



MAXWELL PROJECT

SECTION 1

Introduction



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1 INTRODUCTION

This document is an Environmental Impact Statement (EIS) for an underground coal mining operation, referred to as the Maxwell Project (the Project). The Project would produce high-quality coals over a period of approximately 26 years.

At least 75 percent (%) of coal produced by the Project would be capable of being used in the making of steel (coking coals). The balance would be export thermal coals suitable for the new-generation High Efficiency, Low Emissions power generators.

The Project is in the Upper Hunter Valley of New South Wales (NSW), east-southeast of Denman and south-southwest of Muswellbrook (Figure 1-1).

Maxwell Ventures (Management) Pty Ltd, a wholly owned subsidiary of Malabar Coal Limited (Malabar), is seeking consent to develop the Project.

1.1 PROJECT OVERVIEW

1.1.1 Purpose of this Report

This EIS has been prepared to accompany a Development Application made for the Project, in accordance with Part 4 of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act).

This EIS considers the potential environmental impacts of the Project in accordance with the Secretary's Environmental Assessment Requirements (SEARs) and clauses 6 and 7 of Schedule 2 of the NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) (Attachment 1).

The SEARs were first issued by the Secretary of the NSW Department of Planning and Environment (DP&E) (now the NSW Department of Planning, Industry and Environment [DPIE]) on 3 September 2018, in accordance with the requirements of clause 3 of Schedule 2 of the EP&A Regulation. Supplementary SEARs were issued on 20 November 2018 and revised SEARs were issued on 17 January 2019. A summary of the revised SEARs is provided in Section 1.2.

A delegate of the Commonwealth Minister for the Environment and Energy (the Commonwealth Minister) determined on 12 November 2018 that the proposed action is a "controlled action" and, therefore, the action also requires approval under section 133 of the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act).

A delegate of the Commonwealth Minister also determined on 12 November 2018 that, pursuant to section 87 of the EPBC Act, the proposed action is to be assessed under the NSW accredited assessment process under Part 4 of the EP&A Act. Attachment 4 to the revised SEARs issued on 17 January 2019 provides guidelines for preparing assessment documentation relevant to the EPBC Act under the NSW accredited assessment process.

Therefore, this EIS provides an assessment of potential impacts (in accordance with the revised SEARs issued on 17 January 2019) with respect to the following EPBC Act controlling provisions for the Project:

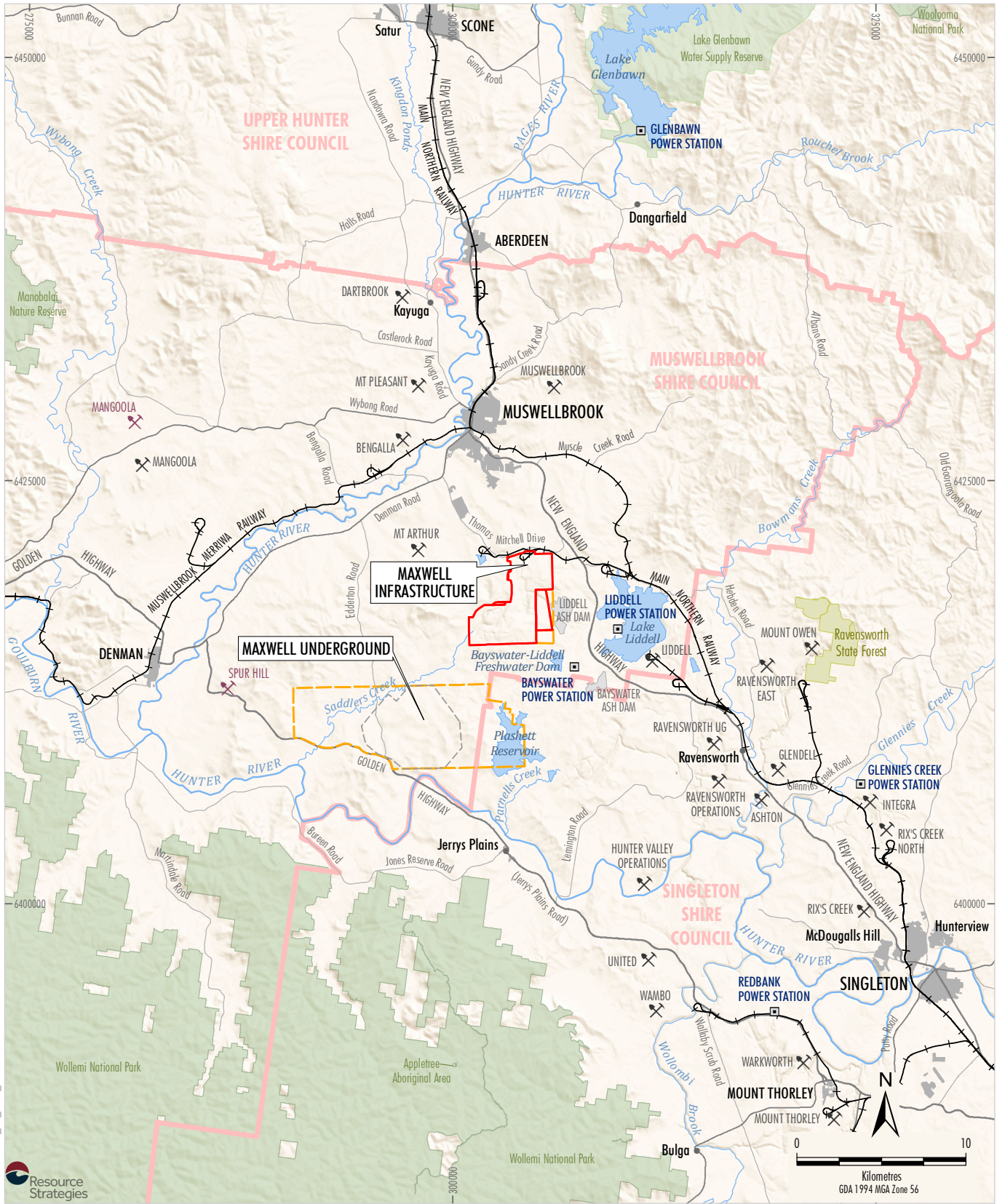
- EPBC Act listed threatened species and communities; and
- water resources.

A summary indicating where the revised SEARs issued 17 January 2019 have been addressed in the EIS is provided in Attachment 2.

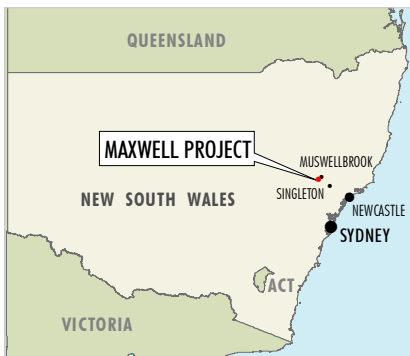
1.1.2 Project Background

The area within and surrounding Exploration Licence (EL) 5460, which has previously been known as Mt Arthur South, Saddlers Creek and Drayton South, has long been identified as having a significant *in-situ* coal resource. Prospecting for coal within EL 5460 and surrounds commenced in the late 1940s, with exploration intensifying during the 1960s and 1970s.

In May 2017, Malabar publicly announced its intention to acquire EL 5460 and the existing infrastructure within Coal Lease (CL) 229, Mining Lease (ML) 1531 and CL 395 (known as the 'Maxwell Infrastructure'). As part of this announcement, Malabar confirmed its commitment to investigate development of the resource in EL 5460 solely as an underground mine.



SHK: 18-03 Maxwell_ES_Sect1_201C



- LEGEND**
- Mining Operation
 - Proposed Mining Operation
 - Railway
 - Local Government Boundary
 - State Forest
 - National Parks and Wildlife Service Estate
 - Maxwell Project Exploration Licence Boundary
 - Maxwell Project Mining and Coal Lease Boundary
 - Indicative Extent of Underground Development

Source: © NSW Department of Planning and Environment (2019);
 NSW Department of Finance, Services and Innovation (2019);
 Office of Environment and Heritage NSW (2019)

MAXWELL PROJECT

 Regional Location

Figure 1-1

The transfer of ownership of EL 5460 and the Maxwell Infrastructure to Malabar was formally completed on 26 February 2018.

The Maxwell Infrastructure includes existing coal handling and preparation plant (CHPP), train load-out facilities and other infrastructure and services (including water management infrastructure, administration buildings, workshops and services).

A more detailed overview of the background to the Project, including previous exploration and mining activities, is provided in Section 2.

1.1.3 Project Objectives

The Project would facilitate the underground mining, processing and sale of high-quality coal suitable for steel-making from within EL 5460.

Malabar has committed to develop the Project solely as an underground mining operation.

Malabar has elected to proceed with the Project as proposed due to:

- substantial capital savings associated with the use of the existing Maxwell Infrastructure (Plate 1-1);
- the extensive geological and geotechnical data available within the target area in EL 5460;

- the short development time to first underground coal and full employment;
- the development of a Project design that is substantially different to previous proposals in EL 5460 and takes account of stakeholder concerns and perceptions (Section 5.2); and
- extraction of a significant coal resource that provides an attractive return on investment and can operate as a sustainable long-term enterprise.

The Project would produce the following benefits:

- generation of approximately 350 new direct, long-term jobs for the region, along with many more indirect jobs;
- annual average export sales in the vicinity of \$500 million to \$700 million¹ annually;
- support for local businesses through the initial construction expenditure and the substantial ongoing operating inputs;
- substantial corporate tax contributions and royalties (in the order of \$110 million \$140 million¹ per annum on average); and
- support for continued rehabilitation activities within CL 229, ML 1531 and CL 395, including reduction in the volume of final voids through emplacement of reject material generated by coal processing activities.



Plate 1-1 – Existing Maxwell Infrastructure

¹ Range is based on coal price forecasts used by Deloitte Access Economics and Malabar’s coal price forecasts.

A number of alternatives to the Project have been considered by Malabar (Section 9.2). This EIS presents and assesses Malabar’s preferred design and staging for the Project.

1.1.4 Project Summary

The Project would involve an underground mining operation that would produce high-quality coals over a period of approximately 26 years.

The Project would involve extraction of run-of-mine (ROM) coal from four seams within the Wittingham Coal Measures, using the following underground mining methods:

- underground bord and pillar mining with partial pillar extraction in the Whynot Seam; and
- underground longwall extraction in the Woodlands Hill Seam, Arrowfield Seam and Bowfield Seam.

The substantial existing Maxwell Infrastructure would be used for handling, processing and transportation of coal for the life of the Project. The Maxwell Infrastructure includes existing CHPP, train load-out facilities and other infrastructure and services (including water management infrastructure, administration buildings, workshops and services).

A mine entry area (MEA) would be developed for the Project in a natural valley in the north of EL 5460 (Plate 1-2) to support underground mining and coal handling activities and provide for personnel and materials access.

ROM coal brought to the surface at the MEA would be transported to the Maxwell Infrastructure area. Early ROM coal would be transported via internal roads during the construction and commissioning of a covered, overland conveyor system. Subsequently, ROM coal would be transported via the covered, overland conveyor system.

The Project would support continued rehabilitation of previously mined areas and overburden emplacement areas within CL 229, ML 1531 and CL 395. The volume of the East Void would be reduced through the emplacement of reject material generated from processing activities and would be capped and rehabilitated at the completion of mining.

The Project area comprises the following main domains:

- Maxwell Underground – comprising the proposed area of underground mining operations and the MEA within EL 5460.
- Maxwell Infrastructure – the area within existing mining leases comprising the substantial existing infrastructure (including the CHPP) and previous mining areas.
- The transport and services corridor between the Maxwell Underground and Maxwell Infrastructure – comprising the proposed site access road, a covered, overland conveyor, power supply and other ancillary infrastructure and services.
- A potential realignment of Edderton Road.

Table 1-1 provides a tabulated summary of the key characteristics of the Project.



Plate 1-2 – EL 5460 from above the Proposed Location of the Maxwell Underground Mine Entry Area

**Table 1-1
Overview of the Project**

Component	Description
Mining Method	Underground extraction using “bord and pillar” and “longwall” mining methods.
Resource	Coal seams in the Wittingham Coal Measures within EL 5460 (Whynot Seam, Woodlands Hill Seam, Arrowfield Seam and Bowfield Seam).
Annual Production	Up to 8 million tonnes of ROM coal per annum. At least 75% of product coal produced by the Project would be capable of being used in the making of steel (coking coals). The balance would be export thermal coals suitable for the new-generation High Efficiency, Low Emissions power generators.
Mine Life	26 years of coal extraction.
Total Resource Recovered	Approximately 148 million tonnes of ROM coal (i.e. an annual average of approximately 5.7 million tonnes of ROM coal, yielding an annual average of approximately 4.8 million tonnes of product coal).
Coal Handling and Preparation	Handling and processing of up to 8 million tonnes of ROM coal per annum. Transport of coal from underground faces to the MEA (mine entry area) via an underground conveyor network. Use of a surge stockpile and coal sizing facilities at the underground MEA prior to transporting ROM coal to the Maxwell Infrastructure CHPP. Transportation of early ROM coal via internal roads to the Maxwell Infrastructure CHPP, while a covered, overland conveyor is constructed and commissioned. Subsequently, ROM coal would be transported via the covered, overland conveyor system. Use of the existing Maxwell Infrastructure CHPP with upgrades to coal handling and processing infrastructure.
Management of Reject Material (i.e. Stone-derived Material)	Emplacement of coarse rejects and tailings primarily within the existing “East Void” in ML 1531 at the Maxwell Infrastructure precinct.
General Infrastructure	Use of the existing Maxwell Infrastructure with upgrades. Development of an underground MEA and associated facilities that support the underground mining activities and provide for personnel and materials access to the underground mine. Development of infrastructure for power supply, ventilation and gas management for the underground mine.
Product Transport	Transport of product coal to market or to the Port of Newcastle for export via the existing Antiene Rail Spur and Main Northern Railway or via conveyor to the Bayswater and/or Liddell Power Stations. ¹ Transport of up to 7 million tonnes of product coal per annum along the rail loop (up to 12 train movements per day).
Water Management	On-site water management system, including: recycling of water on-site; storage of water on-site (including in voids); water treatment; irrigation; and sharing of water with Mt Arthur Mine and other users. Augmentations and extensions to existing water management infrastructure and development of new water management storages, sumps, pumps, pipelines, sediment control, mine dewatering, water treatment and wastewater treatment infrastructure.
Workforce	During operation, the Project would directly employ approximately 350 personnel. Initial construction activities would require an average of approximately 90 personnel, and a maximum of approximately 250 personnel. Additional contractors would also be required during short periods over the life of the Project; for example, during longwall change-outs, periods of higher underground development activities, scheduled plant shutdowns or other maintenance programs. These activities may require up to approximately 80 additional personnel.
Hours of Operation	Operated on a continuous basis, 24 hours per day, seven days per week.
Capital Investment Value	\$509,000,000.

¹ Consistent with the current approval for the Antiene Rail Spur (DA 106-04-00), coal may be hauled on public roads under emergency or special situations with the prior written permission of the Secretary of the DPIE, NSW Roads and Maritime Services (RMS) and Muswellbrook Shire Council.

An indicative Project general arrangement showing the key components of the Project is provided in Figure 1-2.

Malabar is seeking Development Consent under the State Significant Development provisions (Division 4.7) under Part 4 of the EP&A Act. If granted, the Development Consent would incorporate the development authorised under the existing approval for the Maxwell Infrastructure, Project Approval 06_0202. As such, Project Approval 06_0202 would be surrendered following the grant of Development Consent.

A detailed and full description of the Project is provided in Section 3.

1.1.5 Site Location and Tenure

Table 1-2 provides details of the mining and exploration tenements related to the Project held by subsidiaries of Malabar.

**Table 1-2
Mining and Exploration Tenements Related to the Project**

Tenement Reference	Resource	Expiry
<i>Maxwell Infrastructure</i>		
CL 229*	Group 9 (Coal)	02/02/2024
CL 395	Group 9 (Coal)	21/01/2029
ML 1531	Group 9 (Coal)	25/02/2024
A 173	Group 9 (Coal)	31/08/2018 [#]
<i>Maxwell Underground</i>		
EL 5460	Group 9 (Coal)	02/04/2022

A – Authorisation.

CL – Coal Lease.

EL – Exploration Licence.

ML – Mining Lease.

* Hunter Valley Energy Coal Pty Ltd (HVEC), a wholly owned subsidiary of BHP, holds a sublease over a portion of CL 229. Activities within this sublease do not form part of the Project.

[#] An application to renew A 173 was submitted on 30 August 2018. A 173 continues to have effect until the renewal application is dealt with.

Relevant land ownership information for land parcels within the immediate vicinity of the Project is provided on Figures 1-3a, 1-3b and 1-3c. The Project Development Application area includes those lands listed in the real property description provided in support of the Development Application submitted to the DPIE (Attachment 3).

All freehold land within the Project underground mining area is owned by Malabar (Figure 1-3a).

The Project Development Application area is within the Muswellbrook Local Government Area (LGA). A description of the land zoning under the *Muswellbrook Local Environmental Plan 2009* (Muswellbrook LEP) in the Project Development Application area is provided in Section 4.6.

1.1.6 Applicant

Maxwell Ventures (Management) Pty Ltd (ACN 002 028 257), a wholly owned subsidiary of Malabar, is the proponent for the Project and will be the applicant for any mining lease application.² The registered address for Maxwell Ventures (Management) Pty Ltd is:

Maxwell Ventures (Management) Pty Ltd
Level 26, 259 George Street
Sydney NSW 2000

The Malabar website is:

<http://malabarcoal.com.au/>

The Maxwell Infrastructure is located at Thomas Mitchell Drive, Muswellbrook NSW, 2333.

1.2 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

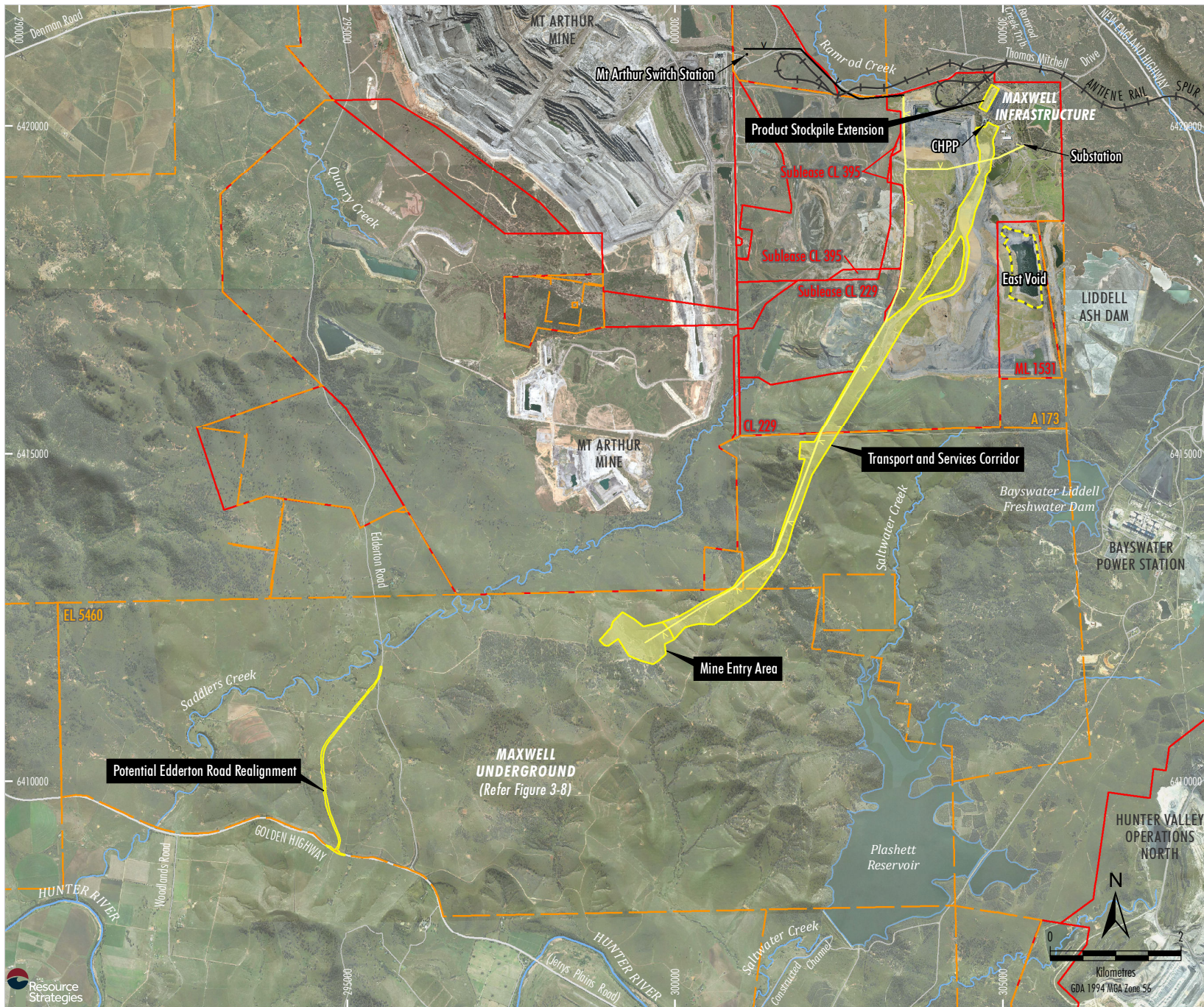
The SEARs for the Project were first issued by DP&E on 3 September 2018. Supplementary SEARs were issued by the DP&E on 20 November 2018 and revised SEARs were issued on 17 January 2019.

A complete copy of the revised SEARs issued on 17 January 2019 is provided in Attachment 1.

A summary of the SEARs is provided in Table 1-3 including the relevant section of the EIS where the SEARs are addressed.

In accordance with the EP&A Regulation, form and content requirements for an EIS are provided in Table 1-4, with a reference to the relevant section of the EIS where the requirements are addressed.

² References to Malabar throughout this document should be read as a reference to the applicant.



- LEGEND**
- Railway
 - Exploration Licence Boundary
 - Mining and Coal Lease Boundary
 - Indicative Surface Development Area
 - CHPP Reject Emplacement Area
 - Proposed 66 kV Power Supply
 - Proposed Ausgrid 66 kV Power Supply Extension #
- # Subject to separate assessment and approval.

Source: © NSW Department of Planning and Environment (2019);
 NSW Department of Finance, Services & Innovation (2019)
 Orthophoto Mosaic: 2018, 2016, 2011

MALABAR COAL
 MAXWELL PROJECT
 Project General Arrangement

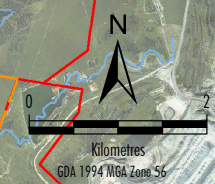
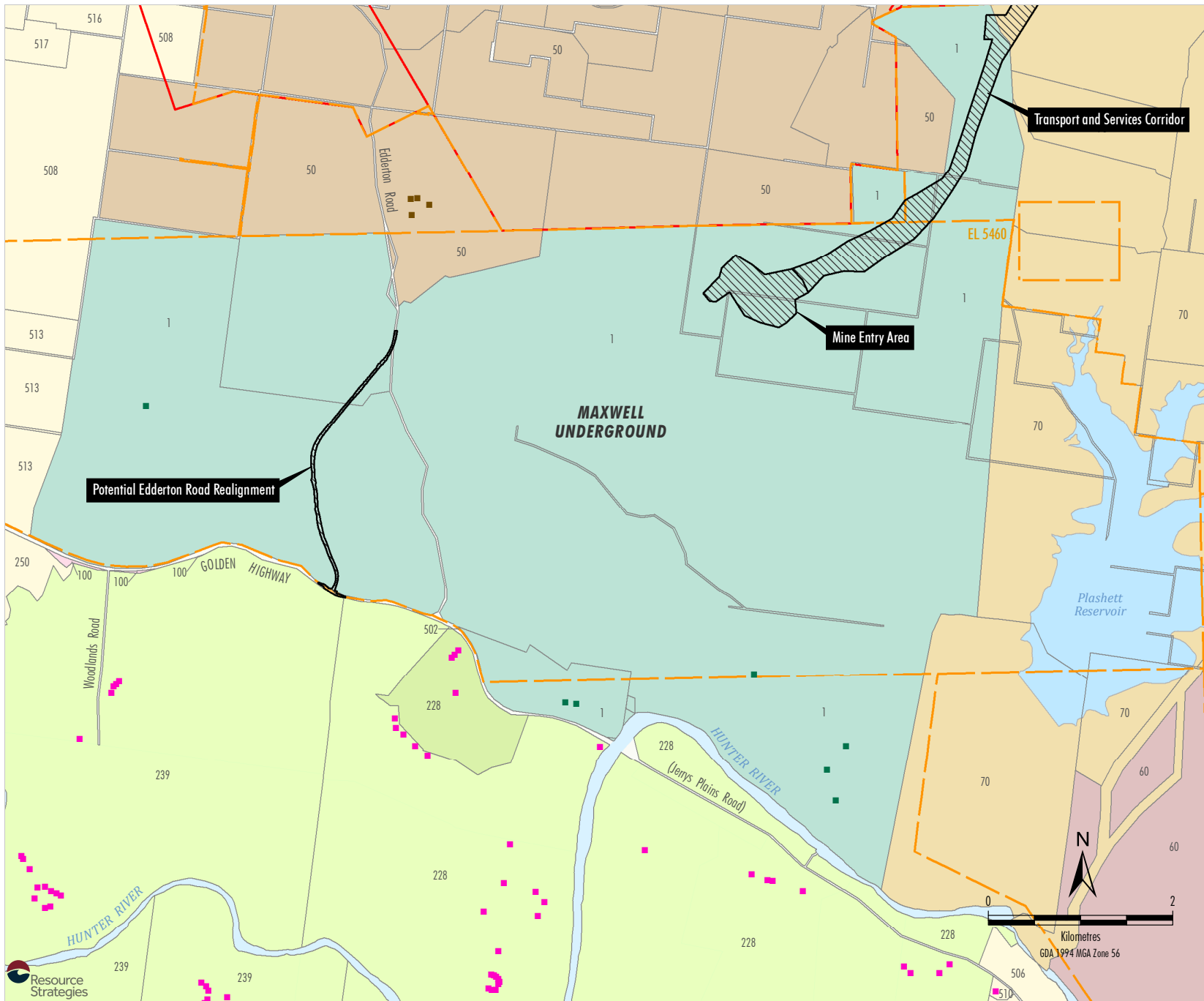


Figure 1-2



- LEGEND**
- Exploration Licence Boundary
 - Mining and Coal Lease Boundary
 - Indicative Surface Development Area
 - Malabar-owned Receiver
 - Other mine-owned Receiver
 - Privately-owned Receiver
 - Land Ownership**
 - Malabar Coal
 - Mt Arthur Mine (BHP)
 - Hunter Valley Operations (Yancoal/Glencore)
 - AGL
 - RMS
 - Crown
 - Equine Enterprise
 - Viticulture Enterprise
 - Other Privately-owned Land
 - 100 Landholder Reference Number

Source: © NSW Department of Planning and Environment (2019);
NSW Department of Finance, Services & Innovation (2019)

Refer to Figure 1-3c for Landholder List.

MAXWELL PROJECT

Relevant Land Ownership Plan

- Maxwell Underground

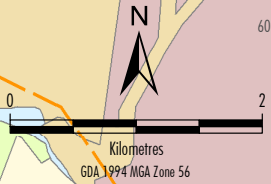
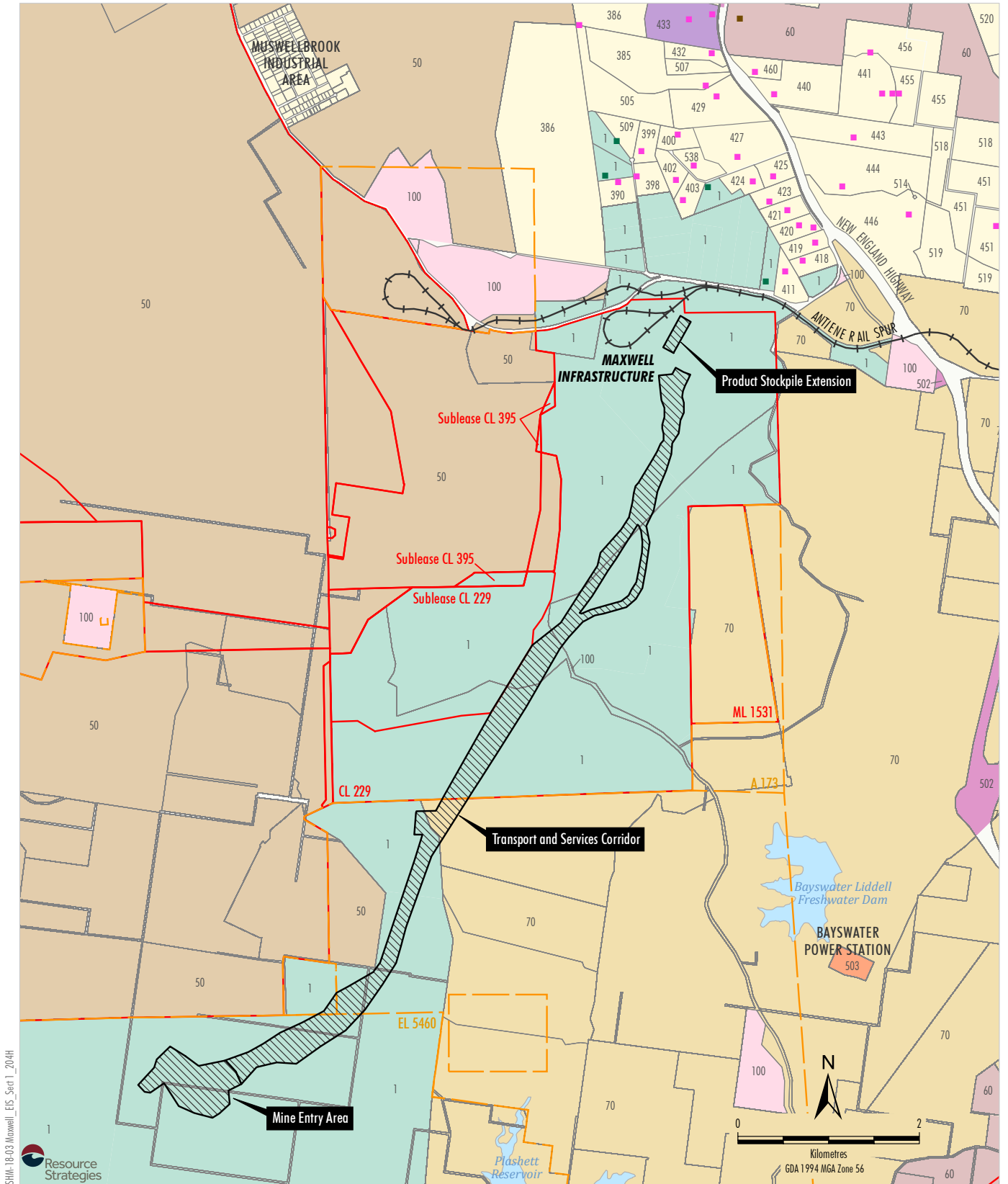


Figure 1-3a



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LEGEND	
	Railway
	Exploration Licence Boundary
	Mining and Coal Lease Boundary
	Indicative Surface Development Area
	Malabar-owned Receiver
	Other Mine-owned Receiver
	Privately-owned Receiver
	Land Ownership
	Malabar Coal
	Mt Arthur Mine (BHP)
	Hunter Valley Operations (Yancoal/Glencore)
	AGL
	TransGrid
	RMS
	Council
	Crown
	Other Privately-owned Land
100	Landholder Reference Number

Source: © NSW Department of Planning and Environment (2019);
NSW Department of Finance, Services & Innovation (2019)

Refer to Figure 1-3c for Landholder List.

MAXWELL PROJECT
Relevant Land Ownership Plan
- Maxwell Infrastructure

Figure 1-3b

Ref No	Landholder	Ref No	Landholder
1	Malabar Coal (Maxwell Management) Pty Ltd, Malabar Coal (Drayton Management) Pty Ltd, Malabar Coal (Drayton) Pty Ltd	432	J Fox
50	Hunter Valley Energy Coal Pty Ltd, Bayswater Colliery Company Pty Ltd (BHP)	433	Muswellbrook Shire Council
60	Coal & Allied Operations Pty Ltd and HVO Resources Pty Ltd, Coal & Allied Operations Pty Ltd and Anotero Pty Limited (Yancoal/Glencore)	435	MT Perram
70	AGL Macquarie Pty Ltd	438	WJH & BJ Hopmans
100	The State of New South Wales	440	MJ & SL Ward
228	Calago Bloodstock Ag (T/A Coolmore Australia)	441	BT & JE Davis
239	Darley Australia Pty Limited (now Godolphin Australia Pty Ltd)	443	JA Fisher & CI Dennis
250	Hynken Pty Limited	444	KC & KI Cross
385	TTW Keast & RA Sumner	446	Wild Group Pty Limited
386	K Casben	451	RD & MM Wiekens
390	MF & AV Doherty	455	BJ King
398	CJ & LE Duck	456	TR & KS Zolnikov
399	KT Ryan	460	MJ & EJ Wallman
400	JW Nash	501	PS & TG Adams
402	RJD & DA Osborn	502	Roads and Traffic Authority of New South Wales
403	RC & LT Skinner	503	Electricity Transmission Ministerial Holding Corporation
411	NH Robertson	505	CS Jacobsen
418	PG Horder	506	Tomag Holdings Pty Ltd
419	EJ & MC Sharman	507	KL & N Jacobsen
420	LK Nash	508	MH & RE Wolfgang
421	B Jones	509	PA & SL Ryan
423	P & K Clifton	510	Tomag Holdings Pty Ltd
424	GEJ & PH De Boer	511	PC, DA, NA & RL Mitchell
425	PA & KM Cavanagh	513	RI Wolfgang
427	RE & ID Baxter	514	NBN Limited
429	RW Kerr	516	Spur Hill Agricultural Pty Limited
		517	VB Laws
		518	NP & CJ O'Brien
		519	PJ Wild
		520	Glencore Coal (NSW) Pty Limited
		538	RB Halloran

Source: NSW Department of Planning and Environment (2019)

Refer to Figure 1-3a and 1-3b for Land Ownership.

Table 1-3
Secretary's Environmental Assessment Requirements – Reference Summary¹

Summary of the EIS Requirements	EIS Reference
General Requirements	
The EIS for the Project must comply with the requirements of Schedule 2 of the EP&A Regulation.	Refer to Table 1-4
The EIS must include:	Executive Summary
<ul style="list-style-type: none"> • A stand-alone executive summary. 	
<ul style="list-style-type: none"> • A full description of the Project, including: <ul style="list-style-type: none"> – historical mining operations on and nearby the Project site; 	Section 2
<ul style="list-style-type: none"> – a summary of regional and local geology and soils; 	Sections 2.2.1, 3.1 and 6
<ul style="list-style-type: none"> – resource to be extracted; 	Section 3.1
<ul style="list-style-type: none"> – mine layout and scheduling; 	Sections 3.5 and 3.6
<ul style="list-style-type: none"> – coal production rates; 	Section 3.5.1
<ul style="list-style-type: none"> – coal processing and transport arrangements; 	Sections 3.6 and 3.7
<ul style="list-style-type: none"> – infrastructure and facilities; 	Section 3.11
<ul style="list-style-type: none"> – workforce requirements; 	Section 3.9
<ul style="list-style-type: none"> – surface disturbance footprint; 	Section 3 and Figure 1-2
<ul style="list-style-type: none"> – a waste management strategy; 	Section 3.12
<ul style="list-style-type: none"> – a water management strategy; 	Section 3.10
<ul style="list-style-type: none"> – a rehabilitation strategy; and 	Sections 3.13 and 7
<ul style="list-style-type: none"> – likely interactions between the Project and any other nearby developments including the Maxwell Infrastructure and Antiene Rail Spur. 	Section 2.3
<ul style="list-style-type: none"> • A strategic justification of the Project focusing on site selection and the suitability of the proposed site. 	Sections 4 and 9
<ul style="list-style-type: none"> • A list of any approvals that must be obtained before the Project may commence. 	Section 4
<ul style="list-style-type: none"> • A description of the existing environment. 	Section 6
<ul style="list-style-type: none"> • An assessment of the likely impacts of all stages of the Project, including any cumulative impacts. 	Sections 2.3.9 and 6
<ul style="list-style-type: none"> • A description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the likely impacts of the Project, and an assessment of: <ul style="list-style-type: none"> – whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented; 	Section 6
<ul style="list-style-type: none"> – the likely effectiveness of these measures; and 	Section 6
<ul style="list-style-type: none"> – whether any contingency measures would be necessary to manage any residual risks. 	Section 6
<ul style="list-style-type: none"> • A description of the measures that would be implemented to monitor and report on the environmental performance of the Project. 	Section 8
<ul style="list-style-type: none"> • A consolidated summary of all the proposed environmental management and monitoring measures, identifying all commitments in the EIS. 	Section 8
<ul style="list-style-type: none"> • Consideration of the Project against all relevant environmental planning instruments. 	Attachment 7
<ul style="list-style-type: none"> • Reasons why the Project should be approved, having regard to: <ul style="list-style-type: none"> – relevant matters for consideration under the EP&A Act; 	Section 9.3
<ul style="list-style-type: none"> – the biophysical, economic and social impacts of the Project; 	Sections 6 and 9
<ul style="list-style-type: none"> – the suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses, including the existing equine critical industry cluster; and 	Sections 4, 6 and 9.1.5
<ul style="list-style-type: none"> – feasible alternatives to the Project (and its key components) including the consequences of not carrying out the development. 	Section 9.2

Table 1-3 (Continued)
Secretary's Environmental Assessment Requirements – Reference Summary¹

Summary of the EIS Requirements	EIS Reference
<ul style="list-style-type: none"> A signed statement from the author of the EIS, certifying that the information contained within the document is neither false nor misleading. 	Front of EIS
<ul style="list-style-type: none"> An accurate estimate of the capital investment value, including details of all the assumptions and components from which the value has been derived. 	Attachment 5
Key Issues	
<ul style="list-style-type: none"> Subsidence. 	Section 6.3 and Appendix A
<ul style="list-style-type: none"> Land Resources. 	Sections 4, 6.6 and 9 and Appendix Q
<ul style="list-style-type: none"> Air Quality. 	Sections 6.10 and 6.19 and Appendix J
<ul style="list-style-type: none"> Rehabilitation and Final Landform. 	Section 7 and Appendix U
<ul style="list-style-type: none"> Noise. 	Sections 6.9 and 6.15 and Appendix I
<ul style="list-style-type: none"> Visual. 	Section 6.11 and Appendix N
<ul style="list-style-type: none"> Waste. 	Section 3.12
<ul style="list-style-type: none"> Water. 	Sections 6.4 and 6.5, Attachment 8 and Appendices B to D
<ul style="list-style-type: none"> Biodiversity. 	Sections 6.7 and 6.8 and Appendices E and F
<ul style="list-style-type: none"> Heritage. 	Sections 6.12 and 6.13 and Appendices G and H
<ul style="list-style-type: none"> Traffic and Transport. 	Sections 6.14 and 6.15 and Appendix K
<ul style="list-style-type: none"> Hazards. 	Section 6.20 and Appendices R and T
<ul style="list-style-type: none"> Social. 	Section 6.17 and Appendix L
<ul style="list-style-type: none"> Economic. 	Section 6.16 and Appendix M
Consultation	
<ul style="list-style-type: none"> The EIS must include: <ul style="list-style-type: none"> a description of the consultation process carried out and demonstration that effective consultation has occurred; a description of issues raised; identification of Project design amendments or mitigation measures to address issues raised; and demonstrate that issues have been appropriately addressed in the EIS. 	Section 5

¹ The complete version of the revised SEARs issued on 17 January 2019 is presented in Attachment 1.

**Table 1-4
Form and Content Requirements of an EIS – Schedule 2 of the EP&A Regulation**

Summary of the EIS Requirements	EIS Reference
Clause 6 – Form of Environmental Impact Statement	
<p>An EIS must contain:</p> <ul style="list-style-type: none"> • The name, address and professional qualifications of the person by whom the statement is prepared. • The name and address of the responsible person. • The address of the land: <ul style="list-style-type: none"> – in respect of which the Project application is to be made; or – on which the activity of infrastructure to which the statement relates is to be carried out. • A description of the Project to which the statement relates. • An assessment by the person by whom the statement is prepared of the environmental impact of the Project to which the statement relates, dealing with the matters referred to in Schedule 2. • A declaration by the person by whom the EIS is prepared to the effect that: <ul style="list-style-type: none"> – the EIS has been prepared in accordance with Schedule 2; – the EIS contains all available information that is relevant to the environmental assessment of the Project; and – that the information contained in the EIS is neither false nor misleading. 	Front of EIS
Clause 7 – Content of Environmental Impact Statement	
<p>The EIS must include:</p> <ul style="list-style-type: none"> • A summary of the EIS. 	Executive Summary
<ul style="list-style-type: none"> • Objectives of the Project. 	Section 1.1.3
<ul style="list-style-type: none"> • Analysis of any feasible alternatives to the Project, including the consequences of not carrying out the Project. 	Sections 9.2 and 9.4.3
<ul style="list-style-type: none"> • A full description of the Project. 	Section 3
<ul style="list-style-type: none"> • A general description of the environment likely to be affected by the Project, together with a detailed description of those aspects of the environment that are likely to be significantly affected. 	Section 6
<ul style="list-style-type: none"> • The likely impacts on the environment of the Project. 	Section 6
<ul style="list-style-type: none"> • A full description of the proposed measures to mitigate any adverse effects of the Project on the environment. 	Sections 6 and 8
<ul style="list-style-type: none"> • A list of any approvals that must be obtained under any other Act of law before the Project can be carried out. 	Section 4
<ul style="list-style-type: none"> • Compilation (in a single section of the EIS) of the measures proposed to mitigate any adverse impacts of the Project on the environment. 	Section 8
<ul style="list-style-type: none"> • Justification for carrying out the Project, with regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development. 	Section 9

1.3 PROJECT CONSULTANTS

This EIS was prepared by Resource Strategies Pty Ltd with specialist input provided by the following organisations:

- Malabar (*project design, alternatives and justification, background data, resource economics, consultation, preliminary hazard analysis, rehabilitation and environmental monitoring and management*);
- Mine Subsidence Engineering Consultants Pty Ltd (MSEC) (*subsidence predictions and impact assessment*);
- HydroSimulations (*groundwater assessment and numerical groundwater modelling*);
- WRM Water & Environment Pty Ltd (WRM) (*surface water assessment and site water balance*);
- Fluvial Systems Pty Ltd (Fluvial Systems) (*geomorphology assessment*);
- Hunter Eco (*biodiversity development assessment, baseline flora study and strategy to offset residual biodiversity impacts*);
- Future Ecology (*baseline fauna study*);
- Eco Logical Australia (Eco Logical) (*aquatic ecology and stygofauna assessment*);
- AECOM Australia Pty Ltd (AECOM) (*Aboriginal cultural heritage assessment*);
- Extent Heritage Pty Ltd (Extent Heritage) (*historic heritage assessment*);
- Wilkinson Murray Pty Ltd (Wilkinson Murray) (*noise impact assessment*);
- Todoroski Air Sciences Pty Ltd (TAS) (*air quality and greenhouse gas assessment*);
- The Transport Planning Partnership (TTPP) (*road transport assessment*);
- Elliott Whiteing Pty Ltd (*social impact assessment*);
- Deloitte Access Economics (*economic assessment*);
- Van Pelt Allen Visual Planning and Assessment (VPA) (*landscape and visual impact assessment*);
- JBS&G Australia Pty Ltd (JBS&G) (*land contamination assessment*);
- Geo-Environmental Management Pty Ltd (GEM) (*geochemistry assessment*);
- 2rog Consulting Pty Ltd (2rog) (*agricultural impact statement*);
- SLR Consulting Australia Pty Ltd (SLR) (*land and soil capability and verification of biophysical strategic agricultural land*);
- Environmental Risk Sciences (EnRiskS) (*human health risk assessment*);
- Operational Risk Mentoring (*facilitation of environmental risk assessment*); and
- Ashurst (*legal input*).

In addition to the above, peer review was undertaken by the following specialists (Attachment 6):

- Professor Bruce Hebblewhite (*subsidence assessment*); and
- Dr Frans Kalf (*groundwater assessment*).

1.4 DOCUMENT STRUCTURE

This EIS comprises a main text component and supporting studies, Appendices A through to V. An overview of the main text is presented below:

Section 1	Provides an introduction to the Project and this EIS.
Section 2	Provides the background to the Project, including the history of development in the area and the relationship of the Project with other developments.
Section 3	Describes the various components and stages of the Project.
Section 4	Outlines the strategic planning context and statutory provisions relevant to the Project.
Section 5	Describes the consultation and engagement undertaken in relation to the EIS and ongoing community involvement.
Section 6	Details the environmental assessment of the Project, including a description of the existing environment, an assessment of potential impacts and a description of measures that would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the potential impacts of the Project.

Section 7	Describes the rehabilitation of the Project and mine closure.	Appendix E	Biodiversity Development Assessment Report (BDAR).
Section 8	Provides a summary of the proposed environmental management, mitigation, monitoring and reporting in relation to the Project.	Appendix F	Aquatic Ecology and Stygofauna Assessment.
Section 9	Describes how the Project (in comparison to alternatives) is in the public interest and balances impact, strategic needs and benefits.	Appendix G	Aboriginal Cultural Heritage Assessment (ACHA).
		Appendix H	Historic Heritage Assessment.
		Appendix I	Noise Impact Assessment.
Section 10	Lists the documents referenced in the main text of the EIS.	Appendix J	Air Quality and Greenhouse Gas Assessment.
		Appendix K	Road Transport Assessment.
Section 11	Defines the abbreviations, acronyms and terms used in the main text of the EIS.	Appendix L	Social Impact Assessment (SIA).
		Appendix M	Economic Assessment.
Attachments to the main text are also provided as follows:		Appendix N	Landscape and Visual Impact Assessment.
		Appendix O	Land Contamination Assessment.
		Appendix P	Geochemistry Assessment.
Attachment 1	Secretary’s Environmental Assessment Requirements.	Appendix Q	Agricultural Impact Statement.
Attachment 2	Cross Reference of Assessment Requirements Relevant to the EPBC Act.	Appendix R	Human Health Risk Assessment.
Attachment 3	Development Application Area and Real Property Descriptions.	Appendix S	Environmental Risk Assessment (ERA).
Attachment 4	Consent under Section 380AA of the Mining Act.	Appendix T	Preliminary Hazard Analysis (PHA).
Attachment 5	Capital Investment Value Report.	Appendix U	Preliminary Rehabilitation and Mine Closure Strategy.
Attachment 6	Peer Review Letters.	Appendix V	Integrated Assessment of Potential Impacts on Groundwater Dependent Ecosystems.
Attachment 7	Relevant Environmental Planning Instruments and Government Policies.		
Attachment 8	Aquifer Interference Policy and Water Licensing Considerations.		
Attachment 9	Consultation Materials.		
Attachment 10	Gateway Certificate.		
Attachment 11	Environmental Review of Ausgrid Power Line Extension.		

Appendices A through to V contain supporting information, including a number of specialist reports:

Appendix A	Subsidence Assessment.
Appendix B	Groundwater Assessment.
Appendix C	Surface Water Assessment.
Appendix D	Geomorphology Assessment.