



Premise

ACENERGY

Land Use Conflict Risk Assessment

IN SUPPORT OF A STATE SIGNIFICANT DEVELOPMENT
APPLICATION




Report No: 221284_LUCRA

Rev: 001E

11 August 2022

© Premise 2022

This report has been prepared by Premise Australia for ACEnergy; may only be used and relied on by ACEnergy; must not be copied to, used by, or relied on by any persons other than ACEnergy without the prior written consent of Premise. If ACEnergy wishes to provide this Report to a third party recipient to use and rely upon, the recipient agrees: to acknowledge that the basis on which this Report may be relied upon is consistent with the principles in this section of the Report; and to the maximum extent permitted by law, Premise shall not have, and the recipient forever releases Premise from, any liability to recipient for loss or damage howsoever in connection with, arising from or in the respect of this Report whether such liability arises in contract, tort including negligence.

DOCUMENT AUTHORISATION					
Revision	Revision Date	Report Details			
A	03/05/22	Draft			
B	30/05/22	For issue			
C	22/06/22	Updated			
D	29/07/22	Final for lodgement			
E	11/08/22	Final for lodgement			
Prepared By		Reviewed By		Authorised By	
David Walker		Mark Raikhman		David Walker	

CONTENTS

1. INTRODUCTION	4
1.1 BACKGROUND.....	4
1.2 METHODOLOGY	5
1.3 SCOPE	7
1.4 STUDY AREAS.....	8
2. STEP 1 – GATHER INFORMATION	8
2.1 NATURE OF THE LAND USE CHANGE AND DEVELOPMENT PROPOSED	8
2.2 NATURE OF THE LOCALITY	11
2.3 SITE HISTORY	39
2.4 SITE INSPECTION OUTCOMES	45
2.5 CONSULTATION.....	51
2.6 POTENTIAL INCOMPATIBILITY AND CONFLICT ISSUES.....	52
3. LAND USE CONFLICT RISK ASSESSMENT	53
3.1 INTRODUCTION	53
3.2 RISK ASSESSMENT	54
3.3 RISK REDUCTION MANAGEMENT STRATEGIES	56
3.4 PERFORMANCE MONITORING	57
4. LIMITATIONS AND ASSUMPTIONS.....	57
5. KEY DOCUMENTS.....	57
6. CONCLUSIONS	58
7. REFERENCES	58

FIGURES

Figure 1 – Regional context.....	6
Figure 2 – Development footprint	10
Figure 3 – Land use zoning in the locality	14
Figure 4 – Land ownership in the locality	15
Figure 5 – Land use within the locality.....	16
Figure 6 – Receivers.....	17
Figure 7 – Surrounding development	19
Figure 8 – Crown Land.....	21
Figure 9 – Mining and exploration titles	22
Figure 10 – Biophysical strategic agricultural land.....	24
Figure 11 – Climate statistics for the locality.....	25
Figure 12 – Environmental features	27
Figure 13 – Population Projections (DPIE, 2019).....	30
Figure 14 – Household Projections (DPIE, 2019).....	32
Figure 15 – Industry of Employment, Dubbo (ABS, 2016).....	34
Figure 16 – Industry of Employment, Wellington (ABS, 2016)	35
Figure 17 – Industry of Employment, DRC LGA (ABS, 2016)	36

Figure 18 – Value added by Industry sector within the DRC LGA (DRC, 2019).....	38
Figure 19 – Historical Imagery 1995	40
Figure 20 – Historical Imagery 1988	41
Figure 21 – Historical Imagery 1988	42
Figure 22 – Historical imagery 1980	43
Figure 23 – Historical imagery 1971	44
Figure 24 – Historical Imagery 1965	45
Figure 25 – Cropping use of the land (looking north).....	46
Figure 26 – Cropping use of the land (looking west).....	47
Figure 27 – Dam on site.....	48
Figure 28 – Shed on the property.....	49
Figure 29 – Crown road adjacent to northern boundary.....	50
Figure 30 – Crown road adjacent to the western boundary	51

TABLES

Table 1 – Relevant SEARs	4
Table 2 – LUCRA steps.....	7
Table 3 – Study areas terminology.....	8
Table 4 – LEP land use zones and objectives	11
Table 5 – Land ownership	12
Table 6 – Land Uses within the Locality.....	13
Table 7 – Crown Land in the locality.....	20
Table 8 – Population within the DRC LGA (ABS, 2016).....	29
Table 9 – Summary of population projections (DPIE, 2019).....	29
Table 10 – Summary of household projections (DPIE, 2019)	30
Table 11 –Comparison of demographics characteristics (ABS, 2016).....	32
Table 12 – Industry of employment (ABS, 2016).....	33
Table 13 – Total value added by Industry sector within the DRC LGA (DRC, 2019)	36
Table 14 – Risk ranking matrix	54
Table 15 – Probability table.....	54
Table 16 – Measure of consequence	54
Table 17 – Summary of risk assessment.....	55

APPENDICES

APPENDIX A RISK ASSESSMENT

APPENDIX B AHIMS BASIC SEARCH, BUFFER 1KM

APPENDIX C AHIMS BASIC SEARCH, BUFFER 50M

1. Introduction

1.1 Background

Premise has been commissioned by the Proponent (ACEnergy) to prepare this Land Use Conflict Risk Assessment (LUCRA) to support a State Significant Development Application (SSD 35160796) for a proposed battery energy storage system (BESS) and associated works at 9010 Mitchell Highway, Apsley within the Dubbo Regional Council (DRC) Local Government Area (LGA).

The development is known as the Apsley Battery Energy Storage System (Apsley BESS) and is proposed to be located on Lot 3 DP1012686 and Lot 107 DP756920.

The site is depicted in its regional context in **Figure 1**.

This LUCRA has been prepared to address relevant requirements of the Secretary's Environmental Assessment Requirements (SEARs) issued for the project by the (then) NSW Department of Planning Industry and Environment (DPIE) and to support the project Environmental Impact Statement (EIS).

SEARs relevant to this LUCRA are provided in **Table 1**.

Table 1 – Relevant SEARs

Source	Requirement	Addressed
SEARS- Key Issues (Land)	A detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, permissibility, strategic context and existing site constraints;	This document
	An assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including:	This document
	<ul style="list-style-type: none"> flood prone land, acid sulphate soils, Crown lands, mining, quarries, mineral or petroleum rights; 	Section 2.2
	<ul style="list-style-type: none"> a soil survey to determine the soil characteristics and consider the potential for erosion to occur; and 	Appendix F to the EIS
	<ul style="list-style-type: none"> an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including: 	This document
	<ul style="list-style-type: none"> – consideration of the zoning provisions applying to the land, including subdivision (if required); 	Section 2.2 and the project EIS

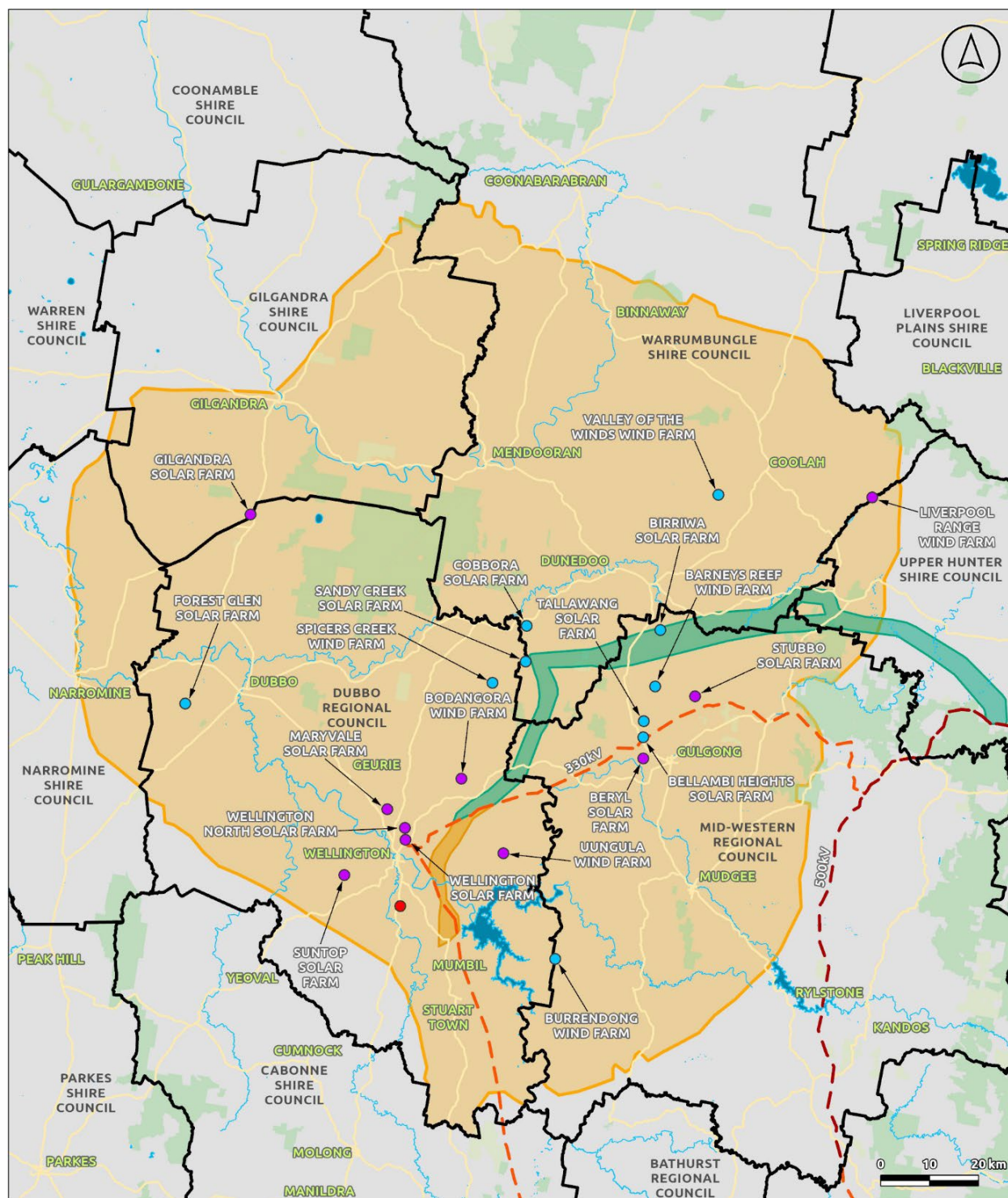
Source	Requirement	Addressed
	– completion of a Land Use Conflict Risk Assessment in accordance with the Department of Industry's <i>Land Use Conflict Risk Assessment Guide</i> ; and	This document
	• a detailed assessment of the impact on agricultural resources and agricultural productivity, including:	This document
	– an agricultural impact statement, including results of soil surveys;	Appendix F to the EIS
	– consideration of potential mitigation measures which may reduce project impacts on agricultural land;	Appendix A to this LUCRA
	– detailed economic assessment of impacts on agricultural land, agricultural production and agricultural supply chains; and	Provided within the project EIS
	– justification for the project considering other alternatives and site design which may have lesser impacts on agricultural land.	Provided within the project EIS
NSW Department of Primary Industries (DPI) Environmental Assessment Requirements Attachment 1 -Issues (Site Suitability)	• The final decommissioning phase should also consider the commitment to removal of all above and below ground infrastructure as part of a decommissioning and rehabilitation plan.	Section 2.1.4

1.2 Methodology

This LUCRA has been prepared in accordance with the *Land Use Conflict Risk Assessment Guide* (DPIE, 2011) (LUCRA Guide).

The LUCRA is a system to identify and assess the potential for land conflict to occur between neighbouring land uses. Land use conflicts occur when one land user is perceived to infringe upon the rights, values or amenity of another. The LUCRA enables a systematic, consistent, and site-specific conflict assessment approach. Through evaluating land use compatibility and potential land use conflicts appropriate risk reduction management strategies can be identified.

Figure 1 – Regional context



Sources: © State of NSW, Department of Customer Service, Spatial Services 2021
 © State of NSW, Energy Corporation of NSW 2021

GDA2020 MGA Zone 55 File: 221284_03.aprx Prepared By: adam.davis Date: 28/07/2022

Legend

- Site Locality
- LGA Boundary
- Major Road
- Water Body
- Major Watercourse
- Central West Orana Renewable Energy Zone (REZ)
- REZ Transmission Study Corridor
- REZ Transmission Study Corridor Burrendong Extension

Electricity Transmission Line

- 330kV
- 500kV

Renewable Energy Projects

- In Planning
- Approved

1.3 Scope

As stated in the LUCRA Guide, a LUCRA aims to:

- *accurately identify and address potential land use conflict issues and risk of occurrence before a new land use proceeds or a dispute arises*
- *objectively assess the effect of a proposed land use on neighbouring land uses*
- *increase the understanding of potential land use conflict to inform and complement development control and buffer requirements, and*
- *highlight or recommend strategies to help minimise the potential for land use conflicts to occur and contribute to the negotiation, proposal, implementation and evaluation of separation strategies.*

The assessment process in the LUCRA Guide has been applied to achieve the above aims. These steps are provided in **Table 2**, including a reference column to the section where each step is addressed in this report.

Table 2 – LUCRA steps

Steps	Requirements	Reference
Step 1: Gather information	<ul style="list-style-type: none"> • Describe the nature of the proposed land use change and the proposed development. • Describe and record the major activities associated with the land use change and their frequency. Include periodic and seasonal activities that have the potential to be a source of a complaint or conflict • Appraise the topography, climate and natural features of the site and broader locality • Undertake a site history search, review the previous environmental assessments and approvals for the site • Inspect the site and interview relevant owners/operators of adjacent properties • Describe and record the main activities of the adjacent properties and their frequency. Include water-based activities that may be adversely impacted, such as oyster farming; and, • Compare and contrast the proposed and adjoining/surrounding land uses and activities for incompatibility and conflict issues 	Section 2
Step 2: Evaluate the risk level for each activity	<p>Each proposed activity is recorded, and potential land use conflict is evaluated with in consideration of the:</p> <ul style="list-style-type: none"> • Probability of occurrence and • Consequence of the impact <p>The risk ranking matrix is utilised to determine a risk ranking for each activity and results are recorded into an initial risk evaluation table.</p>	Section 3.2
Step 3: Risk reduction management strategies	<p>Management strategies and mitigation measures that affect the probability and consequence of activities are identified.</p> <p>Revised risk rankings are calculated, and performance targets are set, detailing how the effectiveness of the strategy will be monitored</p> <p>The objective of this step is to identify and define controls that lower the risk ranking score to 10 or below.</p>	Section 3.3 Section 3.4
Step 4: Record LUCRA results	Key issues, risk level and recommended management measures are recorded and summarised. This record provides a valuable planning document for	Section 3.3

Steps	Requirements	Reference
	managers and planners and should be included in any relevant management plan.	Section 3.4

1.4 Study areas

The study areas for this LUCRA includes the development footprint, the site and the locality. These terms are defined in **Table 3**.

The study areas were determined by considering surrounding land uses and the likely spatial extent of potential impacts of the Apsley BESS that may cause land use conflict.

Table 3 – Study areas terminology

Term	Meaning
Site	<p>Lot 3 DP1012686 – the site of the BESS. The Lot contains a direct frontage to the Mitchell Highway and a new access would be provided to connect to the highway.</p> <p>Lot 107 DP756920 – impacted by the connecting electricity transmission line.</p> <p>The proposed connecting ETL transects areas mapped as containing crown land, located between Lots 3 and 107.</p>
Development footprint	<p>The area occupied by the Apsley BESS and associated infrastructure including the:</p> <ul style="list-style-type: none"> • New driveway from Mitchell Highway leading to a gated entry to the BESS; • Security fencing around the BESS with two rows of landscaping external to the western, northern, and southern fences; • Permanent carpark and temporary (construction) loading zone adjacent to the western security fence; • 40-foot battery containers, separated into blocks; • 40-foot inverter and MPVS containers, separated into rows; • A 132kV switching station in the south-eastern corner of the BESS site; and • 132 kV sub-transmission lines to connect the BESS to the existing powerlines to the east.
Locality	Land within 1 km of the site boundary.

2. STEP 1 – GATHER INFORMATION

2.1 Nature of the land use change and development proposed

2.1.1 THE SITE

The site is located in the DRC LGA and has an area of approximately 18 hectares, of which 6 hectares is to be occupied by the proposed approximately 120 megawatt (MW) BESS.

The site is located approximately 9 kilometres (km) south of the town of Wellington in a rural locality.

The site is generally flat and is currently in use for cropping purposes. There are no mapped waterways within the site and no significant vegetation features.

The western boundary of the site is adjoined by the Mitchell Highway. A 132 kV transmission line runs in a north-south alignment to the east of the site.

The site was selected after the proponent's extensive review of information relating to land availability and access, land ownership, land use, topography, geological formation, transmission grid access and capacity and environmental constraints.

The site and development footprint is depicted in **Figure 2**.

2.1.2 LAND USE ZONE

The site is located on land zoned RU1 – Primary Production pursuant to the *Dubbo Regional Local Environmental Plan 2022* (LEP).

The objectives of the RU1 – Primary Production land use zone are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To encourage a range of development for the purposes of tourism that supports the agricultural industry.*

Permissibility and alignment with the above objectives are addressed in the EIS.

2.1.3 DEVELOPMENT PROPOSED

The proposed development includes:

- Construction of a 6 ha BESS in the northern portion of the site.
- 132 kV substation/switching station.
- 132kV single circuit line power line connecting the substation to the existing grid.
- Operations and maintenance compound.
- Temporary construction compound.
- Screening vegetation on the northern, southern and western edges of the BESS area.
- Construction of a new access location from the Mitchell Highway, and an internal driveway connecting the new access location with the BESS infrastructure.

The proposed development layout is depicted in **Figure 2**. The final layout is subject to detailed design.



Construction of the BESS is estimated to take up to 3-5 months and will include site clearing and earthworks. The proposed development is expected to have a life span of approximately 30 years.

2.1.4 NATURE OF LAND USE CHANGE

The construction and operation of the Apsley BESS would change the primary land use of the development footprint from agriculture to electricity generating works. Areas outside the development footprint within the site will continue to support agricultural activities where practicable.

Figure 2 – Development footprint



- Legend**
- | | |
|--|---|
|  Site |  Electricity Easement (By Survey) |
|  Development Area |  Electricity Transmission Line (By Survey) |
|  Disturbed Area |  Natural Contours (2m Interval) |
|  Cadastre | Residential Receivers |
|  Crown Enclosure Permit |  Associated Receiver |
|  Crown Land | |
|  Road | |
|  Water Body | |
|  Watercourse | |

Sources: © State of NSW, Department of Customer Service, Spatial Services 2021

GOA2020 MCA Zone 55 File: 221284_03.aprx Prepared By: adam.davis Date: 09/08/2022

Land use is expected to return to agricultural land use following decommissioning although infrastructure that is considered of benefit to the landowner or the electricity authority would remain subject to specific agreement with the landowner. Confirmation would also be required from the electricity supply authority regarding the long term use of the substation and switching station and/or whether these would be removed as a component of the decommissioning phase. It is expected that these elements would remain in place in perpetuity.

2.2 Nature of the locality

2.2.1 LAND USE ZONES

Land use zones within the locality are detailed in **Table 4** and depicted in **Figure 3**.

The following is noted with respect to land use zoning in the locality:

- The site is zoned RU1 – Primary production.
- Land zoned RU1 – Primary Production extends north, south, west and east of the site.
- SP2 – Infrastructure (Classified Road) adjacent to the western boundary (Mitchell Highway)
- RE1 – Public Recreation zoning located approximately 850 metres to the north-west of the site (associated with the Wellington Caves tourism complex, including caravan park and golf course).
- W1 – Waterways zoning to the west of the site (approximately 1.8 kms to the west).

Table 4 – LEP land use zones and objectives

Zone	Objectives
RU1 - Primary Production	<ul style="list-style-type: none"> • To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. • To encourage diversity in primary industry enterprises and systems appropriate for the area. • To minimise the fragmentation and alienation of resource lands. • To minimise conflict between land uses within this zone and land uses within adjoining zones. • To encourage a range of development for the purposes of tourism that supports the agricultural industry.
SP2 – Infrastructure	<ul style="list-style-type: none"> • To provide for infrastructure and related uses. • To prevent development that is not compatible with or that may detract from the provision of infrastructure.
SP3 - Tourist	<ul style="list-style-type: none"> • To provide for a variety of tourist-oriented development and related uses. • To provide for a range of development to encourage tourism along major transport corridors. • To facilitate tourist-orientated development along major transport corridors. • To enhance the environmental qualities that attract tourists to the area. • To recognise the importance of Taronga Western Plains Zoo as a key tourist facility. • To ensure development in the Camp Road precinct will not interfere with the continued operation of Taronga Western Plains Zoo. • To strengthen the viability of existing centres through increased economic activity and employment.

Zone	Objectives
	<ul style="list-style-type: none"> To ensure further development in the Cobra Street and Whylandra Street precincts will not interfere with established uses on land zoned for residential uses
RE1 – Public Recreation	<ul style="list-style-type: none"> To enable land to be used for public open space or recreational purposes. To provide a range of recreational settings and activities and compatible land uses. To protect and enhance the natural environment for recreational purposes. To provide for facilities and amenities to encourage the use of public open space.
C2 – Environmental Management	<ul style="list-style-type: none"> To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values. To prevent development that could destroy, damage or otherwise have an adverse effect on those values.
W1 - Waterways	<ul style="list-style-type: none"> To protect the ecological and scenic values of natural waterways. To prevent development that would have an adverse effect on the natural values of waterways in this zone. To provide for sustainable fishing industries and recreational fishing.

2.2.2 LAND OWNERSHIP

Landowner ownership associated with residential receivers in the locality (within 2 km of the site) are outlined in **Table 5** and depicted in

Figure 4 below.

Table 5 – Land ownership

Landowner	Lot	DP	Status
Landowner R1	1	1012686	Subject site land owner
	2	1012686	Subject site land owner
	3	1012686	Subject site land owner
	107	756920	Subject site land owner
	108	756920	Subject site land owner
	158	756920	Subject site land owner
	211	756920	Subject site land owner
Landowner R2	1	1014485	Private landowner
	113	756920	Private landowner
	153	756920	Private landowner
	154	756920	Private landowner
	163	756920	Private landowner
	201	756920	Private landowner
	209	756920	Private landowner
Landowner R3	215	756920	Private landowner
	4	1012686	Private landowner
	5	1012686	Private landowner

Landowner	Lot	DP	Status
Landowner R4	1	742865	Private landowner
Landowner R5	3	1176677	Private landowner
Landowner R6	1	1013229	Private landowner
	2	1013229	Private landowner
	96	756920	Private landowner
	208	756920	Private landowner
Landowner R7	As for R6		
Landowner R8	95	756920	Private landowner
Landowner R9	462	565521	Private landowner
Landowner R10	127	756920	Private landowner

2.2.3 EXISTING LAND USES

A review of the NSW Landuse 2017 v1.2 mapping from the DPIE SEED Portal identified a range of land uses in the locality. Land uses within the site and locality (2 km radius of the site) are outlined in **Table 6** and **Figure 5**.

Review of land uses within the locality indicate land use is overwhelmingly used for grazing on native vegetation pastures and, to a lesser extent, modified pastures.

Table 6 – Land Uses within the Locality

Land Use	Area (ha)	%
1.2.0 Managed resource protection	11.83	0.01
1.3.0 Other minimal use	5.9	1
2.1.0 Grazing native vegetation	324.7	64
3.2.0 Grazing modified pastures	62	10
3.3.0 Cropping	55.7	9
5.4.0 Residential and farm infrastructure	51.3	8
5.5.0 Services	12.9	2
5.7.0 Transport and communication	17.8	3
6.5.0 Marsh/wetland	3.8	1
TOTAL		100

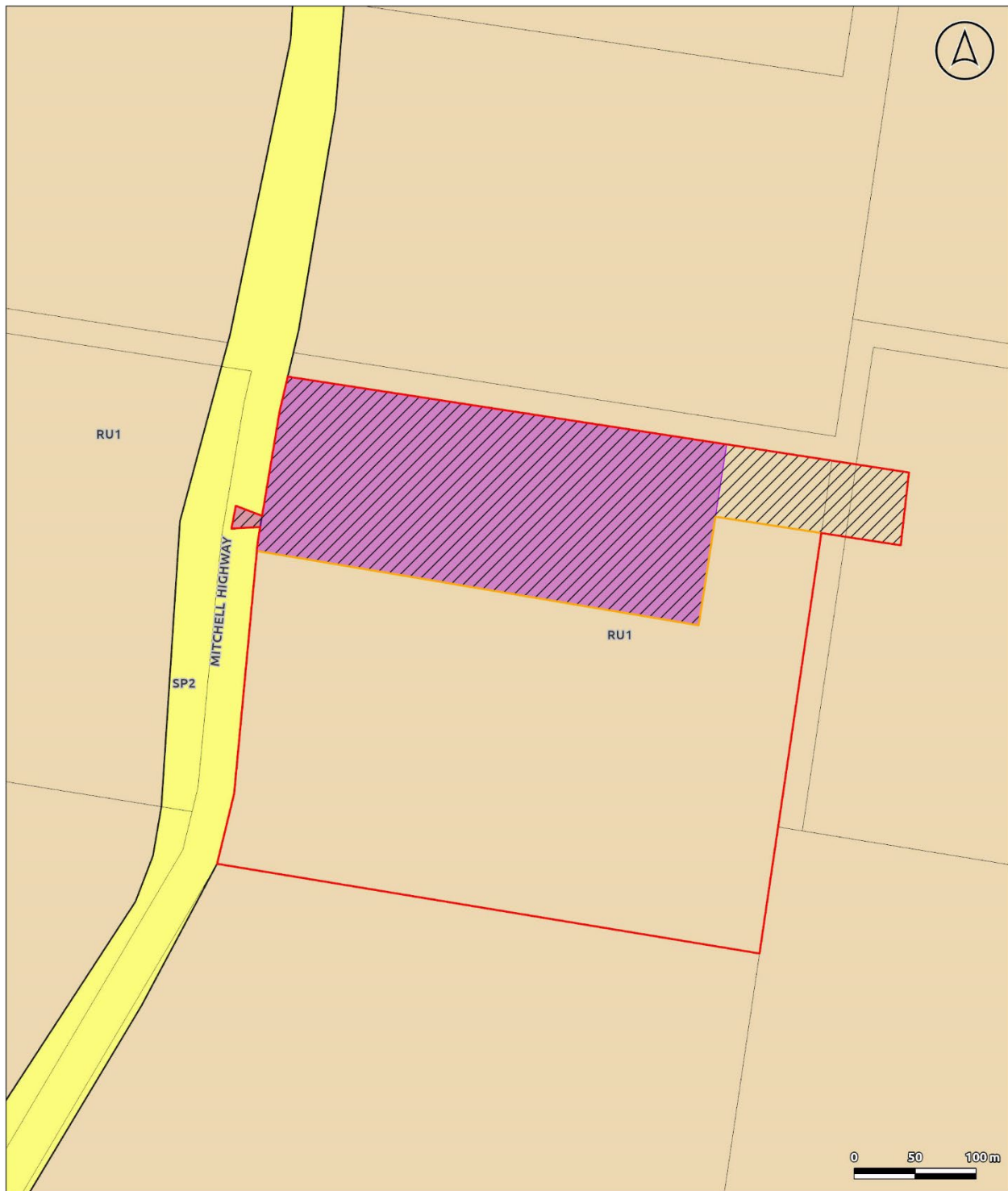
2.2.3.1 Residential and farm infrastructure

The site contains farm infrastructure including a farm shed, dam and fences. There are no groundwater bores within the site (refer to **Section 2.2.6.6**). An approximately 400 m² farm shed is located on the eastern edge of Lot 3, approximately 5 m from the eastern boundary. This shed would not be impacted by the project.

There are no residential dwellings located within Lot 3 or Lot 107, however there is one associated receiver located on land to the south owned by the same landowner.

As shown in **Figure 6** there are 9 non-associated residential dwellings within the locality.

Figure 3 – Land use zoning in the locality

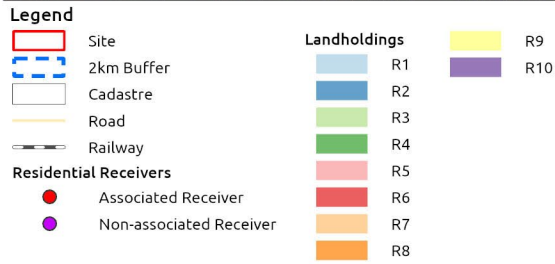
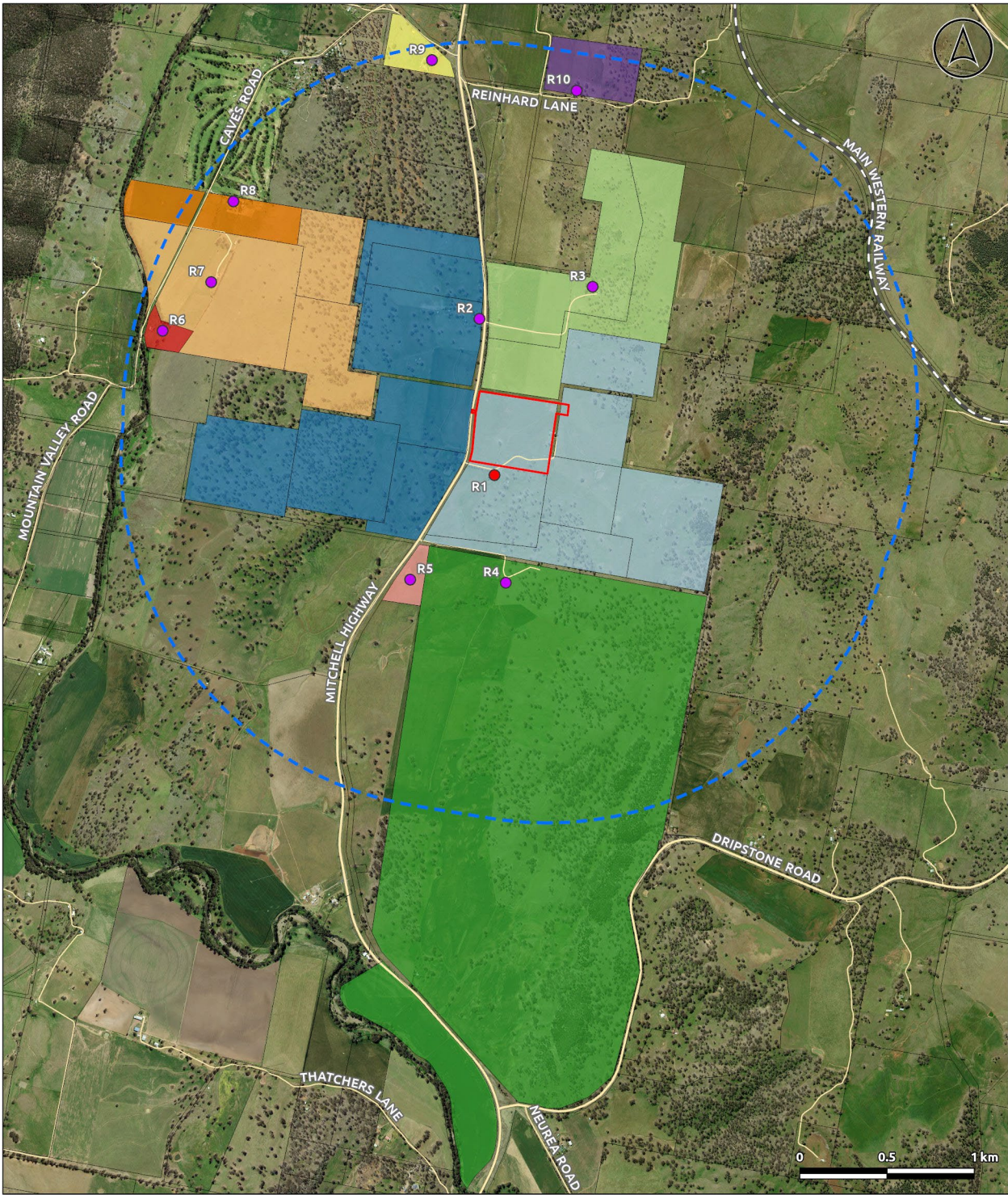


- Legend**
-  Site
 -  Development Area
 -  Disturbed Area
 -  Cadastre
 - EPI Land Zoning (LZN)**
 -  RU1
 -  SP2

Sources: © State of NSW, Department of Customer Service, Spatial Services 2021
 © State of NSW, Department of Planning and Environment 2021

GDA2020 MGA Zone 55 File: 221284_03.aprx Prepared By: adam.davis Date: 09/08/2022

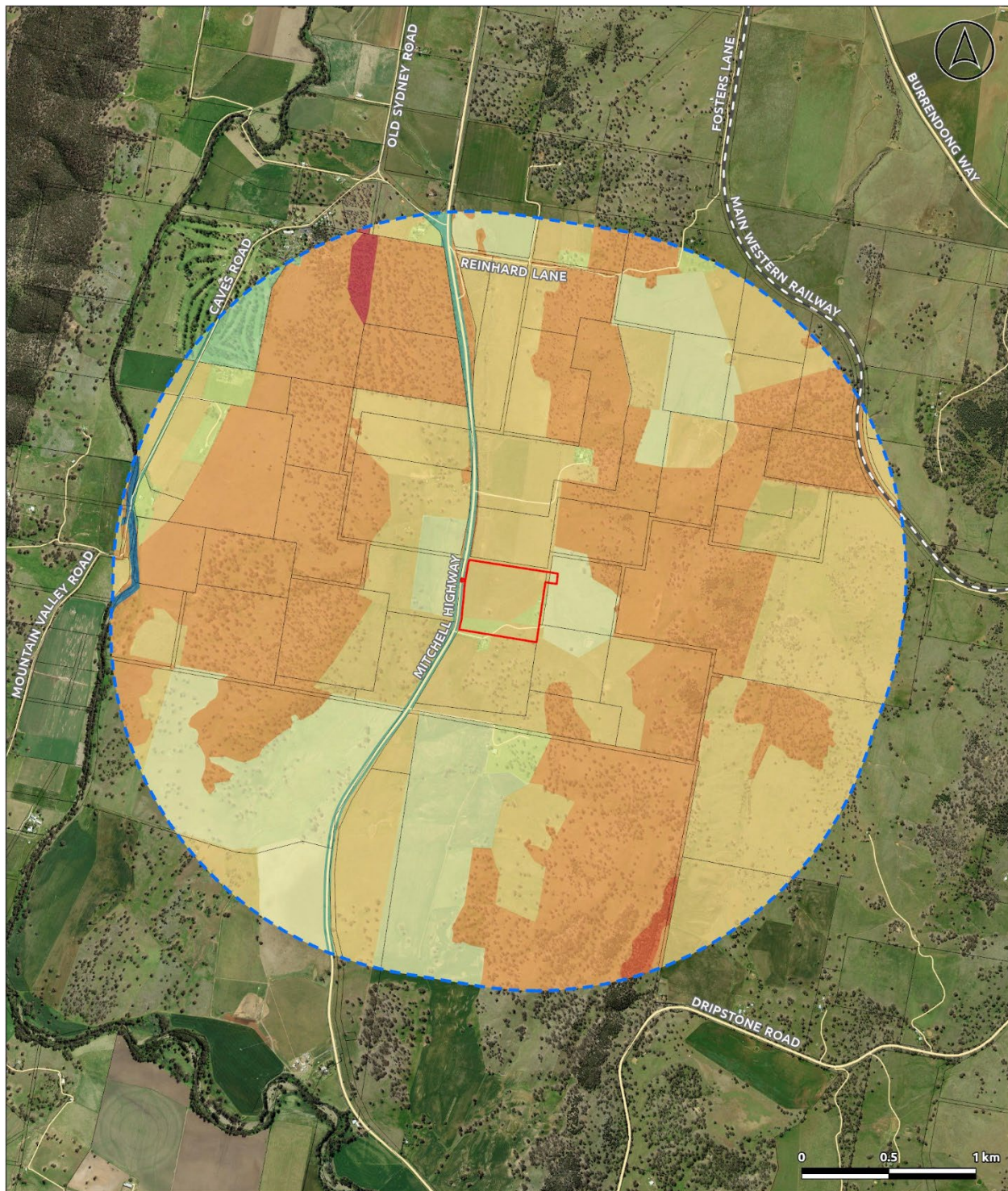
Figure 4 – Land ownership in the locality



Sources: © State of NSW, Department of Customer Service, Spatial Services 2021

GOA2020 MCA Zone 55 File: 221284_06.aprx Prepared By: adam.davis Date: 09/08/2022

Figure 5 – Land use within the locality









Legend

-  Site
-  2km Buffer
-  Cadastre
-  Road
-  Railway
- NSW Landuse 2017**
 -  1.2.0 Managed resource protection
 -  1.3.0 Other minimal use
 -  2.1.0 Grazing native vegetation

-  3.2.0 Grazing modified pastures
-  3.3.0 Cropping
-  5.4.0 Residential and farm infrastructure
-  5.5.0 Services
-  5.7.0 Transport and communication
-  6.3.0 River

Figure 6 – Receivers



- Legend**
-  Site
 -  Landholding
 -  2km Buffer
 -  Cadastre
 -  Road
 -  Railway
 - Residential Receivers**
 -  Associated Receiver
 -  Non-associated Receiver

Sources: © State of NSW, Department of Customer Service, Spatial Services 2021

GDA2020 MGA Zone 55 File: 221284_06.aprx Prepared By: adam.davis Date: 09/08/2022

2.2.3.2 Agriculture

The site is currently used for grazing of native vegetation and residential farm infrastructure. The land affected by the proposed BESS is currently under cropping. In the past the site has also been subject to grazing by cattle and sheep.

Agriculture is the dominant land use in the locality, with grazing and cropping land uses predominant in all directions around the site

The project is situated within the Central Slopes and Plains (CSP) Region of NSW. DPI's *Agricultural Industry Snapshot for Planning – Central Slopes and Plains* (2020), identifies the gross value of agricultural production of the CSP region at over \$1.77 billion for the year between 2015 and 2016 (DPI 2020). The DRC LGA Gross Value Production (GVP) is \$134.7 million and comprises less than 1% of the CSP region's agricultural GVP. The top three commodities, beef, wool and broadacre cropping, contribute \$40.7 million, \$31.7 million and \$29.7 million to the GVP of the DRC LGA, respectively (DPI, 2020).

2.2.3.3 Tourism

The Wellington Caves complex is located approximately 1,800 metres from the site to the north-west.

The complex features the Wellington Caves Visitor Experience Centre, discovery lab, fossil store and visitor amenities, together with the caves and former phosphate mine. The centre attracts in excess of 30,000 visitors per year (WSC, 2008).

Adjacent to the caves is the Wellington Golf Club, an 18 hole golf course, the Wellington Caves Holiday Complex (caravan park) and the Wellington Osawano Japanese Garden.

2.2.3.4 Infrastructure

An overview of infrastructure within the site and locality is outlined below. These features are depicted in **Figure 7**.

2.2.3.4.1 Roadways

Mitchell Highway is the key road that would be utilised during the construction and operation of the Apsley BESS, as it provides a direct link to Sydney ports in the east and connects with the Newell and Golden Highways at Dubbo in the north.

The expected transportation route for construction materials is the Mitchell and Great Western Highways.

A review of NSW Road Network Classification map provided by Transport for NSW (TfNSW, 2022) and Schedule of classified roads and State and Regional roads (TfNSW 2022b) identifies the Mitchell Highway as a State Classified Road (A32).

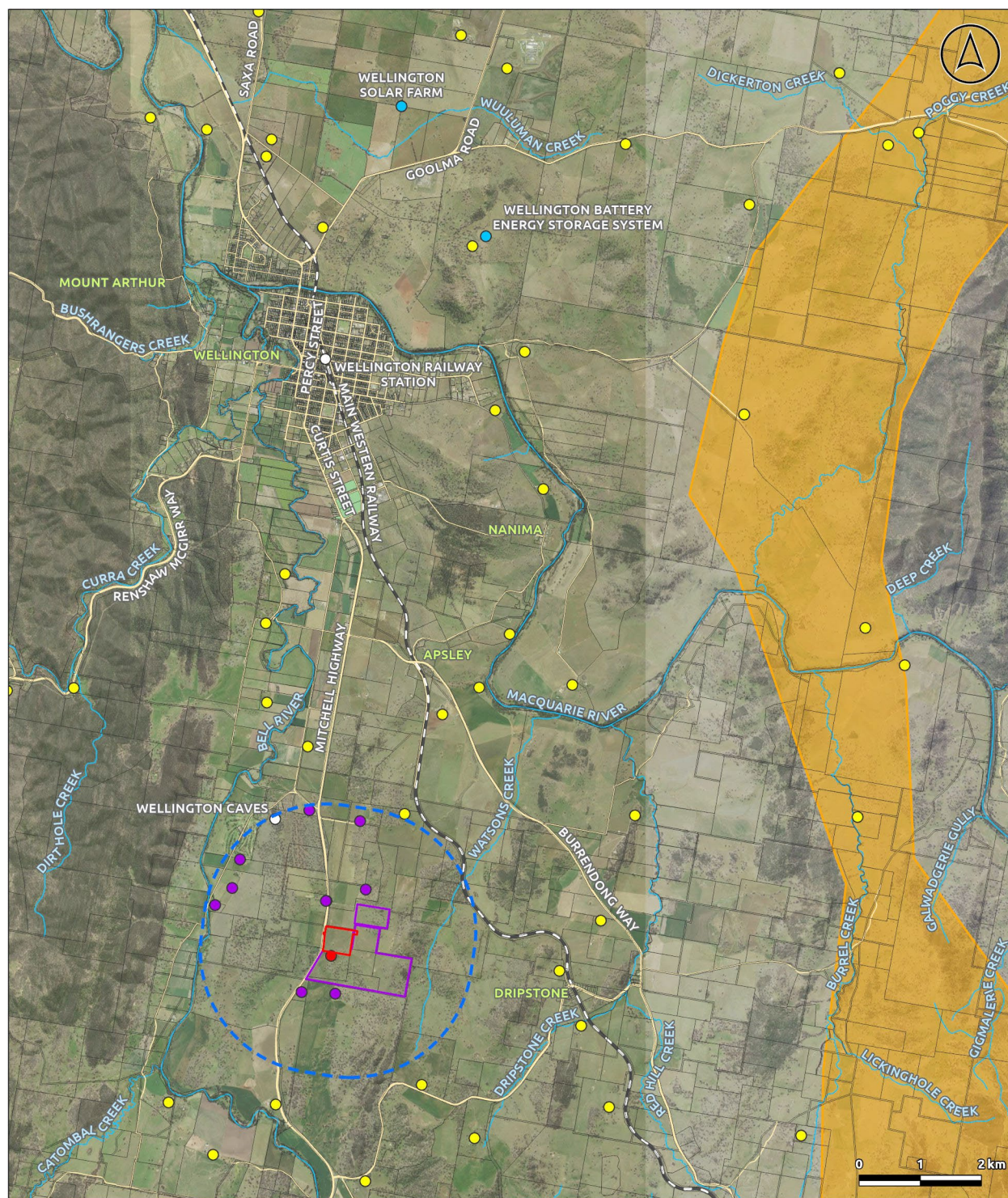
2.2.3.4.2 Electrical infrastructure

The Dubbo to Wallerawang 132 kV transmission line runs in a north-south alignment through Lot 107 and provides the connection point for the project.

2.2.3.4.3 Telecommunications infrastructure

An underground telecommunication line is located within the site.

Figure 7 – Surrounding development








Sources: © State of NSW, Department of Customer Service, Spatial Services 2021
© State of NSW, Energy Corporation of NSW 2021

GOA2020 MGA Zone 55 File: 221284_03.aprx Prepared By: adam.davis Date: 09/08/2022

Legend

-  Site
-  Landholding
-  2km Buffer
-  Cadastre
-  Road
-  Railway
-  Major Watercourse
-  NPWS Reserve

-  REZ Transmission Study Corridor Burrendong Extension
-  State Significant Developments Within Dubbo Regional LGA
- Residential Receivers**
 -  Associated Receiver
 -  Non-associated Receiver
 -  Homestead

2.2.3.5 Parks and Reserves

There are no parks or reserves located within the locality. The closest parks/reserve is the Lake Burrendong State Park, located approximately 12 km to the east of the subject site.

2.2.4 FUTURE LAND USES

Consultation with surrounding stakeholders, as identified in **Section 2.5**, did not identify any potential expansion of surrounding land uses onto the site or any future developments proposed near the site. Existing surrounding land uses are expected to continue into the future. The site would be able to support a variety of future land uses after decommissioning such as agriculture, or other developments subject to consent.

Given the rural zoning of the surrounding land, expansion of the current level of development is not predicted, and has not been identified via consultation with receivers.

2.2.5 LAND TENURE

2.2.5.1 Crown land

Although no portions of Crown Land are contained within the Lot 3 or 107, the proposed connecting transmission line would traverse a portion of unconstructed Crown road located between Lots 3 and 107. Engagement with DPI Crown Lands confirms that the affected area would be subject to a Crown licence. Crown land parcels in the locality are identified in **Figure 9** and discussed in **Table 7**.

Table 7 – Crown Land in the locality

Type	Crown Land ID	Location description
Crown Enclosure Permit	59806	Approximately 400 metres to the east of the site
	561014	Approximately 50 metres to the west of the site
	59655	Approximately 500 metres to the south of the site
	59645	Approximately 1,400 metres to the north of the site
Crown Reserves	R120078	Approximately 850 metres north-west of the site

2.2.5.2 Mining and exploration titles

The site is not located within a Mine Subsidence District. However, as shown in **Figure 9**, the site is located at the intersection of two NSW Exploration and Mining Titles, including:

- EL8735 over the eastern portion of the site, held by Colossus Metals Pty Ltd; and
- EL8971 over the western portion of the site, held by Silver City Minerals Ltd.

2.2.5.3 Native title

A search of Native title vision and review of the National Native Title Tribunal's Native Title Register was undertaken in March 2022 to identify any Native Title claims or applications, or Indigenous Land Use Agreements at or near the site. There are no Native Title claims currently registered in the study area.

Figure 8 – Crown Land



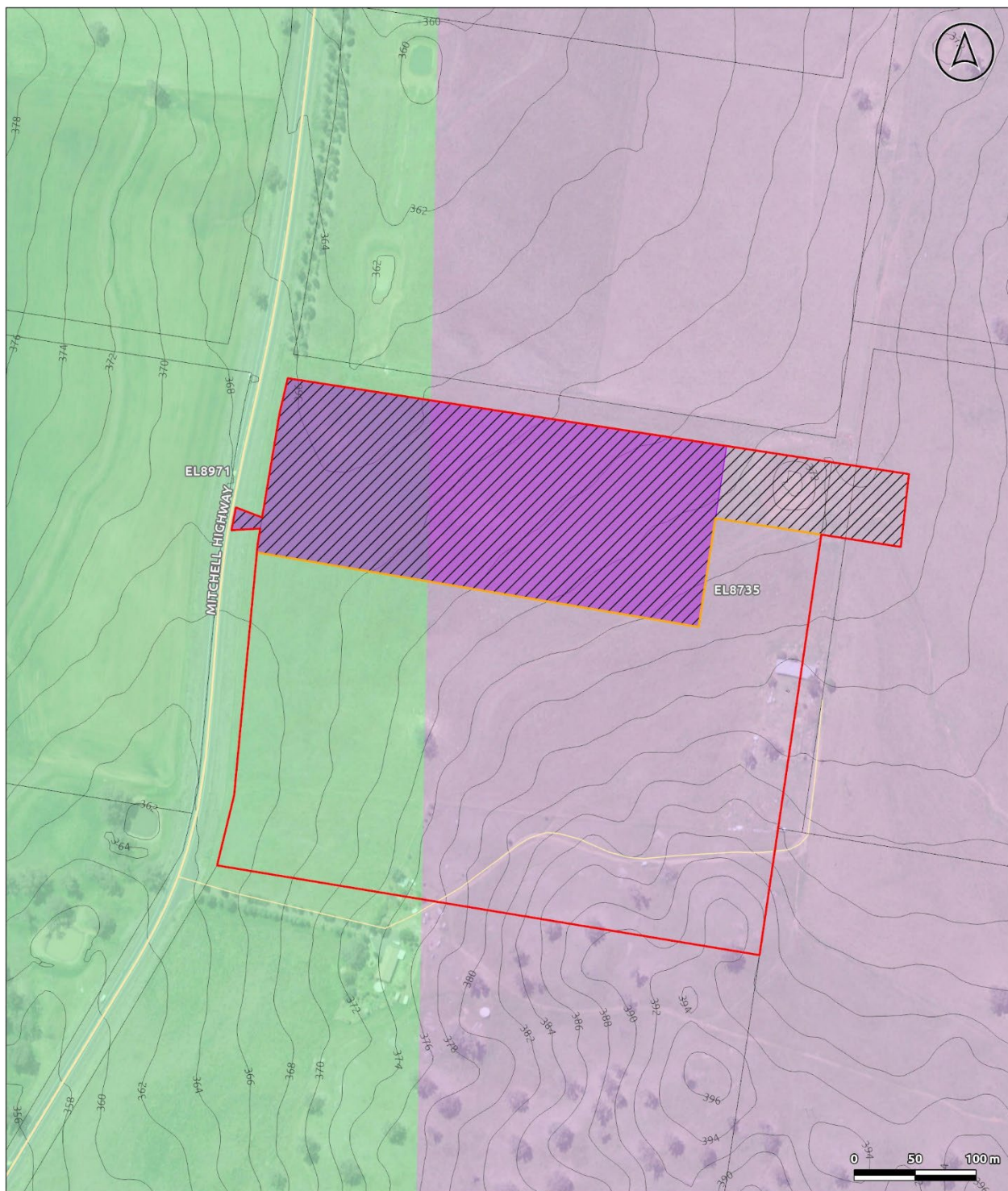
Sources: © State of NSW, Department of Customer Service, Spatial Services 2021








GDA2020 MGA Zone 55 File: 221284_06.aprx Prepared By: adam.davis Date: 09/08/2022

Legend

- | | |
|--|---|
|  Site |  Primary Road |
|  Landholding |  Track-Vehicular |
|  Development Area |  Electricity Transmission Line |
|  Disturbed Area | |
|  Cadastre | |
|  Crown Reserves | |
|  Crown Enclosure Permit | |
|  Crown Land | |

Figure 9 – Mining and exploration titles



- Legend**
-  Site
 -  Development Area
 -  Disturbed Area
 -  Cadastre
 -  Road
 -  Natural Contours (2m Interval)
- Exploration and Mining Titles**
-  EL8735
 -  EL8971

Sources: © State of NSW, Department of Customer Service, Spatial Services 2021
 © State of NSW, Department of Planning and Environment 2021

GOA2020 MCA Zone 55 File: 221284_03.aprx Prepared By: adam.davis Date: 09/08/2022

2.2.6 ENVIRONMENTAL FEATURES

2.2.6.1 Topography

The site has undulating topography with local highpoint at 392 metres in the south-eastern corner and low point at 365 metres in the north-western corner.

2.2.6.2 Vegetation

The approximately 6 ha development footprint mostly consists of cropped agricultural land with some native vegetation located in the footprint of the proposed access connection to the Mitchell Highway. A project Biodiversity Development Assessment Report (BDAR) has been prepared for the site.

2.2.6.3 Biophysical Strategic Agricultural Land (BSAL)

The subject site contains mapped Biophysical Strategic Agricultural Land (BSAL) as depicted in **Figure 10**. The BSAL land mapping is consistent with class 1-3 land and soil capability land and the draft State Significant Agricultural Land Map.

The proposed development will result in the loss of Class 3 land and soil capability land. It is anticipated that the agricultural impacts of the development will be acceptable as:

- The site, capable of individual sale by way of having its own title, is not viable for independent use for agricultural purpose given its limited size of 18 hectares;
- The development footprint is limited to 6 hectares, representing a minor portion (4%) of the 140.8 hectare landholding and 0.002% of the 290,534 hectares of land mapped as Class 3 within the DRC LGA;
- The development footprint is located in the north-western corner of the landholding, ensuring that it will not result in fragmentation of agricultural lands within the landholding;
- Mapped Class 3 land and soil capability land is narrow (approximately 1 kilometre in width) with lower category Class 4 and 6 land and soil capability land to the west and east;
- Land within the locality is highly fragmented (LEP minimum lot size is 400 hectares); and
- The site is located within the REZ, and is therefore strategically identified for the purposes of providing electricity generating infrastructure.

2.2.6.4 Climate

The closest Australian Bureau of Meteorology (BoM) weather station with daily weather observations is Wellington (D&J Rural) (Station 065034), located approximately 5 km north of the site.

Summary climate statistics are provided below and depicted in **Figure 11**:

- The mean annual maximum temperature is 24.4°C and the mean annual minimum temperature is 9.4°C (BoM, 2022).
- Mean annual rainfall is 616.4 mm and records indicate monthly mean rainfall received at the site is highest in the months of November through to March (BoM, 2022).

Figure 10 – Biophysical strategic agricultural land

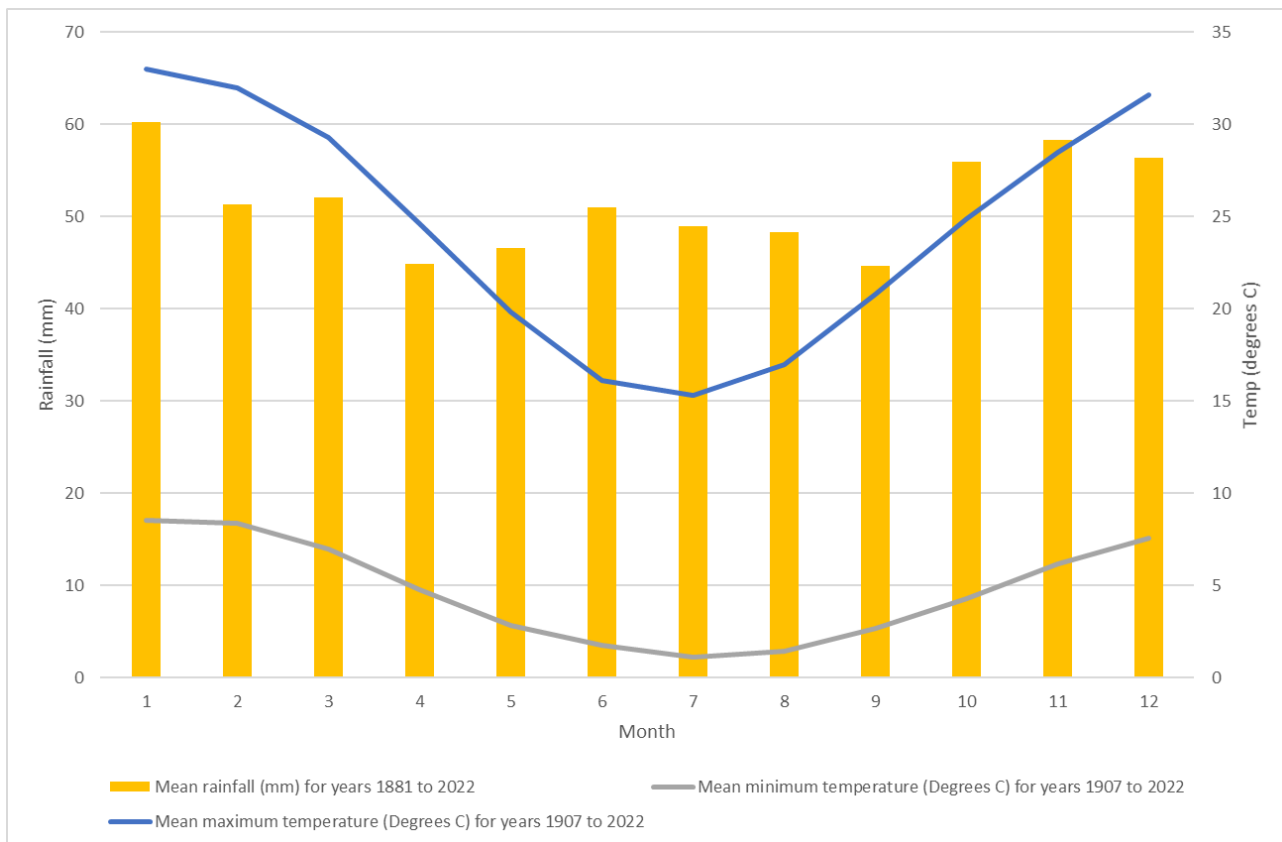


- Legend**
-  Site
 -  Development Area
 -  Disturbed Area
 -  Cadastre
 -  Road
 -  Natural Contours (2m Interval)
 -  Biophysical Strategic Agricultural Land (BSAL)

Sources: © State of NSW, Department of Customer Service, Spatial Services 2021
 © State of NSW, Department of Planning and Environment 2021

GDA2020 MGA Zone 55 File: 221284_03.aprx Prepared By: adam.davis Date: 09/08/2022

Figure 11 – Climate statistics for the locality



2.2.6.5 Surface water

The site does not feature any mapped waterways. A farm dam is located in the north-east corner of Lot 3. This will remain unimpacted by the proposed development.

The nearest first order stream is located to the north of Lot 3, draining from a farm dam in a northerly direction towards the Bell River.

A review of the NSW Base Map and Satellite Imagery available via the ePlanning Spatial Viewer (DPIE) identifies 20 small farm/stock dams within the locality.

A review of NSW ePlanning Spatial Viewer identifies that the Bell River, located approximately 1,800 metres to west, is mapped sensitive riparian land within the site or locality. The closest mapped riparian land is located approximately 7 km north of the site, along the Wollondilly River.

2.2.6.6 Groundwater

There is no mapped groundwater vulnerable land mapped via the NSW ePlanning Spatial Viewer within the site. The nearest groundwater borehole with a known standing water level is GW801235, located approximately 365 metres to the north at 9092 Mitchell Highway. It has a standing water level of 20 metres.

2.2.6.7 Flooding

The site is not identified as being within a flood planning area via the DRC LEP, 2022.

Given the small size of the subject site, the absence of mapped waterways within the site, and the distance to riverine land, it is not considered that flooding represents a significant impact to the project.

2.2.6.8 Bushfire

The site and locality contain bushfire prone land (non-EPI) mapped via the NSW ePlanning Spatial viewer, depicted in **Figure 12**.

2.2.6.9 Geology and soil

A Land and Soil Capability (LSC) assessment has been prepared in accordance with the NSW Office of Environment and Heritage (OEH, 2012) *Land and Soil Capability Assessment Scheme: Second Approximation* (LSC Scheme) and accompanies the EIS.

The LSC assessment provides a range of mitigation measures to be adopted in the delivery of the project. The LSC assessment identifies that the approximately 9 ha investigation area contains three soils classes:

1. Rocky Soil (Leptic Rudosol);
2. Red Friable Soil (red Ferresol); and
3. Brown Plastic Soil (Brown Sodosol).

The Rocky and Red Friable Soils are classed as land capability class 6 and are therefore not considered to represent BSAL land. The Red Friable Soil has moderate agricultural utility and is therefore considered to have the characteristics of land capability class 3, noting that this applies to approximately 7 ha of the assessed land (or 60% of the investigation area).

2.2.6.10 Contaminated land

A review of the NSW EPA Contaminated Land Record and List of NSW contaminated sites notified to the EPA on the 22/04/2022 confirms there are no known contaminated sites at or near the site.

An assessment of contamination risk has been undertaken and is provided as part of the EIS. The site is unlikely to be contaminated due to significant distances from known contaminated sites listed under the NSW EPA contaminated land record and list of notified sites.

2.2.6.11 Heritage

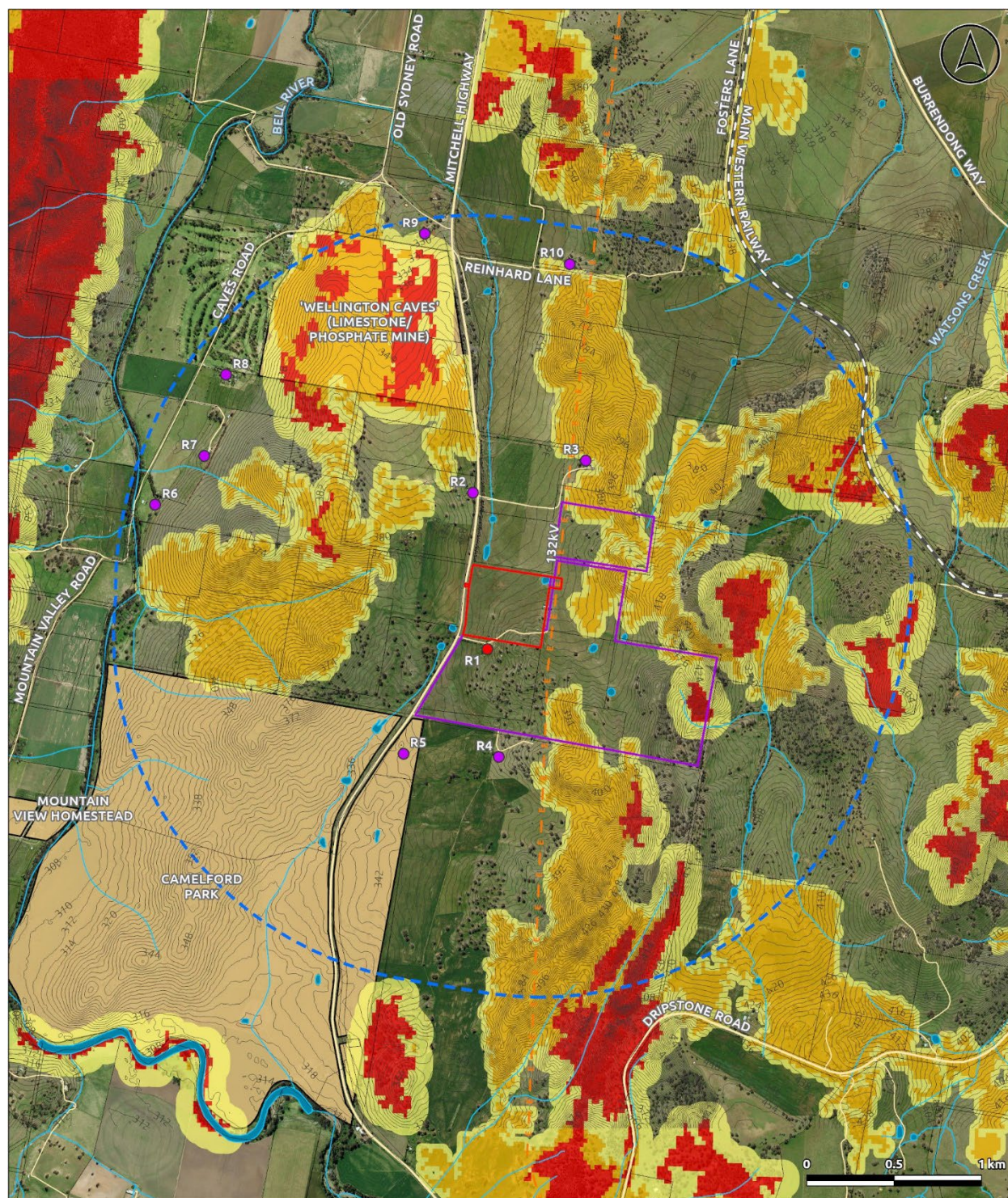
Items of heritage significance at the site and locality include:

- Locally heritage listed I1 "Wellington Caves" (Limestone/ Phosphate Mine) is located at 97 Caves Road, approximately 880 metres to the north of the site;
- Locally heritage listed I67 "Camelford Park" is located at 8745 Mitchell Highway, Neurea, approximately 570 metres to the south of the site (actual house located approximately 2.6 kilometres to the south of the site); and
- Locally heritage listed I68 "Mountain View" homestead is located at 646 Mountain Valley Road, Neurea, approximately 2.3 kilometres to the south-west.













Basic searches of the Aboriginal Heritage Information Management System (AHIMS) conducted on 9 March 2022 identified:

- Whilst AHIMS Basic Search on 30 September 2021 (refer to **Appendix B**) did not identify any Aboriginal Sites or Places within the site, four Aboriginal Sites were identified in close proximity including:
 - Two near Mitchell Highway in 9092 Mitchell Highway adjoining the site to the north; and
 - Two in 385 Dripstone Road to the east.

Figure 12 – Environmental features




Legend

- | | |
|---|--|
|  Site |  Electricity Transmission Line |
|  Landholding |  Natural Contours (2m Interval) |
|  2km Buffer | Residential Receivers |
|  Cadastre |  Associated Receiver |
|  Road |  Non-associated Receiver |
|  Railway | |
|  Water Body | |
|  Watercourse | |

Bush Fire Prone Land

- | |
|---|
|  Vegetation Category 1 |
|  Vegetation Category 2 |
|  Vegetation Buffer |

EPI Heritage

- | |
|--|
|  Item - General |
|--|

An Aboriginal Cultural Heritage Assessment Report (ACHAR) accompanies the EIS and has been prepared in accordance with the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (Code of Practice; DECCW 2010), and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) (Premise, 2022).

The ACHAR identifies that the study area was occupied by Aboriginal people within the last 40,000 years indicative from background research. Two isolated artefacts were also recorded during the archaeological survey. These sites would be avoided by the project.

The ACHAR provides a number of recommendations for the management of aboriginal heritage, including but not limited to, the preparation of an Aboriginal Cultural Heritage Management Plan, an Aboriginal Cultural Heritage Induction for all site workers provided by the Aboriginal Community and conditions that will require further consultation and/or assessment.

No recorded sites will be impacted. Given that these sites are low-density artefact scatters and isolated finds, their scientific significance is low, and the recording and collection of visible artefacts is considered to be sufficient mitigation with regard to the proposed impact.

2.2.7 LOCAL COMMUNITY

The following sections outline the demographic and economic profiles of major population centres within the DRC LGA.

Information was gathered from the following sources:

- The *Dubbo Regional Community Strategic Plan* (Dubbo Regional Council, 2021).
- *Local Strategic Planning Statement* (DRC, 2020).
- *Agriculture Industry Snapshot for Planning Central West Slopes and Plains Sub Region* (DPI, 2020).
- Australian Bureau of Statistics (ABS) 2016 Census. It is noted that 2021 Census data is not available until June 2022.
- NSW Government Department of Planning, Industry and Environment (DPIE, 2019) *Population, Household and Implied Dwelling Projections by LGA*.
- Remplan Economy – Economy, Jobs and Business Insights.

The statistics gathered demonstrate that agriculture is a significant part of the region's economy although noting that construction and manufacturing are the highest performing industries in the LGA (DRC, 2019), with agriculture fifth highest. The population of the DRC LGA is centralised within Dubbo which accounts for approximately 69% of the LGA's total population. The population of the DRC LGA is growing and expected to reach 58,800 by 2041.

The following sections provide an insight into the demographics and economic character of statistical regions relevant to the proposed development and form a baseline for identifying and assessing potential land use conflicts.

2.2.7.1 Population

Region summaries for the DRC LGA (ABS, 2020a), Dubbo (ABS, 2020b) and Dubbo Region (ABS, 2020c) record the following population statistics:

- The estimated resident population (ERP) for the DRC LGA in 2020 is 54,044 people (ABS, 2020a)
- The majority of the LGAs population is centralised within the urban centre of Dubbo, which is recorded with an ERP of 39,054 people (72.3%) for 2020 (ABS, 2020b)

- The remaining area of the LGA has an ERP of 14,990 (27.7%).

Table 8 details the population of state suburbs (SSC) relevant to the development site gathered from the 2016 Census (ABS, 2016). Populations for urban centres/localities (UCL) population have been recorded where statistics are available. Travel distance and time reflect the proximity of each statistical region and were calculated with google maps by entering directions from the site to surrounding population centres.

Table 8 – Population within the DRC LGA (ABS, 2016)

Statistical Region	NSW State Suburb Population (SSC)	Proportion of LGA's Population (%)	Urban Centre/Locality Population (UCL)	Approximate travel distance from study area (km)	Approximate travel time from study area (min)
Dubbo	38,943	77.8%	34,339	54 km	40 minutes
Wellington	4,078	8.1%	4,519	9.1 km	10 minutes
Apsley	108	0.2%	-	4.5 km	5 minutes
Driestone	76	0.2%	-	3.5 km	5 minutes
Mount Arthur	166	0.3%	-	11.3 km	15 minutes
Neurea	128	0.3%	-	6 km	10 minutes
DRC LGA	50,077				

2.2.7.1.1 Population projections

A comparison of population projects for the DRC LGA, surrounding LGAs and NSW is provided in **Table 9**. The average rate of change represents the difference of population between 2016 and 2041 divided by the 25-year period of the dataset. Population projections for the DRC LGA are depicted in **Figure 13**.

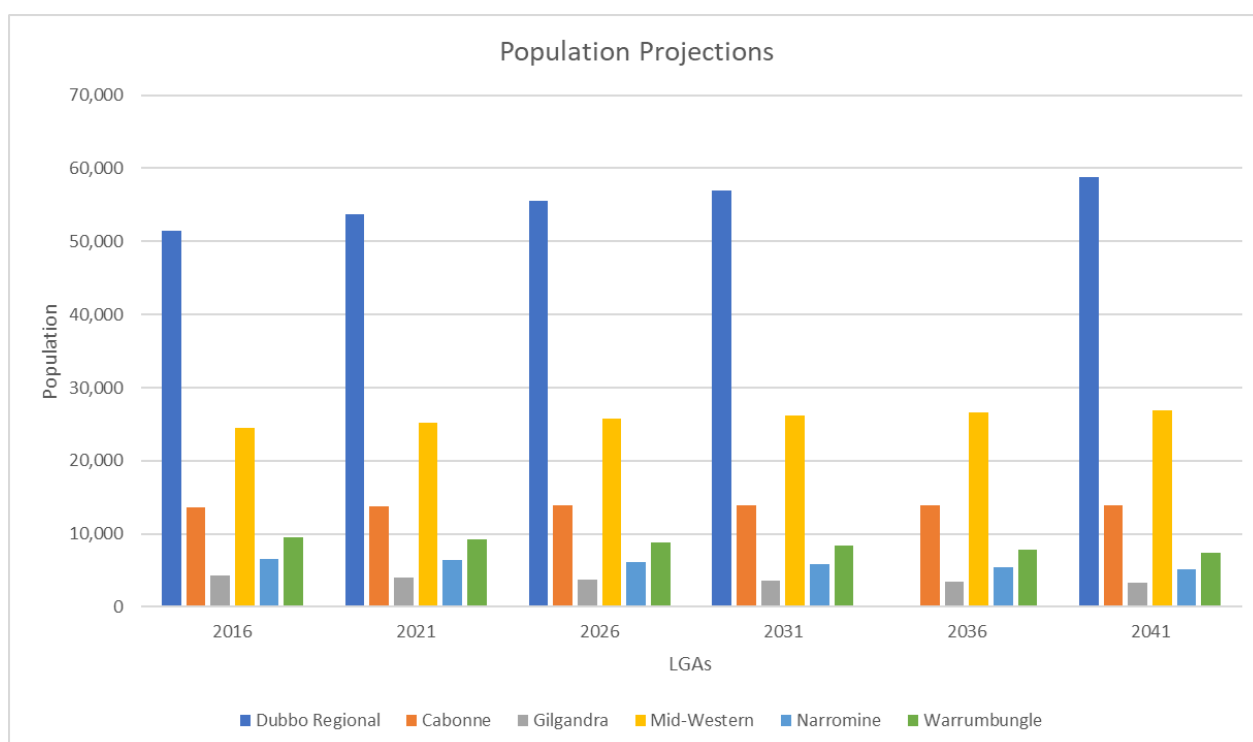
The population of the DRC LGA is projected to increase from 30261 to 33475 people between 2016 and 2041. This represents an annual average population increase of 128.56 people per year and a rate of change of 0.42 %.

Table 9 – Summary of population projections (DPIE, 2019)

LGA	2016	2021	2026	2031	2036	2041	Total Increase	Average change per year	Average rate of change (%)
Dubbo Regional	51,400	53,700	55,550	56,950	58,000	58,800	7,400	+296	0.5%
Cabonne	13,600	13,750	13,850	13,900	13,900	13,850	250	10	0.1%
Gilgandra	4,300	4,050	3,800	3,600	3,450	3,300	-1,000	-40	-1.1%
Mid-Western	24,550	25,150	25,750	26,200	26,600	26,900	2,350	94	0.4%
Narromine	6,600	6,350	6,100	5,800	5,500	5,100	-1,500	60	-1.0%
Warrumbungle	9,550	9,200	8,800	8,350	7,850	7,350	-2,200	88	-1.0%

LGA	2016	2021	2026	2031	2036	2041	Total Increase	Average change per year	Average rate of change (%)
NSW	7,732,858	8,414,978	9,011,010	9,560,567	10,077,964	10,572,696	2,839,838	113593.5	1.47

Figure 13 – Population Projections (DPIE, 2019)



2.2.7.1.2 Household projections

A comparison of household projections for the DRC LGA, surrounding LGAs and NSW is provided in **Table 10**. The total change in average household size represents the change in the average number of household occupants over the 25-year period of the dataset. Household projections for the DRC LGA are depicted in **Figure 14**.

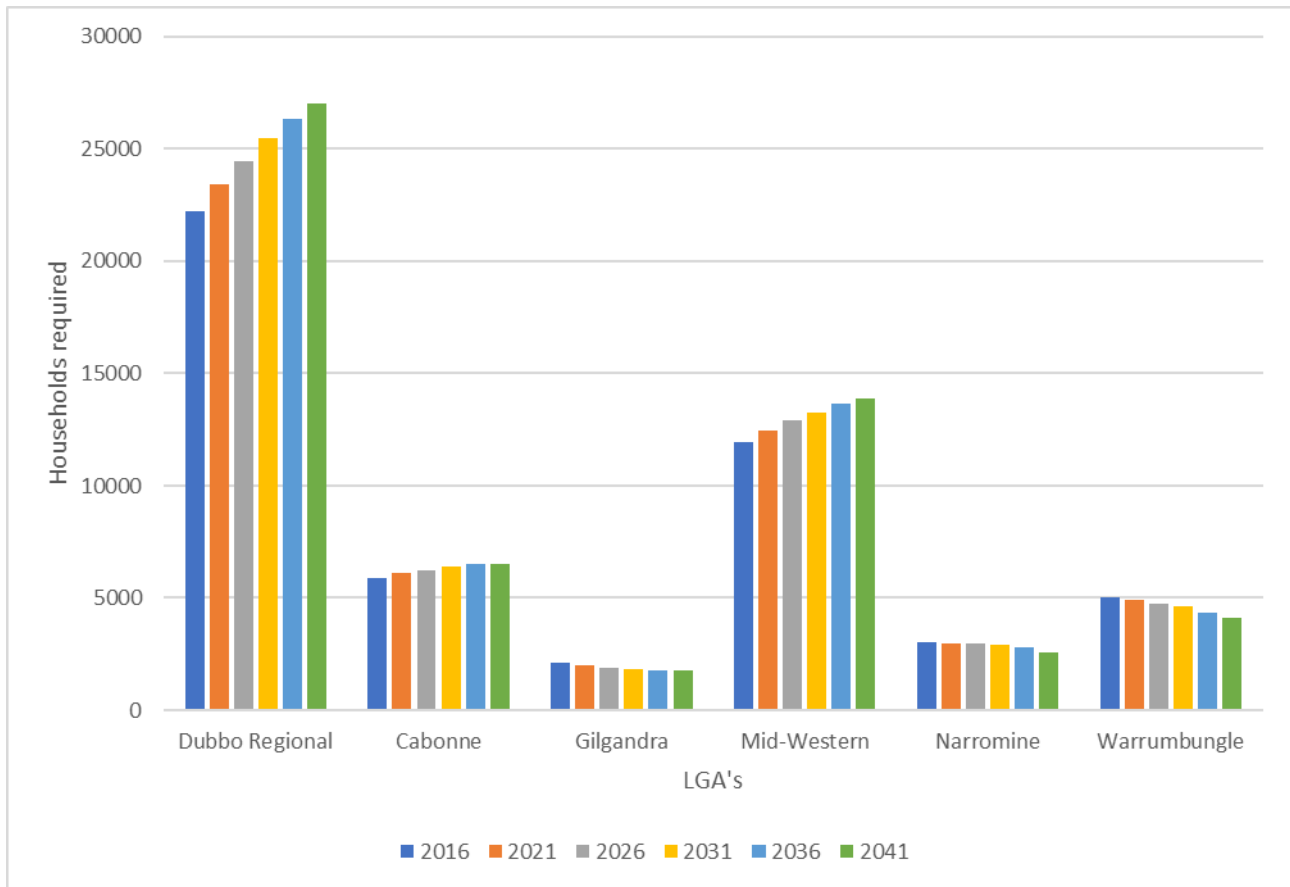
The total number of households in the DRC LGA is projected to increase by 2357 between 2016 and 2041. Household sizes (persons per household), however, are projected to decrease by 0.19 for the same period.

Table 10 – Summary of household projections (DPIE, 2019)

LGA		2016	2021	2026	2031	2036	2041	Total Change in Average Household Size	Total Increase in Households
Dubbo	Houses required	22,200	23,400	24,450	25,450	26,350	27,000		4,800
	Household size	2.49	2.46	2.43	2.39	2.35	2.32	-0.17	

LGA		2016	2021	2026	2031	2036	2041	Total Change in Average Household Size	Total Increase in Households
Cabonne	Houses required	5,900	6,100	6,250	6,400	6,500	6,500		600
	Household size	2.58	2.54	2.49	2.45	2.40	2.38	-0.2	
Gillgandra	Houses required	2,100	2,000	1,900	1,850	1,800	1,750		-350
	Household size	2.33	2.25	2.24	2.19	2.15	2.13	-0.2	
Mid-	Houses required	11,950	12,450	12,900	13,250	13,650	13,900		-1,950
	Household size	2.37	2.33	2.30	2.26	2.23	2.21	-0.16	
Narromine	Houses required	3,050	3,000	2,950	2,900	2,800	2,600		-450
	Household size	2.41	2.32	2.26	2.22	2.17	2.11	-0.3	
Warrumbungle	Houses required	5,000	4,900	4,750	4,600	4,350	4,100		-900
	Household size	2.24	2.20	2.15	2.11	2.09	2.05	-0.19	
NSW	Houses required	3,200,831	3,510,142	3,783,939	4,041,086	4,286,735	4,521,799		1,320,968
	Household size	2.61	2.59	2.56	2.54	2.52	2.50	-0.11	

Figure 14 – Household Projections (DPIE, 2019)



2.2.7.1.3 Demographics

A comparison of demographics for population centres, the LGA and NSW is provided in **Table 11**.

Table 11 –Comparison of demographics characteristics (ABS, 2016)

Statistical area	Aboriginal and/or Torres Strait Islander people (% of total population)	Median Age	Unemployment (%)	Median total household income (\$/w)	Median mortgage repayments (\$/m)	Median rent (\$/w)
Population centres						
Dubbo (SSC)	14.6%	36	5.5%	\$1,341	\$1,517	\$265
Wellington (SSC)	27.8%	44	13.7%	\$781	\$1,000	\$180
Apsley	11%	49	0%	\$1,224	\$1,083	\$0
Driestone	5%	49	10%	\$1,187	\$660	\$0
Mount Arthur	8.3%	50	0%	\$1,271	\$1,517	\$265
Neurea	4.6%	46	5.2%	\$1,281	\$2,000	\$0
Local Government Areas						
Dubbo Regional	15.5%	37	5.9%	\$1,272	\$1,500	\$250

Statistical area	Aboriginal and/or Torres Strait Islander people (% of total population)	Median Age	Unemployment (%)	Median total household income (\$/w)	Median mortgage repayments (\$/m)	Median rent (\$/w)
Cabonne	3.7%	43	4.3%	\$1,301	\$1,517	\$180
Gilgandra	14.1%	45	5.8%	\$998	\$1,083	\$160
Mid-Western	5.4%	42	6.5%	\$1,131	\$1,690	\$270
Narromine	19.9%	42	7.4%	\$1,087	\$1,100	\$185
Warrumbungle	9.8%	49	7.9%	\$878	\$923	\$160
State						
NSW	2.9%	38	6.3%	\$1,486	\$1,986	\$380

2.2.7.2 Labour market

Community profiles from the 2016 Census (ABS, 2016) were collected to determine the distribution of the total workforce by industry of employment.

2.2.7.2.1 Industry of employment

A comparison of the total workforce by industry of employment for Dubbo, Wellington, the DRC (former Western Plains) LGA and NSW is provided in **Table 12**. The largest industry of employment:

- In the (former) Western Plains LGA is the health care and social assistance industry which accounts for 15.4% of the total workforce;
- In Dubbo is the health care and social assistance industry which accounts for 15.7% of the total workforce;
- In Wellington is the agriculture forestry and fishing industry which accounts for 27.8% of the total workforce;

Figure 15 - Figure 17 depict the distribution of industry employment within Dubbo, Wellington and DRC LGA.

Table 12 – Industry of employment (ABS, 2016)

Industry of Employment	Dubbo (SSC) (%)	Wellington (SSC) (%)	Western Plains LGA (%)	NSW
Agriculture, Forestry and Fishing	2%	28%	5%	2.1
Mining	1%	0%	1%	0.9
Manufacturing	6%	10%	6%	5.8
Electricity, Gas, Water and Waste Services	1%	3%	1%	0.9
Construction	9%	11%	9%	8.4
Wholesale Trade	3%	3%	3%	3.1
Retail Trade	11%	8%	11%	9.7
Accommodation and Food Services	8%	13%	7%	7.1
Transport, Postal and Warehousing	4%	4%	4%	4.7

Information Media and telecommunications	1%	0%	1%	2.2
Financial and Insurance Services	2%	0%	2%	4.9
Rental, Hiring and Real Estate Services	1%	0%	1%	1.8
Professional, Scientific and Technical Services	4%	4%	4%	8.1
Administrative and Support Services	3%	3%	3%	3.5
Public Administration and Safety	8%	0%	8%	6.0
Education and Training	9%	0%	9%	8.4
Health Care and Social Assistance	16%	4%	15%	12.5
Arts and Recreation Services	2%	3%	2%	1.5
Other Services	5%	0%	4%	3.7
Inadequately described/Not stated	3%	3%	4%	4.7

Figure 15 – Industry of Employment, Dubbo (ABS, 2016)

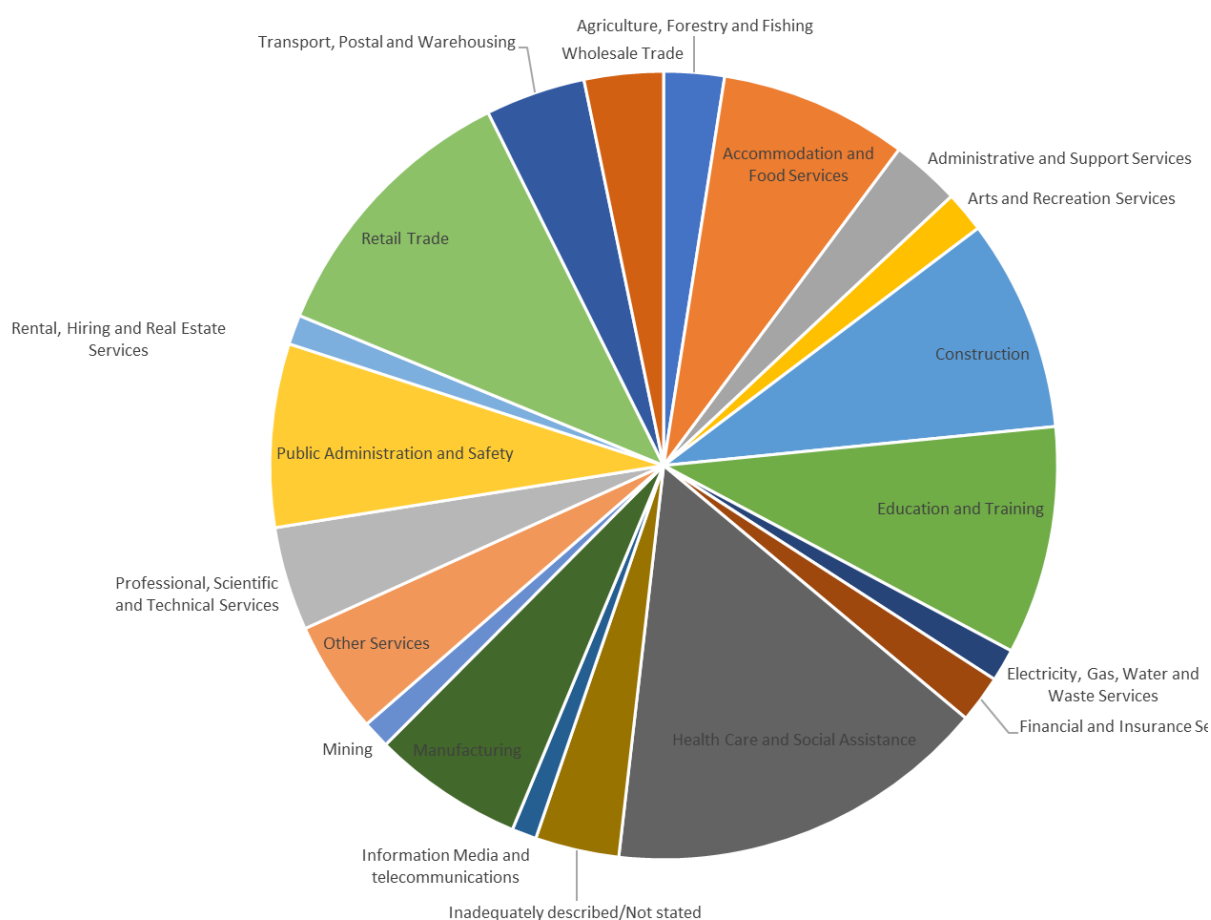


Figure 16 – Industry of Employment, Wellington (ABS, 2016)

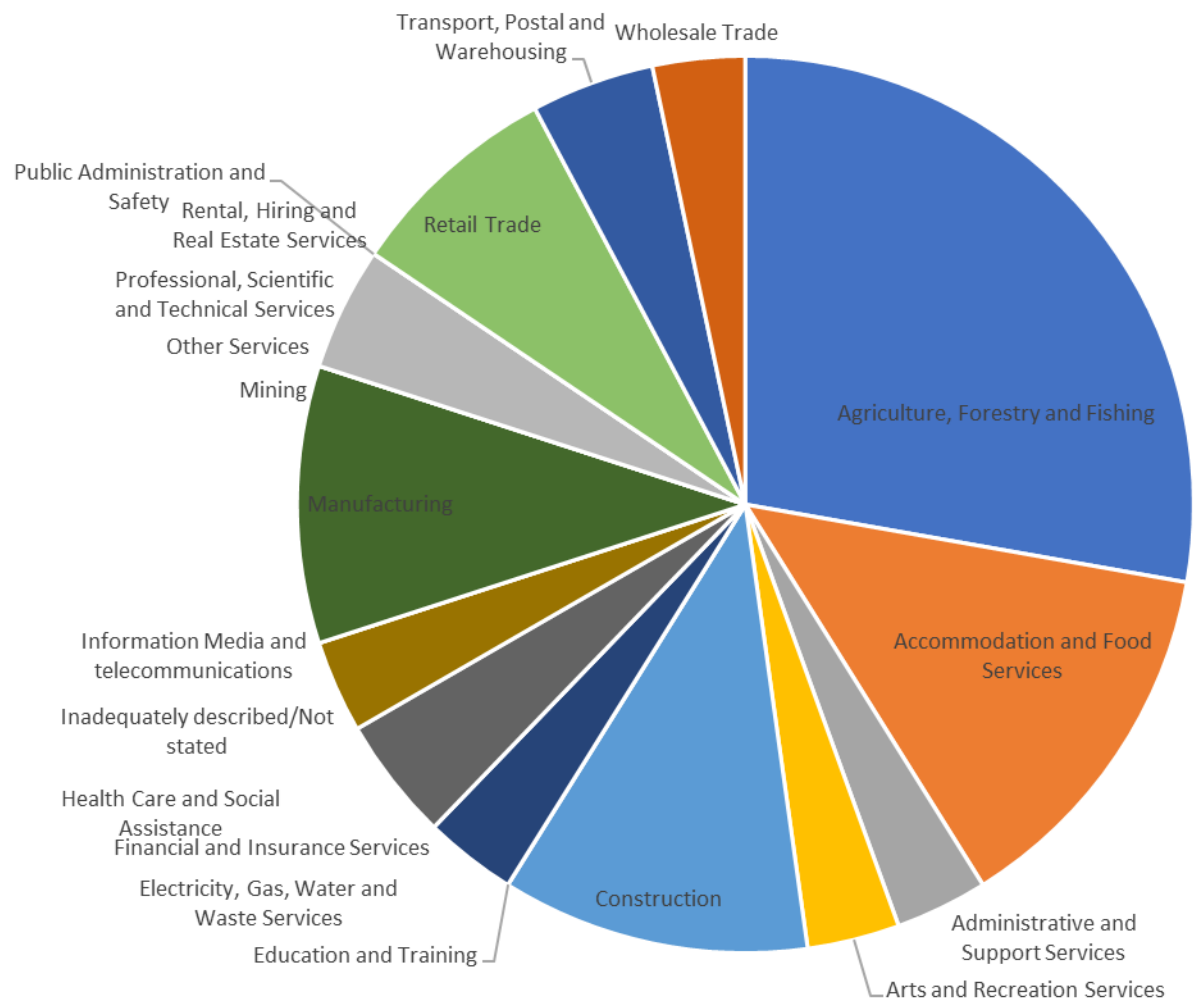
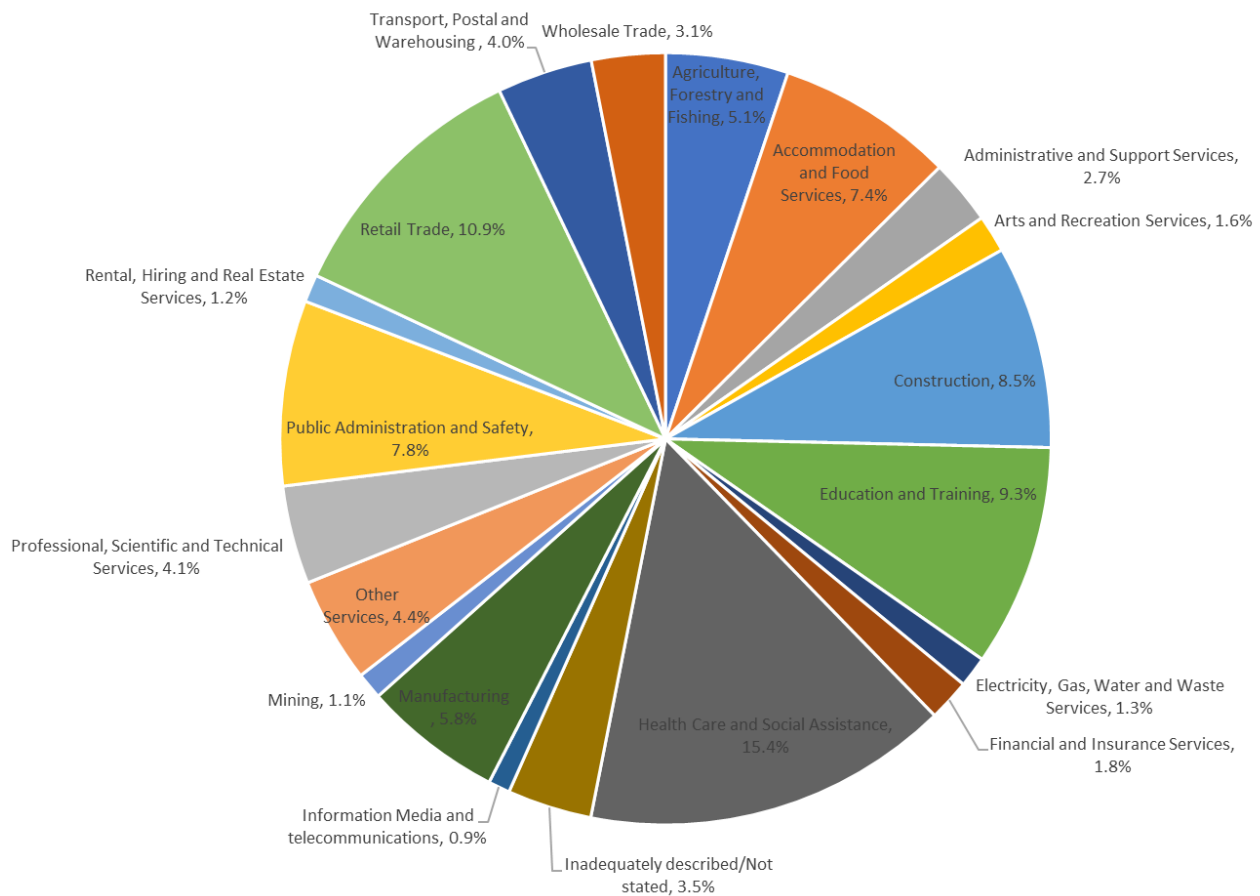


Figure 17 – Industry of Employment, DRC LGA (ABS, 2016)



2.2.7.3 Economic Profile

The overall Gross Regional Product (GRP) of the DRC LGA was recorded as \$3.57 billion in the year ending June 2020, falling by 1.6% since the previous year (Remplan, 2022), but trending at a similar level to 2017 and 2018.

Information on value by industry sector for the DRC LGA is not available for the same period as above, but can be gleaned from the Dubbo Region Economic Profile 2019. This information is provided in **Table 13** and depicted in **Figure 18**.

Total value represents how productive each industry sector is at increasing the value of its inputs and is considered a more refined measure of productivity than total output as some industries may have higher levels of output but require more expensive inputs.

As at 2019, the largest industry by total value added in the DRC LGA was the construction industry which accounted for \$1,057 million and 16% of the DRC LGA's total value added during 2018/19. Manufacturing and rental/real estate are the two next highest contributing industries, contributing \$809 million (13.4%) and \$654 million (9.9%) respectively. Agriculture contributed \$361 million (5.5% of total value).

Table 13 – Total value added by Industry sector within the DRC LGA (DRC, 2019)

Dubbo Regional LGA	2016		2019		Change
Industry	\$m	%	\$m	%	2016 - 2019
Industry	Output (millions)	%	Output (millions)	%	

Dubbo Regional LGA	2016		2019		Change
Industry	\$m	%.	\$m	%.	2016 - 2019
Construction	546.16	8.6%	1057.49	16.0%	+9.4%
Manufacturing	789.99	12.4%	890.04	13.4%	+1%
Rental, hiring and real estate services	597.04	9.4%	654.37	9.9%	+0.5%
Health care and social assistance	360.01	5.7%	490.50	7.4%	-1.7%
Agriculture, forestry and fishing	236.15	3.7%	361.46	5.5%	+1.8%
Public administration and safety	368.00	5.8%	358.97	5.4%	-0.4%
Retail trade	304.83	4.8%	310.53	4.7%	-0.1%
Education and training	240.49	3.8%	310.35	4.7%	+0.9%
Electricity, gas, water and waste services	306.49	4.8%	290.22	4.4%	-0.4%
Wholesale trades	290.53	4.6%	287.35	4.3%	-0.3%
Financial and insurance services	295.23	4.7%	282.10	4.3%	-0.4%
Transport, postal and warehousing	255.39	4.0%	274.26	4.1%	+0.1%
Accommodation and food services	208.27	3.3%	267.58	4.0%	+0.7%
Professional, scientific and technical services	234.72	3.7%	264.21	4.0%	-0.4%
Administration and support services	121.56	1.9%	167.93	2.5%	+0.2%
Other services	132.62	2.1%	156.12	2.4%	-0.1%
Information media and telecommunication	111.96	2.0%	119.83	1.8%	-0.2%
Arts and recreation services	43.56	0.8%	55.33	0.8%	-
Mining	50.35	0.9%	25.28	0.4%	-0.5%

The NSW Government's *Agriculture Industry Snapshot for Planning: Central West Slopes and Plains Sub Region* (NSW Government DPI 2020) identifies the top three agricultural commodities of the DRC LGA were beef, wool production and broad acre cropping respectively accounted for \$40.7 million, \$31.7 million and \$29.7 million of the total \$134.7 million produced by agricultural commodities.

2.2.7.4 Indigenous community

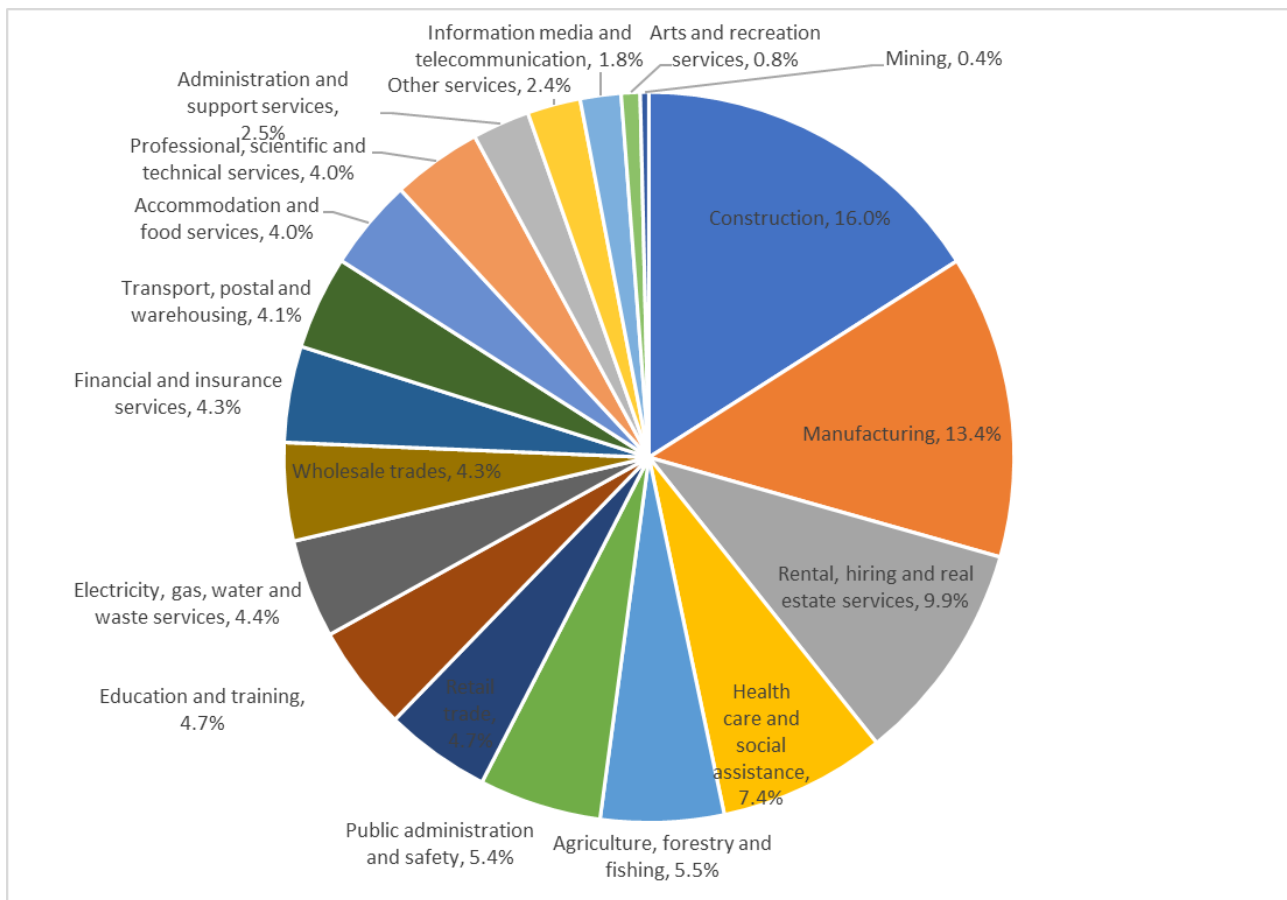
The DRC LGA was originally inhabited by the Wiradjuri Aboriginal group as early as 40,000 years ago (Christo Aitken 2007). This area formed part of the traditional lands of the Wiradjuri language group, spoken along the three rivers by which it is bound, the Macquarie, Lachlan, and Murrumbidgee River systems.

The site is located within the boundaries of the Wellington Local Aboriginal Land Council. The distribution Aboriginal sites within the DRC LGA is strong correlation between site location and proximity to water resources with a tendency for larger occupation sites to be located nearest permanent water resources. Characteristics for occupation include, elevated areas, with most sites located on undulating areas supporting woodland, however closest to Dubbo sites were found on river or creek banks.

The ACHAR prepared for this project makes the following recommendations:

1. The development proposal should proceed, conditional upon the recommendations outlined in this report and an exclusion zone implemented around the recorded sites within the study area.
2. No further Aboriginal archaeological investigations are proposed.

Figure 18 – Value added by Industry sector within the DRC LGA (DRC, 2019)



3. Two newly recorded sites identified during the archaeological survey will be uploaded to the AHIMS database:
 - Apsley IF-1.
 - Apsley IF-2.
4. The development must avoid the two isolated finds located within the study area (Apsley IF-1 and Apsley IF-2) as per the proposed development footprint in this report. A minimum 10m buffer around each isolated find is appropriate.
5. No impacts are to occur to previously recorded sites located immediately north of the study area (AHIMS #36-4-0082 and #36-4-0083)
6. Aboriginal cultural heritage within the study area will be managed by an Aboriginal Cultural Heritage Management Plan (ACHMP) that will be developed following project approval in consultation with the RAPs and Heritage NSW. The ACHMP will contain the recommendations of this report, as well as an unanticipated finds protocol, procedures to manage unexpected discoveries of human remains,
7. No recorded sites will be impacted. Given that these sites are low-density artefact scatters and isolated finds, their scientific significance is low, and the recording and collection of visible artefacts is considered to be sufficient mitigation with regard to the proposed impact.
8. An unexpected finds procedure would be implemented as part of the management considerations for Aboriginal Cultural Heritage. unexpected finds policy should be included as part of the proposed ACHMP. If unanticipated Aboriginal objects are uncovered during works, all work in the vicinity should cease immediately. A qualified archaeologist should be contacted to assess the find and Heritage NSW and Wellington LALC must be notified.

9. All impacts must remain within the assessed study area or further archaeological investigation may be required.

2.2.7.5 Community groups and interests

No special interest groups were identified during the scoping or EIS engagement stage of the project. An overview of consultation conducted for the project is summarised in **Section 2.5**.

Concerns raised during consultation are considered to reflect noise and visual impacts, biosecurity/contamination, traffic/access impacts and fire/safety.

Community expectations identified via the current Dubbo Community Strategic Plan 2018 include:

- Key infrastructure and services are provided to further enhance the quality of life of our community and to maintain economic growth;
- We value our unique environment and ensure its protected for future generations;
- Increased percentage of uptake in renewable energy for public and Council facilities;

Concerns and interests identified in this section have been considered in **Section 3** of this report.

2.3 Site history

2.3.1 HISTORICAL CONTEXT

Discussions with the landowner confirm that they have owned the land for approximately 12 years. The current land owner purchased the land in its current arrangement. The owner indicated that they have used the land for primary production purposes during that time, including grazing of cattle and sheep, and cropping select areas with oats an approximately a three year cycle.

The owner indicated that the previous landowner had managed the land in a similar fashion. Information about the use of the land before this is not known.

The owner indicated that the land has not experienced significant erosion or changes in water behaviour. Even during the recent drought, the land retained a groundcover.

2.3.2 HISTORICAL IMAGERY

A review of the NSW Governments Historical Imagery Viewer (NSW Government, 2021) confirms the site has been used for agricultural purposes since 1965. No historical imagery was available prior to 1965.

It is considered likely that agricultural land use has been consistent at the site prior to 1965, particularly given European settlement in the region during the early 19th Century.

Imagery highlighting historic land use from 1975, 1979, 1987, 1991 and 1997 is provided in **Figure 19 – Figure 24** and demonstrates the following:

- The site and locality have historically been comprised of rural agricultural land holdings with residential dwellings and associated farm infrastructure, including sheds, farm dams and paddock fencing.
- The extent of vegetation within the site and locality has remained relatively consistent between 1975 and 1995.

Figure 19 – Historical Imagery 1995

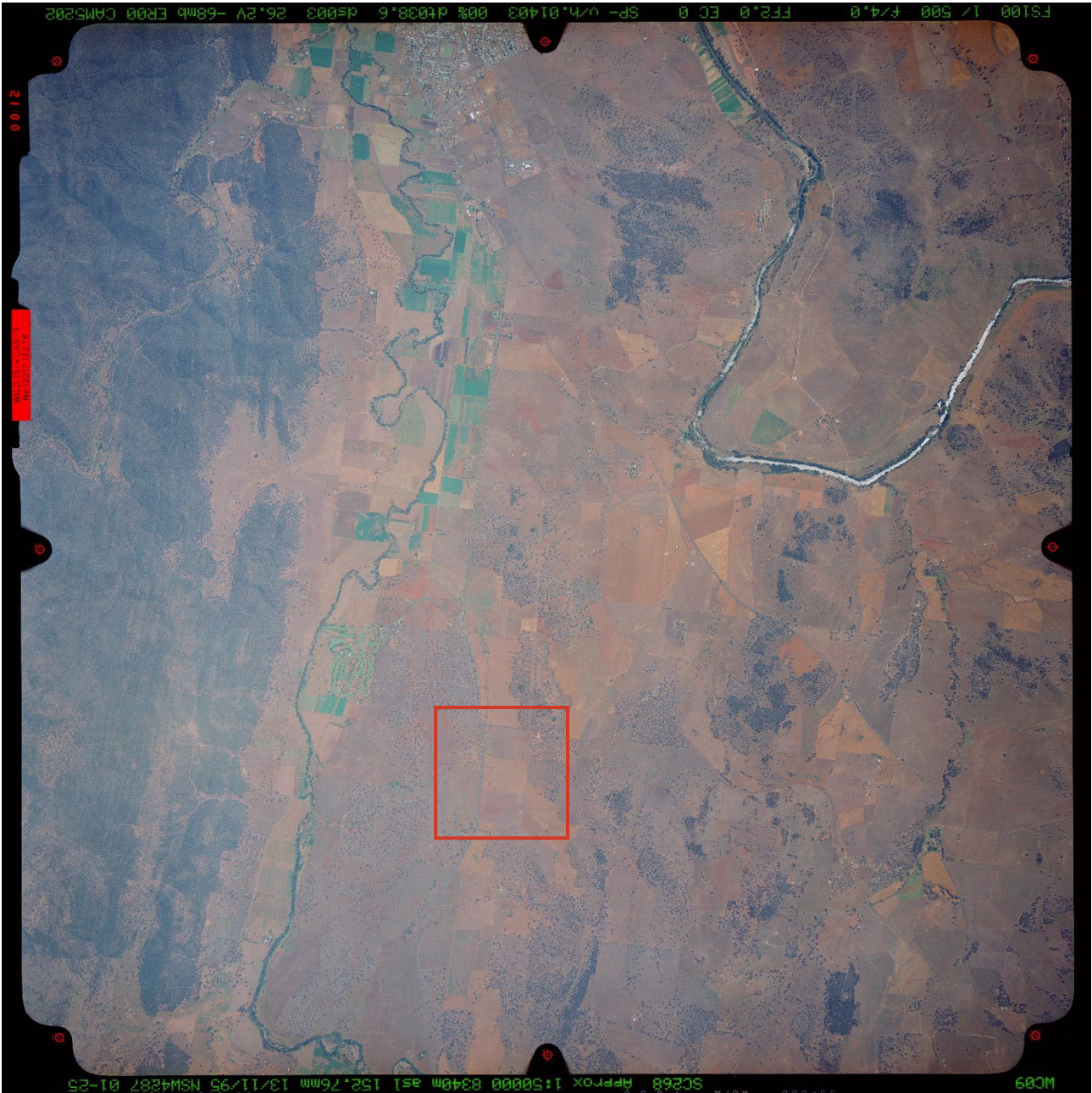


Figure 20 – Historical Imagery 1988

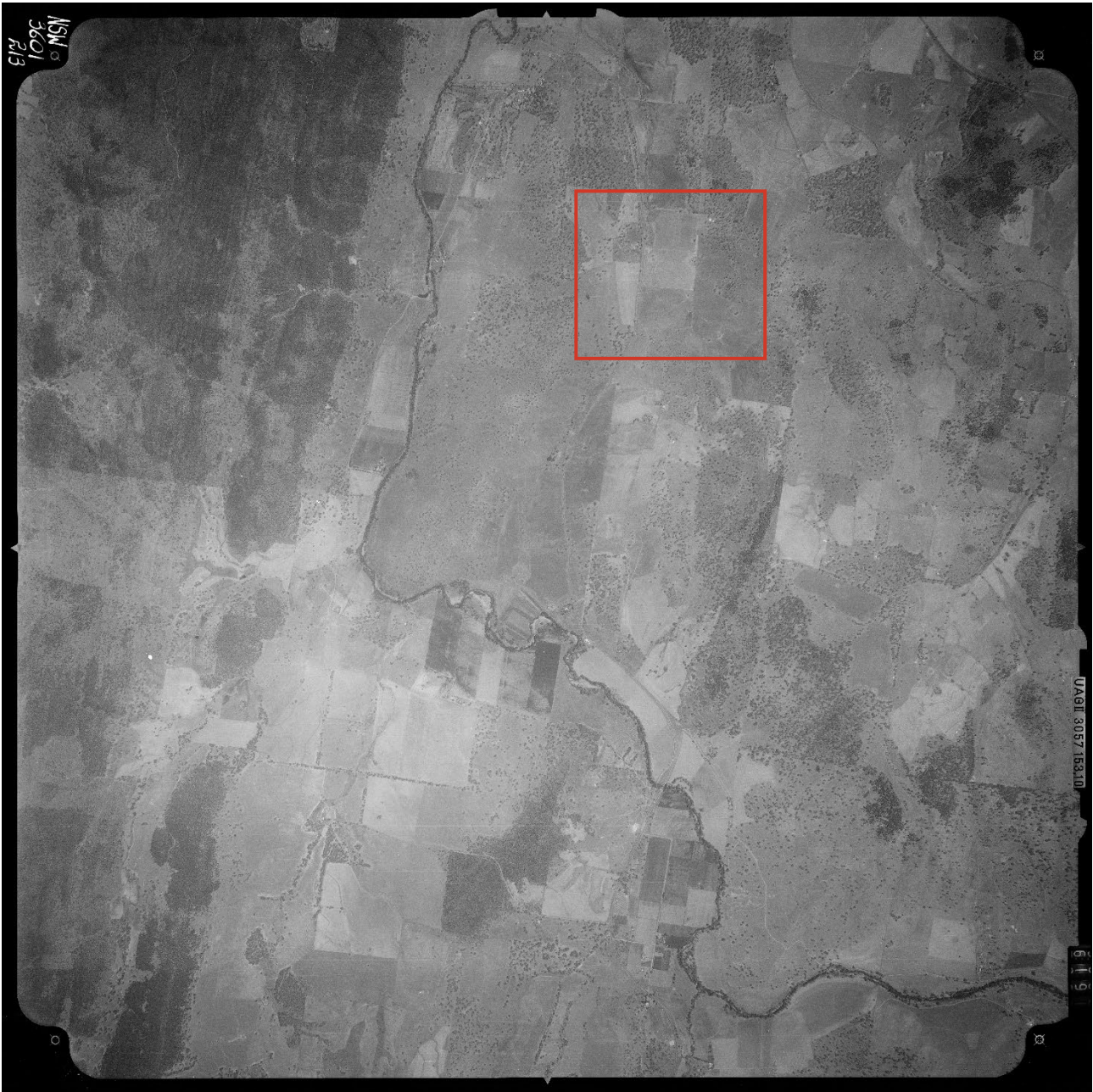


Figure 21 – Historical Imagery 1988



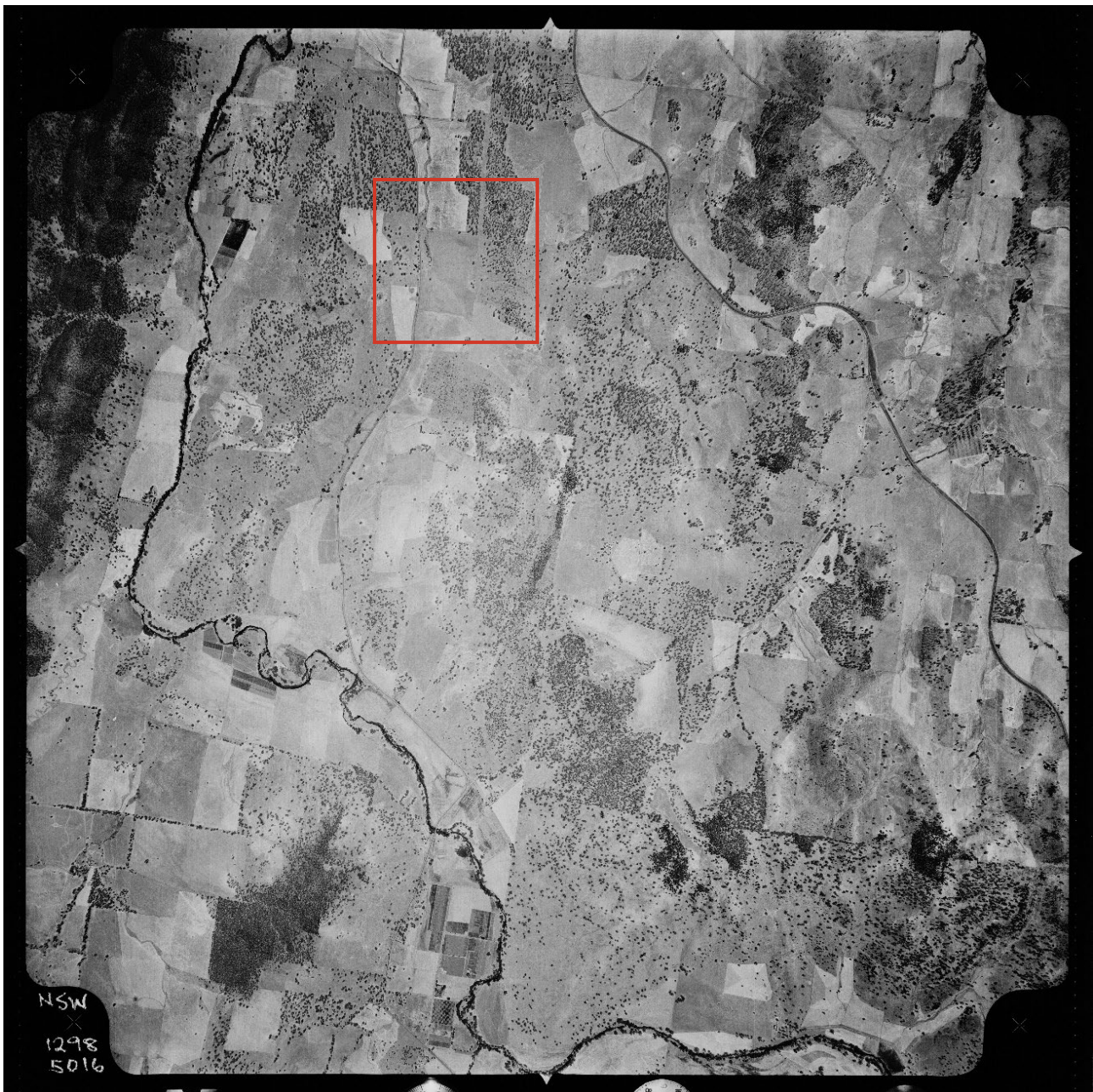
Figure 22 – Historical imagery 1980



Figure 23 – Historical imagery 1971



Figure 24 – Historical Imagery 1965



2.3.3 PREVIOUS APPROVALS

Review of DRC's DA tracker identified a single approval pertaining to the site, being a Subdivision Construction Certificate (CC/0192/1011) issued on 17 February 2011. No other approvals are known to apply to the site.

2.4 Site inspection outcomes

A range of site inspections have been completed by Premise staff for the project, including Premise's Senior Town Planner on the 29 April 2022, Premise Archaeologist on the 1 December 2021 and Premise Senior Ecologist on the 17 November 21. The inspections provided insight into the current nature, use and operation of land within the site and locality. The positions and locations of environmental features and land uses were noted.

Photographs are provided in the following sections for built and environmental features, and representative photographs for land uses in the locality.

2.4.1 AGRICULTURE

Representative photos of agricultural land uses (cropping) within the site are provided in **Figure 25**.

Figure 25 – Cropping use of the land (looking north)



Figure 26 – Cropping use of the land (looking west)



2.4.2 RESIDENTIAL AND FARM INFRASTRUCTURE

Representative photos of farm infrastructure within the locality, including on site dams and sheds are depicted in **Figure 27** and **Figure 28**.

Figure 27 – Dam on site



Figure 28 – Shed on the property



2.4.3 CROWN LAND

A representative photo of crown land within the locality is depicted in **Figure 29**.

Figure 29 – Crown road adjacent to northern boundary



Figure 30 – Crown road adjacent to the western boundary



2.5 Consultation

ACEnergy engaged Premise to prepare an engagement strategy to guide consultation for the proposed Apsley BESS. The engagement strategy included commitments and approaches to ongoing forms of consultation.

Consultation during the scoping stage for the project consisted of:

- Two rounds of doorknocking and delivery of community notification letters to 9 non-associated landowners and 6 non-residential properties located in proximity to the site during the scoping stage of the project. The letter introduced the project, outlined the planning process and provided contact details for the community infoline, mailbox and website (<https://apsleybess.online/>).
- Email consultation with a range of statutory agencies, including Transport for NSW, Heritage NSW and Dubbo Regional Council.
- Written consultation with a number of local community groups with a potential interest in the project.
- Submission of a connection enquiry to Transgrid and a response in October 2021, and submission of a connection application in December 2021. ACenergy are currently working through the connection process with Transgrid with an end goal to receive a connection agreement.
- Correspondence with Colossus Metals Pty Ltd and Silver City Minerals Limited who hold exploration licences EL8735 and EL8971. It is understood that the land owner has previously discussed the matter with Colossus who confirmed no intention to explore this portion of the site.

Consultation continued during the preparation of the EIS with opportunities for the community to engage with the project via two online community information sessions held in April 2022, direct consultation with indigenous communities as part of the ACHAR, continued discussions with government authorities and responses to the project email and infoline.

Feedback and concerns raised during consultation include:

- The community wants to be informed of project updates
- There is local media interest in the project
- Concerns about visual impacts to adjacent properties
- Placement of the Development Footprint
- Concerns about construction impacts
- Concerns about site access arrangements
- Concerns about property value
- Interest in financial benefits, specifically a neighbourhood agreement

The above feedback and concerns have been considered in the risk assessment in **Section 3** of this report.

2.6 Potential incompatibility and conflict issues

Potential conflict can arise from incompatibility of land uses or conflicting interests over the use of land by the land occupier, surrounding landowners or users, or other stakeholders with an interest in the site and locality.

With respect to potential incompatibility of the proposed Apsley BESS with current land use, the following is noted:

- The landowner currently uses the land for agricultural purposes, predominantly grazing. Opportunities to undertake some grazing within the Apsley BESS would be actively investigated as both a means of controlling ground cover and to ensure a continued agriculture use of the land.
- The landowner is supportive of the proposed Apsley BESS.
- The proposed Apsley BESS is permissible on the RU1 – Primary Production land.
- There are no other known stakeholders with an interest in the Apsley BESS site.

On the above basis, it is considered unlikely that the proposed Apsley BESS would result in a land use conflict for the current landowner.

To consider potential land use conflicts associated with surrounding land users and other potential stakeholders, the risk assessment in **Section 3** of this report addresses the following:

- **Surrounding land uses** determined via desktop and site information identified during the preparation of the LUCRA, including:
 - Agriculture – grazing, cropping and horticulture
 - Residential
 - Plantation forests
 - Resource protection – in the locality this includes areas of vegetation and riparian corridors
 - Infrastructure
 - Tourism land uses
- **Stakeholders** – this includes those who may own, occupy, use the land (where known) or have an interest in the land. The following categories of stakeholders have been adopted for the risk assessment:

- Private property owner
 - Business operator
 - Service provider i.e. energy and telecommunications
 - Public authorities
 - Associations
 - Indigenous community
 - Individuals
- **Conflict of interest** – this describes the potential conflict of interest each stakeholder has in relation to the proposed Apsley BESS. The following categories of potential conflicts have been adopted for the risk assessment:
 - Competing industries
 - Land ownership
 - Economic interest
 - Access and traffic
 - Environmental concern
 - Nuisance
 - Risk to property
 - Health and safety
 - Quality of life
 - Security and privacy
 - Amenity

The potential land use conflicts are described in detail in the full risk assessment table provided in **Appendix A**.

3. LAND USE CONFLICT RISK ASSESSMENT

3.1 Introduction

The LUCRA process evaluates the probability and consequence of potential land use conflicts and uses a matrix to estimate risk, provided in **Table 14**. Associated tables for determining probability and consequence are provided in **Table 15** and **Table 16**, respectively.

A risk ranking of 25 is the highest magnitude of risk; a highly likely, very serious event. A rank of 1 represents the lowest magnitude or risk an almost impossible, very low consequence event.

Risk Rankings have been categorised in terms of their probability and consequence as:

- Low Risk, risk ranking between 1 and 10
- Moderate Risk, risk ranking between 11 and 19
- High Risk, risk ranking between 20 and 25

Table 14 – Risk ranking matrix

CONSEQUENCE	PROBABILITY				
	A Almost certain	B Likely	C Possible	D Unlikely	E Rare
1 – Severe	25	24	22	19	15
2 – Major	23	21	18	14	10
3 – Moderate	20	17	13	9	6
4 – Minor	16	12	8	5	3
5 - Negligible	11	7	4	2	1

Table 15 – Probability table

Level	Descriptor	Description
A	Almost Certain	Common or repeating occurrence
B	Likely	Known to occur, or 'it has happened'
C	Possible	Could occur, or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

Table 16 – Measure of consequence

Level	Descriptor	Description
1	Severe	<ul style="list-style-type: none"> Severe and/or permanent damage to the environment and community Irreversible Neighbours are in prolonged dispute and legal action involved
2	Major	<ul style="list-style-type: none"> Serious and/or long-term impact to the environment and community Long-term management implications Neighbours are in serious dispute
3	Moderate	<ul style="list-style-type: none"> Moderate and/or medium-term impact to the environment and community Some ongoing management implications Neighbour disputes occur
4	Minor	<ul style="list-style-type: none"> Minor and/or short-term impact to the environment and community Can be effectively managed as part of normal operations Infrequent disputes between neighbours
5	Negligible	<ul style="list-style-type: none"> Very minor impact to the environment and community Can be effectively managed as part of normal operations Neighbour disputes unlikely

3.2 Risk assessment

The risk assessment identifies and evaluates potential land use conflicts associated with the proposed Apsley BESS.

A risk ranking is determined based on probability and consequence, and a revised risk ranking is determined based on implementation of identified management strategies.

A detailed risk assessment is provided in **Appendix A** and a summary of the risk assessment is provided in **Table 17**.

Table 17 – Summary of risk assessment

Land Use	Stakeholders	Category	Initial Risk	Revised Risk
All Land Uses	All Stakeholders	Health and safety-EMF	14	10
		Risk to property-bushfire	18	14
Agriculture – Grazing, Cropping and Horticulture	<ul style="list-style-type: none"> Private property owners Individual Business operators 	Competing industries-expanding operations	13	9
		Competing industries-soil impacts	13	9
		Economic interest-insurance	17	13
		Access and traffic-agricultural transport activities	8	5
		Nuisance-disturbance of livestock	8	5
		Nuisance-dust impacts to BESS	8	2
		Nuisance-dust impacts to agricultural land during construction	8	5
		Environmental concern-weed distribution	8	5
		Amenity-waste, pest animals and vermin	8	5
Residential	<ul style="list-style-type: none"> Private property owners Individuals (i.e. occupants of residential dwellings) Public authorities Service providers 	Economic interest-increased demand for services and infrastructure	8	5
		Access and traffic-commutes of residents	8	5
		Access and traffic- access arrangements	8	5
		Nuisance-construction noise	17	9
		Nuisance-waste generated	5	3
		Quality of life-residents	13	8
		Security and privacy-visitors	13	8

Land Use	Stakeholders	Category	Initial Risk	Revised Risk
		Security and privacy-privacy of residents	13	9
		Health and safety-dust impacts to health during construction	8	5
		Nuisance-dust and cleanliness	8	5
		Amenity-visual, agricultural landscape	13	8
		Land ownership-applicant ownership	8	2
		Land ownership-use of land owned/ managed by public authorities	17	8
Resource protection Note: In the locality this includes areas of vegetation and infrastructure corridors in the NSW 2017 Land Use Mapping	<ul style="list-style-type: none">Public authoritiesAssociationsIndividualsIndigenous community	Environmental concerns-heritage items and values	13	9
		Environmental concerns-water quality and quantity	13	9
		Environmental concerns-biodiversity	13	9
Water storage	<ul style="list-style-type: none">Public authoritiesPrivate property ownersIndigenous community	Health and safety-sedimentation and contamination	13	9
Tourism industry	<ul style="list-style-type: none">Public authoritiesBusiness operatorsTourists/individuals	Access and traffic-tourism transport activities	8	5
		Environmental concerns-cumulative impact	17	13
		Health and safety-proximity of BESS	17	13
		Economic interests-insurance	17	13
Infrastructure	<ul style="list-style-type: none">Public authoritiesService providers	Risk to property-damage to existing infrastructure (i.e transmission lines)	13	9
		Access and traffic- access arrangements	8	5
Average risk ranking			11.6	7.5

3.3 Risk reduction management strategies

Consistent with the LUCRA Guide, an objective of the LUCRA is to identify and define management strategies that lower the risk ranking score to low risk (10 or below).

Management strategies and performance targets are defined below and detailed in **Appendix A**.

Management strategies are developed to minimise the effects or potential for land use conflict to occur.

Performance targets are identified for each management strategy, detailing how the effectiveness of the strategy will be monitored.

3.4 Performance monitoring

Performance monitoring is required to ensure management strategies minimise the risk of potential land use conflicts during all stages of the project.

Various management plans will be prepared and implemented during the construction, operational and decommissioning phases of the project, including:

- Construction Environmental Management Plan (CEMP)
- Operational Environmental Management Plan (OEMP)
- Decommissioning Management Plan (DMP)
- Any other management plan specified in the EIS or conditions of consent (if approved)

The management plans will address all requirements specified in the EIS and supporting documents, as well as any consent conditions (if approved). These plans will provide documented requirements for performance measures and monitoring during each stage of the project.

Performance will also be monitored through the outcomes of consultation during all phases of the project. Monitoring community feedback and concerns are key to assessing the performance of management strategies.

4. LIMITATIONS AND ASSUMPTIONS

This LUCRA has relied on the following information to evaluate potential land use conflicts:

- Observations made via site inspection by Premise staff
- Consultation undertaken by Premise
- Desktop research and mapping of the site and locality.
- Information provided by ACEnergy.

The following limitations apply to this LUCRA:

- Mitigation measures from the EIS and supporting impact assessments, where implemented effectively, are likely to reduce the risk of potential land use conflicts. However, the implementation of mitigation measures may not reduce the risk of all potential land use conflicts.
- The identification of land uses and conflicts within this LUCRA is restricted by the detail and number of responses received during consultation. There is potential for other land uses and conflicts, not previously identified, to occur within the locality.

5. KEY DOCUMENTS

All documents reviewed as part of this LUCRA are provided in the references in **Section 7**.

6. CONCLUSIONS

This LUCRA has identified potential land use conflicts and evaluated their risk. The overall risk ranking (revised, to account for management strategies) for potential land use conflict ranges from low to moderate.

There were a total of 35 potential land use conflicts identified.

The initial risk ranking identified 14 low risk and 21 moderate risk conflicts.

The revised risk ranking identified 30 low risk and 5 moderate risk conflicts

The average risk ranking of all identified conflicts was reduced from an initial risk ranking of 11.9 (moderate risk) to a revised risk ranking of 7.8 (low risk),

The average revised risk ranking for all identified land use was below 10 which is consistent with the LUCRA objective to lower the risk ranking to 10 or below.

Revised risk rankings identified low risk conflicts mostly related to access and traffic, nuisance and competing industries.

Revised risk rankings identified moderate risk conflicts for the following:

- All land uses
 - Risk to property, including bushfire risk.
- Agricultural land use
 - Economic Interest, including impacts to insurance premiums and land values.
- General public:
 - Environmental concerns, including the potential for cumulative impacts
 - Economic Interests, including impacts to insurance premiums.
- Tourism industry land use:
 - Health and safety, including concerns regarding the proximity of the BESS to the caves.

The effective implementation of management strategies is likely to minimise the risk of potential land use conflicts.

7. REFERENCES

Australia Bureau of Statistics (ABS) (2020a). <i>Region Summary: Dubbo</i> . Retrieved from: https://dbr.abs.gov.au/region.html?lyr=lga&rgn=12390
Australia Bureau of Statistics (ABS) (2020b). <i>Region Summary: Dubbo</i> . Retrieved from: https://dbr.abs.gov.au/region.html?lyr=sa2&rgn=101051539
Australia Bureau of Statistics (ABS) (2020c). <i>Region Summary: Dubbo Region</i> . Retrieved from: https://dbr.abs.gov.au/region.html?lyr=sa2&rgn=105031103
Australia Bureau of Statistics (ABS) (2020d). <i>Dubbo LGA</i> . Retrieved from: https://dbr.abs.gov.au/region.html?lyr=lga&rgn=12390
Australia Bureau of Statistics (ABS) (2016b). <i>Wellington</i> . Retrieved from: https://www.abs.gov.au/census/find-census-data/quickstats/2016/SSC14221
Australia Bureau of Statistics (ABS) (2016c). <i>Apsley</i> . Retrieved from:

https://www.abs.gov.au/census/find-census-data/quickstats/2016/SSC10067
Bureau of Meteorology (BoM), (2021). <i>Wellington (D&J Rural)</i> . Retrieved from: http://www.bom.gov.au/climate/dwo/IDCJDW2142.latest.shtml
Dubbo Regional Council (DRC) (2019). <i>Dubbo Regional Council Local Government Area Economic Profile</i> . Retrieved from: https://www.dubbo.nsw.gov.au/ArticleDocuments/373/2019%20Dubbo%20Region%20Economic%20Profile.pdf.aspx?Embed=Y
Dubbo Regional Council (DRC) (2022). <i>2040 Community Strategic Plan</i> . Retrieved from: https://www.dubbo.nsw.gov.au/about-council/our-responsibilities/community-strategic-plan/review-of-2040-community-strategic-plan
Dubbo Regional Council (DRC) (2020). <i>Local Strategic Planning Statement</i> . Retrieved from: https://www.dubbo.nsw.gov.au/ArticleDocuments/10792/LSPS%20-%20Document.pdf.aspx?Embed=Y
Remplan Economy - Economy, Jobs and Business insights (2022). <i>Dubbo</i> . Retrieved from: https://app.remplan.com.au/dubboregionalcouncil/economy/summary?state=D729Iz8ODiLDwjQSDdx0jauVH7Hn9a
NSW Government Department of Planning, Industry and Environment (DPIE) (2019). <i>Population, Household and Implied Dwelling Projections by LGA</i> . Retrieved from: https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections
NSW Government Department of Primary Industries (DPI) (2011). <i>Land Use Conflict Risk Assessment Guide</i> . Retrieved from: https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0018/412551/Land-use-conflict-risk-assessment-LUCRA-guide.pdf
NSW Government Department of Primary Industries (DPI) (2020) <i>Agriculture Industry Snapshot for Planning: Central West Slopes and Plains Region</i> . Retrieved from: https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0007/1275379/Central-West-Slopes-and-Plains-Snapshot.pdf
NSW Government (2021). <i>The Historical Imagery Viewer</i> . Retrieved from: https://portal.spatial.nsw.gov.au/portal/apps/webappviewer/index.html?id=f7c215b873864d44bccddda8075238cb
NSW Legislation (2021). <i>Dubbo Regional Local Environmental Plan 2022</i> . Retrieved from: https://legislation.nsw.gov.au/view/html/inforce/current/epi-2022-0108
Premise (2022). <i>Apsley BESS - Aboriginal Cultural Heritage Assessment Report</i>
Transport for NSW (TfNSW, 2022a). <i>NSW Road Network Classification map</i> . Retrieved from: https://roads-waterways.transport.nsw.gov.au/classification/map/cartomap
Transport for NSW (TfNSW, 2022b). <i>Schedule of classified roads and State and Regional roads</i> . Retrieved from: https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/lgr/arrangements-councils/road-classification.html
Wellington Shire Council (WSC), (2008). <i>Wellington Caves Plan of Management</i> , Retrieved from: https://www.industry.nsw.gov.au/_data/assets/pdf_file/0011/178706/wellington-caves-pom-december-2008.pdf



APPENDIX A

RISK ASSESSMENT

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
All Land Uses	All Stakeholders	Health and safety	Land users in the locality may be concerned about electro-magnetic fields (EMF) resulting from electrical infrastructure associated with the development.	D	2	14	<ul style="list-style-type: none"> Consideration of EMF impacts resulting from the development has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the potential for EMF radiation to impact health and safety. EMF exposure levels will not exceed the International Commission on Non-Ionizing Radiation Protection reference level for the general public. No adverse impacts to human health at the site or in the locality are therefore anticipated. Compliance with mitigation measures specified within the EIS is anticipated to reduce the risk of conflict related to the health and safety of EMF radiation. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	E	2	10	Performance targets will be determined via management plans specified by the EIS (and specialist impact assessments) and development consent conditions (if approved). Monitoring will be undertaken in accordance with those management plans.
		Risk to property	Land users in the locality may be concerned about the risk of fires occurring at the site and their potential to spread to surrounding land.	C	2	18	<ul style="list-style-type: none"> Consideration of potential bushfire impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the risk of bushfire incidents including their risk to people and potential to damage surrounding land. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	2	14	As above
Agriculture – Grazing, Cropping and Horticulture	<ul style="list-style-type: none"> Private property owners Individuals Business operators Associations 	Competing industries	The placement of the BESS on agriculturally viable land may cause conflict with surrounding agricultural operators interested in expanding their operations onto the site.	C	3	13	<ul style="list-style-type: none"> The reversibility of the project would allow the site to be returned to its existing agricultural land use, therefore minimising potential for long term conflict. Existing consultation and engagement for the project has not identified any intent for surrounding agricultural industries to expand operations onto the site. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	3	9	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
		Competing industries	Stakeholders may have concerns that the construction and operation of the BESS may alter and disturb existing soil properties, undermining the suitability of the land for future agricultural production.	C	3	13	<ul style="list-style-type: none"> Consideration of potential soil and land capability has been undertaken via the LSC assessment. Appropriate mitigation measures are specified in the LSC assessment to minimise impacts to soils. Compliance with mitigation measures specified in the LSC is anticipated to reduce the risk of potential conflicts related to future land capability for agriculture. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	3	9	As above
		Economic interest	The placement of the BESS in proximity to agricultural business operators may affect insurance premiums and land values for surrounding private property owners.	B	3	17	<ul style="list-style-type: none"> Consultation with The Insurance Council of Australia has occurred to address potential concerns related to increased insurance premiums (noting no response has been received). The results of this consultation will be shared with other relevant stakeholders, including surrounding landowners and business operators. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	C	3	13	As above
		Access and traffic	Use of surrounding roadways during construction of the BESS may cause conflict by interacting with agricultural transport activities.	C	4	8	<ul style="list-style-type: none"> Consideration of potential traffic impacts has been undertaken via a Traffic Impact Assessment (TIA). Appropriate mitigation measures are specified within the TIA to minimise impacts to the traffic environment. Compliance with mitigation measures specified within the TIA is anticipated to reduce the risk of conflict related to traffic for agricultural land users. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved) 	D	4	5	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
		Nuisance	Construction activity disturbances may affect livestock behaviour and/or breeding.	C	4	8	<ul style="list-style-type: none"> Consideration of potential noise and vibration impacts has been undertaken via a Noise and Vibration Impact Assessment (NVA). Appropriate mitigation measures are specified within the NVA to minimise noise and vibration impacts. Separation distances from NVA (if applicable) will be included as a management strategy in this table. NVA currently not available for review. Compliance with mitigation measures from the NVA is anticipated to reduce the risk of conflict related to noise and vibration impacts on agricultural land users. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	4	5	As above
		Nuisance	Excess dust generated by construction activities may cause conflict by impacting the operations and productivity of surrounding agricultural land	C	4	8	<ul style="list-style-type: none"> Consideration of potential dust impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the risk for dust to spread throughout the site and onto neighbouring land. Compliance with mitigation measures specified within the EIS is anticipated to reduce the risk of conflict related to air quality impacts. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	4	5	As above
		Environmental concern	Pedestrian and vehicle movements during construction may affect the distribution of weeds which could impact agricultural productivity at the site and locality.	C	3	13	<ul style="list-style-type: none"> Consideration of impacts to biodiversity has been undertaken via a BDAR. Appropriate mitigation measures are specified within the BDAR to minimise the risk for weeds to spread throughout the site and onto neighbouring land. Compliance with mitigation measures specified with the BDAR is anticipated to reduce the risk of conflict relating to the spread of weeds Ongoing consultation with stakeholders will identify and address concerns if they arise. 	D	3	9	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
							<ul style="list-style-type: none"> Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 				
		Amenity				8	<ul style="list-style-type: none"> Consideration of waste related impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the risk of attracting pest animals and/or vermin. Compliance with mitigation measures specified in the EIS is anticipated to reduce the risk of conflict related to pest animals and/or vermin Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	4	5	As above
Residential	<ul style="list-style-type: none"> Private property owners Individuals (i.e. occupants of residential dwellings) Public authorities Service providers 	Economic interest	Public authorities may be concern about the increased demand for services and infrastructure that may result from the development, including increased accommodation for construction workers, availability of medical facilities and capacity of surrounding waste facilities.	C	4	8	<ul style="list-style-type: none"> Consideration of impacts related to the increased demand for surrounding services and infrastructure has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the risk for logistical issues associated with the increased demand for existing infrastructure and services. Compliance with management measures specified within the EIS is anticipated to reduce the risk of conflict related to the availability of existing services and infrastructure. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	4	5	As above
		Access and traffic	Use of surrounding roadways for the proposed Apsley BESS may affect the commute of residents in the locality.	C	4	8	<ul style="list-style-type: none"> Consideration of potential traffic impacts has been undertaken via a Traffic Impact Assessment (TIA). Appropriate mitigation measures are specified within the TIA to minimise impacts to the traffic environment. Compliance with mitigation measures specified within the TIA is anticipated to reduce the risk of conflict related to the traffic environment. Ongoing consultation with stakeholders will identify and address concerns if they arise. 	D	4	5	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
							<ul style="list-style-type: none"> Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 				
		Access and traffic	Altered traffic conditions during construction may impact on access arrangements for surrounding private properties and service providers.	C	4	8	<ul style="list-style-type: none"> Consideration of potential traffic impacts has been undertaken via a TIA. Appropriate mitigation measures are specified within the TIA to minimise impacts to the traffic environment. Compliance with mitigation measures specified within the TIA is anticipated to reduce the risk of conflict related to the traffic environment. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	4	5	As above
		Nuisance	Increased noise generated by construction activities and vehicle movements may be perceived as nuisance to surrounding residential properties.	B	3	17	<ul style="list-style-type: none"> Consideration of potential noise and vibration impacts has been undertaken via a Noise and Vibration Impact Assessment (NVA). Appropriate mitigation measures are specified within the NVA to minimise noise and vibration impacts. Compliance with mitigation measures from the NVA is anticipated to reduce the risk of conflict related to noise and vibration impacts to residential land users. Separation distances from NVA (if applicable) will be included as a management strategy in this table. NVA currently not available for review. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	3	9	As above
		Nuisance	Waste generated by the development has the potential to enter surrounding residential land.	D	4	5	<ul style="list-style-type: none"> Consideration of waste related impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to ensure that waste is appropriately stored and disposed of. Compliance with waste management measures specified within the EIS is anticipated to reduce the risk of conflict related to waste entering surrounding residential land. 	E	4	3	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
							<ul style="list-style-type: none"> Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 				
		Quality of life	The presence of the BESS may affect the quality of life of a resident if they are, or perceived to be, impacted by the Apsley BESS.	C	3	13	<ul style="list-style-type: none"> Consideration of potential impacts to surrounding residents including noise and visual impacts, has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the potential impact of the development on quality of life. Compliance with visual and noise management measures specified within the EIS VIA and NVA is anticipated to reduce the risk of conflicts related to impacts on quality of life. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	C	4	8	As above
		Security and privacy	The change in land use may attract people to the area who may not otherwise visit the area. This may be perceived to adversely affect a resident's security.	C	3	13	<ul style="list-style-type: none"> Consideration of potential crime related impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified in the EIS to minimise the potential for crime to occur at or near the site. Compliance with crime management measures specified within the EIS is anticipated to reduce the risk of conflict related to the increased risk of vandalism and theft for surrounding residents. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	C	4	8	As above
		Security and privacy	The change in land use may be perceived to affect the privacy of a residential land user.	C	3	13	<ul style="list-style-type: none"> Consideration of potential privacy related impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified in the EIS to minimise the potential for privacy issues to occur at or near the site. Compliance with privacy management measures specified within the EIS is anticipated to reduce the risk of conflicts 	D	3	9	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
							<p>related to privacy issues for surrounding residential land users.</p> <ul style="list-style-type: none"> Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 				
		Health and Safety	Dust generated by construction activities and by vehicle movements along access roads has the potential to impact air quality and may have adverse health implications for residential land users within the locality.	C	4	8	<ul style="list-style-type: none"> Consideration of potential dust impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the risk for dust to spread throughout the site and onto neighbouring land. Compliance with mitigation measures specified within the EIS is anticipated to reduce the risk of conflict related to air quality impacts. Separation distances for dust originating from the development (if applicable) will be included as a management strategy. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	4	5	As above
		Nuisance	Excess dust generated by construction activities and by vehicle movements along access roads has the potential to impact the cleanliness of residential land within the locality.	C	4	8	<ul style="list-style-type: none"> Consideration of potential dust impacts has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the risk for dust to spread throughout the site and onto neighbouring land. Compliance with mitigation measures specified within the EIS is anticipated to reduce the risk of conflict related to air quality impacts. Separation distances for dust originating from the development (if applicable) will be included as a management strategy. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	4	5	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
		Amenity	The change in visual amenity resulting from the BESS, including the visibility of cleared vegetation and any noise mitigation walls, may conflict with the interests of stakeholders who wish to maintain views of the existing agricultural landscape.	C	3	13	<ul style="list-style-type: none"> Consideration of visual impacts to surrounding amenity has been undertaken via a VIA. Appropriate mitigation measures are specified within the VIA to minimise the risk of altered amenity for surrounding residents within the locality. Compliance with mitigation measures specified within the VIA is anticipated to reduce the risk of conflict related to visual amenity. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	C	4	8	As above
		Land ownership	Stakeholders may have concerns regarding the ownership of the site i.e., whether it is a foreign-owned company.	C	4	8	<ul style="list-style-type: none"> Engagement for the project has introduced the applicant (ACEnergy) and the BESS project to surrounding stakeholders. Notification to stakeholders outlined the applicant's ownership and consultation has provided an opportunity for stakeholders to provide feedback. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	5	2	As above
		Land ownership	Public authorities may have concerns about the use of land they own or manage.	B	3	17	<ul style="list-style-type: none"> The development footprint will transect portions of Crown Land. Consideration of impacts related to land ownership and tenure has been undertaken as part of the EIS. Owners consent from Crown Lands for the making of the EIS has been requested An application for a licence to traverse Crown Land is to be submitted. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	C	4	8	
Resource protection Note: In the locality this includes areas of vegetation and riparian corridors in	<ul style="list-style-type: none"> Public authorities Associations Individuals 	Environmental concerns	Stakeholders may be concerned about impacts to heritage items or values at the site and locality.	C	3	13	<ul style="list-style-type: none"> Consideration of impacts to heritage has been undertaken with the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR) and Statement of Heritage Impact (SOHI). Appropriate mitigation 	D	3	9	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
the NSW 2017 Land Use Mapping	<ul style="list-style-type: none"> Indigenous community 						measures are specified within the ACHAR and SOHI to minimise impacts to heritage. <ul style="list-style-type: none"> Compliance with mitigation measures specified within the ACHAR and SOHI is anticipated to reduce the risk of conflict related to environmental features, culturally sensitive land and heritage Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 				
		Environmental concerns	Stakeholders may be concerned about potential changes to water quality, quantity and surface water flows that may affect the site and locality.	C	3	13	<ul style="list-style-type: none"> Consideration of impacts to surrounding water courses and water quality has been undertaken with the via a Water Cycle Management Study (WCMS). Appropriate mitigation measures are specified within the WCMS to minimise impacts to watercourse health and quality. Compliance with mitigation measures specified within the WCMS is anticipated to reduce the risk of conflict related to watercourse health and quality. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	3	9	As above
		Environmental concerns	Stakeholders may be concern about potential impacts to biodiversity within the site and locality	C	3	13	<ul style="list-style-type: none"> Consideration of impacts to biodiversity has been undertaken via a BDAR. Appropriate mitigation measures are specified within the BDAR to minimise risks to surrounding biodiversity. Compliance with mitigation measures specified with the BDAR is anticipated to reduce the risk of conflict related to biodiversity. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	3	9	As above
Water storage	<ul style="list-style-type: none"> Public authorities 	Health and Safety	Stakeholders may be concerned about activities, associated with the BESS that may result in the sedimentation and	C	3	13	<ul style="list-style-type: none"> Consideration of impacts to surrounding water courses and water quality has been undertaken via the EIS. Appropriate mitigation measures are specified within the EIS to minimise impacts associated with the 	D	3	9	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
	<ul style="list-style-type: none"> Private property owners Indigenous Community 		contamination of surrounding watercourses.				sedimentation and contamination of surrounding water courses. <ul style="list-style-type: none"> Compliance with mitigation measures specified within the EIS is anticipated to reduce the risk of conflict related to the sedimentation and contamination of surrounding watercourses. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 				
Tourism industry	<ul style="list-style-type: none"> Public authorities Business operators Tourists 	Access and traffic	Use of surrounding roadways during construction of the BESS may cause conflict by interacting with extractive industry transport activities.	C	4	8	<ul style="list-style-type: none"> Consideration of potential traffic impacts has been undertaken via a Traffic Impact Assessment (TIA). Appropriate mitigation measures are specified within the TIA to minimise impacts to the traffic environment. Compliance with mitigation measures specified within the TIA is anticipated to reduce the risk of conflict related to traffic for agricultural land users. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved) 	D	4	5	As above
		Nuisance	Vibration associated with construction of the BESS on nearby and surrounding land, including the use of vibratory rollers and other equipment, may impact stability of the nearby Wellington Caves and Phosphate Mine.	C	4	8	<ul style="list-style-type: none"> Consideration of potential vibration impacts has been undertaken as part of the NVIA. Appropriate mitigation measures are specified within the EIS to minimise the risk of vibration impacts associated with the construction of the BESS Compliance with mitigation measures specified within the EIS is anticipated to reduce the risk of conflict related to vibration impacts Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	D	5	2	As above
		Environmental Concerns	Public Authorities may have concerns regarding the potential for cumulative impacts arising from the proximity of state significant developments.	B	3	17	<ul style="list-style-type: none"> Consideration of potential cumulative impacts has been undertaken as part of the EIS. Appropriate mitigation measures (where required) are specified in the EIS to 	C	3	13	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
							minimise the potential for cumulative impacts to occur at or near the site. <ul style="list-style-type: none"> Compliance with management measures specified within the EIS is anticipated to reduce the risk of conflict related to cumulative impact. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 				
		Health and safety	Business operators wishing to expand operations may have concerns regarding the proximity of the BESS to tourism operations.	B	3	17	<ul style="list-style-type: none"> A review of documentation for the caves has not identified any intent for surrounding industries to expand operations (noting the recent upgrade to visitor information facilities). Existing consultation and engagement for the project has not identified any intent for surrounding business operators to expand operations onto the site. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	C	3	13	As above
		Economic Interests	The placement of the BESS in proximity to the caves operation may affect insurance premiums for business operators	B	3	17	<ul style="list-style-type: none"> Consultation with The Insurance Council of Australia has occurred to address potential concerns related to increased insurance premiums. At the time of writing, no response has been received. The results of this consultation will be shared with other relevant stakeholders, including surrounding landowners and business operators. Ongoing consultation with stakeholders will identify and address concerns if they arise. Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved). 	C	3	13	As above
Infrastructure	<ul style="list-style-type: none"> Public Authorities Service Providers 	Risk to property	Stakeholders may have concerns that construction activities associated with the BESS may damage existing infrastructure including telecom connections, transmission lines and gas pipelines.	C	3	13	<ul style="list-style-type: none"> A consideration of potential impacts to surrounding service provider infrastructure has been undertaken as part of the EIS. Appropriate mitigation measures are specified within the EIS to minimise the risk of construction activities damaging existing infrastructure. 	D	3	9	As above

Land use	Stakeholders	Category	Potential Land Use Conflict	Initial risk ranking			Risk reduction management strategy	Revised risk ranking			Performance target and monitoring
				P*	C*	R*		P*	C*	R*	
							<ul style="list-style-type: none">Compliance with construction management measures specified within the EIS is anticipated to reduce the risk of conflict related to damaging existing infrastructure.Ongoing consultation with stakeholders will identify and address concerns if they arise.Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved).				
		Access and traffic	Altered traffic conditions during construction may impact on access arrangements for surrounding private properties and service providers.	C	4	8	<ul style="list-style-type: none">Consideration of potential traffic impacts has been undertaken via a TIA. Appropriate mitigation measures are specified within the TIA to minimise impacts to the traffic environment.Compliance with mitigation measures specified within the TIA is anticipated to reduce the risk of conflict related to the traffic environment.Ongoing consultation with stakeholders will identify and address concerns if they arise.Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved).	D	4	5	As above
		Environmental Concerns	Public Authorities may have concerns regarding the potential for cumulative impacts arising from the proximity of state significant developments.	B	3	17	<ul style="list-style-type: none">Consideration of potential cumulative impacts has been undertaken as part of the EIS. Appropriate mitigation measures (where required) are specified in the EIS to minimise the potential for cumulative impacts to occur at or near the site.Compliance with management measures specified within the EIS is anticipated to reduce the risk of conflict related to cumulative impact.Ongoing consultation with stakeholders will identify and address concerns if they arise.Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved).	C	3	13	As above

*The table has used abbreviations for formatting purposes, P=Probability, C=Consequence and R=Risk.



APPENDIX B

AHIMS BASIC SEARCH, BUFFER 1KM



APPENDIX C

AHIMS BASIC SEARCH, BUFFER 50M



Premise

premise.com.au