NEOEN)

Operational management measures	Location	Timing	Frequency	Responsibility
Control pest animal species (especially rabbits, foxes and feral cats) that may proliferate as a result of site activities. Ensure rabbit control is in accordance with the *Threat abatement plan for competition and land degradation by rabbits* (DotEE 2016) that includes management of rabbits through one of the following techniques: o Poison baiting; o Biological control agents; o Warren ripping and fumigation; o Fencing; o Harbour removal; and o Shooting.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Ensure waste is unable to be accessed by pest animals.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)

12.3 Soil erosion and drainage management measures

Table 26. Soil erosion and drainage management.

Operational management measures	Location	Timing	Frequency	Responsibility
Ensure all erosion and sediment controls are checked for effective operation and maintained, repaired or improved.	Infrastructure footprint.	During operation.	Regularly (weekly as a minimum), particularly prior to any significant rainfall event.	Asset Manager (NEOEN)
All natural drainage lines immediately downstream of the Infrastructure footprint will also be checked for signs of erosion and or sedimentation.	Infrastructure footprint.	During operation.	Regularly, particularly after any significant rainfall event.	Asset Manager (NEOEN)
Minimise disturbance of soil and vegetation during all activities undertaken throughout the operational phase (including vehicle access, general infrastructure and site maintenance, weed control, fire management, grazing and fauna surveys) within the Project Area, by: o only driving on designated vehicle access tracks; o minimising driving (walk where possible); o not driving on waterlogged vehicle access tracks (this will only be considered in circumstances that threaten the safety of personnel or windfarm assets, and by approval of the Site Manager); o ensuring that all designated vehicle access tracks and site stormwater drainage is well maintained to prevent erosion and sedimentation from occurring; and o minimising digging and soil disturbance to only that which is required to implement the approved action, including ripping of rabbit warrens to control rabbits.	Infrastructure footprint.	During operation.	During all activities.	Asset Manager (NEOEN)

12.4 Dust management measures

Table 27. Dust management.

Operational management measures	Location	Timing	Frequency	Responsibility
Enforce a maximum speed limit of 40km/hr on sealed and unsealed access tracks, and 10km/hr past landowner dwellings, livestock and stationary work crew, where practicable.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)

12.5 Waste management measures

Table 28. Waste management.

Operational management measures	Location	Timing	Frequency	Responsibility
Ensure all waste is stored on-site in such a manner so as to prevent any materials from entering a waterway or being blown away by the wind and no waste is buried on the site. Small items of waste should be kept in covered bins.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Ensure all solid and/or liquid waste is transported by an appropriately qualified waste contractor and transferred to a waste depot licensed to receive it and that all waste volumes/weights are recorded in the project waste register	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Lidded bins for office / food waste to minimise odours and attraction of pests and native animals or birds.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Ensure that ablutions waste is managed appropriately and tanks are regularly emptied by a licenced contractor.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Concrete washout to be carried out in bunded wash bay within the on-site batch plant. On site batch plant to include a water re-use plan.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)

12.6 Hazardous materials and dangerous goods management measures

Table 29. Hazardous materials and dangerous goods management.

Operational management measures	Location	Timing	Frequency	Responsibility
Material Safety Data Sheets (MSDS) will be required for all hazardous materials kept on site. Procedures for mitigating specific impacts from materials will be governed by the appropriate MSDS.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
All hazardous materials and dangerous goods containers and storage areas will be clearly identified with labelling and signage.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Portable metal or plastic fuel containers of normal capacities up to and including 25 litres must comply with the requirements under AS/NZS 2906:2001 *Fuel containers - portable-plastic and metal*. Containers covered by this Australian Standard are suitable for use with leaded, unleaded and super grades of petrol, two-stroke engine fuel, and kerosene and distillate (diesel fuels).	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Minor storage quantities as per AS 1940 on open land will adhere to the following: • liquid will be kept at least 1.0 m from any boundary, workshop, dwelling or protected place, body of water, watercourse or environmentally sensitive area; • the ground around the store will be kept clear of combustible vegetation or refuse for a distance of at least 3.0 m; and • any potential flow or spillage will be prevented from reaching a protected place, watercourse or property boundary by such means as the use of natural ground slope, or the provision of a diversion channel, kerb or bund.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Adequately supplied spill kits will be kept within the vicinity of the worksite where such hazardous materials are used and stored.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Workers who transport, handle or use hazardous materials will be trained or have an appropriate level of experience relevant to the task and will be aware of emergency response procedures for spill events.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Refuelling infrastructure to be bunded and covered.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Refuel/lube machines are to be in bunded areas and are to be situated at least 40 m away from any waterways.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)

Operational management measures	Location	Timing	Frequency	Responsibility
Undertake machinery maintenance on a sealed surface or suitable ground covering to capture spills.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)
Empty hazardous substance containers will be identified and stored within a storage area designated for “empty containers” only. An “empty container” is a container that has had the material removed. These empty containers must be handled in accordance with the manufacturer’s instructions.	Infrastructure footprint.	During operation.	Ongoing.	Asset Manager (NEOEN)

13 PBTL RELOCATION PROCEDURE

As outlined within Section 5.1 the location of infrastructure, including, but not limited to, vehicle access tracks, WTGs and underground electrical reticulation (installed via trenching), will be micro-sited away from PBTLs, wherever possible, during pre-construction surveys to avoid and/or minimise direct impacts to PBTLs as much as possible.

Where micro-siting cannot avoid direct impact to PBTLs, the individual(s) will be relocated to the nearest suitable release site in accordance with the procedure outlined in this Section. While every effort will be made to successfully relocate PBTLs impacted by Project infrastructure and ensure their ongoing survival, it is assumed that as a worst-case scenario, none of the relocated PBTLs will survive.

The PBTL relocation procedure will involve the following main steps, which are expanded upon further below in Table 30:

- **Pre-construction PBTL survey:**
    - within *'Likely'* and/or *'Potential'* PBTL habitat within the Infrastructure footprint in order to micro-site the location of infrastructure, including, but not limited to, (access tracks, WTGs and underground electrical reticulation) to avoid impact to PBTLs and determine which PBTLs, if any, need to be relocated (if impact to them cannot be avoided via micro-siting); and
    - at potential relocation release sites (*'Likely'* PBTL habitat located outside of the Infrastructure footprint) to understand the current condition of each potential release site (presence of suitable burrows and any resident PBTLs);
- **PBTL capture and relocation:**
    - where impacts to PBTLs within *'Likely'* or *'Potential'* PBTL habitat within the Infrastructure footprint cannot be avoided via micro-siting of infrastructure; and
    - include temporary housing and transport of captured PBTLs, as well as release of captured PBTLs.

In accordance with the conditions of approval associated with the Common Asset (OTL and Substation) EPBC Act approval, no more than 60 PBTLs ([redacted]) will be translocated and/or relocated or otherwise impacted. As stated previously in Section 5.1, due to the high density of PBTLs found within the infrastructure footprint for the [redacted], these PBTLs will be translocated to a translocation release site within the PBTL Offset Area, in accordance with the *Goyder South Hybrid Renewable Energy Facility PBTL Translocation Plan* (EBS Ecology 2022d) and the South Australian government *Permit to Take Protected Animals from the Wild and Release Protected Animals to the Wild for conservation purposes* (Permit number: T40145, which is included in Appendix 4).

Table 30. PBTL relocation procedure.

Pre-construction PBTL survey methodology	
The pre-construction PBTL survey will occur approximately 1-4 weeks prior to any construction works (including, but not limited to, ground disturbing works such as clearing and grubbing and earthworks for vehicle access tracks, infrastructure and trenching) commencing within *'Likely'* and/or *'Potential'* PBTL habitat within the Infrastructure footprint (Figure 7 to Figure 13).	NEOEN and Ecological Consultant (Contractor)
A minimum of two suitably qualified ecologists will undertake the pre-construction PBTL survey using the following method: • The survey area / extent will be marked using survey pegs (for example on the outer corners) (multiple survey areas / extents will be required throughout the Infrastructure footprint); • The surveyors will start at opposite ends of the survey area and move towards each other along parallel transects at 5 m intervals to identify spider burrows; • Each surveyor will use a GPS to check and log their tracks as they work to ensure the 5 m transects are aligned; • All spider burrows within the survey area will be temporarily marked using a survey peg (different colour to survey area boundary pegs); • After all spider burrows have been identified and temporarily marked, they will be checked for PBTL occupancy using an optic fibre 'burrowscope'; • A GPS waypoint and the contents of the burrow will be recorded for each burrow checked; • If a PBTL is observed, burrow depth will be recorded to provide insight into the burrow requirements at the release site. PBTL body length will be accounted for by adding 10 cm to the recorded depth. The survey peg will be replaced with a different coloured survey peg to identify the burrow as containing a PBTL; • Survey pegs at burrows found not to contain a PBTL will be removed after checking the burrow to avoid checking the same burrow more than once; • The GPS waypoints of PBTL locations will be mapped/overlaid onto the Infrastructure footprint in order to micro-site the location of infrastructure to avoid impact to PBTLs and determine which PBTLs, if any, need to be relocated (if impact to them cannot be avoided via micro-siting).	Ecological Consultant (Contractor)
A minimum of two suitably qualified ecologists will also survey potential relocation release sites (PBTL habitat located outside of the Infrastructure footprint) to understand the current condition of each potential release site (presence of suitable burrows and any resident PBTLs). It is anticipated that release sites will be in adjacent suitable habitat at least 50 m from the edge of the infrastructure footprint. A maximum distance of 200 m from the capture site will be used for release locations. It is considered that this can be achieved within the project area given the known habitat and PBTL locations. The following method will be used: • The survey area / extent will be marked using survey pegs (for example on the outer corners); • The surveyors will start at opposite ends of the survey area and move towards each other along parallel transects at 5 m intervals to identify spider burrows; • Each surveyor will use a GPS to check and log their tracks as they work to ensure the 5 m transects are aligned; • All spider burrows within the survey area will be temporarily marked using a survey peg (different colour to survey area boundary pegs);	Ecological Consultant (Contractor)

• After all spider burrows have been identified and temporarily marked, they will be checked for PBTL occupancy using an optic fibre 'burrowscope' and burrow depth will be recorded to provide insight into burrows available within the potential relocation release site. The burrowscope will be marked at 10 cm and 25 cm to quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively; • A GPS waypoint and the contents of the burrow will be recorded for each burrow checked; • If a PBTL is observed within the burrow the survey peg will be replaced with a different coloured survey peg to identify the burrow as containing a resident PBTL (and therefore unsuitable for releasing a relocated PBTL into); • If no PBTL is observed within the burrow and the burrow is considered suitable for releasing a PBTL into, the survey peg will be left in place to identify it as a suitable burrow for releasing a relocated PBTL into; • Survey pegs at burrows found not to contain a PBTL and not suitable for releasing a PBTL into will be removed after checking the burrow to avoid checking the same burrow more than once; and • Survey pegs left in-situ (for identifying resident PBTLs or burrows suitable for releasing a relocation PBTL into) will remain in-situ until they are no longer required, which is likely to be after completion of PBTL relocation. The information collected at each potential relocation release site will be saved to a database for reference during the relocation (capture and release stages). Refer to *release of PBTLs methodology* further down in this table for more specific information on releasing PBTLs.	
Based on the findings of the pre-construction PBTL survey, an ecologist(s) must be present to assist the engineering surveyor(s) to peg out micro-sited infrastructure following the pre-construction PBTL survey, to ensure that PBTLs are not impacted by micro-sited infrastructure.	Construction Project Manager / Asset Manager (NEOEN)
PBTL capture methodology	
Where impacts to PBTLs within *'Likely'* or *'Potential'* PBTL habitat cannot be avoided (i.e. via micro-siting of infrastructure) PBTLs will be captured and relocated as outlined below. The relocation process will commence 1-2 weeks prior to the commencement of construction works that involve ground disturbing activities (including, but not limited to, clearing and grubbing, and excavation). Refer to Appendix 7 for a detailed risk assessment of the PBTL relocation process and associated mitigation measures.	Construction Project Manager / Asset Manager (NEOEN)
A minimum of two suitably qualified ecologists will survey *'Likely'* and *'Potential'* PBTL habitat located within the Infrastructure footprint (Figure 7 to Figure 13) using the following method: • The survey area / extent will be marked using survey pegs (for example on the outer corners) (multiple survey areas / extents will be required throughout the Infrastructure footprint); • The surveyors will start at opposite ends of the survey area and move towards each other along parallel transects at 5 m intervals to identify spider burrows; • Each surveyor will use a GPS to check and log their tracks as they work to ensure the 5 m transects are aligned; • All spider burrows will be temporarily marked using a survey peg (different colour to survey area boundary pegs); • After all spider burrows have been identified and temporarily marked, they will be checked for PBTL occupancy using an optic fibre 'burrowscope'; • Any PBTL burrows identified during the pre-construction PBTL survey (marked with specific coloured survey pegs) will also be checked for PBTL occupancy using an optic fibre 'burrowscope';	Ecological Consultant (Contractor)

• A GPS waypoint and the contents of the burrow will be recorded for each burrow checked; • If a PBTL is observed within the Infrastructure footprint, burrow depth will be recorded to provide insight into the burrow requirements at the release site. PBTL body length will be accounted for by adding 10 cm to the recorded depth; The survey peg will be replaced (if required) with a different coloured survey peg to identify the burrow as containing a PBTL that requires relocation; • Survey pegs at burrows found not to contain a PBTL will be removed after checking each burrow to avoid checking the same burrow more than once; • Survey pegs identifying a burrow within the Infrastructure footprint as containing a PBTL will be removed after the PBTL has been captured. • The GPS waypoints of PBTLs identified for relocation, will be saved to a database.	
The following steps will be taken by a suitably qualified ecologist(s) to capture individual PBTLs identified for relocation: • The ecologist(s) will lure PBTLs from their burrows using live meal worms tethered to fishing line on a fishing rod (Milne & Bull 2000); and • Once a PBTL is lured from its burrow, the ecologist(s) will capture it by hand.	Ecological Consultant (Contractor)
If possible, the ecologist(s) should wear clothing that blends into their surrounds (i.e. not brightly coloured high-visibility clothing) (J Clayton *pers. comm.* 2019). The Work Health and Safety Officer should be consulted to determine if a high visibility vest could be worn over plain clothing and be removed when attempting to capture PBTLs, and what control measures could be put in place to eliminate or minimise safety risks.	Ecological Consultant (Contractor) / Project Manager / HSE Manager
Over-feeding a PBTL by attempting to capture it too many times in a day will be avoided. Attempts at capture will be limited to three per day, with a minimum of 30 minutes between attempts (J Clayton *pers. comm.* 2019). A maximum of three meal worms will be offered per capture attempt with a maximum of nine meal worms offered (may not all be consumed).	Ecological Consultant (Contractor)
If a PBTL cannot be lured from its burrow, the ecologist(s) will carefully dig-up the PBTL using hand tools. A 300 mm high barrier with a 1 m diameter will be placed around the burrow that is to be excavated to ensure the lizard doesn't escape. A hand trowel will be used to slowly excavate each hole in 30 mm increments. At each 30 mm depth, the burrow scope will be utilised to check the position of the lizard and to ensure it is safe. Once the burrow has been excavated to a depth that allows access, a small snake hook will be used to slide next to the lizard and gently lift them up to allow capture. This approach will also work with bromating lizards, if these need to be captured. If bromating lizards are captured, then they will be housed at Flinders University until the appropriate weather conditions to allow release. These will be housed as per standard Flinders University Animal House procedures with each individual quarantined until release. Transportation will occur with each individual held in a calico bag and placed in a ventilated crate for vehicle transportation.	Ecological Consultant (Contractor)

The following data will be collected immediately from captured PBTLs and their burrow to provide baseline PBTL condition data for relocation monitoring and inform burrow preference requirements at the release site(s): • Snout-vent length (mm); • Weight (g); • Sex (if possible); • Age class (Adult: snout-vent >82 mm; Sub-adult: ≤82 mm) (Milne, Bull & Hutchinson 2002); • Condition score (see below); • Burrow depth (cm); and • Burrow entrance width (mm). The data will be saved to a database for future reference.	Ecological Consultant (Contractor)
If a PBTL is suspected to have been injured as a result of capture its condition will be scored. The following condition scores (1 point for each) will be recorded: • Any signs of discharge from eyes or nose; • Any signs of abnormal body shape; • Swelling / recent fighting injuries; • Abnormal movement; • Abnormal level of activity; • Abnormal respiration; and • Excess diarrhoea.	Ecological Consultant (Contractor)
If a PBTL has a condition score of 5 or more it will be temporarily housed (in accordance with the next section) and the Fauna Permits section of DEW, Wildlife Ethics Committee Executive Officer, SA Museum, Flinders University or PBTL Recovery Team will be consulted as soon as possible and not more than 24 hours from when the PBTL was assessed for the best course of action.	Ecological Consultant (Contractor)
Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this must be conducted by a suitably qualified ecologist(s). Individuals will be processed and provided to the SA Museum. An adverse incident report will be submitted to the WEC Executive Officer (DEW) within 24 hours.	Ecological Consultant (Contractor)
PBTLs will only be handled for the minimum amount of time required to gather the required information and not exceeding 10 minutes in any one instance.	Ecological Consultant (Contractor)
No capture of PBTLs will take place when weather forecast by the Bureau of Meteorology at Clare is 36°C or above or less than 15°C. No PBTLs will be captured during the colder months (June to mid-August).	Ecological Consultant (Contractor)
The number of PBTLs captured in a day will be capped to ensure there is enough time to process, transport and release each individual in a single day, preventing the need to house PBTLs for an extended period of time, including overnight. The number of PBTL relocated each day will not exceed eight individuals per ecologist.	Ecological Consultant (Contractor)

Temporary housing and transport of captured PBTLs	
Temporary housing and transport of PBTLs will be conducted by a suitably qualified ecologist(s) and will only be required in exceptional circumstances. Exceptional circumstances would include sudden adverse weather events, bushfire or construction site shutdown where staff had to leave site. PBTL will be relocated to the release location and released within one hour of capture. Each captured individual PBTL will be placed into a separate calico bag and placed into a ventilated plastic crate. Each crate will hold a maximum of eight individual lizards. PTBLs will be carried in this crate to their release site.	Ecological Consultant (Contractor)
If PBTLs are required to be held for an extended period (exceptional circumstances would include sudden adverse weather events, bushfire or construction site shutdown where staff had to leave site), captured PBTLs will be temporarily housed (for no more than 24 hours) in calico bags (one PBTL per bag) and stored temporarily in well ventilated plastic crates with snap lock lids in a cool location (e.g. in shade of ute canopy with doors / windows open) and transported to the nearest suitable release site by foot, within 24 hours.	Ecological Consultant (Contractor)
Where transport of PBTLs by foot is not possible/practicable, then temporarily housed PBTLs will be transported to the nearest suitable release site by vehicle. Plastic crates will be stored securely so they cannot move around within the vehicle.	Ecological Consultant (Contractor)
Vehicles transporting PBTLs will follow approved access routes to the nearest suitable release site, drive at a pace that prevents unnecessary bumping and be temperature controlled (air conditioned) to maintain an ambient temperature between 15°C and 30°C.	Ecological Consultant (Contractor)
The ambient temperature where PBTLs are temporarily housed will range between 15°C and 30°C (J Clayton *pers. comm.* 2019).	Ecological Consultant (Contractor)
Temporarily housed PBTLs and housing conditions, including temperature, will be checked every 1-2 hours depending on climatic conditions during the survey.	Ecological Consultant (Contractor)
An adequate supply of meal worms will be on hand to feed PBTLs if required, taking into consideration the number of meal worms eaten during capture attempts.	Ecological Consultant (Contractor)
If a PBTL is suspected to have been injured as a result of housing or transport, its condition will be scored (as outlined in the PBTL capture methodology above).	Ecological Consultant (Contractor)
If a PBTL has a condition score of 5 or more, the SA Museum, Flinders University or PBTL Recovery Team will be consulted within 24 hours for the best course of action.	Ecological Consultant (Contractor)
Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this must be conducted by a suitably qualified ecologist(s). Individuals will be processed and provided to the SA Museum. An adverse incident report will be submitted to the WEC Executive Officer by email as soon as possible within 24 hours.	Ecological Consultant (Contractor)

Release of PBTLs methodology	
PBTL release is to be conducted by a suitably qualified ecologist(s).	Ecological Consultant (Contractor)
PBTLs will only be handled for the minimum amount of time required to release each individual.	Ecological Consultant (Contractor)
PBTLs will be relocated to the nearest suitable relocation release site(s) as identified by the ecologist(s).	Ecological Consultant (Contractor)
If the ecologist(s) identifies a low number of PBTLs (up to ten) required to be relocated from a given area, and there is a population directly adjacent (e.g. within approximately 50 – 100 m), the ecologist(s) may decide to release the PBTLs into an adjacent area of suitable habitat further than 200 m but no greater than 500 m from the capture site, following assessment of the release site. Providing the habitat is continuous, this would still be considered the same population.	Ecological Consultant (Contractor)
Prior to the capture of PBTLs, the ecologist(s) will assess and prepare the release site (whether it is adjacent to the capture site or further away) as outlined below, to identify suitable burrows at an appropriate distance from resident PBTLs before releasing a captured PBTL. • Burrows at the release site(s) will be inspected to identify those suitable for PBTLs prior to releasing any individuals. The burrowscope(s) will be marked at 10 cm and 25 cm to quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively. • PBTLs will not be released into burrows containing another PBTL or spiders, or near ant nests (burrows will be checked with a burrowscope). • If suitable empty burrows cannot be located by the ecologist(s) at the release site, two to three artificial burrows (see below) will be installed within a 50 cm radius to provide available habitat. • Sediment fencing will be installed on the outer edge of the Infrastructure footprint (if required; see below). • PBTLs will be marked (for example with nail polish or water-based paint) to help identify them as a relocated individual for monitoring purposes. Each PBTL will be marked slightly differently and a number of different colours will be used to assist with distinguishing individual relocated PBTLs for monitoring purposes. • At least four photographs, covering left side, right side, topside and underside, will also be taken after each PBTL has been marked, to assist with identification during monitoring events. Any particular distinguishing features of an individual (for example scar on body or damaged toe) will also be photographed and documented. • PBTLs will be released at least 2 m from any other PBTL and any artificial burrows installed. • An ecologist(s) will ensure each PBTL enters a suitable burrow following release. • The location of each relocated PBTL will be recorded with a GPS waypoint and the burrow will be marked with an inconspicuous marker to locate it for monitoring (refer to Section 14). • All data collected on release sites and individual PBTLs will be saved to a database for reference during monitoring events.	Ecological Consultant (Contractor)

Artificial burrows can be constructed, for example, from wooden doweling approximately 30 cm in length, with a 2 cm diameter hole drilled into the centre, which are then hammered into the ground until flush with the surface. A range of sizes (e.g. shallower/shorter and/or narrower in diameter) will be constructed prior to relocation to accommodate captured PBTLs of varying sizes. A burrowscope will be used to check the integrity of installed artificial burrows prior to release of PBTLs.	Ecological Consultant (Contractor)
In the unlikely event that a PBTL is required to be released within 50 m of the Infrastructure footprint, sediment fencing will be installed on the outer edge of the Infrastructure footprint (facing the PBTL) to prevent the relocated PBTL(s) (which is likely to be prone to an increased level of movement) from entering the Infrastructure footprint. A theoretical buffer of 60 m will be placed around the PBTL and the placement and length of the sediment fencing at the edge of the Infrastructure footprint will be sufficient to cover the extent of the buffer zone.	Ecological Consultant (Contractor)
Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material).	Ecological Consultant (Contractor)
Released PBTLs will be given up to three meal worms immediately following release, depending on how many meal worms were required to capture them. A maximum of 9 meal worms will be provided to a lizard for the relocation procedure (capture and release combined). If lizards consume 3 meal worms as part of the capture process, then they will be offered three meal worms on their release and 3 meal worms the day post release when the temporary barrier is removed. The number of meal worms each individual PBTL eats will be recorded and saved to the database.	Ecological Consultant (Contractor)
Captured PBTLs will not be released when weather forecast by the Bureau of Meteorology is 36°C or above or less than 15°C at Clare, or any temperature specified in the relevant WEC approval. The ecologist(s) must check the weather forecast and local weather conditions prior to commencing the release process.	Ecological Consultant (Contractor)
If a PBTL is suspected to have been injured as a result of release its condition will be scored (as outlined in PBTL capture methodology above).	Ecological Consultant (Contractor)
If a PBTL has a condition score of 5 or more, the SA Museum, Flinders University or PBTL Recovery Team will be consulted within 24 hours for the best course of action.	Ecological Consultant (Contractor)
Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this must be conducted by a suitably qualified ecologist(s). Individuals will be processed and provided to the SA Museum. An adverse incident report will be submitted to the WEC Executive Officer by email as soon as possible within 24 hours. Database records will be updated.	Ecological Consultant (Contractor)

14 DETAILED MONITORING AND REPORTING

Table 31. Detailed monitoring and reporting.

Monitoring & Reporting	Responsibility
The Project will be subject to the following two types of monitoring for PBTLs: 1. Monitoring of relocated PBTLs (at relocation release sites); 2. Monitoring of PBTLs within the PBTL Offset Area (as outlined within the *Goyder South Hybrid Renewable Energy Facility PBTL Offset Management Plan* – EBS Ecology 2023).	Construction Project Manager / Asset Manager (NEOEN)/ Ecological Consultant (Contractor)
Due to the difficulties in relocating individual lizards and the inability to radio-track the species, the monitoring of individuals will be minimal. The monitoring will be restricted to searching for and locating the released lizards at the release sites, prior to the temporary barrier being removed (the day post release). Lizards will not be captured, purely located and observed. A 10 m radius around each release point will be searched. If the lizard moves greater than 10 m, it will be undetectable. •	Ecological Consultant (Contractor)
Monitoring of PBTLs within the PBTL Offset Area will be undertaken as outlined within the *Goyder South Hybrid Renewable Energy Facility PBTL Offset Management Plan* (EBS Ecology 2023).	Ecological Consultant (Contractor)
All monitoring of PBTLs will be undertaken by a suitably qualified ecologist(s).	Construction Project Manager / Asset Manager (NEOEN)
If a PBTL is suspected to have been injured as a result of monitoring its condition will be scored (as outlined in PBTL capture methodology in Table 30 above).	Ecological Consultant (Contractor)
If a PBTL has a condition score of 5 or more, the SA Museum, Flinders University or PBTL Recovery Team will be consulted within 24 hours for the best course of action.	Ecological Consultant (Contractor)
Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this must be conducted by a suitably qualified ecologist(s). Individuals will be processed and provided to the SA Museum. An adverse incident report will be submitted to the WEC Executive Officer by email as soon as possible within 24 hours. Database records will be updated.	Ecological Consultant (Contractor)
All monitoring data will be provided to DEW as required by the Scientific Research Permit.	Ecological Consultant (Contractor)
All monitoring data (including sensitive ecological data), surveys, maps, and other spatial and metadata will be prepared in accordance with the *Guidelines for biological survey and mapped data*, Commonwealth of Australia (2018), and submitted electronically to the Department.	Ecological Consultant (Contractor)

Monitoring & Reporting	Responsibility
Annual reports detailing the results of monitoring will be completed and provided to the Department. Reports will include the outcomes of relocation and land management actions, and identify any need for improved management.	Construction Project Manager / Asset Manager (NEOEN)/ Ecological Consultant (Contractor)
The annual reports will also be provided to DEW, the SA Museum, Flinders University and the PBTL Recovery Team to contribute to further developing understanding of the species.	Construction Project Manager / Asset Manager (NEOEN)/ Ecological Consultant (Contractor)

15 IMPORTANT CONTACTS

Table 32. Important contacts.

Contact	Email	Phone
DEW (Fauna Permits Unit)	dewfaunapermitsunit@sa.gov.au	(08) 8124 4972
DEW (Scientific Research Permits)	DEWResearchPermis@sa.gov.au	(08) 8124 4856
DEW (Animal Welfare - Licence for teaching, research or experimentation involving animals)	DEWAnimalWelfare@sa.gov.au	(08) 8207 7731
WEC	DEW.WildlifeEthicsCommittee@sa.gov.au	(08) 8463 6851
PBTL Recovery Team Threatened Fauna Ecologist Northern and Yorke Region Department for Environment and Water 6/17 Lennon Street, Clare, SA.		(08) 8841 3403

15.1 PBTL Recovery Team

The PBTL recovery team includes representation from:

- South Australian Department for Environment and Water
- South Australian Museum
- Flinders University
- Zoos South Australia
- Regional Council of Goyder
- Landholders of Pygmy Blue-tongue sites
- Mid North Grassland Working Group
- Nature Foundation

16 REFERENCES/BIBLIOGRAPHY

Clayton J (2018) Impacts of sheep grazing on burrow use by spiders and pygmy bluetongue lizards (*Tiliqua adelaidensis*). PhD thesis, Flinders University of South Australia.

Clayton J, Gardner MG, Fenner AL, Bull M (2019) Co-occupancy of spider-engineered burrows within a grassland community changes temporally. *Austral Ecology.*

Clive LFR, Gardner MG, Clayton J, Baring R, Hutchinson MN, Fenner A, Bull CM (2019) Population augmentation had no effect on the abundance or body condition of conspecifics and co-occuring lizard species in a native grassland community. *Austral Ecology.*

Commonwealth of Australia (2018) *Guidelines for biological survey and mapped data*, Australian Government Department of the Environment and Energy. Retrieved from: https://www.agriculture.gov.au/sites/default/files/documents/guidelines-biological-survey-mapped-data.pdf

Department of the Environment (DotE) (2014) *Environmental Management Plan Guidelines*. Australian Government Department of the Environment. Retrieved from: http://www.environment.gov.au/system/files/resources/21b0925f-ea74-4b9e-942e-a097391a77fd/files/environmental-management-plan-guidelines.pdf

Department of the Environment (DotE) (2013) Matters of National Environmental Significance: Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Commonwealth of Australia Department of the Environment, Canberra.

Department of the Environment and Energy (DotEE) (2016) *Threat abatement plan for competition and land degradation by rabbits*. Department of the Environment and Energy. Available at: https://www.awe.gov.au/environment/biodiversity/threatened/publications/tap/competition-and-land-degradation-rabbits-2016

Duffy A, Pound L, How T (2012) Recovery Plan for the Pygmy Bluetongue Lizard *Tiliqua adelaidensis*. Department of Environment and Natural Resources, South Australia.

Ebrahimi M (2013) Optimising translocation strategies in the conservation management of reptiles; a case study of an endangered Australian skink *Tiliqua adelaidensis*. PhD thesis, Flinders University of South Australia.

Ebrahimi M, Bull CM (2013) Determining the success of varying short-term confinement time during simulated translocations of the endangered pygmy bluetongue lizard (*Tiliqua adelaidensis*). *Amphibia-Reptilia* **34**, 31-39.

Ebrahimi M, Bull CM (2014) Short-term dispersal response of an endangered Australian lizard varies with time of year. *PLoS ONE* **9**, e106002.

Ebrahimi M, Fenner AL, Bull CM (2012) Lizard behaviour suggests a new design for artificial burrows. *Wildlife Research* **39**, 295-300.

Ebrahimi M, Godfrey SS, Fenner AL, Bull CM (2015) Interactions between pygmy bluetongue lizards and co-existing species. *Transactions of the Royal Society of South Australia* **139**, 145-151.

EBS Ecology (2020) *Goyder South Hybrid Renewable Energy Facility: Flora and Fauna Assessment*. Report to NEOEN. EBS Ecology, Adelaide.

EBS Ecology (2021a) Goyder - Pygmy Bluetongue Lizard Survey March 2021. Report to NEOEN Australia Pty Ltd. EBS Ecology, Adelaide

EBS Ecology (2021b) *Goyder South Hybrid Renewable Energy Facility – Wind Farm 1A, 10km south Burra SA: EPBC Act Referral (2021/8958). Prepared for* NEOEN Australia Pty Ltd by EBS Ecology, Adelaide.

EBS Ecology (2021c) *Goyder South Hybrid Renewable Energy Facility – Wind Farm 1B, 5km south Burra SA: EPBC Act Referral (2021/8957). Prepared for* NEOEN Australia Pty Ltd by EBS Ecology, Adelaide.

EBS Ecology (2021d) *Goyder South Hybrid Renewable Energy Facility – OTL and Substation, Worlds End SA: EPBC Act Referral (2021/8959). Prepared for* NEOEN Australia Pty Ltd by EBS Ecology, Adelaide.

EBS Ecology (2022a) *Goyder South Hybrid Renewable Energy Facility: Stage 1A Preliminary Documentation (EPBC 2021/8958)*. Report to NEOEN Australia Pty Ltd. EBS Ecology, Adelaide.

EBS Ecology (2022b) *Goyder South Hybrid Renewable Energy Facility: Stage 1B Preliminary Documentation (EPBC 2021/8957)*. Report to NEOEN Australia Pty Ltd. EBS Ecology, Adelaide.

EBS Ecology (2022c) *Goyder South Hybrid Renewable Energy Facility: Overhead Transmission Line and Substation West Preliminary Documentation (EPBC 2021/8959)*. Report to NEOEN Australia Pty Ltd. EBS Ecology, Adelaide.

EBS Ecology (2022d) Goyder South Hybrid Renewable Energy Facility PBTL Translocation Plan. Report to NEOEN Australia Pty Ltd. EBS Ecology, Adelaide.

EBS Ecology (2023) Goyder South Hybrid Renewable Energy Facility PBTL Offset Management Plan. Report to NEOEN Australia Pty Ltd. EBS Ecology, Adelaide.

Ehmann H (1982) The natural history and conservation status of the Adelaide Pygmy Bluetongue lizard *Tiliqua adelaidensis*. *Herpetofauna* **14**, 61-76.

Fellows HL, Fenner AL, Bull CM (2009) Spiders provide important habitat resources for an endangered lizard. *Journal of Zoology* **279**, 156-163.

Fenner A, Bull M (2007) Short-term impact of grassland fire on the endangered pygmy bluetongue lizard. *Journal of Zoology* **272**, 444-450.

Fenner AL, Bull CM (2010) The use of scats as social signals in a solitary, endangered scincid lizard, *Tiliqua adelaidensis*. *Wildlife Research* **37**, 582-587.

Fenner A, Bull C (2011) Central-place territorial defence in a burrow dwelling skink: aggressive responses to conspecific models in pygmy bluetongue lizards. *Journal of Zoology* **283**, 45-51.

Fenner A, Bull M, Hutchinson M (2007) Omnivorous diet of the endangered Pygmy Bluetongue Lizard, *Tiliqua adelaidensis*. *Amphibia-Reptilia* **28**,560-565.

Fenner A, Bull M, Hutchinson M (2008) Frequency of sub-lethal injury in the endangered pygmy bluetongue lizard, *Tiliqua adelaidensis*. *Wildlife Research* **35**, 158-161.

Hutchinson MN, Milne T, Croft T (1994) Redescription and ecological notes on the pygmy bluetongue, *Tiliqua adelaidensis* (Squamata: Scincidae). *Transactions of the Royal Society of South Australia* **118**, 217-226.

Khan MZ, Law FC (2005) Adverse effects of pesticides and related chemicals on enzyme and hormone systems of fish, amphibians and reptiles: a review. *Proceedings of the Pakistan Academy of Sciences* **42**, 315-323.

Milne T (1999) Conservation and the ecology of the endangered Pygmy Bluetongue Lizard *Tiliqua adelaidensis*. PhD thesis. Flinders University, South Australia.

Milne T, Bull CM (2000) Burrow choice by individuals of different sizes in the endangered pygmy bluetongue lizard *Tiliqua adelaidensis*. *Biological Conservation* **95**, 295-301.

Milne T, Hutchinson M, Clarke S (2000) National recovery plan for the Pygmy Bluetongue Lizard (*Tiliqua adelaidensis*). Australian Government Department of the Environment and Heritage, Canberra.

Milne T, Bull CM, Hutchinson MN (2002) Characteristics of litters and juvenile dispersal in the endangered Australian skink *Tiliqua adelaidensis*. *Journal of Herpetology* **36**, 110-112.

Milne T, Bull M, Hutchinson M (2003) Use of burrows by the endangered pygmy blue-tongue lizard, *Tiliqua adelaidensis* (Scincidae). *Wildlife Research* **30**, 523-528.

Nielsen TP, Bull CM (2016) Impact of foxes digging for the pygmy bluetongue lizard (*Tiliqua adelaidensis*). *Transactions of the Royal Society of South Australia* **140**, 228-233.

Pauli BD, Money S, Sparling W (2010) Ecotoxicology of pesticides in reptiles. In 'Ecotoxicology of amphibians and reptiles. 2nd Edition.' Ed. DW Sparling, G Linder, CA Bishop, SK Krest. pp. 203-224. SETAC Press, Florida.

Pelgrim K, Fenner AL, Schofield JA, Bull CM (2014) Dynamics of a grassland reptile community: assessing interspecific competition for food between the endangered lizard *Tiliqua adelaidensis* and coexisting lizards. *Transactions of the Royal Society of South Australia* **138**, 257-266.

Schofield J (2007) Determining the area of occupancy of the endangered Pygmy Bluetongue Lizard populations in the Mid North of South Australia. Unpublished report. Department for Environment and Heritage.

Schofield JA, Fenner AL, Pelgrim K, Bull CM (2012) Male-biased movement in pygmy bluetongue lizards: implications for conservation. *Wildlife Research* **39**, 677-684.

Sharp A, Schofield J, Fenner A (2010) The effects of cell grazing on the longevity of spider burrows and the potential consequences for the endangered Pygmy Bluetongue lizard. *Ecological Management & Restoration* **11**, 69-72.

Shea GM (1992) The systematics and reproduction of bluetongue lizards of the genus Tiliqua (Squamata: Scincidae). Unpublished doctoral dissertation. Department of Veterinary Anatomy, University of Sydney.

Smith A (2006) Conservation and population genetics of the Pygmy Bluetongue Lizard, *Tiliqua adelaidensis*. Honours thesis. Flinders University, South Australia.

Smith AL, Gardner MG, Fenner AL, Bull CM (2009) Restricted gene flow in the endangered pygmy bluetongue lizard (*Tiliqua adelaidensis*) in a fragmented agricultural landscape. *Wildlife Research* **36**, 466-478.

Souter NJ (2003) Habitat requirements and conservation of the endangered Pygmy Bluetongue lizard *Tiliqua adelaidensis*. PhD thesis. Flinders University, South Australia.

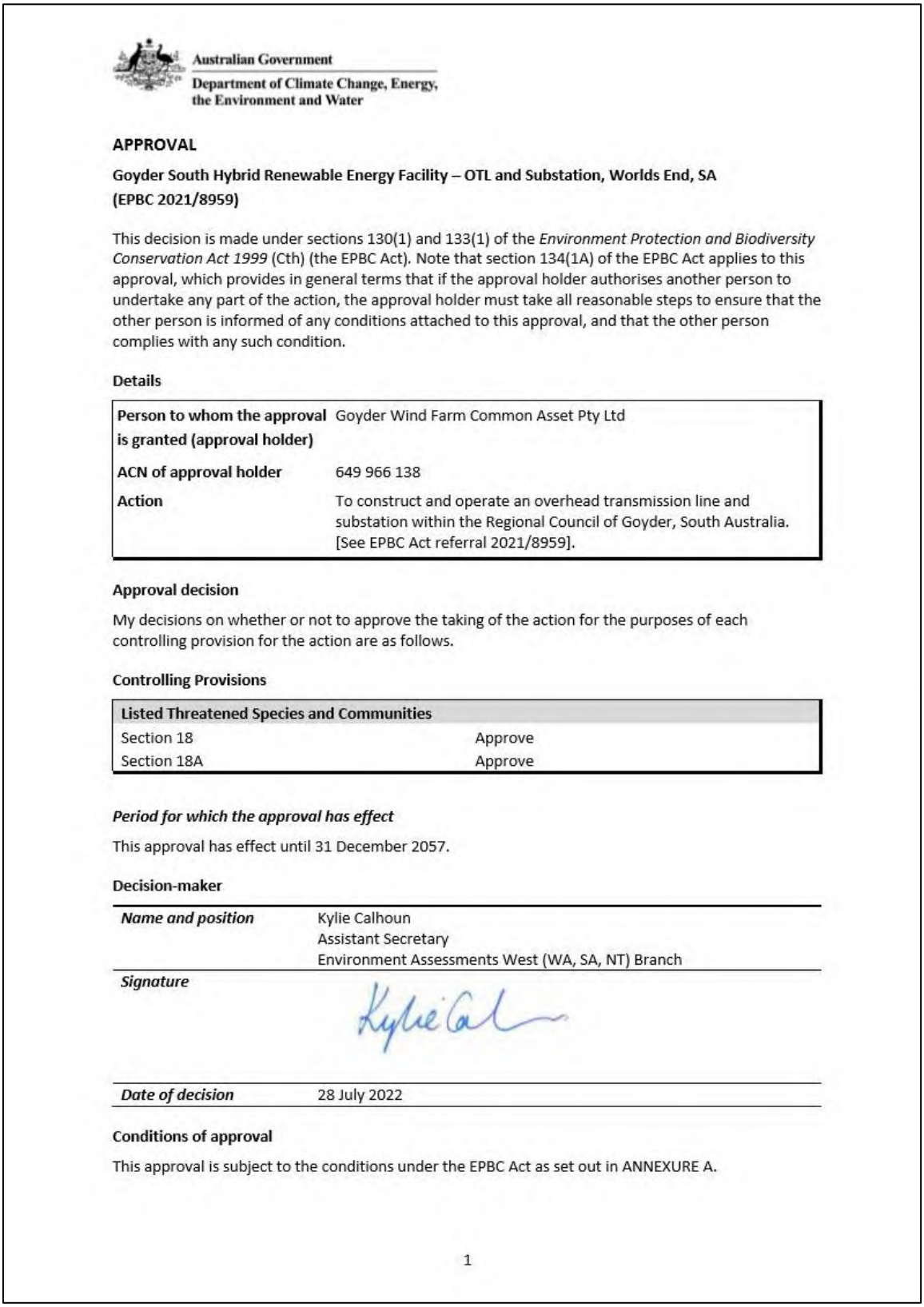
Souter NJ, Bull CM, Lethbridge, Hutchinson MN (2007) Habitat requirements of the endangered pygmy bluetongue lizard, *Tiliqua adelaidensis*. *Biological Conservation* **135**, 33-45.

Succession Ecology (2023a) Goyder Wind Farm, Construction Environmental Management Plan. Version 15, 02/03/2023 Succession Ecology report ES0522-02 prepared for GLC.

Succession Ecology (2023b) Flora and Fauna Management Plan Goyder Wind Farm. Version 5, 02/03/2023. Succession Ecology report ES1221 – 01 prepared for GLC, Elecnor Group.

17 APPENDICES

Appendix 1. Initial Common Asset EPBC Act approval



Australian Government
Department of Climate Change, Energy, the Environment and Water

APPROVAL

Goyder South Hybrid Renewable Energy Facility – OTL and Substation, Worlds End, SA (EPBC 2021/8959)

This decision is made under sections 130(1) and 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (the EPBC Act). Note that section 134(1A) of the EPBC Act applies to this approval, which provides in general terms that if the approval holder authorises another person to undertake any part of the action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such condition.

Details

Person to whom the approval is granted (approval holder)	Goyder Wind Farm Common Asset Pty Ltd
ACN of approval holder	649 966 138
Action	To construct and operate an overhead transmission line and substation within the Regional Council of Goyder, South Australia. [See EPBC Act referral 2021/8959].

Approval decision

My decisions on whether or not to approve the taking of the action for the purposes of each controlling provision for the action are as follows.

Controlling Provisions

Listed Threatened Species and Communities	
Section 18	Approve
Section 18A	Approve

Period for which the approval has effect

This approval has effect until 31 December 2057.

Decision-maker

Name and position	Kylie Calhoun Assistant Secretary Environment Assessments West (WA, SA, NT) Branch
Signature	Kylie Cal
Date of decision	28 July 2022

Conditions of approval

This approval is subject to the conditions under the EPBC Act as set out in ANNEXURE A.

1

Figure 19. Page 1 of the initial Common Asset EPBC Act approval. Refer to the following figure for relevant conditions of approval.

ANNEXURE A – CONDITIONS OF APPROVAL

Part A – Conditions specific to the action

Impact limits

1. The approval holder must not:
   a. **clear** more than 1.08 hectares of **Iron-grass Natural Temperate Grassland of South Australia TEC** within the **project area**;
   b. **impact** any **Spiller's Wattle** or **Peep Hill Hop-bush**, including within the locations shown in the maps at Attachment B and Attachment C, respectively; and
   c. **impact** any **protected matter**, except for what is allowed under condition 1.a., within the **project area** or within **access tracks.**

Environmental management plans

2. To minimise **impacts** to **protected matters** during **construction** and **operation**, the approval holder must implement the **CEMP.**
3. For the protection of the **Iron-grass Natural Temperate Grassland of South Australia TEC**, the approval holder must implement the **INTG TEC Management Plan** for the duration of this approval.

Environmental offsets

Offset Management Plan

4. To compensate for residual **significant impacts** to the **Iron-grass Natural Temperate Grassland of South Australia TEC**, the approval holder must submit to the **Department** for the **Minister's** approval an Offset Management Plan (OMP) within 6 months of the date of this approval.

   The OMP must:

   a. be consistent with the **Environmental Management Plan Guidelines**;
   b. include a reference to the **EPBC Act** approval conditions to which the OMP refers;
   c. include summary information on the residual **significant impacts** to the **Iron-grass Natural Temperate Grassland of South Australia TEC** that will be compensated for by the offset(s);
   d. identify a suitable environmental offset(s) to compensate for residual **significant impacts** to the **Iron-grass Natural Temperate Grassland of South Australia TEC** which meets the requirements of the **Environmental Offsets Policy** to the satisfaction of the **Minister**;
   e. include the size of the proposed offset(s) in hectares, maps that visually describe the location and accurate boundaries of the offset(s), in accordance with the **Guide to providing maps and boundary data for EPBC Act projects**, and detailed baseline habitat quality information on the proposed offset(s);
   f. specify the nature and timing of the proposed legal mechanism to **secure** the offset area(s), with proposed contingency measures for if the specified legal mechanism is not established within the specified timeframe;
   g. commit to measurable and achievable ecological benefits and provide timeframes for their achievement;
   h. detail how the offset(s) will be protected, and how ecological benefits will be maintained once achieved;
   i. detail a monitoring program which will determine progress towards achievement and maintenance of the ecological benefits of the proposed offset(s), which must include:

2

Figure 20. Page 2 of the initial Common Asset EPBC Act approval, where the PBTL Management Plan is not stated in the conditions of approval.

Appendix 2. Letter from the Department 20/09/2022.

Australian Government
Department of Climate Change, Energy, the Environment and Water

Our reference: EPBC 2021/8957-8959

Inès Béchameil
Project Manager – Australia
Goyder Wind Farm 1B Pty Ltd
Level 21 / 570 George Street
Sydney NSW 2000

Dear Inès

Environmental Audit Site Visit - Goyder South Hybrid Renewable Energy Facility – Wind Farm 1B, 5km south Burra SA (EPBC 2021/8957), and OTL and Substation, Worlds End, SA (EPBC 2021/8959)

I write in relation to the site visit of the Goyder South Hybrid Renewable Energy Facility project, undertaken by the Department of Climate Change, Energy, the Environment and Water (**department**) from 7 – 8 September 2022.

Officers of the department met with you and other representatives of the approval holder between the abovementioned dates to discuss, amongst other matters, the:

- recent unanticipated Pygmy Blue-tongue lizard (**PBTL**) individual findings in the project area;
- actions taken to date in response to these findings (condition 3 of approval 2021/8957 and the PBTL Management Plan); and
- conditions attached to *Environment Protection and Biodiversity Conservation Act* 1999 (**EPBC Act**) approvals 2021/8957 and 2021/8959, with particular emphasis on those relating to the PBTL Management Plan, impacts to the PBTL, and offsets.

Further to this, officers of the department inspected selected areas of the project site to better understand the findings in context, and actions taken to date in response to these findings. During the site visit, officers did not identify any non-compliance with the EPBC Act approval conditions.

We appreciated the opportunity to meet with you and other officers from Neoen and EBS Ecology, and would like to thank you for your time and assistance in facilitating the site visit. We also appreciated the discussion on Friday to determine the next steps to address this matter.

The main points and outcomes of both the site visit and discussion on Friday are as follows:

- The access track between [redacted] has been successfully micro-sited to avoid direct impacts to newly identified PBTL individuals, and as such, no relocation of individuals from this area, in accordance with the PBTL Management Plan, is due to occur.
- While not required, the department is of the view there is benefit in varying the conditions of approval for EPBC 2021/8957 in particular to re-define *'PBTL Habitat'* to include the area of the unanticipated PBTL findings. This would ensure:
    - consistency with the increased area classified as *'PBTL Habitat'* according to the PBTL Management Plan; and

Figure 21. Letter from the Department 20/09/2022 (page 1 of 2).

- you, as the approval holder and the Minister/their delegate, agree on the impacts to the PBTL that are to be offset— which is expected to expedite review and approval of the Offset Management Plan (**OMP**) when submitted for approval.

- Pre-clearance surveys of all impact areas are complete but EBS Ecology are conducting further surveys to ensure all PBTL individuals expected to be directly impacted, and the residual impacts to PBTL habitat, are fully captured.

- Surveying of the OTL and substation component of the project (EPBC approval 2021/8959) is complete and approx. 25 PBTL individuals are expected to be impacted by the current design (noting the current inability to micro-site the location of the [redacted].

- Construction of the OTL and substation infrastructure is a priority for Neoen, and you intend to submit a request to vary the conditions of approval within approximately 2 weeks. This request will be (*inter alia*) to add a disturbance limit for impacts to the PBTL and may also request variations to conditions for:

  - appropriate impact reduction and mitigation measures such as translocation or relocation of PBTL individuals, plus extension and/or revision of PBTL Management measures in the existing PBTL management plan for EPBC approvals 2021/8957-8959; and

  - offset requirements for any permitted impacts to both PBTL individuals and PBTL habitat, including any impacts resulting from relocation or translocation processes.

- As part of the request to vary EPBC 2021/8959 approval conditions, myself, Post-Approvals, and our Assessment colleagues will discuss any potential need to refer translocation as a separate action, should this be the preferred method for impact avoidance and reduction.

- Further and continued engagement with the Post-approvals section will be required to progress the request to vary the conditions of approval for 2021/8959 in the first instance, and subsequent variations required thereafter.

Please continue to maintain accurate records of all activities associated with, or relevant to, the conditions of the approval so that they can be made available to the department on request. Such documents may be subject to audit and be used to verify compliance.

If you would like to discuss this matter further please contact myself on 0450 578 848 or via email at epbcmonitoring@environment.gov.au or nick.mcnulty@environment.gov.au.

Yours sincerely,

Nick McNulty
A/g Assistant Director
Environmental Audit Section
Environment Compliance Branch

20 September 22

2

Figure 22. Letter from the Department 20/09/2022 (page 2 of 2).

Appendix 3. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959).

OFFICIAL

Australian Government

Department of Climate Change, Energy, the Environment and Water

Variation of conditions attached to approval

Goyder South Hybrid Renewable Energy Facility – OTL and Substation, Worlds End, SA (EPBC 2021/8959)

This decision to vary conditions of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved action

approval holder	Goyder Wind Farm Common Asset Pty Ltd ACN 649 966 138
approved action	To construct and operate an overhead transmission line and substation within the Regional Council of Goyder, South Australia. [See EPBC Act referral 2021/8959]

Variation

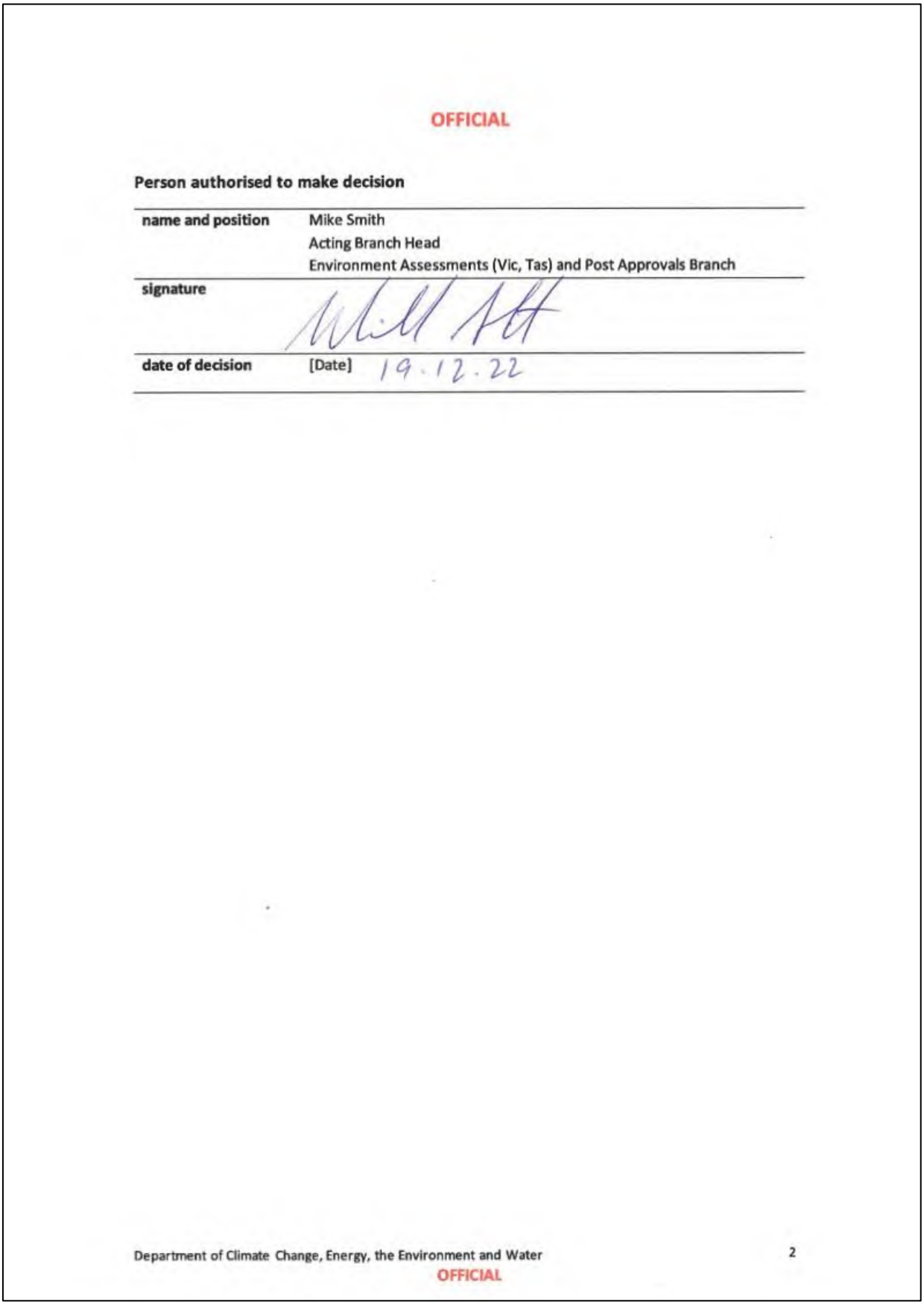
variation of conditions attached to approval	The variation is: Delete conditions 1 and 4, and substitute with the conditions as specified in the table below. Add new conditions 1A, 3A, 3B, 3C and 3D as specified in the table below. Delete definitions of access tracks and project area, and substitute with the definitions as specified in the table below. Add new definitions of Pygmy Blue-tongue Lizard, Pygmy Blue-tongue Lizard habitat and Senecio species as specified in the table below. Delete Attachments A, A1-A15, B, C1-C3, D and D1-D3 attached to the approval and substitute with the Attachments A, A1-A15, B1-B3, C1-C3, D and D1-D3 specified in the table below. Add new Attachments E1-E2, and F to the approval as specified in the table below.
date of effect	This variation has effect on the date this instrument is signed.

Department of Climate Change, Energy, the Environment and Water

OFFICIAL

1

Figure 23. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 1).



OFFICIAL

Person authorised to make decision

name and position	Mike Smith Acting Branch Head Environment Assessments (Vic, Tas) and Post Approvals Branch
signature	
date of decision	[Date] 19.12.22

Department of Climate Change, Energy, the Environment and Water 2

OFFICIAL

Figure 24. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 2).

OFFICIAL

Date of decision	Conditions attached to approval
	Part A – Conditions specific to the action
As varied on the date this instrument was signed	**Impact limits** 1. The approval holder must not: a) **clear** more than 1.36 hectares (ha) of **Iron-grass Natural Temperate Grassland of South Australia TEC** within the **project area**; ab) clear more than 3.88 ha of **Pygmy Blue-tongue Lizard habitat** within the **project area**; ac) translocate and/or relocate or otherwise **impact** more than 60 **Pygmy Blue-tongue Lizards**; b) **impact** any **Spiller's Wattle** or **Peep Hill Hop-bush** or **Senecio species** without the **Minister's** prior approval in writing under condition 1A of this approval; or c) **impact** any **protected matter**, except for what is allowed under conditions 1a, 1ab, 1ac and 1b, within the **project area** or within **access tracks**.
As varied on the date this instrument was signed	1A) Any request by the approval holder to have any **impact** to **protected matters** beyond the limit specified at condition 1b of this approval or subsequently granted by the Minister in writing under this condition, must include: a) details of the proposed increased **impact** to **protected matters** (including identification of any **Senecio species,** and the number and location of individuals proposed to be affected); b) details of any avoidance and mitigation measures to minimise **impacts**, including details of monitoring to verify their effectiveness (e.g. post-translocation success); c) details, with relevant supporting evidence, of any residual **significant impact** to **protected matters**; and d) a commitment to submit, within 28 **business days** of the **Minister** granting approval of such a request, a version of the Offset Management Plan revised to specify how the approval holder will compensate for any residual **significant impact** to **protected matters** informed by monitoring following implementation of any avoidance and mitigation measures detailed in condition 1Ab of this approval.
Original dated 28/07/2022	**Environmental management plans** 2. To minimise **impacts** to **protected matters** during **construction** and **operation**, the approval holder must implement the **CEMP**.

Department of Climate Change, Energy, the Environment and Water 3

OFFICIAL

Figure 25. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 3).

OFFICIAL

Date of decision	Conditions attached to approval
Original dated 28/07/2022	3. For the protection of the **Iron-grass Natural Temperate Grassland of South Australia TEC**, the approval holder must implement the **INTG TEC Management Plan** for the duration of this approval.
As varied on the date this instrument was signed	3A) The approval holder must submit a PBTL Management Plan for the **Minister's** approval. If the **Minister** approves the PBTL Management Plan, then the approval holder must implement the PBTL Management Plan approved by the **Minister**.
As varied on the date this instrument was signed	3B) The approval holder must not **commence operation** unless the PBTL Management Plan has been approved by the **Minister** in writing.
As varied on the date this instrument was signed	3C) The implementation of the PBTL Management Plan must achieve the following environmental objectives: a) avoid, mitigate and rehabilitate **impacts** of the action on **pygmy blue-tongue lizard** and **pygmy blue-tongue lizard habitat**; and b) **impacts** of the Action to **Pygmy Blue-tongue Lizard** and **Pygmy Blue-tongue Lizard habitat** do not exceed those specified at condition 1 of this approval.
As varied on the date this instrument was signed	3D) The PBTL Management Plan must be consistent with the **Environmental Management Plan Guidelines**, and must include: a) details of the relevant **EPBC Act protected matter/s** and a reference to **EPBC Act** approval conditions to which the plan refers. b) a table of commitments made in the plan to achieve the environmental objectives, and a reference to exactly where these commitments are detailed in the plan. c) commitments capable of ensuring that the environmental objectives are achieved, including details of the methods for planning, undertaking and monitoring the outcomes of any proposed relocation and/or translocation of **Pygmy Blue-tongue Lizards**, which must be consistent with the South Australian government Permit to Take Protected Animals from the Wild and Release Protected Animals to the Wild for conservation purposes (Permit number: T40145). d) reporting and review mechanisms to demonstrate compliance with the commitments made in the plan. e) an assessment of risks relating to achieving the environmental objectives and risk management strategies and/or mitigation measures that will be applied to address identified risks.

Department of Climate Change, Energy, the Environment and Water 4

OFFICIAL

Figure 26. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 4).

OFFICIAL

Date of decision	Conditions attached to approval
	f) impact avoidance, mitigation and/or repair measures, and the timing of those measures. g) a monitoring program, which must include: i) measurable performance indicators ii) trigger values for corrective actions iii) the timing and frequency of monitoring, ensuring monitoring is capable of detecting trigger values and changes in the performance indicators; and iv) proposed corrective actions if trigger values are reached.
Original dated 28/07/2022	**Environmental offsets** *Offset Management Plan* 4. To compensate for residual **significant impacts** to the **Iron-grass Natural Temperate Grassland of South Australia TEC, Pygmy Blue-tongue Lizard,** and any other **protected matters,** the approval holder must submit to the **Department** for the **Minister's** approval an Offset Management Plan (OMP) within 6 months of the date of this approval. The OMP must: a) be consistent with the **Environmental Management Plan Guidelines;** b) include a reference to the **EPBC Act** approval conditions to which the OMP refers; c) include summary information on the residual **significant impacts** to the **Iron-grass Natural Temperate Grassland of South Australia TEC, Pygmy Blue-tongue Lizard,** and any other **protected matters,** that will be compensated for by the offset(s); d) identify a suitable environmental offset(s) to compensate for residual **significant impacts** to the **Iron-grass Natural Temperate Grassland of South Australia TEC, Pygmy Blue-tongue Lizard,** and any other **protected matters,** which meets the requirements of the **Environmental Offsets Policy** to the satisfaction of the **Minister;** e) include the size of the proposed offset(s) in hectares, maps that visually describe the location and accurate boundaries of the offset(s), in accordance with the **Guide to providing maps and boundary data for EPBC Act projects,** and detailed baseline habitat quality information on the proposed offset(s); f) specify the nature and timing of the proposed legal mechanism to **secure** the offset area(s), with proposed contingency measures for if the specified legal mechanism is not established within the specified timeframe;

Department of Climate Change, Energy, the Environment and Water 5

OFFICIAL

Figure 27. Variation of conditions attached to Common Asset EPBC Act approval (2021/8959) (page 5).

Appendix 4. Permit T40145

Department for Environment and Water
National Parks and Wildlife Service
Wildlife Management Unit
81-95 Waymouth Street
ADELAIDE SA 5001
Ph.: (08) 8124 4972
www.environment.sa.gov.au/licences-and-permits/wildlife-permits

Government of South Australia
Department for Environment and Water

Permit to Take Protected Animals from the Wild and Release Protected Animals to the Wild (for conservation purposes) **Permit number: T40145**

This permit is issued pursuant to sections 53(1)(d) and 55 of the South Australian *National Parks and Wildlife Act 1972* ('the Act') and is subject to the provisions of the Act and all Regulations and Proclamations made under the Act.

Dr Travis How
[redacted]

This permit entitles the permit holder to take protected animals (identified in the permit by reference to their species) from the wild and release to the wild for the purposes of wild to wild translocation for conservation purposes.

This permit is subject to the limitations, restrictions and conditions included in this permit.

This permit commences on the Issue Date and expires on the Expiry Date.

ISSUE DATE:	**28/11/2022**
EXPIRY DATE:	**27/11/2023**

LIMITATIONS AND RESTRICTIONS

Species and number of protected animals that may be taken from the wild pursuant to this permit

1. The permit holder, and other persons authorised by this permit, may only take the following species of protected animals and no more than the corresponding quantity of that species:

Common name	Scientific name	Maximum number
Pygmy bluetongue	*Tiliqua adelaidensis*	60

Location where protected animals may be taken from the wild

2. The permit holder, and other persons authorised by this permit, may only take protected animals pursuant to this permit from the following land:

Property location
[redacted]

Owned by
Private land (management agreement with Neoen Pty. Ltd.)

Hundred	Plan reference	Parcel reference	Title reference
[redacted]	[redacted]	[redacted]	[redacted]

Method of taking protected animals from the wild

3. The permit holder, and other persons authorised by this permit, may only take protected animals from the wild pursuant to this permit using the following method or equipment:

Figure 28. Permit T40145 (Page 1 of 3).

Department for Environment and Water
National Parks and Wildlife Service
Wildlife Management Unit
81-95 Waymouth Street
ADELAIDE SA 5001
Ph.: (08) 8124 4972
www.environment.sa.gov.au/licences-and-permits/wildlife-permits

Government of South Australia
Department for Environment and Water

Common name	Method or equipment
Pygmy bluetongue	• Lure of from burrow with live feed (meal worms) tethered to fishing rod, capture by hand and place in calico bag. Attempts to lure and catch are limited to 3 attempts per day per burrow. • If the method to lure and catch is not successful after 3 attempts; careful burrow excavation by hand or small hand tools to capture by hand and place in calico bag is permitted.

Species and number of protected animals that may be released from the wild pursuant to this permit

4. The permit holder, and other persons authorised by this permit, may only release the following species of protected animals and no more than the corresponding quantity of that species:

Common name	Scientific name	Maximum number
Pygmy bluetongue	*Tiliqua adelaidensis*	60

Location where protected animals may be released to the wild

5. The permit holder, and other persons authorised by this permit, may only release protected animals pursuant to this permit from the following land:

Property location	Owned by
[redacted]	Ines Bechameil (Construction Project Manager) on behalf of Goyder Wind Farm Common Asset Pty Ltd.

Hundred	Plan reference	Parcel reference	Title reference
[redacted]	[redacted]	[redacted]	[redacted]

Persons permitted to translocate protected animals for conservation purposes

6. The taking and/or releasing of protected animals pursuant to this permit may only be undertaken by the following persons:

Name	Address
Dr Travis How	[redacted]
Paul Drummond	[redacted]
Emma Tremain	[redacted]

Conditions:

The following permit conditions will apply:

7. Any protected animal collected pursuant to the permit must be taken and released in accordance with the Translocation Proposal titled 'Goyder South Hybrid Renewable Energy Facility PBTL Translocation Plan'.

Figure 29. Permit T40145 (Page 2 of 3).

Department for Environment and Water
National Parks and Wildlife Service
Wildlife Management Unit
81-95 Waymouth Street
ADELAIDE SA 5001
Ph.: (08) 8124 4972
www.environment.sa.gov.au/licences-and-permits/wildlife-permits

Government of South Australia
Department for Environment and Water

8. The permit holder, and other persons authorised by the permit, must have the permit (or copy) in their possession when taking and releasing protected animals pursuant to this permit.
9. The taking and releasing of protected animals pursuant to the permit must involve minimal disturbance to the environment.
10. Non-target protected animals captured must be released by the permit holder, or other persons authorised by the permit, within 24 hours of capture and within the immediate surrounding area where the animal was captured.
11. At the time of release the permit holder must take all reasonable steps to safeguard the protected animals from injury or predation by other animals.
12. Any protected animal taken in accordance with the permit must not be released if it is showing signs of disease, unlikely to survive in the wild or is a biological hazard.
13. The permit holder must, by the exercise of reasonable diligence, minimise the risk of disease transmission to wild animal populations by disinfecting all equipment that will be used to capture and transport the protected animals with F10 veterinary disinfectant at a dilution/contact rate specified on the product container to disinfect 'most resistant viruses'.
14. In addition to the reporting requirement specified by section 53(4) of the Act and Regulation 12 of the National Parks and Wildlife (Wildlife) Regulations 2019, the permit holder must deliver to the Director, National Parks and Wildlife SA written reports detailing the following information:
    Take protected animals from the wild:
    - Sex of each protected animal taken (if determinable), and
    - Latitude and longitude of the collection site for each protected animal taken.

    Release protected animals to the wild:
    - Sex of each protected animal released (if determinable);
    - Date and time of release; and
    - Latitude and longitude of the release site for each protected animal.
15. The permit holder must comply with the requirements of all statutes, regulations, rules or other forms of statutory instruments which apply to taking protected animals or the eggs of protected animals including (without limitation) the *National Parks and Wildlife Act 1972*, the *Animal Welfare Act 1985* and all regulations and proclamations made under those Acts.
16. The permit is subject to any existing native title to the land on which protected animals may be taken pursuant to this permit.
17. The taking of protected animals pursuant to the permit must not affect or interfere with the enjoyment or exercise of any native title rights.

Authorisation: **Lisien Loan** Date: 28/11/2022

Delegate of the Minister for Climate, Environment and Water

Figure 30. Permit T40145 (Page 3 of 3).

Appendix 5. Risk assessment criteria and associated matrix.

Table 33. Likelihood of risk occurring.

Likelihood	Description
Rare	May occur only in exceptional circumstances
Unlikely	Could occur at some time
Possible	Might occur occasionally
Likely	Will probably occur in most circumstances
Almost certain	Expected to occur in most circumstances

Table 34. Consequence of risk occurring.

Consequence	Description
Insignificant	No or negligible impact to PBTLs
Minor	Mild pain or distress to PBTLs
Moderate	Injury and/or mortality to five or less PBTLs
Major	Injury and/or mortality to more than five PBTLs
Catastrophic	Significant impact to PBTL population(s) in the Project Area (see *EPBC Act Significant Impact Guidelines* (DotE 2013)).

Table 35. Risk assessment matrix.

		Consequence				
		Insignificant	Minor	Moderate	Major	Catastrophic
Likelihood	Almost Certain	Medium	High	High	Extreme	Extreme
	Likely	Medium	Medium	High	High	Extreme
	Possible	Low	Medium	Medium	High	High
	Unlikely	Low	Low	Medium	Medium	High
	Rare	Low	Low	Low	Medium	Medium

Table 36. Management actions required for each risk rating.

Risk rating	Management actions required
Low	Acceptable risk level with infrequent review. Standard control and monitoring measures to be identified and implemented. Monitor and review locally as necessary. Report to local manager(s).
Medium	Acceptable risk level but must be reviewed regularly. Specific control and monitoring measures to be identified and implemented. Measures and risk level to be reviewed and improved as further information becomes available.
High	Undesirable risk level – consultation with manager(s) prior to activity. Specific control and monitoring measures to be identified and implemented. Measures and risk level to be reviewed and improved as further information becomes available.
Extreme	Unacceptable risk level. Do not proceed with activity. Requires immediate attention and consideration. Detailed risk assessment and management plan to be prepared by relevant senior manager(s) or suitably qualified consultant. Strict control and monitoring measures to be identified and implemented. Any action that has, will have, or is likely to have a significant impact on matters of national environmental significance requires referral under the EPBC Act.

Appendix 6. Risk assessment criteria and associated matrix for the risk assessment in Table 16.

Table 37. Likelihood of risk occurring.

Likelihood	Description
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur only in exceptional circumstances

Table 38. Consequence of risk occurring.

Consequence	Description
Minor	Minor incident of environmental damage that can be reversed
Moderate	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts
High	Substantial instances of environmental damage that could be reversed with intensive efforts
Major	Major loss of environmental amenity and real danger of continuing
Critical	Severe widespread loss of environmental amenity and irrecoverable environmental damage

Table 39. Risk assessment matrix.

		Consequence				
		Minor	Moderate	High	Major	Critical
Likelihood	Highly Likely	Medium	High	High	Severe	Severe
	Likely	Low	Medium	High	High	Severe
	Possible	Low	Medium	Medium	High	Severe
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

Appendix 7. PBTL Relocation (including monitoring) Risk Assessment and Management.

A risk assessment of the PBTL relocation and monitoring procedure, with initial risk rating, associated management / mitigation measures and residual risk rating, is presented in Table 40. Refer to Table 33 for the likelihood criteria, Table 34 for the consequence criteria, Table 35 for the risk rating matrix and Table 36 for the management actions required for each risk rating. After implementation of management / mitigation measures, no residual risk rating is higher than medium.

Table 40. Risk assessment of the PBTL relocation process, associated management / mitigation measures and residual risk rating.

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
Pre-construction survey(s)	Optic fibre 'burrowscope' placed briefly into burrows to determine PBTL presence.	Mild pain or distress to PBTLs from burrowscope light source and/or unnecessary contact.	Almost certain	Insignificant	Medium	Ensure surveyor looks at video screen of burrowscope when checking each burrow to prevent unnecessary contact with PBTLs. Remove burrowscope as soon as PBTL occupancy is confirmed.	Low
Capture	PBTLs subject to too many capture attempts.	Mild pain or distress.	Possible	Minor	Medium	Attempts at capture should be limited to two or three per day if possible (J Clayton *pers. comm.* 2019).	Low
	Improper or excessive handling.	Mild pain or distress.	Unlikely	Minor	Low	Only suitably qualified ecologist(s) to handle PBTLs. PBTLs will only be handled for the minimum amount of time required to gather the required information.	Low
	PBTLs stressed from capture attempts during extreme heat	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	No capture of PBTLs will take place when weather forecast by the Bureau of Meteorology is 36°C or above or less than 15°C at Clare, or any temperature specified in the relevant WEC approval. The ecologist(s) must check the weather forecast and local weather conditions on a daily basis, prior to commencing the capture process.	Low
Housing	PBTLs housed in slightly too warm/cool area.	Mild pain or distress.	Possible	Insignificant	Low	PBTLs housed in calico bags will be kept in well ventilated plastic crates with snap lock lids in a cool location (e.g. in shade of ute canopy with doors/windows open).	Low
	PBTLs housed in extreme temperature conditions.	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Unlikely	Moderate	Medium	The ambient temperature where PBTLs are housed will range between 15°C and 30°C (J Clayton *pers. comm.* 2019). Housed PBTLs and housing conditions will be checked every 1-2 hours depending on climatic conditions during the survey.	Low

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
	PBTLs housed for extended time period(s).	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	Housed PBTLs and housing conditions will be checked every 1-2 hours depending on climatic conditions during the survey. An adequate supply of meal worms will be on hand to feed PBTLs if required, taking into consideration the number of meal worms eaten during capture attempts. If a PBTL is suspected to have been injured as a result of housing its condition will be scored (see condition scores in PBTL capture methodology in Table 30). If a PBTL has a condition score of 5 or more, the SA Museum, Flinders University or PBTL Recovery Team will be consulted within 24 hours for the best course of action.	Low
Transport	Bumpy transportation route and/or housing moving around vehicle.	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	Where relocation by foot is not practicable, PBTLs in calico bags stored in well ventilated plastic crates with snap lock lids will be transported to the nearest suitable release site by vehicle. Plastic crates will be stored so they cannot move around within the vehicle transporting PBTLs. Vehicles transporting PBTLs will follow approved access routes to the nearest suitable release site, drive at a pace that prevents unnecessary bumping and be temperature controlled (air conditioned) to maintain an ambient temperature between 15°C and 30°C.	Low
Release	Unsuitable habitat.	Indirect loss of relocated individuals through short-term impacts related to unsuitable habitat at the relocation release site (e.g. exposure due to lack of suitable burrows or grass cover, low food resources).	Possible	Major	High	Assess habitat in release site(s) prior to release. Burrows at the release site(s) will be inspected to identify those suitable for PBTLs prior to releasing any individuals. The burrowscope(s) will be marked at 10 cm and 25 cm to quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively. If considered necessary by the ecologist(s), two to three artificial burrows will be installed within a 50 cm radius surrounding the suitable burrow each PBTL is released into.	Medium
	Predation.	Indirect loss of relocated individuals through short-term impacts of predation at the release site.	Possible	Major	High	Ensure PBTLs enter burrow upon release. Provide artificial burrows (if considered necessary by the ecologist(s)). Release sites selected with suitable tussock grass cover (where possible) to reduce predation risk.	Medium

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
	Disorientation.	Indirect loss of relocated individuals through short-term impacts of disorientation at the release site (e.g. emigration from the release site).	Possible	Major	High	Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material). Released PBTLs will be given up to three meal worms immediately following release (depending on how many meal worms were required to capture them), to discourage emigration from the release site. They will be fed up to three meal worms the following day before the temporary confinement barrier is removed.	Medium
	PBTL activity (emigration from the release site)	Indirect loss of relocated individuals that move into/across the Infrastructure footprint.	Possible	Moderate	Medium	Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material). Released PBTLs will be given up to three meal worms immediately following release (depending on how many meal worms were required to capture them), to discourage emigration from the release site. They will be fed up to three meal worms the following day before the temporary confinement barrier is removed. Where a PBTL is released within 60 m of the Infrastructure footprint, sediment fencing will be installed on the outer edge of the Infrastructure footprint (facing the PBTL) to prevent the relocated PBTL (which is likely to be prone to an increased level of movement) from entering the Infrastructure footprint. A theoretical buffer of 60 m will be placed around the PBTL and the placement and length of the sediment fencing at the edge of the Infrastructure footprint will be sufficient to cover the extent of the buffer zone.	Low
	Conspecifics (e.g. other resident or relocated PBTLs).	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	Burrows at the release site(s) will be inspected to identify those suitable for PBTLs prior to releasing any individuals. The burrowscope(s) will be marked at 10 cm and 25 cm to quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively. If considered necessary by the ecologist(s), two to three artificial burrows will be installed within a 50 cm radius surrounding the suitable burrow each PBTL is released into.	Low

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
						PBTLs will be released at least 2 m from any other PBTL and any artificial burrows installed around their release burrow. Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material). Released PBTLs will be given up to three meal worms immediately following release (depending on how many meal worms were required to capture them), to discourage emigration from the release site. They will be fed up to three meal worms the following day before the temporary confinement barrier is removed.	
Euthanasia	Correct euthanasia procedures not followed (i.e. incorrect needle and/or dose used).	Unnecessary pain or distress.	Possible	Moderate	Medium	Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this will be conducted by a suitably qualified ecologist(s) trained in field euthanasia of animals.	Low

EBS Ecology
112 Hayward Avenue
Torrensville, SA 5031
www.ebsecology.com.au
t. 08 7127 5607