pitt&sherry

Scoping Report

Mayfair Solar Farm

Prepared for

Elgin Energy

Client representative

Antoine Pavone

Date

15 June 2023

Rev01

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Revision History

Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date
A	Draft	VLY	AGB	AB	22/04/2023
B	Final Draft	VLY	AGB	CJ	30/05/2023
00	Final for DPE soft lodgement	AGB	CJ	AGB	31/05/2023
01	Final for submission, minor updates	AGB	CJ	AGB	15/06/2023

Glossary

Abbreviation	Full Form
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
ADG Code	*Australian Code for the Transport of Dangerous Goods by Road & Rail* (NTC, 2022)
AHIMS	Aboriginal Heritage Information Management System
ANZG	Australian and New Zealand Guidelines
AQC	Air Quality Category
ASC	Australian Soil Classification
ASRIS	Australian Soil Resource Information System
ASS	Acid sulfate soils
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC SEPP	*State Environmental Planning Policy (Biodiversity and Conservation) 2021* (NSW)
BCD	DPE's Biodiversity Conservation Division
BDAR	Biodiversity Development Assessment Report
BESS	Battery energy storage system
Biosecurity Act	*Biosecurity Act 2015* (NSW)
BOM	Bureau of Meteorology
BSAL	Biophysical Strategic Agricultural Land
CIA	Cumulative Impact Assessment
CIA Guidelines	*Cumulative Impact Assessment Guidelines* (DPE, 2021b)
CLM Act	*Crown Land Management Act 2016* (NSW)
CO_2-e	Carbon dioxide equivalent
CWOREZ	Central-West Orana Renewable Energy Zone
CWORP	*Central West and Orana Regional Plan 2041* (DPE, 2022a)
DCCEEW	Department of Climate Change, Energy, the Environment and Water (C'th)
DCP	*Development Control Plan 2013: Amendment No. 5* (MWRC, 2020)
DEC	Department of Environment and Conservation (NSW) (former)
DECC	Department of Environment and Climate Change (NSW) (former)
DECCW	Department of Environment, Climate Change and Water (C'th) (former)

Development Footprint	The area within the Site, approximately 140 ha, to be developed with project infrastructure
DLWC	Department of Land and Water Conservation (NSW) (former)
DoP	Department of Planning (NSW) (former)
DPE	Department of Planning and Environment (NSW)
DPI	Department of Primary Industries (NSW)
DPIE	Department of Planning, Industry and Environment (NSW) (former)
EIS	Environmental Impact Statement
Elgin	Elgin Energy Pty Ltd
EMF	Electromagnetic fields
EnergyCo	Energy Corporation of NSW
Engagement Guidelines	*Undertaking Engagement Guidelines for State Significant Project* (DPE, 2021c)
Envisage	Envisage Consulting Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979* (C'th)
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (C'th)
EPI	Environmental planning instrument
EPL	Environment protection licence
ESC	Erosion and sediment control
Fisheries Portal	Fisheries NSW Spatial Data Portal
FM Act	*Fisheries Management Act 1994* (NSW)
FTE	Full time equivalent
FOV	Field of View
GCoC	Gulgong Chamber of Commerce
GDE	Groundwater dependent ecosystems
GHG	Greenhouse gases
GHz	Gigahertz
GW	Gigawatt
GWh	Gigawatt hour
ha	Hectare
HBDP	Heritage Branch Department of Planning (NSW) (former)
HCNSW	Heritage Council of NSW (NSW)

Heritage Act	*Heritage Act 1977* (NSW)
HIPAP	Hazardous Industry Planning Advisory Paper
Hz	Hertz
ICNIRP	International Commission on Non-Ionizing Radiation Protection
ICOMOS	International Council on Monuments and Sites
KFH	Key Fish Habitat
kHz	Kilohertz
km	Kilometre
kV	Kilovolt
LGA	Local Government Area
LSC	Land soil capability
LSSE	Large-Scale Solar Energy
LSSE Guideline	*Large-Scale Solar Energy Guideline* (DPE, 2022l)
LUCRA	Land Use Conflict Risk Assessment
LVIA	Landscape and Visual Impact Assessment
LVIA Technical Supplement	*Technical Supplement – Landscape and Visual Impact Assessment* (DPE, 2022b)
m	Metres
µm	Micrometres
Mid-Western LEP	*Mid-Western Regional Local Environmental Plan 2012*
MNES	Matters of national environmental significance
MWac	Megawatt, alternating current
MW	Megawatt
MWh	Megawatt hour
MWRC	Mid-Western Regional Council
MWRCP	*Mid-Western Region Community Plan: Towards 2040* (MWRC, 2022)
Native Title Act	*Native Title Act 1993* (C'th)
NGH	NGH Pty Ltd
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NPWS	National Parks and Wildlife Service (NSW)
NSW	New South Wales
NTAR	Northern transport access route

NTC	National Transport Commission
NVI	Noise and vibration impacts
NVIA	Noise and Vibration Impact Assessment
OEH	Office of Environment and Heritage (NSW) (former)
OSOM	Oversize and over-mass
PAT	Preliminary Assessment Tool
PBA	Preliminary Biodiversity Assessment
PCT	Plant community type
PHA	Preliminary Hazard Analysis
Planning Systems SEPP	*State Environmental Planning Policy (Planning Systems) 2021* (NSW)
$PM_{2.5}$	Particulate matter with diameter of ≤2.5 µm
PM_{10}	Particulate matter with diameter of ≤10 µm
PMST	Protected Matter Search Tool
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
RAV	Restricted Access Vehicle
Resilience and Hazards SEPP	*State Environmental Planning Policy (Resilience and Hazards) 2021* (NSW)
Resources and Energy SEPP	*State Environmental Planning Policy (Resources and Energy) 2021* (NSW)
RET	Renewable Energy Target
REZ	Renewable Energy Zone
RFS	Rural Fire Service
Roads Act	*Roads Act 1993* (NSW)
RTA	Roads and Traffic Authority (NSW) (former)
SAA	Solar Array Areas
Scoping Report Guidelines	*State Significant Development Guidelines – preparing a scoping report (Appendix A)* (DPE, 2022a)
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SIA	Social Impact Assessment
SIA Guidelines	*Social Impact Assessment Guidelines for State Significant Projects* (DPE, 2021e)
SSD	State Significant Development
STAR	Southern transport access route

t	Tonne
TEC	Threatened Ecological Communities
TfNSW	Transport for NSW
The Project	Proposed development of Mayfair Solar Farm, consisting of a solar farm with a capacity of approximately 60MWac, a hybrid BESS, and all ancillary infrastructure at Stubbo, NSW
The Site	Proposed location of the Project, comprised of Lot 2 DP528667 and Lot 2 DP734669
TIA	Traffic Impact Assessment
Transport and Infrastructure SEPP	*State Environmental Planning Policy (Transport and Infrastructure) 2021* (NSW)
TSP	Total Suspended Particles
WM Act	*Water Management Act 2000* (NSW)

1. Introduction

Elgin Energy Pty Ltd (Elgin) propose to develop a land based solar farm and Battery Energy Storage System (BESS) at Stubbo, New South Wales (NSW) to be called 'Mayfair Solar Farm' (the Project). The Project is approximately 5 kilometres (km) north of Gulgong and 235 km northwest of Sydney. The Project location is shown in Figure 1. The Site comprises rural land that is located in the Mid-Western Regional Local Government Area (LGA) and within the Central-West Orana Renewable Energy Zone (CWOREZ).

The Project is proposed to have a capacity of approximately 60 megawatt, alternating current (MWac) and will include a hybrid BESS with a power rating of approximately 60 MW capacity, and two hours of storage. Associated infrastructure to be constructed as part of the Project include a substation to connect the project to the electricity network, all associated power conversion equipment such as inverters and transformers, and internal access tracks.

The Site is approximately 217 hectares (ha) and comprises Lot 2 DP528667 and Lot 2 DP734669 at 204 Jacksons Lane, Stubbo. These lots are part of a much larger land holding. Access is proposed under a long-term lease agreement with a single host landowner. Within the 217 ha Site, the solar farm, BESS, and associated infrastructure would occupy up to approximately 140 ha. Additional details regarding the Project location and proposed activities are provided in Chapter 3.

The Site is zoned RU1 – Primary Production under the *Mid-Western Regional Local Environmental Plan 2012* (Mid-Western LEP). The area surrounding the Site is predominantly rural, mostly cleared of native vegetation and used for agricultural purposes. The Site is bordered by Jacksons Lane in the south, the Wallerawang Gwabegar Railway in the west, rural land in the north, and Slapdash Creek in the east.

The Project would have a capital investment value greater than $30 million and hence would trigger the provisions for State Significant Development (SSD) under *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

The objectives of the Project are to:

- Design, construct, and operate a utility scale solar farm and BESS while minimising environmental, social, and cultural impacts upon the Site and adjoining land through adaptive design approaches;
- Generate and store electricity on the Site from renewable sources to reduce the amount of greenhouse gasses generated by the NSW power generation sector;
- Encourage and enable community and stakeholder engagement and participation across the life of the Project; and
- Provide local and regional employment opportunities and other social benefits during construction and operation of the development and contribute to the local and regional economies.

Figure 1 Project Location

1.1 Applicant Details

The Applicant is Elgin Energy Australia Pty Ltd (ABN 95 629 627 416). Elgin Energy is a utility scale, solar and storage developer bringing projects from origination through to development. The company has a portfolio of projects in Australia, the UK, and Ireland totalling 6 gigawatt (GW) solar and 3 GW storage.

At the heart of Elgin Energy's business strategy is developing clean energy projects to assist in decarbonising the world's energy system. By delivering projects that generates change, Elgin Energy continues to support a sustainable business model centred on building a better world for all.

Elgin Energy is committed to the local communities in which they operate, working hard to engage and involve local communities in projects. This begins at the pre-planning stage through public consultation. Through this engagement, they work to resolve any potential impact or issues on the local community and invite residents to share their views on suitable local projects/initiatives for a community benefit fund.

Across the UK and Ireland, Elgin Energy has contributed about £1 million (approximately $1.8 million AUD) to community projects to date. Other benefits include supporting upgrades to local infrastructure and historic monuments. (page 14, Elgin Energy ESG Policy).

Details of the Applicant are provided in Table 1.

Table 1 Applicant Details

Condition	Detail
Company Name	Elgin Energy Pty Ltd
Address	Level 3, 50 Bridge Street, Sydney NSW 2000
ABN	95 629 627 416
Nominated Contact	Antoine Pavone
Contact Details	0412 384 521

1.2 Impact Avoidance and Minimisation Strategies

The Project will be designed to avoid and minimise impacts where possible. The final development footprint will be refined throughout the progression of the Project design process, as informed by the outcomes of community and stakeholder engagement and the findings of the environmental and social assessments.

The Project would have onsite electrical grid connection via the existing 66 kV transmission line which traverses the Site. The existing transmission line removes the requirement to construct additional infrastructure for electrical grid connection and avoids additional potential environmental impacts.

The Development Footprint has been selected to avoid areas of high biodiversity value and minimise impacts to natural drainage tributaries of Slapdash Creek within the Site. The Development Footprint has incorporated deliberate boundary setbacks in consideration of minimising the potential visual, and construction noise impacts to surrounding receivers.

Consideration was given to the requirements for Solar Energy Farms covered under Section 6.5 of the *Mid-Western Regional Council Development Control Plan 2013* (Mid-Western DCP) in the selection of the Project Site and the initial design of the Development Footprint and is further discussed in Chapter 3.5.3.

As further investigations are completed, and community and stakeholder engagement is undertaken, the Development Footprint would be reviewed and refined in response to the outcomes and findings.

Where impacts cannot be avoided, measures for minimising, managing, or offsetting throughout construction, operation, and decommissioning would be developed in preparation of the Environmental Impact Statement (EIS).

1.3 Purpose of this Scoping Report

This Scoping Report has been prepared to provide a description of the Project to key regulatory and approval agencies and to identify key environmental and/or social aspects potentially impacted by the Project, in order to inform the preparation of the Secretary's Environmental Assessment Requirements (SEARs) for the EIS. This report outlines the justification for the Project and alternatives considered, describes the completed and proposed community engagement activities, and describes the proposed level of assessment of environmental and social impacts to be undertaken in the preparation of the EIS.

This report has been prepared in accordance with the following guidelines:

- *State Significant Development Guidelines – preparing a scoping report (Appendix A)* (DPE, 2022a) (Scoping Report Guidelines);
- *Large-Scale Solar Energy Guideline* (DPE, 2022l) (LSSE Guideline) and the *Technical Supplement – Landscape and Visual Impact Assessment* (DPE, 2022b) (LVIA Technical Supplement);
- *Social Impact Assessment Guidelines for State Significant Projects* (DPE, 2021e) (SIA Guidelines);
- *Undertaking Engagement Guidelines for State Significant Project* (DPE, 2021c) (Engagement Guidelines); and
- *Cumulative Impact Assessment Guidelines* (DPE, 2021b) (CIA Guidelines).

The Scoping Report Guidelines specifically advise that the scoping report is not required to provide extensive information on the Project or to complete a detailed assessment of any of the key issues in each section of the report. This should be left to the EIS. Instead, the scoping report should be specifically targeted towards informing the setting of the SEARs for the Project and identifying the key issues that are to be considered in detail in the EIS. The objective is that the scoping report be as succinct as possible.

1.4 Key Terms

The following terms are used throughout this Scoping Report:

- **The Project** – Proposed development of Mayfair Solar Farm, consisting of a solar farm with a nominal capacity of approximately 60MWac, a BESS, and all ancillary infrastructure at Stubbo, NSW
- **The Site** – Proposed location of the Project, comprised of Lot 2 DP528667 and Lot 2 DP734669, totalling approximately 217 ha
- **Development Footprint** – The area within the Site, approximately 140 ha, to be developed with Project infrastructure
- **Concept Layout** – Proposed site plan of Project infrastructure within the Development Footprint
- **Associated landowner** – a landowner that is involved with the Project
- **Adjacent landowner** – a landowner with a property boundary that borders the Site and is not involved with the Project. May also be referred to as a non-associated receiver
- **Non-associated receiver** – a landowner/residence, including adjacent landowner, who may experience impacts from the Project (e.g. visual, noise, access) but is not involved with the Project. Their property boundary may or may not border the Site.

2. Strategic Context

2.1 Project Justification

The Project would improve the reliability and security of the state and national electricity network by generating electricity from renewable sources, storing surplus energy on the Site, and releasing dispatchable energy during peak demand periods.

The Project would support energy generation and storage development in NSW and Australia by increasing flexibility and resilience of the electrical grid as overall renewable energy generation increases and non-renewable energy generation decreases over time. The Project would generate up to 151,000 MWh of renewable energy, enough to supply approximately 26,700 homes (AER, 2020) and reduce carbon emissions by approximately 119,300 t carbon dioxide equivalent (CO_2-e), assuming a carbon factor of 0.79 t/MWh (DCCEEW, 2022).

The Project would contribute to and support multiple regional, state, and national objectives as outlined in Section 2.2.

2.2 Regional and Local Context

2.2.1 International Need

In December 2015, Australia became a signatory to the United Nations Paris Agreement on climate change. The main objectives of the Paris Agreement are:

- Limit the increase in global temperatures to well below two degrees and pursue efforts to limit the rise to 1.5 degrees;
- Achieve net-zero emissions, globally, by the second half of the century; and
- Differentiated expectations for developed nations, including Australia, that they will reduce their emissions sooner than developing nations.

The Australian Government has committed to reduce greenhouse gas emissions by 26-28% on 2005 levels by 2030.

The Project would be an effective method to meet the nation's international commitments to reduce greenhouse gas emissions and would contribute to Australia's effort to meet the Paris Agreement.

2.2.2 National Need

The Renewable Energy Target (RET) is an Australian Government scheme designed to reduce emissions of greenhouse gases (GHG) in the electricity sector and encourage additional renewable energy generation. The Large-scale RET scheme incentivises investment in renewable energy power stations such as solar farms. The scheme has an annual target of 33,000 gigawatt hours (GWh) until the scheme ends in 2030.

The Project would contribute to meeting the RET and provide an alternative power generation source resulting in reduced GHG emissions, contributing to meeting the Paris Agreement and aiding the transition towards cleaner electricity generation.

2.2.3 State Need

With the objective of delivering cheaper, cleaner, and more reliable electricity to support future growth across the state, the NSW government established the following policies:

- *NSW Transmission Infrastructure Strategy* (DPE, 2018);

- *NSW Electricity Strategy* (DPIE, 2019); and
- *NSW Electricity Infrastructure Roadmap* (DPIE, 2020).

These policies facilitate transitioning the state into a modern, global renewable energy superpower through privatisation and development of energy zones and renewable energy zone (REZ). The Project would contribute to this transition.

2.2.4 Regional Need

Central West and Orana Regional Plan 2041

The *Central West and Orana Regional Plan 2041* (CWORP) (DPE, 2022a) encompasses the Mid-Western Regional LGA and aims to facilitate sustainable growth in the region by adapting to challenges posed by climate change, the housing market, and the economy.

Of the 10 Objectives outlined in the CWORP, Objective 2 is to support the State's transition to Net Zero by 2050 and deliver the CWOREZ. In line with national and State objectives for cheaper, cleaner, and more reliable energy, and Australia's international commitments, the CWOREZ is one of at least five REZ to be rolled out across NSW and is expected to attract $5.2 billion in private investment to the region by 2030. As set out in the *Electricity Infrastructure Investment Act 2020*, the CWOREZ has an intended network capacity of 3 GW.

The Project would support Objective 2 of the CWORP by contributing to the CWOREZ network capacity and generating renewable energy to achieving net zero emissions by 2050.

Mid-Western Region Community Plan: Towards 2040

Developed in 2022, the *Mid-Western Region Community Plan: Towards 2040* (MWRCP) (MWRC, 2022) outlines the Mid-Western Regional Council's (MWRC) development and community vision for the Mid-Western Region. The MWRCP outlines five Themes that MWRC would work towards achieving by 2040 through plans and strategies including, but not limited to:

- Community Engagement Strategy;
- Delivery Program 2022/23 to 2025/26 and Operational Plan 2022/23; and
- Workforce Strategy.

The Project would align with Theme 2: Protecting our Natural Environment of the MWRCP by introducing renewable energy into the electrical grid and reducing the consumption of fossil fuels. The Project would also align with Theme 3: Building a Strong Local Economy and the Workforce Strategy by creating work opportunities throughout the life of the Project and introducing visitors to the region. Overall, the Project would support the strategies outlined in the MWRCP.

2.3 Site Suitability and Layout

The Site was identified as preferred for utility scale solar electricity generation due to:

- Proximity to and capacity of connection infrastructure, with a 66 kV transmission line running through the Site, providing cost effective connection to the electrical grid;
- Good energy yield from high solar irradiance;
- Availability of suitably sized lots;
- Topography is relatively flat, minimising the need for extensive land clearing and earthworks;
- Identified as having severe limitations for agricultural purposes and not identified as Biophysical Strategic Agricultural Land (BSAL);
- Ease of access to the Castlereagh Highway and other major transport connections for construction logistics; and

- Expectation of low environmental and heritage constraints.

2.4 Benefits of the Project

The construction and operation of the Project would provide the following benefits:

- Supporting Australia's 2030 emission reduction targets, NSW's transition to net-zero emissions by 2050 and the objectives and themes of the CWORP and MWRCP;
- Improving the stability and reliability of the electricity network by storing energy during periods of low demand, including those from intermittent renewable sources and dispatching energy during periods of peak demand;
- Local employment opportunities of approximately 150 jobs during a 12 month construction period (with a peak period of approximately 4 months) and approximately 1-3 full-time jobs during the proposed 40 year operational life;
- Construction and operation of the development is likely to be low impact upon the locality; and
- Potential for direct and indirect investment into the Mid-Western Region during construction.

Additional community benefits would be investigated during preparation of the EIS and ongoing consultation with community and stakeholders.

3. Project Description

The Project would include a solar farm with a capacity of approximately 60 MWac and will include a hybrid BESS of approximately 60MW capacity and two hours of storage. Associated infrastructure to be constructed as part of the Project include a substation to connect the project to the electricity network, all associated power conversion equipment such as inverters and transformers, and internal access tracks.

3.1 The Site

The Site includes two cadastral lots held by a single landowner. Totalling approximately 217 ha, Lot 2 DP528667 is approximately 64 ha and is the smaller lot while Lot 2 DP734669 is approximately 153 ha. A 66 kV transmission line traverses through the Site in a northeast to southwest direction.

The Site is zoned RU1 – Primary Production under the Mid-Western LEP. Typical of rural landscapes zoned RU1, the Site is relatively flat, gently sloping towards Slapdash Creek in the east. The highest elevation of the Site is approximately 440 metres (m) above sea level near the western boundary. The lowest elevation of the Site is approximately 420 m adjacent to Slapdash Creek. The Site is predominantly open grassland mostly cleared of dense vegetation with only scattered riparian vegetation along drainage lines and is currently used for agricultural purposes including cropping and sheep grazing. Figure 2 shows the cadastral lots associated with the Site as well as the land use zones under the Mid-Western LEP.

The Site is situated within Stubbo, NSW, in the Mid-Western Regional LGA and the CWOREZ. The Site is located approximately 4.3 km north of the nearest town of Gulgong. Gulgong has a population of 2,680 (ABS, 2021) and is one of four major towns centres within the Mid-Western Regional LGA (MWRC, 2022). Gulgong is located approximately 30 km north of Mudgee, 219 km northwest of Newcastle and 235 km northwest of Sydney. The Castlereagh Highway connects Gulgong to Sydney in the south and joins the Golden Highway, connecting Gulgong to Newcastle in the east. Agriculture is the primary industry in the region.

The Site is bounded by Jacksons Lane to the south. Jacksons Lane is a two-way, unsealed, unmarked, local road and serve as access to the Site. Jacksons Lane links to Barneys Reef Road to the east which provides connection to Gulgong.

Along the western boundary of the Site is the Wallerawang Gwabegar Railway which historically connected Wallerawang to Gwabegar. Currently though, only a select number of stations along the railway remain operational between Wallerawang and Binnaway. The railway is predominantly used for transportation of mining and agriculture products. Further west, approximately 10 km of the Site, is Yarrobil National Park. Created in 2005, the park is made up of three disconnected areas totalling 1,846 ha.

Bordering the eastern boundary of the Site is Slapdash Creek. The watercourse is categorised as a Strahler order 6 watercourse and a Key Fish Habitat (KFH). Slapdash Creek is approximately 23 km in length starting at Barneys Reef in the north and merges into Wialdra Creek in the south. Both creeks are tributaries of Cudgegong River. Three drainage lines of Slapdash Creek and associated dams are within the Site.

Similar to the Site itself, north of the Site is characterised by open grassland used for agriculture. The area is predominantly clear of dense vegetation.

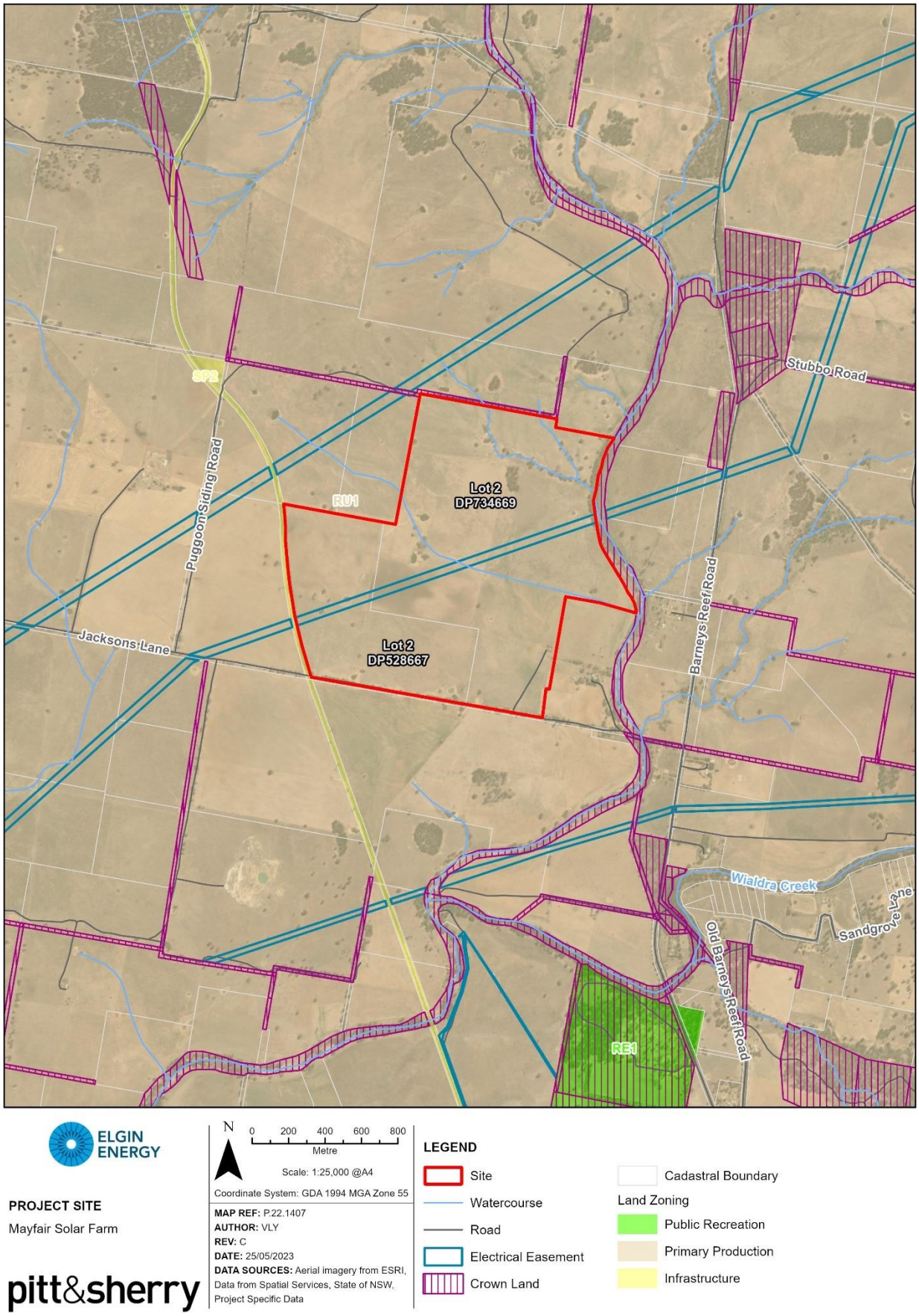

Figure 2 Project Site

3.2 Development Footprint

Of the approximate 217 ha that make up the Site, approximately 140 ha would be required for the Development Footprint.

Made up of three distinct areas within the Site, the Development Footprint has been designed to avoid areas of high biodiversity value and minimise impacts to natural drainage tributaries of Slapdash Creek within the Site. The Development Footprint also avoids the existing 66 kV transmission line easement which traverses the Site in a northeast to southwest direction.

The proposed maximum Development Footprint, with an indicative layout, is shown in Figure 3. This is indicative only and is based on information available at scoping stage regarding environmental constraints, engineering assessments, and access options. As the impact assessment process continues, the Development Footprint and access options would be subject to refinement, based on detailed environmental and engineering investigations, and the results of stakeholder and community engagement.

3.3 Project Overview

Subject to detailed design, the key elements of the Project would include:

- Ground mounted solar photovoltaic (PV) modules. PV modules would be mounted on single axis tracking systems with an assumed maximum height up to 3.5 m above ground;
- A series of power conversion units (PCUs) would be arranged at the end of each PV array across the Site, with underground cabling connecting each PCU to the on-site substation;
- A hybrid Battery Energy Storage System (BESS) with a capacity of approximately 60 MW and two hours of storage. The BESS would be grouped in containerised modules near the substation;
- An on-site 33/66 kV substation connected to the solar farm and BESS for connection to the distribution network via an overhead 66 kV powerline;
- Temporary construction facilities may include:
    - Construction compound;
    - Laydown areas(s);
    - Construction materials storage; and
    - Site office buildings and amenities.
- Permanent supporting infrastructure would include:
    - Internal access tracks;
    - Security fencing and lighting;
    - Operations and maintenance buildings; and
    - Operational vehicle access points.
- Upgrade and seal of Jacksons Lane from Barney's Reef Road to site access (approximately 1km), including replacement of the existing vehicle crossing over Slapdash Creek to accommodate construction heavy vehicle movements.

3.4 Project Delivery

3.4.1 Transport and Access

Access to Site is expected to be from Jacksons Lane. Deliveries of bulk materials such as solar panels, steel piles,

support structures and cabling, would utilise semi-trailers and potentially B-double vehicles. The origin of materials is likely to be from Port Botany in Sydney or the Port of Newcastle. As such, two potential transport access routes are proposed for construction vehicle access and materials transport to the Site and are shown in Figure 4. The northern transport access route (NTAR) from Newcastle would be via the Golden Highway and Castlereagh Highway, avoiding the main town of Gulgong using Old Mill Road, Rouse Street, Medley Street, Barneys Reef Road, and Jacksons Lane. The southern transport access route (STAR) from Sydney would be via the Castlereagh Highway, bypassing Gulgong using Fisher Street, Caledonian Street, Rouse Street, Medley Street, Barneys Reef Road, and Jacksons Lane. The feasibility of utilising the Wallerawang Gwabegar Railway and Gulgong Station for the transport of materials may be investigated as the Project progresses.

The *Central-West Orana Renewable Energy Zone* (EnergyCo, 2023) outlines potential transport routes and constraints for transporting large transmission and renewable energy equipment, using oversize and over-mass (OSOM) vehicles, between the Port of Newcastle and the CWOREZ. The proposed NTAR from Newcastle would be via the Golden Highway before turning left onto the Castlereagh Highway. Before reaching Gulgong, vehicles would turn left at Old Mill Road merging into Rouse Street, left onto Medley Street merging into Barneys Reef Road, left again at Jacksons Lane, then right into the Site at a yet to be determined location. Returning vehicles would use the reverse route.

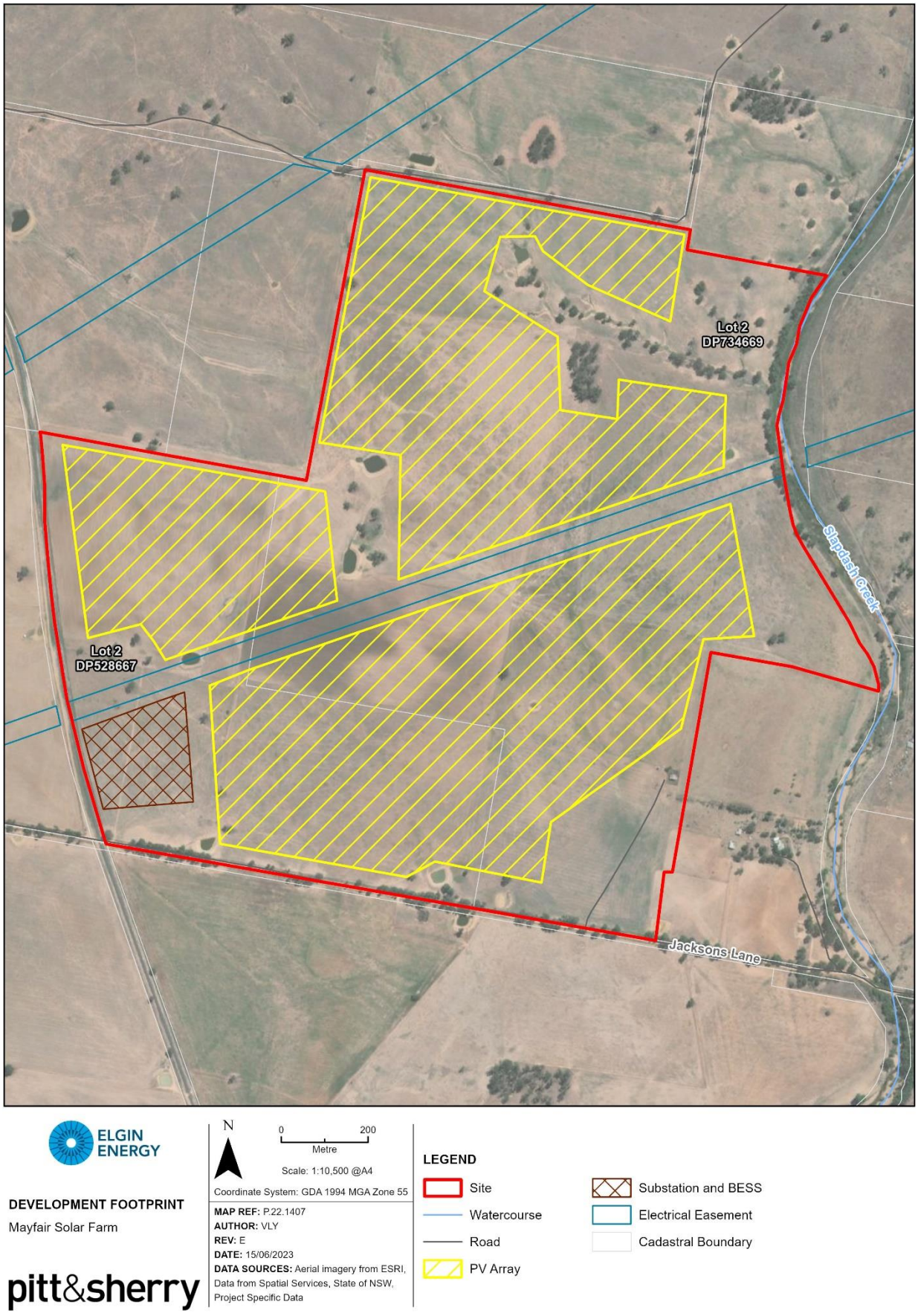

Figure 3 Indicative Development Footprint

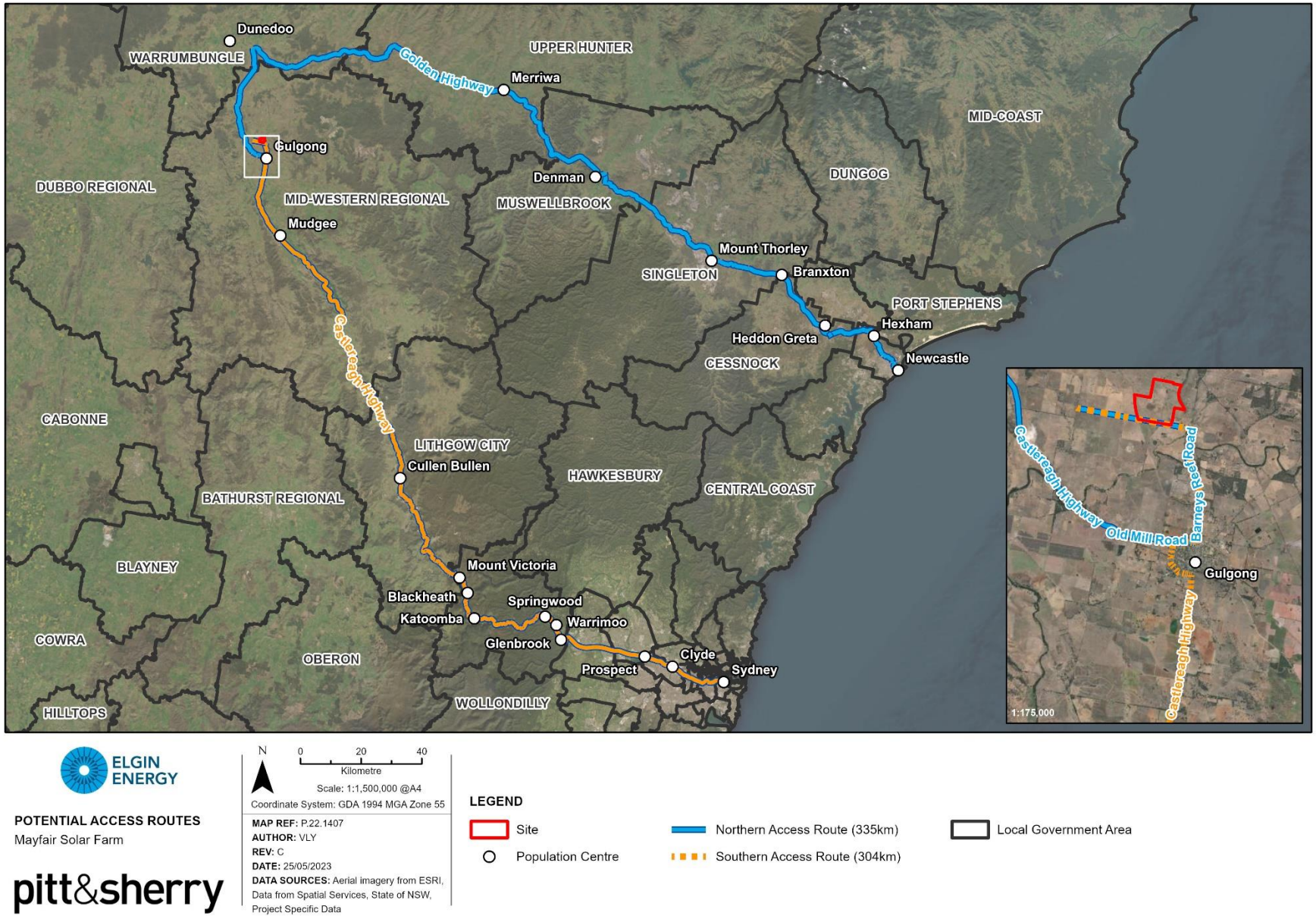

Figure 4 Potential transport access routes

3.4.2 Construction

It is estimated that up to 150 construction personnel would be required on site during the peak construction period. MWRC and local business owners will be consulted throughout the development and assessment of the project regarding managing potential impacts and opportunities for accommodation of the project's construction workforce. As far as practicable, the construction workforce would be sourced from the local area. Potential cumulative impacts on accommodation, infrastructure, and services will be considered in the EIS as part of the social impact assessment and would include a workforce accommodation plan.

Construction is anticipated to commence in the second quarter of 2025, subject to environmental approvals, licencing, and finalisation of Project design. Construction is expected to take approximately 12 months, with a peak construction period of approximately four months. Considering the timeframe, energisation of the Project is expected by the third quarter of 2026.

Construction hours would be standard construction hours (Monday to Friday: 7 am - 6 pm, and Saturdays: 8 am to 1 pm) with out of hours or night works not anticipated, excluding emergency works.

3.4.3 Operations

Once completed the Project would operate over 24 hours seven days a week in its entirety with electricity generation, storage, and transmission activities occurring as circumstances allow. Daily operations and maintenance by operational staff would be undertaken during standard working hours. Emergency response, inspections, and maintenance activities may be required to be undertaken out of hours or as night works.

Operation of the Project is anticipated to create between 1-3 full time equivalent (FTE) employment opportunities. The Project has a proposed operational life of 40 years.

3.4.4 Decommissioning

At the end of the Project's useful life, decommissioning and rehabilitation of the site would be undertaken. The objective of decommissioning would be to return the land to as close to its pre-construction condition as possible. The site would be left suitable for its existing or appropriate alternative land use.

During the decommissioning process all above-ground infrastructure would be removed, with the possible exception of the 66 kV substation, as this would be up to the discretion of the asset's owner, Essential Energy.

Key elements of decommissioning would include:

- Removal of the solar arrays and the foundation piles. Materials would be sorted and packaged for removal from the site;
- Removal of all site amenities and equipment, including buildings, PCUs, and all footings;
- Removal of all cabling, where practical;
- Some fencing would be removed. The removal of fences would be coordinated with the landowner and their preference; and
- Rehabilitation of disturbed surfaces, in consultation with the landowner.

Wherever possible and practicable, materials removed from the site would be either re-used or recycled in accordance with the Project's Waste Management Plan.

3.5 Development Alternatives

Alternatives to the Project have been considered and include alternative site locations, footprints, and not proceeding

with the Project (the 'do nothing' option).

3.5.1 Alternative footprints

Option 1 – Site comprised of northern and southern section

Option 1 included the following cadastral lots within the Site:

- Lot 1 DP108711;
- Lot 2 DP108712;
- Lot 2 DP528667; and
- Lot 2 DP734669.

Owned by the same landowner as Lot 2 DP528667 and Lot 2 DP734669, the Site was made up of distinct northern and southern areas, totalling 362 ha.

The southern section of the Site was located south of Jacksons Lane, adjacent to the Wallerawang Gwabegar Railway and zoned RU1 – Primary Production under the Mid-Western LEP. Typical of rural landscapes zoned RU1, the southern section of the Site is relatively flat, gently sloping towards Slapdash Creek in the southeast. The highest elevation of the Site is approximately 440 m above sea level near the Wallerawang Gwabegar Railway. The lowest elevation of the Site is approximately 420 m adjacent to Slapdash Creek. The Site is predominantly open grassland mostly cleared of dense vegetation with only scattered riparian vegetation along drainage lines.

Option 2 – Site comprised of northern section only, Development Footprint closer to Barneys Reef Road

The Site for Option 2 included the following cadastral lots:

- Lot 2 DP528667; and
- Lot 2 DP734669.

The Site was reduced to the northern section to maximise the distance between the Project and Gulgong. By increasing the distance between the Project and Gulgong, the magnitude of potential impacts and the number of sensitive receivers to these impacts, decreases.

The Development Footprint was comprised of three distinct Solar Array Areas (SAA) within the Site. SAA 1 was proposed on the northern area of the Site, north of the existing transmission line. SAA 2 was proposed in the southeast section of the Site, south of the existing transmission line. SAA 2 was located approximately 400 m north of Jacksons Lane, 760 m west of Barneys Reef Road and approximately 360 m north west of the nearest receiver. SAA3 was the smallest of the SAA and located near the western boundary of the Site. All three SAA avoid areas of high biodiversity value including drainage lines and riparian vegetation.

Option 3 – Site comprised of northern section only, Development Footprint closer to Jacksons Lane

The Site for Option 3 included the following cadastral lots:

- Lot 2 DP528667; and
- Lot 2 DP734669.

Similarly to Option 2, the Site was limited to the northern section for Option 3 to minimise the potential impacts of the Project to potential receivers in Gulgong and surrounds.

The Development Footprint was comprised of three distinct SAA within the Site. SAA 1 and SAA 3 were the same as for Option 2. SAA 2 for Option 3 was located further southwest than Option 2, decreasing the distance to Jacksons Lane to approximately 250 m but increasing the distance to Barneys Reef Road and the nearest receiver to 1.1 km and 520 m

respectively. The location of SAA 2 avoids areas of high biodiversity value including drainage lines and riparian vegetation.

Option 4 - The 'do nothing' option

The 'do nothing' option would allow for the continued use of the Development Footprint for agricultural purposes, however, would forgo the potential benefits of the Project identified in Section 2.4.

The 'do nothing' option may avoid potential environmental impacts associated with the Project. However, it is considered that the benefits of the Project would significantly outweigh any potential environmental impacts whilst contributing to ecologically sustainable development.

3.5.2 Preferred Option

Option 3 was chosen as the preferred option for the Project due to the reduced magnitude of potential impacts and number of potentially impacted sensitive receivers. The option was refined during preliminary consultation with the community and relevant stakeholders.

3.5.3 Refined Preferred Option

The Site was limited to the northern section with consideration to the controls outlined in the *Development Control Plan 2013: Amendment No. 5* (DCP) (MWRC, 2020), including:

- *Where the proposal is located within a 5 km radius from main townships and villages, the proposal must demonstrate that it will not impact on the scenic value and character of the locality*
- *Solar Energy Farms should not be located within 500 m of any dwelling not associated with the development or from any lot upon which a dwelling may be constructed*
- *Solar Energy Farms should not be located within 200 m from a formed Local Public Road or 500 m from a Regional or State Road*
- *Solar Energy Farms should not be located within 100 m from a non-related property boundary.*

Although the Project is SSD and therefore assessed by the Department of Planning and Environment (DPE) and MWRC is not the approving authority, consideration has been given to the DCP as it is anticipated that the SEARs would include provisions consistent with the DCP.

The Development Footprint shown in Figure 3 has been developed in response to the findings of preliminary investigations and consultation with surrounding landowners. Key considerations in the design of the Development Footprint have included:

- Selection of northern section to maximise distance from Gulgong residential area;
- Pushing footprint to the west to maximise setbacks from adjoining nearest sensitive receivers to the east; and
- Inclusion of a BESS to maximise the Project value and provide support services to the electrical grid.

The final Development Footprint and Concept Layout would be further refined throughout the preparation of the EIS and would be informed by the outcomes of technical investigations and community and stakeholder engagement.

Generally, the key principles that would guide the design of the Concept Layout involve:

- Minimising the amount of land disturbance and clearing of vegetation, with development priority given to previously disturbed areas of land;
- Minimising direct and indirect impacts to associated and adjacent landowners; and
- Maintaining a flexible approach to design to enable timely and appropriate design responses to constraints

identified through the impact assessment process.

4. Statutory Context

The relevant statutory requirements for the Project with regard to NSW and Commonwealth legislation, and environmental planning instruments (EPIs) are summarised in Table 2. This table is presented in accordance with the Table 1 of the Scoping Report Guidelines and includes the following:

- Power to grant consent;
- Permissibility;
- Consistent approvals;
- Commonwealth approvals;
- Approvals not required (pursuant to Section 4.41 of the *Environmental Planning and Assessment Act 1979* (EP&A Act));
- Pre-conditions to exercising the power to grant consent; and
- Mandatory matters for consideration.

A detailed consideration of relevant statutory requirements would be provided in the EIS.

Table 2 Statutory Context

Matter	Legislation	Requirement
Power to grant consent	EP&A Act	Part 4 of the EP&A Act addresses development assessment and consent. Division 4.7 relates to the assessment of SSD. Section 4.36(2) states that a: *…State environmental planning policy may declare any development, or any class or description of development, to be State significant development.*
	Planning Systems SEPP	The Planning Systems SEPP identifies SSD. Section 2.6(1) of the Planning Systems SEPP states: *(1) Development is declared to be State significant development for the purposes of the Act if:* *(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and* *(b) the development is specified in Schedule 1 or 2.* Schedule 1 Section 20 of the Planning Systems SEPP provides the following definition for SSD: *Electricity generating works and heat or co-generation* *Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that—* *(a) has a capital investment value of more than $30 million* The Project is a development for the purpose of electricity generation and would have a capital investment value of more than $30 million and accordingly is considered SSD and would

Matter	Legislation	Requirement
		require consent under Part 4 of the EP&A Act. The consent authority would be the Minister for Planning.
Permissibility	Mid-Western LEP	The Project is located on land zoned RU1 – Primary Production under the Mid-Western LEP. Development for the purpose of electricity generating works is not listed under Item 2 or 3 of the Land Use Table of the Mid-Western LEP and is therefore considered prohibited development. However, the Project is permitted with consent under Clause 2.36(1) of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP).
	Transport and Infrastructure SEPP	Under Clause 2.36(1) of the Transport and Infrastructure SEPP, development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial, or special use zone. Section 2.35 of the Transport and Infrastructure SEPP identifies RU1 – Primary Production as a prescribed zone. The Project is located on land zoned as RU1 – Primary Production, is therefore permissible with consent.
Consistent approvals	Section 4.42 of the EP&A Act provides approvals that cannot be refused if it is necessary for carrying out an approved SSD and is to be substantially consistent with the consent.	
	Roads Act 1993 (Roads Act)	The Roads Act addresses authorities, functions, and regulations of activities relating to the use and types of roads. Under Section 138 of the Roads Act, a person must not undertake works that would impact or carry out work on or over a public road without approval from the relevant authority. It is proposed to upgrade and seal Jacksons Lane from Barneys Reef Road to site access to enable safe access for construction heavy vehicles. These works would include replacement of the existing vehicle crossing over Slapdash Creek. Approval under Section 138 of the Roads Act from the relevant authority would be required for these works and cannot be refused for an approved SSD project. Additional interactions of the Project with the local and regional road networks would be addressed in the EIS.
	Protection of the Environment Operations Act 1997 (POEO Act)	The POEO Act is the primary piece of legislation regulating pollution control and waste disposal in NSW. Section 48 of the POEO Act requires an environment protection licence (EPL) in order to undertake scheduled activities at any premises. Scheduled activities are defined in Schedule 1 of the POEO Act. Section 17 of Schedule 1 requires an EPL for general electricity works with the capacity to generate more than 30 MW of power. Solar farms are excepted from the definition of general electricity works, and so are not considered a scheduled activity. An EPL is therefore not required for the Project.

Matter	Legislation	Requirement
Commonwealth approvals	*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)	The EPBC Act protects matters of national environmental significance (MNES). Where an action is considered likely to have a significant impact on any MNES, a referral is required to be submitted to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW). If the action is determined to be a controlled activity under Part 9 of the EPBC Act, approval for that action is required from the Federal Minister for the Environment. A search of the Commonwealth Protected Matter Search Tool (PMST) on 3 May 2023. The Project is not located on or in proximity to land containing any World Heritage Properties, National Heritage Places, Wetlands of International Importance, and is not within either a Commonwealth marine area or the Great Barrier Reef Marine Park. Results indicate that two Threatened Ecological Communities (TECs), 39 listed Threatened Species, and 11 Migratory Species could occur within a 5 km buffer of the Site. The PMST report completed is provided in Appendix B. Further biodiversity assessments would be completed in preparation of the EIS to determine the presence of any TECs and Threatened or Migratory Species within the Development Footprint. Design of the Concept Layout would seek to minimise impacts to any identified TECs, and the habitats of Threatened or Migratory Species. A referral may be prepared for submission to DCCEEW following field surveys to confirm whether the Project requires assessment and approval under the EPBC Act.
	Native Title Act 1993 (Native Title Act)	A search undertaken on 20 March 2023 of the National Native Title Register, the Register of Native Title Claims, and Native Title Applications Registration and Determinations identified that the Site is within an active Native Title Claim, (National Native Title Tribunal Number: NC2018/002 – Warrabinga-Wiradjuri #7, Federal Court File Number: NSD857/2017). Native Title may exist in certain land areas including vacant Crown Land, waterways that are not privately owned, and some types of pastoral leases. Where a Native Title claim exists in relation to the Site, the Applicant would comply with all provisions of the Native Title Act and undertake consultation with Native Title claimants as required.
Approvals not required	Section 4.41 of the EP&A Act provides that the following approvals that would otherwise be relevant to the Project are not required for SSD.	
	Fisheries Management Act 1994 (FM Act)	A permit under Section 201 and Section 219 of the FM Act to carry out dredging or reclamation work, or to block passage of fish respectively, is not required for the Project. It is proposed to upgrade and seal Jacksons Lane from Barneys Reef Road to site access to enable safe access for construction

Matter	Legislation	Requirement
		heavy vehicles and would include replacement of the existing vehicle crossing over Slapdash Creek. These works would be undertaken in accordance with *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI, 2013a) and *Guidelines for watercourse crossings on waterfront land* (DPE, 2022e).
	Heritage Act 1977 (Heritage Act)	A desktop assessment of available datasets showed that the nearest heritage item to the Project was approximately 1.75 km south of the Site. It would be highly unlikely for the Project to impact this item. An approval under Part 4, or an excavation permit under Section 139 of the Heritage Act would not be required for the Project.
	National Parks and Wildlife Act 1974 (NPW Act)	An Aboriginal heritage impact permit under Section 90 of the NPW Act is not required for SSD Projects. A search undertaken on 13 March 2023 of the Aboriginal Heritage Information Management System (AHIMS) web service identified one Aboriginal site near the Site. An Aboriginal Cultural Heritage Assessment Report (ACHAR) would be prepared as part of the EIS and would include consultation with the registered Aboriginal parties.
	Rural Fires Act 1997	The Project is not located on bushfire prone land, therefore a bushfire safety authority under Section 100B would not be required for the Project. A bushfire assessment would be carried out for the Project in accordance with *Planning for Bushfire Protection* (RFS, 2019).
	Water Management Act 2000 (WM Act)	A water use approval under Section 89, a water management work approval under Section 90, or an activity approval under Section 91 of the WM Act would not be required for the Project. There are no watercourses within the Project boundary, however Slapdash Creek runs along the eastern boundary. Upgrades to Jacksons Lane would include replacement of the existing vehicle crossing over Slapdash Creek. These works would be carried out in accordance with relevant DPE guidelines and controls.
Other approvals	*Crown Land Management Act 2016* (CLM Act)	Under the CLM Act, Crown Land must not be occupied, used, sold, leased, licenced, dedicated, reserved, or dealt with in any other way unless authorised by the CLM Act. There are no Crown lands recorded within the Site, however, Slapdash Creek on the eastern boundary is a Crown waterway, and there is a Crown road on the northern boundary of Lot 2 DP734669. Upgrades to Jacksons Lane would include replacement of the existing vehicle crossing over Slapdash Creek. Landowner consent from Crown Lands would be required to undertake these works.

Matter	Legislation	Requirement
Preconditions to exercising the power to grant consent	*Biodiversity Conservation Act 2016* (BC Act)	Section 7.9 of the BC Act requires a Biodiversity Development Assessment Report (BDAR) be prepared for any SSD project. A BDAR would be prepared for the Project and submitted with the EIS as part of the DA. Consultation with DPE's Biodiversity Conservation Division (BCD) would be undertaken in the preparation of the BDAR and EIS.
	State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BC SEPP)	Chapter 3 and Chapter 4 of the BC SEPP promote the proper conservation and management of areas that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current decline in koala population. LGAs to which the BC SEPP applies are identified in Schedule 2. The Mid-Western Regional LGA is listed as an applicable LGA in this Schedule. The BDAR would address the Project's potential impacts on koala habitat.
	Transport and Infrastructure SEPP	Section 2.48 of the Transport and Infrastructure SEPP requires written notice to be given of a project located near electrical infrastructure to the electricity supply authority inviting comments about potential safety risks. The Project would be situated below an existing 66 kV transmission line, therefore consultation with the electricity authority would be undertaken in preparation of the EIS.
Mandatory matters for consideration	Section 1.3 of the EP&A Act	Objectives of the EP&A Act relevant to the Project are: *(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,* *(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,* *(c) to promote the orderly and economic use and development of land,* *(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,* *(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),* *(g) to promote good design and amenity of the built environment,* *(j) to provide increased opportunity for community participation in environmental planning and assessment.* These objectives would be considered in the EIS.
	Section 4.15 of the EP&A Act	A consent authority is required to take into consideration the following relevant matters in determining development application: *(a) the provisions of –* *i. any environmental planning instrument,* including: ▪ BC SEPP

Matter	Legislation	Requirement
		▪ Resilience and Hazards SEPP ▪ Transport and Infrastructure SEPP ▪ Mid-Western LEP *ii. any proposed instrument that is or has been the subject of public consultation under the EP&A Act and that has been notified to the consent authority,* *iii. any development control plan* – Under Section 2.10 of the Planning Systems SEPP, DCP do not apply to SSD projects and a therefore not a relevant consideration for the Project *iiia. any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4,* *iv. the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates,* *(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,* *(c) the suitability of the site for the development,* *(d) any submissions made in accordance with this Act or the regulations,* *(e) the public interest.* The above matters would be considered in the EIS and addressed subsequent to the outcomes of environmental assessment.
	BC Act	Section 7.16 of the BC Act (serious and irreversible impacts on biodiversity values) would be considered in the BDAR and EIS.
	Resilience and Hazards SEPP	Under Section 3.7 of the Resilience and Hazards SEPP, consideration must be given to current circulars or guidelines published by DPE relating to hazardous or offensive development in determining whether a development is: *(a) a hazardous storage establishment, hazardous industry or other potentially hazardous industry, or* *(b) an offensive storage establishment, offensive industry or other potentially offensive industry.* The following would be considered in the preparation of the EIS: • Applying Resilience and Hazards SEPP; • Hazardous industry planning advisory paper (HIPAP) No. 3 – Risk Assessment; and • HIPAP No. 12 – Hazards-Related Conditions of Consent.
	Mid-Western LEP	The EIS would consider all relevant provisions of the Mid-Western LEP, including: • The relevant objectives and land uses for RU1 zone; • Clause 4.1E Subdivision of land in RU1 for non-agricultural purposes; • Clause 4.6 Exceptions to development standards; • Clause 5.10 Heritage conservation; • Clause 6.3 Earthworks; and • Clause 6.9 Essential services.

5. Community Engagement

A Community Participation Plan (CPP) has been prepared to support the identification and resolution of real or perceived community concerns in regard to the Project. The CPP and the selected engagement methods and communications tools have been developed in accordance with:

- IAP2 Core Values and Public Participation Spectrum;
- *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2021c);
- *Social Impact Assessment Guidelines for State Significant Projects* (DPE, 2021e); and
- *Large-Scale Solar Energy Guideline* (DPE, 2022l).

The objectives of community engagement for the Scoping Phase are to provide identified stakeholders and the community with:

- Current information to understand the Project and its community impacts, including knowing where and how to get information relevant to their needs;
- Information about Elgin Energy;
- Timely and accessible opportunity to provide input into aspects of the site development, including knowing how and when they can be involved in the process;
- The opportunity to register interest for getting involved in a post-DA site construction and operating phase; and
- Provide feedback to the community on how their views informed the Project development.

5.1 Engagement Undertaken

The CPP provides a high-level framework for the delivery of communication and engagement throughout the planning and assessment process for each stage of the Project. The CPP will be regularly reviewed to ensure the engagement methods and communications tools remain appropriate for the Project and its phase, and to ensure it meets the needs of identified (and emerging) stakeholders and the wider community.

A range of engagement methods and tools have been used throughout the Scoping Phase to gain input from the various identified stakeholders, wider community, and are summarised in Table 3.

Table 3 Engagement with community and stakeholders

Engagement Method	Timing	Purpose	Stakeholders
Phone call	15 March 2022	Project introduction	Local Government
Emails and meeting	23 March 2023	Project introductory meeting with EnergyCo.	Industry
Letters	31 March 2023	Project introduction, provide links to Project website, email, and phone number, and invite participation at community drop-in sessions	Receivers within 4 km (84) Community groups (7) Educational facilities (5) Emergency Services (2) Environmental Group (1) Local businesses (38) Tourism group (9)

Engagement Method	Timing	Purpose	Stakeholders
Face-to-face meetings	4 April 2023	Associated landowner met with neighbours on behalf of Elgin to introduce the Project prior to direct engagement by Project team.	Adjacent landowners (2)
Newspaper advertisement	14 April 2023	Advertise community information drop-in session. Included a one-off ad placement (1/4 page) in the Mudgee Guardian and Gulgong Advertiser	Media Wider community
Email	15-27 April 2023	Project enquiry and response regarding community information drop-in session and proposed community benefit scheme	Community group
Phone call	24 April 2023	Provide further updates on Project and arrange one-on-one meetings with Project team	Adjacent neighbours (6)
Face-to-face meetings	26 & 28 April 2023	In person meeting to provide Project information packs, answer any questions, and note any concerns	Adjacent neighbours (4)
Community drop-in sessions	27 April 2023	To provide the community with information about the Project and seek initial input.	Community Business Local Government
Face-to-face meeting	28 April 2023	Project introduction meeting to brief MWRC and hear their concerns about the Project and/or cumulative impacts in context of other developments in the area	Local Government

5.2 Community Views

Engagement during the Scoping Phase focussed primarily on adjacent neighbours, with efforts made to engage early and regularly with them as the most likely to be impacted by the Project.

Two community drop-in sessions were held at the Gulgong Memorial Hall on Thursday 27 April and offered the wider community the chance to engage with and provide important feedback to the Project team on important local values and raise any concerns regarding the development they may have. The session had information posters about the Project and Elgin, and maps of the Project in a local and regional context. Attendants were also provided the opportunity to complete a feedback survey, available as a hardcopy on the day, digitally on the project website, accessible via a URL or a by scanning a QR code on posters.

The sessions were attended by six individuals over the course of the day, with participants expressing that there could be ‘consultation fatigue’ among the community due to the number of proposed projects in the area.

In general, community sentiment was mixed, with a majority of respondents not opposed to solar development but had specific questions or concerns around key themes. These themes are presented in summary in Figure 5, and are collated from feedback received across all engagement methods and include feedback from the community and identified stakeholders.

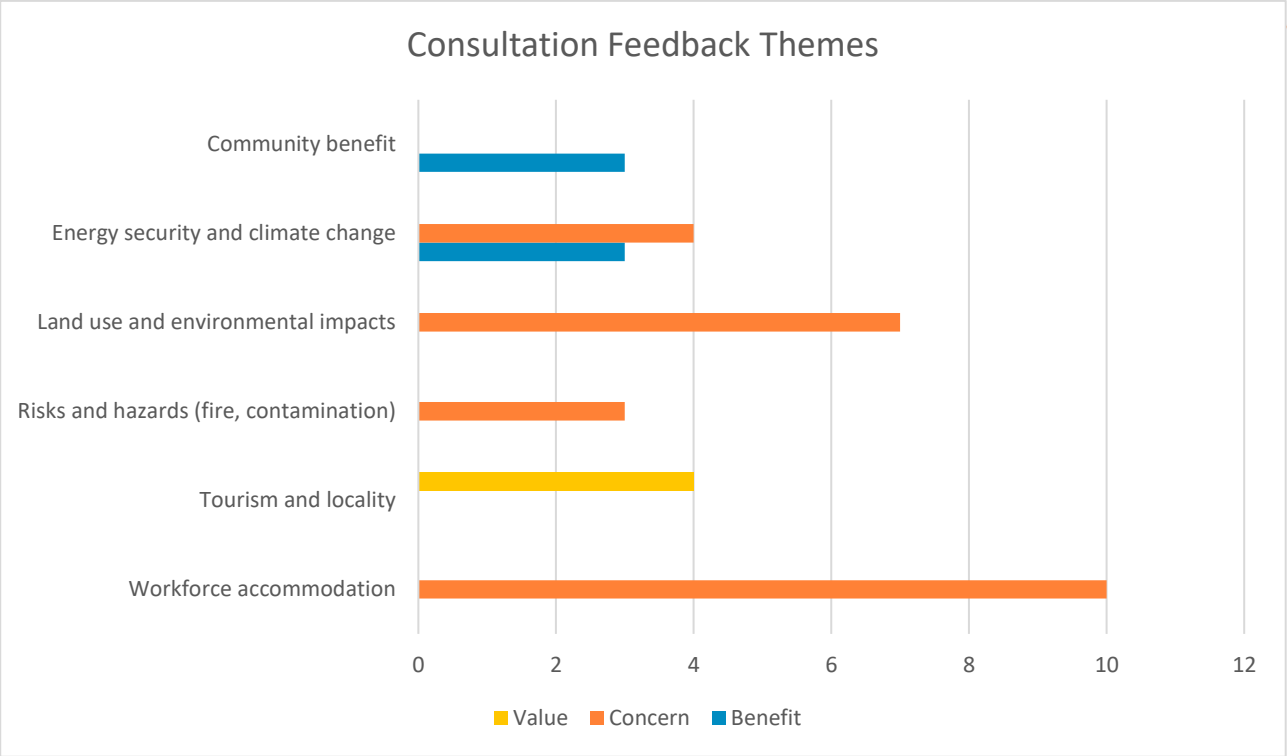

Figure 5 Feedback themes from all consultation activities to date

Sub-categories within the main themes identified above included:

- Community benefit
    - Opportunities for community grants
    - Public space improvement
- Energy security and climate change
    - Support of renewable energy developments to combat climate change
    - Reliance on international manufacturers to supply infrastructure
- Workforce accommodation
    - Influx of workers potentially placing pressures on rental housing affordability for locals;
    - Public services meeting the increased demands, particularly healthcare, police, and utilities; and
- Land use and environmental impacts
    - Impacts to endangered species and communities
    - Waste management/volumes during construction and decommissioning
    - Decommissioning and rehabilitation of site at Project end
    - Potential loss of agricultural land
    - Scepticism and mistrust of reporting of impacts
- Risks and hazards (heightened concerns due to a recent fire at a nearby operating solar farm, and concerns over BESS safety)
    - Contamination to air, soil, and waterways
- Tourism and locality
    - Visual amenity and landscape character
    - Maintain rural locale as a tourism destination

5.3 Engagement Proposed

During the preparation of the EIS, Elgin will continue to consult with relevant local, State and Commonwealth Government authorities, infrastructure and service providers, community groups, Traditional Owners, neighbours and affected landowners.

Elgin Energy seeks to generate community participation to inform and consult with identified stakeholders and the wider community with an interest in and/or ability to shape the Project. Overall, Elgin Energy wishes to gain community acceptance for the Project and earn trust as they pursue sustainable social and economic performance during its operating life.

This approach to community participation fits with Elgin Energy's broader corporate values. Elgin Energy is committed to the local communities in which they operate in, working hard to engage and involve local communities in projects. This begins at the pre-planning stage through public consultation as they work to resolve any potential impact or issues on the local community, inviting the community to share views on suitable local projects/initiatives for a community benefit fund.

Aboriginal stakeholders will be identified and consulted with during the preparation of the EIS in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010b).

Consultation during the development of the EIS will aim to:

- Proactively engage with community and stakeholders using clear and consistent key messages;
- Continue to collaborate with key stakeholders to identify potential concerns, impacts, opportunities, and benefits;
- Communicate Project progress including key outcomes of assessments; and
- Enable input from stakeholders into the preparation of the EIS, including investigation of opportunities for community benefit sharing.

6. Proposed Assessment of Environmental Impacts

A preliminary environmental assessment has been completed to identify matters requiring assessment in the EIS, and to inform the level of assessment required. In accordance with the Scoping Report Guidelines, the following factors have been considered in determining the level of assessment required for each matter in the EIS:

- The scale and nature of the likely impacts of the project and the sensitivity of the receiving environment;
- Whether the project is likely to generate cumulative impacts with other relevant future projects in the area; and
- The ability to avoid, minimise and/or offset the impacts of the project, to the extent known at the scoping stage.

Matters to be considered in the EIS have been categorised in accordance with Appendices A and D of the Scoping Report Guidelines (DPE, 2022a).

In accordance the Scoping Report Guidelines, a scoping summary table for each matter is included in Appendix A. A summary of the key environmental matters identified, and the level of assessment proposed for the EIS is presented in Table 4. The findings of the preliminary assessment and the proposed assessment approach for each matter to be included in the EIS is presented in this section.

Table 4 Level of assessment to be undertaken for the EIS

Level of Assessment	Assessment Matter	Section
Detailed	Aboriginal Heritage	6.1
	Biodiversity	6.2
	Hazards and Risks	6.3
	Hydrology and Flooding	6.4
	Land, Soil Quality, and Agriculture	6.5
	Landscape and Visual Amenity	6.6
	Noise and Vibration	6.7
	Social	6.8
	Traffic, Transport, and Access	6.9
	Cumulative Impacts	6.13
Standard	Air Quality	6.10
	Conservation Areas, Historic Heritage, and Natural Heritage	6.11
	Waste	6.12
No Further Assessment	Port and Airport Facilities, and Coastal Hazards	6.14
	Design Quality, Accessibility, and Odour	6.14

6.1 Aboriginal Heritage

6.1.1 Existing Environment

The Site has historically been used for agriculture. Currently, the Site is used for cropping and sheep grazing. No named watercourses traverse the Site, however, three drainage lines from Slapdash Creek are present in the northern section and across the middle of the Site.

A desktop assessment of the AHIMS database was conducted on 13 March 2023. The assessment aimed to identify known Aboriginal sites and/or places within a search area consisting of Lot 2 DP734669 with a 1 km buffer, encompassing Lot 2 DP528667.

The assessment identified one Aboriginal site within the 1 km buffer but outside the Site, in the adjacent Lot 1 DP734669.

Desktop assessments of the following databases were undertaken on 20 March 2023:

- National Native Title Register;
- Register of Native Title Claims; and
- Native Title Applications Registration and Determinations.

The assessment identified that the Site is within an active Native Title Claim (National Native Title Tribunal Number: NC2018/002 - Warrabinga-Wiradjuri #7, Federal Court File Number: NSD857/2017). Should Native Title be determined to exist, the Applicant would comply with all provisions of the Native Title Act and undertake consultation with Native Title claimants as required.

6.1.2 Potential Impacts

Ground disturbing activities required for construction and decommissioning of the Project have the potential to disturb Aboriginal sites or places. Although no Aboriginal sites or places were identified within the Site based on AHIMS records, this could be due to a lack of assessments undertaken within the area and is not a definitive indicator of the presence or absence of Aboriginal sites or places.

Predictive models indicate that greater Aboriginal archaeological potential tends to exist on landforms within 200 m of permanent and ephemeral water sources, along access or trade routes, and areas with suitable flora, fauna, and shelter. However, Aboriginal archaeological potential is generally reduced on landforms disturbed by erosion and historical impacts.

Although the historic agricultural land use of the Site reduces Aboriginal archaeological potential, there is still potential for unknown Aboriginal sites or places to be present, especially in proximity to the existing drainage lines and riparian vegetation. As such, a detailed assessment for Aboriginal heritage would be considered for the EIS.

6.1.3 Assessment Approach

A suitably qualified specialist would prepare an ACHAR to assess Aboriginal archaeological potential and characteristics of the Site. The ACHAR and all associated site investigations and consultation activities would be undertaken in accordance with:

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

The ACHAR would include mitigation measures to avoid or minimise potential impacts to any identified Aboriginal sites or places resulting from the Project.

6.2 Biodiversity

6.2.1 Existing Environment

The Site is predominantly open grassland mostly cleared of dense vegetation with only scattered riparian vegetation along drainage lines. Slapdash Creek is a KFH.

A Preliminary Biodiversity Assessment (PBA) was undertaken by NGH Pty Ltd (NGH) in December 2021 of Option 1, discussed in Section 3.5.1. Option 1 was assessed on the basis that it represented the "worst case scenario" for biodiversity impacts. However, as Option 3 has been chosen as the preferred option, for the purposes of the Scoping Report, only data relevant to the Site has been analysed. The PBA included desktop assessments and a site investigation. As the PBA was undertaken in 2021, desktop assessments were reconducted for the Scoping Report to attain the latest available data. The site investigation data, applicable to the Site, has been summarised below. The full PBA is attached as Appendix C.

Desktop Assessments

Desktop assessments of the following databases were undertaken on 3 May 2023 and 26 May 2023:

- Mid-Western LEP Sensitivity Biodiversity Map;
- NSW BioNet;
- DCCEEW PMST; and
- Fisheries NSW Spatial Data Portal (Fisheries Portal).

The Mid-Western LEP Sensitivity Biodiversity Map illustrates areas of 'moderate biodiversity sensitivity' and 'high biodiversity sensitivity' within the Mid-Western Regional LGA. The Site contains small areas mapped as 'high biodiversity sensitivity' along one of the northern drainage lines off Slapdash Creek, including riparian vegetation.

The BioNet assessment searched an area of 10 km x 10 km around the Site for sightings of protected species listed under the BC Act within the last decade. The assessment identified 13 sightings of eight species protected under the BC Act, including one species also listed under the EPBC Act. Table 5 presents the findings.

Table 5 BioNet results

Scientific Name	Common Name	BC Act Status	EPBC Act Status
Crinia signifera	Common Eastern Froglet	P	
Limnodynastes dumerilii	Eastern Banjo Frog	P	
Limnodynastes tasmaniensis	Spotted Grass Frog	P	
Ornithorhynchus anatinus	Platypus	P	
Tachyglossus aculeatus	Short-beaked Echidna	P	
Phascolarctos cinereus	Koala	E1, P	E
Vombatus ursinus	Bare-nosed Wombat	P	
Macropus sp.	Kangaroo / Wallaby	P	

BC Act Status: P = Protected, E1 = Endangered
EPBC Act Status: E = Endangered

The PMST assessed the Site with a 5 km buffer for MNES. A summary of the findings is included in Table 6. The complete PMST report is attached as Appendix B.

Table 6 PMST results

World Heritage Properties	None
National Heritage Places	None
Wetlands of International Importance (RAMSAR)	4
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	2
Listed Threatened Species	39
Listed Migratory Species	11

All four identified RAMSAR wetlands are located downstream from the Site with the nearest one being the Macquarie Marshes, approximately 200 to 300 km southwest. The other RAMSAR wetlands are approximately 800 to 1000 km away from the Site.

Two TECs, summarised in Table 7, were identified as likely to occur within the search area.

Table 7 TECs

TEC Name	EPBC Act Status	Likelihood of Occurrence
Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	E	Likely
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	Likely

EPBC Act Status: E = Endangered, CE = Critically Endangered

A total of 39 threatened species and 11 migratory species were identified within the search area. Of these, two threatened species are known to occur while 19 threatened species and three migratory species are likely to occur. Table 8 summarises the types of threatened species identified.

Table 8 Threatened and migratory species

Type	May Occur	Likely to Occur	Known to Occur	TOTAL
Threatened				
Bird	5	13	1	19
Fish	3	1	0	4
Mammal	1	3	1	5
Plant	8	1	0	9
Reptile	0	2	0	2
Migratory				
Bird	8	3	0	11
TOTAL	25	23	2	50

The Fisheries Portal identified Slapdash Creek as a KFH within the northern basin of the Murray-Darling Basin. The assessment showed that Slapdash Creek is graded as a 'poor' quality watercourse that supports freshwater fish communities. However, the creek is mapped as habitat for the BC Act listed, endangered Southern Purple Spotted Gudgeon (*Mogurnda adspersa*).

Groundwater Dependent Ecosystems

Groundwater dependent ecosystems (GDEs) are ecosystems that need access to groundwater to meet all or some of their water requirements to maintain their communities of plants and animals, ecological processes, and ecosystem services. The dependence of GDEs on groundwater varies from seasonal or episodic, to continual.

A desktop assessment of the BOM GDE Atlas and the Mid-Western LEP Groundwater Vulnerability Map was completed on 5 May 2023.

The BOM GDE Atlas did not identify aquatic GDE within the Site, but small areas of low and moderate potential GDE were present and corresponded to existing dam locations. No subterranean GDE data was available for the Gulgong region.

The Site is classified as groundwater vulnerable under the Mid-Western LEP.

Site Investigation

A rapid site investigation of the Site was undertaken by a NGH senior botanist to determine key vegetation types and potential for vegetation and habitat of conservation significance. The site investigation included seven hours onsite inspecting vegetation types and biodiversity values.

The site investigation found that the majority of the Site was cultivated land which did not classify as PCT. However, two plant community types (PCT) were identified within the Site. The riparian vegetation near the northern drainage line was categorised as PCT 78 while five areas of PCT 201 occurred along the southern boundary, adjacent to Jacksons Lane, and scattered across the Site. Table 9 summarises the PCTs identified.

Table 9 PCTs

PCT	Name	EPBC Act Status	BC Act Status	Condition on Site	EPBC Act TEC	BC Act TEC
78	River Red Gum riparian tall woodland / open forest wetland in the Nandewar Bioregion and Brigalow Belt South Bioregion	-	-	Trees-High	No	No
201	Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	-	E	Trees-High	No	Yes
				Trees-Mod	No	Yes

BC Act Status: E = Endangered

The PCT 201 met the BC Act criteria of TECs, either as sparse woodland or forested patches of trees. Although PCT 78 did not meet the criteria to be considered TEC, the riparian vegetation still contained good fauna habitat complexity.

Figure 6 shows the PCTs and TECs identified during the site investigation. The Figure shows the total area investigated, representative of Option 1. The summary presented above is limited to the site investigation applicable to Option 3 (north of Jacksons Lane).

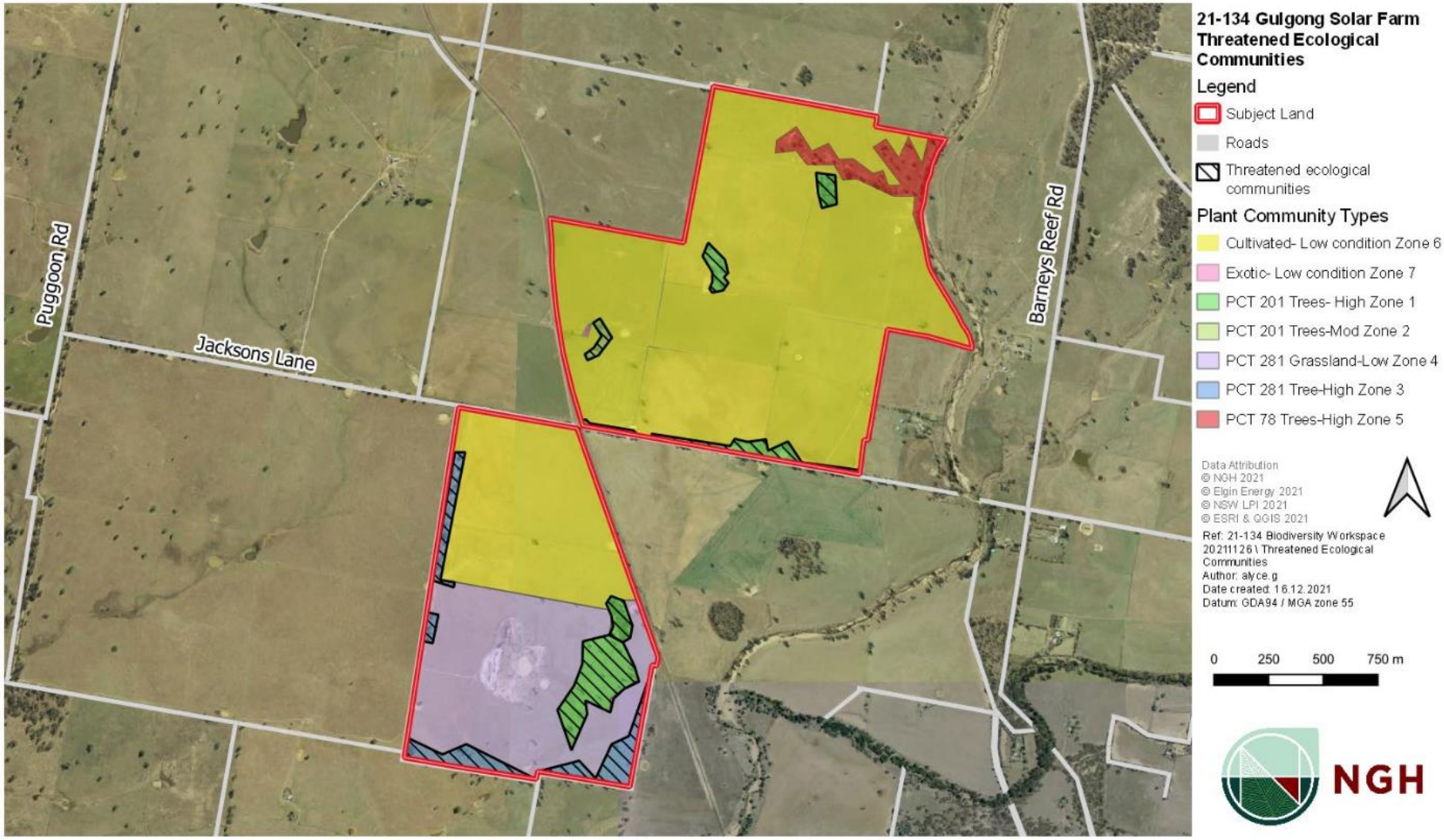

Figure 6 PCTs and TECs identified during the site investigation

6.2.2 Potential Impacts

The Project is unlikely to impact areas mapped as 'high biodiversity sensitivity' within the Site as the Development Footprint has been designed to avoid these areas. The Development Footprint has also been designed to avoid areas identified as PCTs and TECs. Mitigation measures to be implemented during construction to avoid these areas would further reduce risk to potential impacts. Despite this, the Project would still require the clearing of groundcover and has the potential to reduce available flora and fauna habitat throughout its lifespan.

The Project is highly unlikely to impact RAMSAR wetlands identified in the PMST due to the distance between the wetlands and the Site. The upgrade of Jacksons Lane would include upgrades to the water crossing at Slapdash Creek. Although, mitigation measures to avoid or minimise impacts to the watercourse and drainage lines during construction would be implemented, reducing potential impacts downstream, construction activity in and around the watercourse could still lead to water quality impacts that may be fatal to freshwater fish communities and threatened fish species.

The Project has the potential to impact threatened species populations and disrupt local ecosystems. Hence, a detailed assessment would be required for the EIS to determine the extent of biodiversity impacts.

6.2.3 Assessment Approach

A BDAR would be prepared by a suitably qualified specialist to complete a detailed assessment of potential biodiversity impacts resulting from construction and operation of the Project. The BDAR and all associated site investigations would be undertaken in accordance with the Biodiversity Assessment Method (BAM) (DPIE, 2020). The BDAR would inform refinement of the Concept Layout and include mitigation measures to avoid or minimise potential impacts to biodiversity during the life of the Project

6.3 Hazards and Risks

6.3.1 Bush Fire

Bush fires pose a health and safety risk for on-site personnel during construction and operation of the Project.

A desktop assessment of the NSW RFS Bush Fire Prone Land database was undertaken on 4 May 2023. The assessment did not identify bush fire prone land within the Site or in close vicinity to the Site. A standard bush fire assessment in accordance with *Planning for Bush Fire Protection* (RFS, 2019) is proposed to be completed for the EIS

6.3.2 Biosecurity

Weeds, pests, diseases, contaminants, and other biosecurity matter are regulated under the *Biosecurity Act 2015* (Biosecurity Act) which aims to manage biosecurity risks to primary production industries, threats to the environment and human health. Under the Biosecurity Act, everyone has a general biosecurity duty.

A desktop assessment of NSW WeedWise was undertaken on 4 May 2023 to identify known priority weeds relevant to the Site. The Mid-Western Regional LGA is included in the Central Tablelands region. The assessment identified a total of 105 weeds. Table 10 summarises the results.

Table 10 Priority weeds for the Central Tablelands

Duty	Number of Weeds
Prohibited Matter	28
Biosecurity Zone	3
Prohibition on Certain Dealings	53

Duty	Number of Weeds
Regional Recommended Measure	50
Control Order	4

Note: Some weeds fall into more than one Duty

The Site and surrounds are zoned RU1 – Primary Production under the Mid-Western LEP and are primarily used for agriculture. Biosecurity outbreaks in primary production areas pose a significant risk to the agricultural industry and national food security. The Site is within the following three biosecurity zones:

- Alligator weed (*Alternanthera philoxeroides*);
- Bitou Bush (*Chrysanthemoides monilifera* subsp. *rotundata*); and
- Water hyacinth (*Eichhornia crassipes*).

General construction activity, transportation of materials can pose a biosecurity risk as weeds, pests and contaminants can be dispersed through plant, equipment, and vehicle movement. However, risks can be effectively managed through standard plant, equipment, and vehicle cleaning protocols during construction.

A detailed assessment of biosecurity would be undertaken as part of the BDAR.

6.3.3 Hazardous Materials and Dangerous Goods

The Project would require the transportation, use, or storage of potentially hazardous materials which present potential risk to the environment and the safety of the public.

An indicative list of hazardous materials which may be transported, stored, or used as part of the Project is presented in Table 11, with relevant classifications under the *Australian Code for the Transport of Dangerous Goods by Road & Rail* (ADG Code) (NTC, 2022).

Table 11 Potential hazardous materials used by Project

Material	Dangerous Goods Class
Lithium ion batteries	Class 9
Transformer oil	Combustible liquid C1 (AS1940)
Diesel fuel	Class 3
Aerosols	Class 2
Solvents	Class 3

A Preliminary Hazard Analysis (PHA) would be prepared by a suitably qualified specialist to assess potential hazardous risks. The PHA would be completed in accordance with the following, and incorporated into the EIS:

- Applying Resilience and Hazards SEPP;
- *HIPAP No. 3 – Risk Assessment* (DoP, 2011c);
- *HIPAP No. 6 – Guideline for Hazard Analysis* (DoP, 2011e); and
- *HIPAP No. 12 – Hazards-Related Conditions of Consent* (DoP, 2011f).

6.3.1 Electromagnetic Fields

Electromagnetic fields (EMF) are the group term for electric fields and magnetic fields. Electric fields are created by differences in voltage: the higher the voltage, the stronger the resultant field. Magnetic fields are created when electric current flows: the greater the current, the stronger the magnetic field. Although contested, EMF may cause adverse effects on human health.

EMF are present on the Site due to the existing 66 kV overhead transmission line. The Project would also produce EMF when operational. On-site personnel during construction and operation of the Project would be exposed to EMF radiation.

A standard assessment of EMF during the Project would be undertaken for the EIS. The assessment would evaluate potential electric, magnetic, and electromagnetic field risks against the following International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines:

- *ICNIRP Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (1 Hz to 100 kHz)* (ICNIRP, 2010); and
- *ICNIRP Guidelines for Limiting Exposure to Electromagnetic Fields (100 kHz to 300 GHz)* (ICNIRP, 2020).

6.4 Hydrology and Flooding

6.4.1 Existing Environment

The Site is relatively flat, gently sloping towards Slapdash Creek in the southeast. The highest elevation of the Site is approximately 440 m above sea level near the Wallerawang Gwabegar Railway. The lowest elevation of the Site is approximately 420 m adjacent to Slapdash Creek.

The Site is bounded by Slapdash Creek, part of the Macquarie-Castlereagh catchment of the Murray-Darling Basin, to the east. Slapdash Creek is categorised as a Strahler order 6 watercourse and a KFH. Traversing the Site are three unnamed, nonperennial drainage tributaries of Slapdash Creek with associated riparian vegetation. None of the watercourses are tidal. Approximately 12 dams of varying sizes, associated with the drainage lines, are scattered across the Site.

Flooding

Desktop assessments of the following online databases were undertaken on 5 May 2023 to identify flood information relevant to the Site:

- Australian Flood Risk Information Portal; and
- NSW Flood Data Portal.

No existing flood studies were identified for the Gulgong region.

6.4.2 Potential Impacts

Water Quality

Water quality is most often impacted by rainfall, runoff and erosion leading to sediments and pollutants entering the water network. Sediments and pollutants can also enter the water network through ground disturbance from construction activities. Impacts to water quality can directly affect the aquatic environment and GDE. Areas within the Site at highest risk of water quality impacts are around the existing drainage lines and dams.

No perennial watercourses are present within the Site, reducing potential for direct impacts to water quality. The Development Footprint has been designed to mostly avoid existing drainage lines and dams. Where unavoidable, water

quality impacts can be effectively managed through the implementation of appropriate erosion and sediment controls (ESC). During operation, solar farms and BESS developments are considered to present a low water pollution risk, being made of relatively inert materials that are not known for emitting pollutants. The Site would also be rehabilitated post decommissioning with groundcover restored, minimising further erosion and sediment risks.

Flooding

Flooding can pose a safety risk to on-site personnel and be a liability to the Project. If not managed appropriately to minimise impacts, flooding can also cause impacts to the environment through erosion and runoff.

No flood studies relevant to the Site were available. However, based on the topography of the land and the existing drainage lines that traverse the Site, it is likely that the Site may be subject to flooding during major rain events. Therefore, it is proposed that a standard assessment be undertaken for the EIS.

Water Availability

Water would be required during the construction phase of the Project and, to a much lesser extent, during the operational phase. The Site does not have access to a reticulated town water supply and has only a limited number of small dams that catch and store water for rural purposes. It is likely that the Project's water needs would be met by tankering water to the Site. Any proposal to abstract water from local groundwater or surface water sources would need to be in accordance with requirements of the WM Act with respect to water access and licensing.

6.4.3 Assessment Approach

A suitably qualified specialist would undertake a Hydraulic Assessment to assess potential surface water and groundwater impacts. The assessment would assess flood risk and impacts to water quality within the Site, Slapdash Creek and downstream.

Factors to assess would include drainage patterns and watercourse protection, erosion hazard and sediment control, water quality, flooding, groundwater levels, and water availability and demand. A qualitative assessment of water quality is considered adequate given the low water quality risks presented by solar farm developments. Quantitative water quality modelling is not proposed.

The Hydraulic Assessment would identify appropriate buffers and site specific mitigation measures to minimise impacts to the drainage lines and dams.

6.5 Land, Soil Quality and Agriculture

6.5.1 Existing Environment

The Site is freehold land held by a single landowner, comprised of Lot 2 DP528667 and Lot 2 DP734669, totalling 217 ha. Adjacent to the eastern boundary is Slapdash Creek which is Crown Land. A Crown Enclosure Permit, which allows landowners to use the Crown Land for the grazing of stock and fencing into the adjacent freehold land, exists along the northern boundary of the Site. Traversing the Site in a northeast to southwest direction is an electrical easement servicing a 66 kV transmission line.

The Site is relatively flat, gently sloping towards Slapdash Creek in the southeast. The highest elevation of the Site is approximately 440 m above sea level near the Wallerawang Gwabegar Railway. The lowest elevation of the Site is approximately 420 m adjacent to Slapdash Creek.

Desktop assessments of the following NSW Environment Protection Authority (EPA) databases were undertaken on 4 May 2023:

- Contaminated land record of notices; and

- List of notified sites.

Desktop assessments of the DPE eSPADE v2.2 and NSW SEED database were undertaken on 8 May 2023. The following land and soil properties were assessed:

- Australian Soil Classification (ASC);
- Soil landscapes;
- Land and Soil Capability (LSC);
- BSAL; and
- Acid Sulfate Soils (ASS).

Contamination

Contaminated land presents a risk to human health and the environment and is regulated under the *Contaminated Land Management Act 1997* and *Environmentally Hazardous Chemicals Act 1985*.

The assessment reviewed records located within Gulgong and Stubbo. No record of notice or list of notified sites were identified within the Site or in close proximity to the Site. However, based on historic agricultural land use of the Site, elevated levels of agricultural chemicals could still be present in the soil.

Australian Soil Classification

The soil at the Site is classified as Sodosols under the ASC. Sodosols are texture contrast soils high in sodium concentration and an abrupt increase in clay, which may lead to soil dispersion and instability. Sodosols are prone to tunnel and gully erosion due to dispersive subsoils (ASRIS, 2012).

Soil Landscape

The Site sits within the Home Rule (hr) soil landscape. Home Rule stretches across the east and north of Gulgong and is made up of mainly Siliceous Sands and Earthy Sands on upper and mid-slopes with Bleached sands, Yellow Podzolic Soils and yellow Solodic Soils on lower slopes and flats (DLWC, 1998). Limitations of this soil landscape type include:

- Very low fertility;
- Low available water holding capacity;
- Acidic surface soils;
- Seasonal waterlogging;
- Sodic subsoils in lower slopes;
- High permeability on mid to upper slopes; and
- Moderate to high erosion hazard under cultivation.

Land Soil Capability

LSC refers to the inherent physical capacity of the land to sustain a range of land uses and management practices in the long term without degradation to soil, land, air, and water resources. Land and soil hazards including water erosion, wind erosion, soil structure decline, soil acidification, salinity, waterlogging, shallow soils, and mass movement are assessed and the LSC class of the land is based on the most limiting hazard (OEH, 2012). Table 12 outlines the LSC class definitions.

Table 12 LSC class definitions

LSC Class	General Definition

Land capable of a wide variety of land uses (cropping, grazing, horticulture, forestry, nature conservation)	
1	Extremely high capability land: Land has no limitations. No special land management practices required. Land capable of all rural land uses and land management practices.
2	Very high capability land: Land has slight limitations. These can be managed by readily available, easily implemented management practices. Land is capable of most land uses and land management practices, including intensive cropping with cultivation.
3	High capability land: Land has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitations is required for cropping and intensive grazing to avoid land and environmental degradation.
Land capable of a variety of land uses (cropping with restricted cultivation, pasture cropping, grazing, some horticulture, forestry, nature conservation)	
4	Moderate capability land: Land has moderate to high limitations for high impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high intensity grazing and horticulture. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology.
5	Moderate to low capability land: Land has high limitations for high impact land uses. Will largely restrict land use to grazing, some horticulture (orchards), forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation.
Land capable for a limited set of land uses (grazing, forestry and nature conservation, some horticulture)	
6	Low capability land: Land has very high limitations for high impact land uses. Land use restricted to low impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation
Land generally incapable of agricultural land use (selective forestry and nature conservation)	
7	Very low capability land: Land has severe limitations that restrict most land uses and generally cannot be overcome. On-site and off-site impacts of land management practices can be extremely severe if limitations not managed. There should be minimal disturbance of native vegetation.
8	Extremely low capability land: Limitations are so severe that the land is incapable of sustaining any land use apart from nature conservation. There should be no disturbance of native vegetation.

The Site is within LSC class 5 – moderate to low capability land.

Biophysical Strategic Agricultural Land

BSAL is land with high quality soil and water resources capable of sustaining high levels of productivity. BSAL was assessed and determined to support the *State Environmental Planning Policy (Resources and Energy) 2021* (Resources and Energy SEPP). Although the Resources and Energy SEPP is aimed at governing the mining and coal seam gas industries and is not applicable to renewable energy developments, the BSAL map is a good indicator of high quality agricultural land.

The desktop assessment did not identify BSAL within the Site.

Acid Sulfate Soils

The desktop assessment did not identify acid sulfate soils within the Site or surrounds.

6.5.2 Potential Impacts

Potential impacts to land and soils are expected to occur mainly during the construction and decommissioning phases of the Project. Once in operation, there is opportunity for productive agriculture to continue that is compatible with a solar farm and BESS renewable energy development and the LSC class of the Site, such as sheep grazing.

Potential soil and land impacts that could occur during construction include:

- Soil disturbance during groundcover clearing and civil works, leading to erosion of exposed soil and stockpiled materials;
- Dust generation due to wind activity and vehicle movements over exposed soil;
- Compaction and surface sealing of exposed soils, leading to increased erosion and runoff and poor vegetation condition;
- Soil structure decline caused by topsoil removal and compaction by machinery;
- Poor storm water quality due to erosion and increased sediment loads, causing turbid stormwater runoff and impacts on receiving waters;
- Potential disturbance of historical land contamination; and
- Contamination of soil due to spillage of hazardous chemicals such as fuels, oils etc.

Maintenance of established vegetation groundcover and application of site specific ESC measures, have the ability to substantially reduce risks of erosion and sedimentation. ESC proposed for the Site should take into account the instability and high erodibility of Sodosols and Home Rule soil landscapes. Rehabilitation of the Site with groundcover in areas disturbed by construction would further reduce the erosion hazard in disturbed areas.

Impacts to agricultural land resulting from the development of the Project would need to be recognised as part of broader environmental studies, particularly in relation to cumulative impacts, which may arise if multiple projects are approved in the greater area. Additionally, potential impacts to surrounding agricultural operations during construction and operation of the Project should be considered during EIS development. Potential cumulative impacts are detailed in Section 6.13.

A detailed assessment of land, soil quality and agriculture impacts would be included in the EIS.

6.5.3 Assessment Approach

A detailed assessment of potential impacts to land, soil and agriculture would be undertaken in accordance with the requirements of the LSSE Guideline. The assessment would include the following:

- Confirmation of soil type using the ASC system (Isbell, 2021), through visual, physical and laboratory analysis;
- Verification of LSC class through laboratory analysis;
- Erosion hazard would be assessed using the Revised Universal Soil Loss Equation and relevant controls identified to manage erosion and sedimentation;
- Agricultural impact assessment in accordance with the LSSE Guidelines; and
- A Land Use Conflict Risk Assessment (LUCRA) in accordance with the *Land Use Conflict Risk Assessment Guide* (DPI, 2011) fact sheet, including targeted engagement with affected landholders.

Appropriate mitigation measures to minimise land, soil quality and agriculture impacts would be developed based on the results of the detailed assessment and incorporated into the EIS.

6.6 Landscape and Visual Amenity

A Preliminary Landscape and Visual Impact Assessment (LVIA) has been undertaken by Envisage Consulting Pty Ltd (Envisage) to inform the Scoping Report in accordance with the LSSE Guideline (DPE, 2022l) and the LVIA Technical Supplement (DPE, 2022b). The purpose of the Preliminary LVIA was to identify viewpoints that could be visually impacted by the Project and determine which viewpoints would require a detailed assessment as part of the EIS.

The Preliminary LVIA is summarised below and attached as Appendix D.

6.6.1 Existing Environment

The Site is situated approximately 4.3 km northwest of the residential core of the small heritage town of Gulgong. Nearby to the Site are existing and approved renewable energy developments, including the Beryl Solar Farm (operational, approximately 6 km southwest) and Stubbo Solar Farm (approved but not yet constructed, approximately 4 km to the northeast), and numerous lattice tower transmission lines. The Tallawang Solar Farm and the Bellambi Heights Battery Energy Storage System are both under assessment, but not yet approved, and are approximately 5 km to the west of the Project.

The Site is within the NSW South Western Slopes biogeographical region, with the bioregion's characteristics described as "a large area of foothills and ranges comprising the western fall of the Great Dividing Range and comprised of a wide variety of rock and soil types across the region". The area has also been classified in terms of a 'visual landscape region', as having:

- Landscape characteristics comprised of elevated, undulating granitic slopes;
- Undulating black soil slopes with crops, pasture grasses and scattered timber;
- Higher, forested slopes and ridges; and
- Hilly lands with native grasses and scattered trees.

In proximity to the Site, distinctive natural landscape features include:

- Barneys Reef (an elevated rocky outcrop to the northwest);
- Extensive, undulating, cleared paddocks;
- Scattered trees within open pastures;
- Intermittent dense stands of tall trees (particularly on steeper slopes, along creek lines and road reserves); and
- Distant vegetated ridgelines.

The Site is gently undulating, with the elevation varying by about 13 to 15 m across the site.

6.6.2 Preliminary Assessment

In accordance with the Technical Supplement, receivers within 4 km of the Project (e.g. residents and public facilities), and possible public viewpoints from roads or rail within a 2.5 km viewshed, must be identified.

To identify viewpoints, a viewshed of the Site was developed to identify receivers with theoretical line-of-sight to the Project. The viewshed presents a worst case scenario for visual impacts as it was produced based only on 'bare earth' terrain and does not account for intervening elements such as vegetation or buildings which could obstruct views.

The following public viewpoints were identified within 2.5 km of the Project:

- A short section of the Castlereagh Highway;
- A number of local roads; and

- The Wallerawang Gwabegar Railway.

The following private viewpoints were identified within 4 km of the Project:

- 83 residential receivers; and
- two recreational receivers (Gulgong Turf Club and Cudgegong Soaring Club).

Figure 7 shows the viewshed and viewpoints developed based on an approximate height of 3.5 m for the solar panels extending close to the Site boundary.

The Preliminary Assessment Tool (PAT) provided in the Technical Supplement was then applied to these potential viewpoints. The PAT is based on the vertical and horizontal field of view that a Project is likely to occupy when viewed from each viewpoint, and is influenced by the distance, height, change in elevation, and width of a project.

The results of the PAT determined the following viewpoints, summarised in Table 13, would require detailed assessment:

- Private residential receivers R1 and R2;
- A 1.2 km section of the Castlereagh Road to the southwest;
- Viewpoints along parts of the only main local road within 2.5 km, being Barneys Reef Road; and
- Viewpoints along some minor local roads with 2.5 km such as Stubbo Lane, Old Barneys Reef Road, Jacksons Lane, and Puggoon Siding Road.

Of the 83 residential receivers identified, two are landholders associated with the Project (R63 and R64) and as such, would not be included in the detailed assessment.

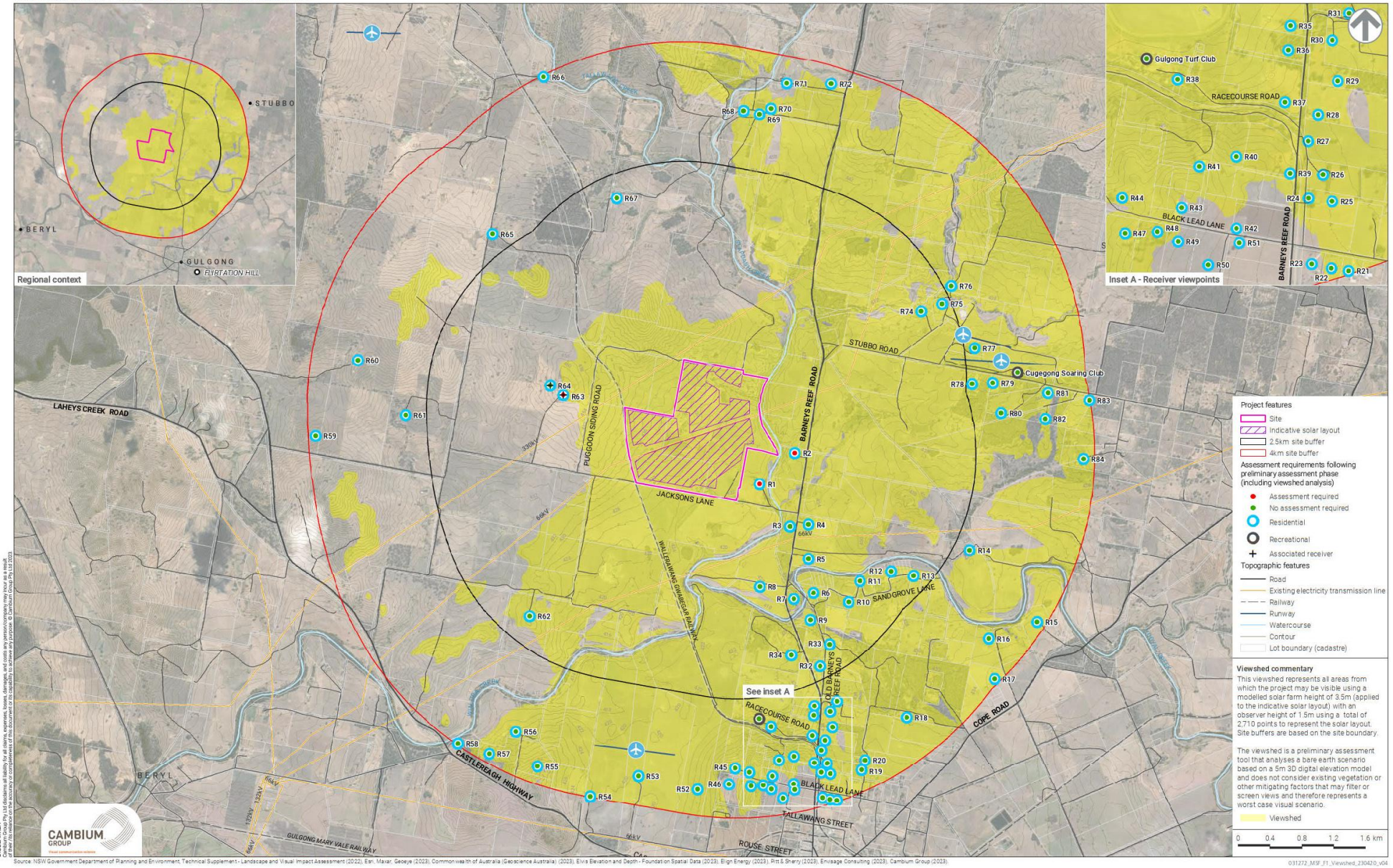

Figure 7 Viewshed and sensitive receivers in proximity to the Site

Table 13 Potentially impacted receivers determined using the PAT

Receiver	Distance to Project (m)	Receiver Viewpoint Elevation (m)	Solar Panel Maximum Elevation (m) + 3.5	Solar Panel Minimum Elevation (m)	Relative Height Difference (m)	Vertical Field of View (FOV) (°)	Horizontal FOV Category (°)
R1	382.2	424	445.3	422.3	23	3	71-130
R2	528	426.1	445.3	422.3	23	2	71-130

Note: Viewpoints along roads not represented in Table

6.6.3 Assessment Approach

A LVIA would be prepared by Envisage in accordance with the LVIA Technical Supplement to provide a detailed assessment of the visual impacts on the two private viewpoints and public viewpoints identified in the Preliminary LVIA. The LVIA would be incorporated into the EIS.

Subject to revisions to the Project layout as the impact assessment process continues, some of the results of the Preliminary LVIA may change during detailed assessment. Any change to the relative location, number, and sensitivity of receivers would be reviewed and updated as part of the LVIA.

A glint and glare assessment will be completed in accordance with the requirements of Appendix C of the LSSE Guideline.

6.7 Noise and Vibration

6.7.1 Existing Environment

The Site is located in rural Stubbo, zoned RU1 – Primary Production under the Mid-Western LEP. Like the Site, the surrounding environment is also rural and predominantly used for agricultural production. The existing noise environment is typical of a rural setting with the predominant noise and vibration sources being from agricultural activities and vehicle movement along local roads.

There are a total of 88 sensitive receivers within 4 km of the Site. Of the 88 sensitive receivers, there are two commercial receivers, two recreational receivers and 84 residential receivers. Of the residential receivers, R63 and R64 are associated with the Project while R1 and R2 are located nearest to the Site. Figure 7 shows the locations of the noise sensitive receivers to the Site which are equivalent to the visual sensitive receivers.

6.7.2 Potential Impacts

Noise and vibration impacts (NVI) could be disruptive to sensitive receivers within close vicinity to the Site. Severe NVI could affect the general wellbeing of sensitive receivers, the natural behaviours in the environment and potentially damage historic structures.

It is anticipated that most NVI would result from the construction phase of the Project. Plant and equipment proposed for construction would generate levels of noise and vibration atypical to the existing environment. The juxtaposition of the existing rural noise environment with general construction activities would be great and highly noticeable to sensitive receivers. However, most NVI would be temporary and limited to the construction phase of the Project.

Minimal NVI are expected during the operational phase of the Project. Operational NVI would be limited to some low noise generating ancillary infrastructure. The Concept Layout would be refined to locate these infrastructure away from sensitive receivers.

Due to the potential NVI of the construction phase and the relatively high number of sensitive receivers within 4 km of the Site, a detailed assessment of NVI would be undertaken for the EIS.

6.7.3 Assessment Approach

A suitable qualified specialist would prepare a Noise and Vibration Impact Assessment (NVIA) to assess potential NVI resulting from the Project. The NVIA would be completed in accordance with the following:

- *Interim Construction Noise Guideline* (DECC, 2009);
- *NSW Road Noise Policy* (DECCW, 2011)*;* and
- *Noise Policy for Industry* (EPA, 2017).

Mitigation measures to minimise NVI for sensitive receivers would be developed as part of the NVIA and incorporated into the EIS.

6.8 Social

A Scoping Social Impact Assessment (SIA) has been prepared by CChange Sustainable Solutions (CChange) in accordance with the LSSE Guideline (DPE, 2022l) and the SIA Guidelines (DPE, 2021e). The full Scoping SIA is attached as Appendix E.

6.8.1 Existing Environment

The Project is located in the Mid-Western Regional LGA in Stubbo, approximately 5 km north of Gulgong in the Central Tablelands of NSW, some 300 km northwest of Sydney. The traditional custodians of the land are the Wiradjuri nation and Gulgong, meaning 'deep waterhole', is derived from the Wiradjuri nation's native language.

Although cited as having a population of up to 20,000 at the height of the gold rush (1873), at the 2021 Census, Gulgong had a population of 2,680 (ABS, 2021). This was an increase of 159 people from 2016 (ABS, 2016).

The median age of the population was 41 years old and around 88 % of the population classified their cultural ancestry as either English (44.9 %) or Australian (43.7 %). Aboriginal and/or Torres Strait Islanders represented 7.5 % of the population, which is markedly higher than the NSW proportion of 3.4 %.

In 2021, there were 1,202 private dwellings in Gulgong with the majority of these being separate houses (94.2 %). Average number of people per household in 2021 was 2.4 and couple family without children accounted for 41.8 % of households, which was higher than NSW's proportion at 37.9 %. Approximately 72 % of dwellings were either owned outright or with a mortgage, which often indicates a stable community committed to the area.

Labour force participation rates were similar in Gulgong to NSW in 2021, with 55.4 % of people over the age of 15 indicating they were 'in the labour force' compared to 58.7 % for NSW. Mining employs the largest number of people and is dominated by males. Health and social assistance is the second largest employer and is dominated by females. Retail trade and accommodation and food services are also large employers. Based on ABS Quickstats for 2011, the top 5 industries of employment were coal mining (18.2 %), supermarket and grocery stores (4.1 %), accommodation (3.6 %), aged care residential services (3.5 %) and primary education (2.8 %). In 2021, the Census indicated that male unemployment in Gulgong was 3.5 %, female unemployment was 5.2 % and overall unemployment was 4.3 %, compared to 4.9 % for NSW.

In 2021, the highest level of educational attainment for over two thirds of people in Gulgong (66.3 %) was secondary schools and Certificate 3 qualifications.

The largest population centre relative to the Project is Mudgee with a population of 11,457. This is supported by the smaller towns of Kandos (1,263) and Rylstone (904) (ABS, 2021).

6.8.2 Potential Impacts

The Scoping SIA identified a range of potential impacts and opportunities associated with the Project. These were identified through engagement with the community and stakeholder, and through review of publicly available reports completed for other proposed developments in the area. Some of the key potential impacts and benefits include:

- Waste generation during construction, and decommissioning due to infrastructure disposal and environmental rehabilitation at end of project life;
- Amenity impacts due to increased noise and dust during construction, and visual impacts during construction and operation;
- Housing and accommodation impacts during construction;
- Perceived physical and safety effects due to perceived health risks, fire risks, battery storage etc.;
- Impacts on road conditions - decreased road conditions due to increased traffic;
- Transition from fossil fuels and reducing emissions compared to non-renewable sources;
- Potential for infrastructure upgrades (e.g. improving local roads, major roads, proponent contributing to community infrastructure to offset impacts etc.);
- Local employment, procurement, and training - construction and to a lesser extent operation - and assisting in economic sustainability of the town (construction); and
- Possible power purchase agreements with Council and other energy users to access affordable, clean energy.

6.8.3 Assessment Approach

Potential social impacts and benefits will be assessed in accordance with the requirements of the SIA Guideline (DPE, 2021e) and the *Technical Supplement Social Impact Assessment Guideline for State Significant Projects* (DPE, 2023b). The SIA will be led by a suitably qualified Social Scientist.

6.9 Traffic, Transport and Access

6.9.1 Existing Environment

A preliminary traffic assessment identified a suitable STAR for heavy vehicles exists. The STAR from Sydney would be via the Castlereagh Highway. On approach to Gulgong, Castlereagh Highway merges with Fisher Street, vehicles would turn right off Fisher Street at Caledonian Street, right at Rouse Street, left at Medley Street/Barneys Reef Road, left at Jacksons Lane, then right into the Site at a yet to be determined location. Returning vehicles would use the reverse route.

The Transport for NSW Restricted Access Vehicle (RAV) interactive map viewer indicates that the Golden Highway and Castlereagh Highway from the NTAR are approved for 19 m to 26 m B-double vehicles. Castlereagh Highway from the STAR is only approved for 19 m B-doubles, limited by the section crossing the Greater Blue Mountains Area. Caledonian Street and Rouse Street are approved for 19 m to 26 m B-double vehicles. Medley Street / Barneys Reef Road section is B-double approved with travel conditions that restrict speed to 80 km/h and restrict travel to outside school bus operation times. Old Mill Road and Jacksons Lane are not approved RAV roads. The details of these restrictions would be clarified with MWRC.

Most of the proposed roads are suitable for safe OSOM vehicle access and transport. However, some local road conditions may require upgrades to facilitate access to the Site.

A desktop assessment of the Transport for NSW Traffic Volume Viewer was undertaken on 9 May 2023 to understand existing traffic conditions along the proposed transport access routes.

No data was available for the Local roads of Gulgong. No data was available for State roads Golden Highway or the

Castlereagh Highway. Available traffic data along the NTAR and STAR are presented in Table 14.

Table 14 Traffic Volumes

Station ID	Type	Location	2023 Mean Daily Traffic Count (east and westbound combined)	Light Vehicles (%)	Heavy Vehicles (%)
NTAR					
HEXBUCHWPR	Permanent Classifier	M15 Hunter Expressway – 960 m South of John Renshaw Drive, Buchanan	31,596	88	12
STAR					
6191	Permanent Classifier	Great Western Highway - 1.41 km south of Forty Bends Road, Hartley	10,780	82	18
6190	Permanent Classifier	Great Western Highway – 330 m West of Walker Street, Hartley	11,600	80	20
6193	Permanent Classifier	Great Western Highway - 1.66 km East of Coxs River Road, Little Hartley	11,392	79	21
6189	Permanent Classifier	Great Western Highway - 1.67 km West of Berghofer Drive, Little Hartley	11,165	80	20
6188	Permanent Classifier	Great Western Highway – 260 m West of Victoria Street, Mount Victoria	11,493	82	18
T0485	Heavy Vehicle Checking Station (Classifier)	Great Western Highway – 300 m South of Carawatha Road, Blackheath	12,815	-	-
T0298	Heavy Vehicle Checking Station (Classifier)	Great Western Highway – 470 m South of Carawatha Road, Blackheath	12,609	84	16

Jacksons Lane, a two-way, unsealed, and unmarked Local road, is connected to Barneys Reef Road to the east and Puggoon Road, a two-way unsealed, unmarked Local road, to the west. Traffic along Jacksons Lane would likely be limited to associated residences and local agricultural producers and plant. Given the condition of the road and its distance from Gulgong, the use of Jacksons Lane as a thoroughfare is unlikely.

Barneys Reef Road, a two-way, sealed, and unmarked Local road, is connected to the Castlereagh Highway, Birriwa to the north and Gulgong to the south. The road does not pass through any other townships or destinations along the way.

Traffic along Barneys Reef Road would likely be limited to associated residences and local agricultural producers and plant. As Castlereagh Highway also connects directly to Gulgong, it is unlikely Barneys Reef Road would be used as a thoroughfare to the town.

Medley Street, Old Mill Road and Caledonian Street are all two-way, sealed, and unmarked Local roads while Rouse Street is two lane, single carriageway. Traffic along these roads would be typical of rural town roads most often frequented by local residents and people employed in Gulgong. Traffic would likely increase during peak holiday season due to an influx of tourists.

Golden Highway and Castlereagh Highway (Fisher Street within Gulgong) are two lane, single carriageways. These roads are major highways connecting multiple towns from the east coast to inland. Traffic along these roads would be typical of rural highways most often used by light vehicles for thoroughfare and OSOM for transportation.

The Project would require safe access to the Site and the transport of materials. Transport and access to the Site is discussed in Section 3.4.1.

6.9.2 Potential Impacts

OSOM vehicles would require access to the Site to transport Project construction and operational machinery, equipment, and supplies. Some improvements to the local road network, including widening, may be required to accommodate OSOM vehicles. Upgrades to Jacksons Lane may also include replacement of the existing Slapdash Creek crossing.

All internal access tracks would be unsealed and serve as construction access and maintenance access for operations. During construction, plant, equipment, and vehicles would utilise the Development Footprint for parking as appropriate. Parking would be limited to designated areas during operation to minimise disturbance of soil and groundcover.

The following ancillary works may be required to support the Project depending on further investigations and final transport plans:

- Upgrades to Jacksons Lane and Old Mill Road;
- Upgrade of approaches and turning lanes, such as the intersection of Castlereagh Highway and Old Mill Road, Castlereagh Highway and Caledonian Street, and Rouse St and Medley Street;
- Widening of Barneys Reef Road and Caledonian Street; and
- Construction of temporary construction access roads within the Site.

Golden Highway, Castlereagh Highway and Fisher Street are classified State roads managed by Transport for NSW (TfNSW, 2023). Caledonian Street and Rouse Street are classified Regional roads also managed by Transport for NSW. Old Mill Road, Medley Street, Barneys Reef Road, and Jacksons Lane are all Local roads managed by MWRC. Following consultation with MWRC, the upgrade and seal of Jacksons Lane, including the replacement of the existing vehicle crossing over Slapdash Creek has been included as part of the Project. Additional access and potential road upgrades would be completed in consultation with appropriate agencies.

The transport access routes proposed minimise traffic impacts to Gulgong by using roads along the boundary of the town, avoiding the more populous town centre. Still, increased levels of traffic would be generated during the construction stage of the Project. Traffic would include light vehicles for the movement of construction workers and the delivery of materials, as well as OSOM vehicles for the delivery of large infrastructure and components to the Site. Traffic increases associated with the operation of the Project would be minimal and is expected to mostly involve light vehicle movements.

The Project would not be utilising the Wallerawang Gwabegar Railway and Gulgong Station for the transport of materials. Therefore, no impacts to the railway or existing rail movements are expected.

A detailed assessment of traffic, transport, and access impacts is proposed for the EIS.

6.9.3 Assessment Approach

A Traffic Impact Assessment (TIA) would be prepared as part of the EIS to assess the potential impacts to the proposed transport access routes and the wider road network. Consultation and engagement with Transport for NSW and MWRC would inform the TIA and help to understand existing road conditions and safety concerns. The TIA would consider the following documents in its preparation:

- *Guide to Traffic Generating Developments* (RTA, 2002);
- *Austroads Guides to Road Design* (Austroads, 2021);
- *Austroads Guides to Traffic Management* (Austroads, 2020); and
- Any relevant standards.

The TIA would outline any suggested road upgrades and also include mitigation measures to minimise traffic, transport, and access impacts. The TIA would be incorporated into the EIS.

6.10 Air Quality

6.10.1 Existing Environment

The existing air quality of the Site is characteristic of a rural environment based on the surrounding land uses. Regular sources of air pollutants and emissions in the area are a result of agricultural activities and emissions from vehicles and farm plant.

The nearest air monitoring station to the Site is Dubbo within the Central West NSW air quality monitoring region. Located at the Bureau of Meteorology (BOM) Dubbo airport site, the Dubbo monitoring station is approximately 88 km west of the Site. The following air pollutants are currently measures at Dubbo:

- Particulate matter with diameter of ≤10 micrometres (µm) as PM_{10};
- Particulate matter with diameter of ≤2.5 µm as $PM_{2.5}$; and
- Total Suspended Particles (TSP).

Air pollutants are measured hourly, and results correspond to an Air Quality Category (AQC) ranging from ‘Good’, ‘Fair’, ‘Poor’, ‘Very Poor’ to ‘Extremely Poor’.

A desktop assessment of the NSW Air Quality database was undertaken on 3 May 2023. The assessment reviewed available air quality data from the Dubbo monitoring station. Data was only available for the past six months.

The assessment found that the average AQC for all pollutants across the past six months was “Good”.

6.10.2 Potential Impacts

Construction and decommissioning activities such as ground disturbance and vehicle movements have the potential to generate dust and emissions, and impact local air quality. Dependent on wind conditions, these impacts are likely to be localised to the Site and immediate surrounds and may include sensitive receivers located nearest to the Site. Air quality impacts are unlikely to reach the town of Gulgong or impact the greater Central West NSW air quality monitoring region.

Potential impacts to air quality resulting from the Project would be temporary in nature and limited to the construction and decommissioning phases. Air quality impacts during the operational phase of the Project are not anticipated as solar farms do not produce air pollution or greenhouse gases when operating. Once decommissioned, the Project would be rehabilitated to pre-construction conditions including restoration of groundcover, thus minimising further dust generation.

Overall, potential air quality impacts resulting from the Project are expected to be low and further minimised by the

implementation of standard dust suppression measures during dust generating activities. Therefore, a standard assessment is proposed to be incorporated into the EIS.

6.10.3 Assessment Approach

A standard air quality impact assessment would be undertaken for the EIS. The assessment would evaluate the potential for air emissions during construction and decommissioning activities and identify key sensitive receivers. Mitigation measures would be developed to manage and minimise potential air emissions.

6.11 Conservation Areas, Historic Heritage, and Natural Heritage

6.11.1 Existing Environment

The Site has historically been used for agriculture. Currently, the Site is used for cropping and sheep grazing. No named watercourses traverse the Site, however, three drainage lines from Slapdash Creek are present in the northern section and across the middle of the Site.

The historic town of Gulgong is located approximately 4.3 km south of the Site and has rich European history dating back to the 19th century gold rush. An estimated 20,000 people lived in and around Gulgong by 1872 (GCoC, 2021). Many of the historic buildings from the time still stand and are heritage listed in the Mid-Western LEP.

Desktop assessments of the following databases were undertaken on 10 May 2023 to identify any known conservation areas and/or historic heritage in proximity to the Site:

- State Heritage Inventory;
- Australian Heritage Database;
- Mid-Western LEP; and
- National Parks and Wildlife Service (NPWS) database.

The desktop assessments identified the following:

- Four State Heritage Register listings within the Gulgong and Stubbo search areas;
- One heritage conservation area and nine historic heritage listings on the Australian Heritage Database within the Gulgong and Stubbo search areas;
- 171 Mid-Western LEP historic heritage listings within the Gulgong and Stubbo search area; and
- No ecological State Conservation Areas and one National Park is within 10 km of the Site.

None of the results were located within the Site. The nearest heritage listing to the Site was ‘Gulgong railway bridge over Wialdra Creek’ located approximately 1.75 km south of the Site.

6.11.2 Potential Impacts

Construction activities have the potential to impact heritage and ecological conservation areas as well as historic and natural heritage through the clearing of land and noise and vibration.

The Project is unlikely to impact the identified conservation area and listings due to their distance from the Site. The nearest listing is located approximately 1.75 km south of the Site. Noise and vibration impacts from the Project are highly unlikely to impact the ‘Gulgong railway bridge over Wialdra Creek’ due to distance, as well as the fact that the associated section of Wallerawang Gwabegar Railway is still in operation and the bridge was constructed to withstand direct railway vibrations.

Typically, given the historic agricultural land use of the Site, potential for unknown historic heritage items would likely be low. However, the Site's proximity to historic Gulgong, increases the potential of ground disturbing construction activities impacting unknown historic heritage items dating back to the 19th century.

Therefore, a standard assessment is proposed for the EIS.

6.11.3 Assessment Approach

A standard historic heritage impact assessment would be undertaken for the EIS. The assessment would assess the potential for impacts to unknown historic heritage during the construction phase of the Project. The assessment would inform the development of mitigation measures to manage and minimise potential impacts.

6.12 Waste

6.12.1 Potential Impacts

Waste and resource usage associated with construction are anticipated to include fuel for vehicles and equipment, construction materials and packaging, general waste, and water for dust suppression and construction activities. Operational resource use and waste streams are expected to be minimal.

6.12.2 Assessment Approach

Likely waste streams to be generated during construction, operation, and decommissioning will be identified and quantified as part of the EIS. A Waste Management Plan will be developed prior to construction and would include strategies to minimise waste generated where possible and identify appropriate registered facilities for recycling and disposing of waste materials.

6.13 Cumulative Impacts

The Project will contribute to the overall development of the Central-West Orana REZ. Potential cumulative impacts of other developments, both related and unrelated to the REZ located within 50 km of the Project are summarised in Table 15.

The Project may generate cumulative impacts concurrent with surrounding projects during both construction and operations. These impacts may include cumulative visual, construction traffic, social, and waste impacts. However, there may also be a cumulative benefit to local communities from the Project and other developments in the region through the generation of jobs during construction and ongoing operations. A cumulative impact assessment (CIA) will be completed as part of the EIS in accordance with the CIA Guidelines.

Table 15 Cumulative impact assessment scoping table

Project	Proximity	Status	Potential cumulative impacts
Stubbo Solar Farm	4 km NE	• Approved • Construction and operations overlap	• Visual amenity – Detailed assessment required to determine cumulative impacts during operation • Traffic – Detailed assessment of cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Noise and vibration – Detailed assessment of cumulative impacts from construction traffic during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Bellambi Heights Battery Energy Solar Farm	4 km SW	• Under assessment • Construction and operations overlap	• Visual amenity – Detailed assessment required to determine cumulative impacts during operation • Traffic – Detailed assessment of cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Noise and vibration – Detailed assessment of cumulative impacts from construction traffic during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Tallawang Solar Farm	5 km W	• Under assessment • Construction and operations overlap	• Visual amenity – Detailed assessment required to determine cumulative impacts during operation • Traffic – Detailed assessment of cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Noise and vibration – Detailed assessment of cumulative impacts from construction traffic during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Beryl Solar Farm	7 km SW	• Operational • Operations overlap	• Visual amenity – Detailed assessment required to determine cumulative impacts during operation
Barneys Reef Wind Farm	9 km N	• Under assessment • Possible construction and operations overlap	• Visual amenity – Detailed assessment required to determine cumulative impacts during operation • Traffic – Detailed assessment of cumulative impacts during construction and operations overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Noise and vibration – Detailed assessment of cumulative impacts from construction traffic during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Ulan Solar Farm	13 km E	• Under assessment • Possible construction and operations overlap	• Traffic – Detailed assessment of potential cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning

Birriwa Solar Farm	20 km N	• Under assessment • Possible construction and operations overlap	• Traffic – Detailed assessment of potential cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Orana Wind Farm	21 km NW	• Under assessment • Construction overlap	• Traffic – Detailed assessment of cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Sandy Creek Solar Farm	26 km NW	• Under assessment • Possible construction and operations overlap	• Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Cobbora Solar Farm	28 km NW	• Under assessment • Construction overlap	• Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Dapper Solar Farm	30 km NW	• Under assessment • End stage construction overlap	• Traffic – Detailed assessment of cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Uungula Wind Farm	38 km SW	• Approved, under construction • Possible construction and operations overlap	• Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Spicers Creek Wind Farm	38 km NW	• Under assessment • Possible construction and operations overlap	• Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Central-West Orana Transmission Line	40 km E (approx. alignment)	• Under assessment • Construction overlap	• Traffic – Detailed assessment of cumulative impacts during construction overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Wollar Solar Farm	42 km E	• Under assessment • Possible construction and operations overlap	• Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning
Bowdens Silver Mine	45 km SE	• Under assessment • Possible construction and operations overlap	• Traffic – Detailed assessment of cumulative impacts during construction and operations overlap • Social – Detailed assessment of cumulative impacts during construction overlap • Waste – Standard assessment of cumulative impacts during construction and decommissioning

6.14 Matters not requiring further assessment in the EIS

Matters that do not require further assessment in the EIS are outlined in Table 16.

Table 16 Matter not requiring further assessment in the EIS

Matter	Comment
Port and airport facilities	The Site is not located near any port or airport facility. The nearest airport facility is Mudgee Airport, approximately 29 km southeast of the Site. The Site is located approximately 217 km west of the nearest coastline and 220 km west of the nearest port facility at Newcastle.
Coastal hazards	The Project is not located within a coastal zone.
Odour	Solar farms and BESS renewable energy developments are not known to emit odours which could impact nearby sensitive receivers. Likewise, it is not anticipated that the Project would produce odours during construction or operation.
Accessibility	The Project is not intended for public access. Accessibility of the Project would be limited to construction personnel during the construction phase and suitably qualified personnel during the operational phase.
Greenhouse gas and energy	As the Project will generate renewable energy, it is anticipated that any emissions generated during the construction, operation or decommissioning phases will be offset by the reduction in energy generation emissions. Greenhouse gas emissions will be addressed in the justification for the Project as part of the EIS.

7. Conclusion

The Project Site was identified as a preferred location due its relatively flat topography, limited agricultural purpose, and its proximity to and capacity of connection to the existing 66 kV transmission line.

The Project would improve the reliability and security of the state and national electricity network by generating electricity from renewable sources, storing surplus energy on the Site, and releasing dispatchable energy during peak demand periods. This in turn would support energy generation and storage development in NSW and Australia by increasing flexibility and resilience of the electrical grid as overall renewable energy generation increases and non-renewable energy generation decreases over time.

The Development Footprint has been selected to avoid areas of high biodiversity value and minimise impacts to natural drainage tributaries of Slapdash Creek within the Site. The Development Footprint has incorporated deliberate boundary setbacks in consideration of minimising the potential visual, and construction noise impacts to surrounding receivers.

As further investigations are completed, and community and stakeholder engagement is undertaken, the Development Footprint would be reviewed and refined in response to the outcomes and findings. Where impacts cannot be avoided, measures for minimising, managing, or offsetting throughout construction, operation, and decommissioning would be developed in preparation of the Environmental Impact Statement (EIS).

While minimising impacts to the environment, the Project will also provide the following benefits to the state, regional, and local communities, including:

- Infrastructure investment of approximately $150 million;
- Supporting Australia's 2030 emission reduction targets, NSW's transition to net-zero emissions by 2050 and the objectives and themes of the CWORP and MWRCP;
- Improving the stability and reliability of the electricity network by storing energy during periods of low demand, including those from intermittent renewable sources and dispatching energy during periods of peak demand;
- Local employment opportunities during an approximate 12 month construction period with up to 150 jobs during a peak period of four months and approximately 1-3 full-time jobs during the proposed 40 year operational life; and
- Benefits to the local community through the implementation of a community benefit scheme to be developed in consultation with the community and stakeholders.

Following scoping phase investigations, the Project is unlikely to have significant long-term impacts to the environment, locality, and region, with potential impacts during construction likely to be short-term, and able to be acceptably mitigated.

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Scoping Summary Table

Appendix A

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Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Scoping Report Reference
Detailed Assessment				
Aboriginal Heritage	N	Specific	• *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance* (ICOMOS, 2013) • *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) • *Aboriginal cultural heritage consultation requirements for proponents* (DECCW, 2010b) • *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a)	6.1
Biodiversity	N	General	• *Biodiversity Assessment Method* (DPIE, 2020c) • *NSW Biodiversity Offsets Policy for Major Projects* (OEH, 2014) • *Framework for Biodiversity Assessment* (OEH, 2018) • *Threatened Biodiversity Survey and Assessment* (DEC, 2004) • *Surveying threatened plants and their habitats* (DPIE, 2020b) • *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI, 2013a) • *Controlled activities - Guidelines for watercourse crossings on waterfront land* (DPE, 2022e) • *Controlled activities - Guidelines for riparian corridors on waterfront land* (DPE, 2022e) • *Controlled activities – Guidelines for vegetation management plans on waterfront land* (DPE, 2022i)	6.2
Hazards and Risks	N	Specific	• *Planning for Bushfire Protection* (RFS, 2019) • *ICNIRP Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (1 Hz to 100 kHz)* (ICNIRP, 2010) • *ICNIRP Guidelines for Limiting Exposure to Electromagnetic Fields (100 kHz to 300 GHz)* (ICNIRP, 2020). • *Hazardous Industry Planning Advisory Paper No 2. – Fire Safety Study Guidelines* (DoP, 2011b)	6.3

Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Scoping Report Reference
			• *Hazardous Industry Planning Advisory Paper No. 3 – Risk Assessment* (DoP, 2011c) • *Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis* (DoP, 2011e) • *Hazardous Industry Planning Advisory Paper No 12 – Hazards-Related Conditions of Consent* (DoP, 2011f) • *Australian Code for the Transport of Dangerous Goods by Road & Rail* (NTC Australia, 2022) • *State Environmental Planning Policy (Resilience and Hazards) 2021* • *Assessment Guideline: Multi-Level Risk Assessment* (DoP, 2011a)	
Hydrology and Flooding	N	General	• *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018) • *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom, 2004) • *Managing Urban Stormwater: Soils and Construction Volume 2* (DECC, 2008) • *Approved methods for the sampling and analysis of water pollutants in NSW* (EPA, 2022b) • *Controlled activities - Guidelines for instream works on waterfront land* (DPE, 2022h) • *Controlled activities – Guidelines for outlet structures on waterfront land* (DPE, 2022g) • *Controlled activities - Guidelines for watercourse crossings on waterfront land* (DPE, 2022f)	6.4
Land, Soil Quality, and Agriculture	N	General	• *Land Use Conflict Risk Assessment Guide* (DPI, 2011) • *Best Practice Erosion and Sediment Control* (IECA, 2008) • *Large-Scale Solar Energy Guideline* (DPE, 2022c) • *Land and Soil Capability Assessment Scheme* (OEH, 2012)	6.5
Landscape and Visual Amenity	Y	Specific	• *Large-Scale Solar Energy Guideline* (DPE, 2022c) • *Technical Supplement – Landscape and Visual Impact Assessment* (DPE, 2022b)	6.6
Glint and Glare	N	General	• *Large-Scale Solar Energy Guideline* (DPE, 2022c) • *Technical Supplement – Landscape and Visual Impact Assessment* (DPE, 2022b)	6.6

Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Scoping Report Reference
Noise and Vibration	Y	Specific	• *Interim Construction Noise Guideline* (DECC, 2009) • *NSW Road Noise Policy* (DECCW, 2011) • *Noise Policy for Industry* (EPA, 2017) • *Assessing Vibration: a technical guideline* (DEC, 2006)	6.7
Social	Y	Specific	• *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2021c) • *Social Impact Assessment Guidelines for State Significant Projects* (DPE, 2021e) • *Large-Scale Solar Energy Guideline* (DPE, 2022c) • *IAP2 Core Values* (IAP2, 2019) • *IAP2 Public Participation Spectrum* (IAP2, 2018) • *Workforce Strategy 2022-26* (MWRC, 2022)	6.8
Traffic, Transport, and Access	Y	Specific	• *Guide to Traffic Generating Developments* (RTA, 2002); • *Austroads Guide to Road Design* (Austroads, 2021); • *Austroads Guide to Traffic Management* (Austroads, 2020) • *Temporary Road Closures Policy* (MWRC, 2013) • *Unmaintained and Unformed Roads Policy* (MWRC, 2019) • *Bitumen Sealing of Gravel Roads Policy* (MWRC, 2018) • *Protective Fencing and Overhead Protective Structures in Public Places Policy* (MWRC, 2013) • *Roads Asset Management Plan 2016-2026* (MWRC, 2016) • Relevant Austroads Specifications • *Australian Code for the Transport of Dangerous Goods by Road and Rail* (NTC Australia, 2022)	6.9
Cumulative Impacts	Y	General	• *Cumulative Impact Assessment Guidelines* (DPE, 2021b)	6.13

Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Scoping Report Reference
Standard Assessment				
Air Quality	N	General	• *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2022a) • *Approved methods for the sampling and analysis of air pollutants in NSW* (EPA, 2022c)	6.10
Conservation Areas, Historic Heritage, and Natural Heritage	N	General	• *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance* (ICOMOS, 2013) • *Investigating heritage significance* (HCNSW, 2021) • *Assessing heritage significance* (DPIE, 2022) • *Assessing Significance for Historical Archaeological Sites and 'Relics'* (HBDP, 2009)	6.11
Waste	Y	General	• *Waste Classification Guidelines* (EPA, 2014)	6.12

Database Search Results

Appendix B

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AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : P.22.1407

Client Service ID : 762883

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Level 9, Suite 901 1 Elizabeth Plaza
NORTH SYDNEY New South Wales 2060

Attention: Vivian Lee Yu

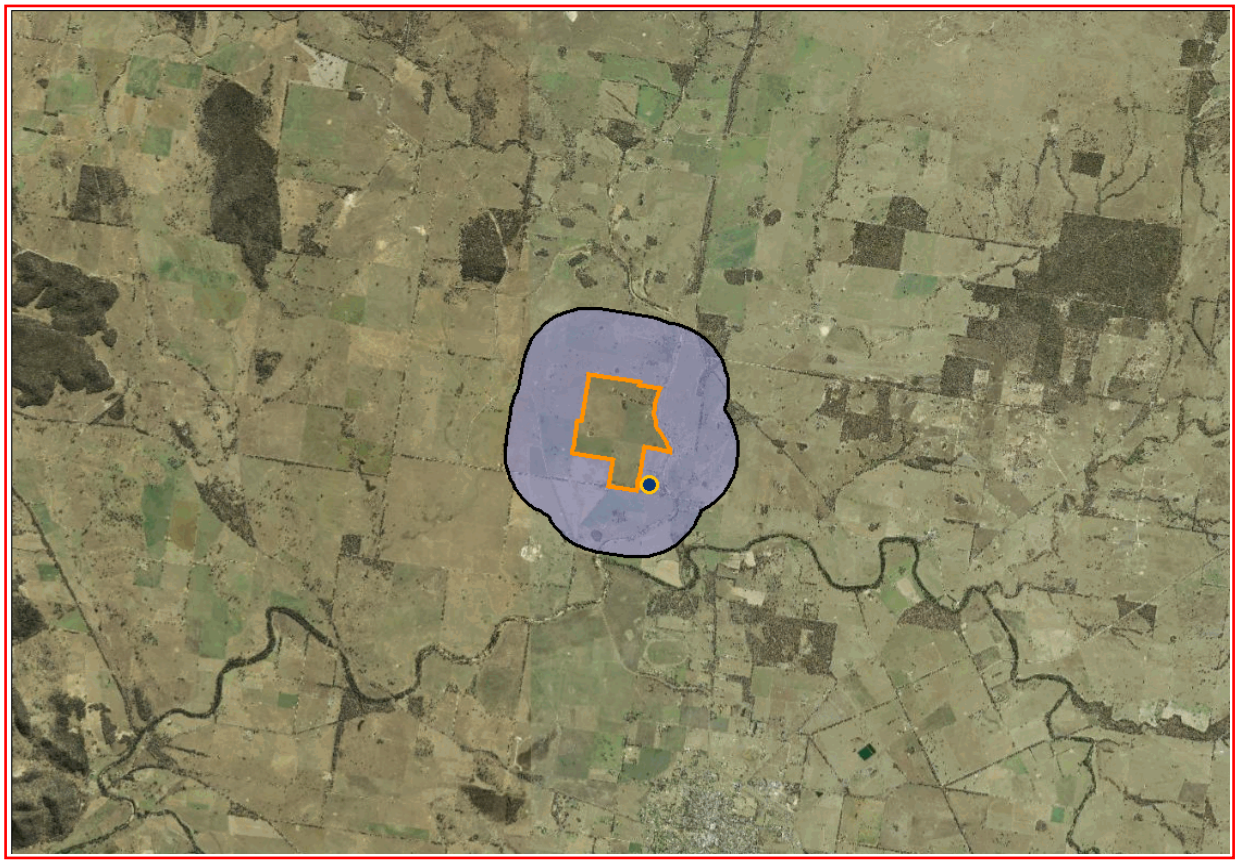
Email: vleeyu@pittsh.com.au

Date: 13 March 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 2, DP:DP734669, Section : - with a Buffer of 1000 meters, conducted by Vivian Lee Yu on 13 March 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

1	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Threatened (listed on BC Act 2016) ,Commonwealth listed ,Protected ,CAMBA listed ,JAMBA listed or ROKAMBA listed Entities in selected area [North: -32.25 West: 149.47 East: 149.57 South: -32.35] recorded since 01 Jan 2013 until 03 May 2023 returned a total of 13 records of 8 species.

Report generated on 3/05/2023 2:30 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Animalia	Amphibia	Myobatrachidae	3134	*Crinia signifera*		Common Eastern Froglet	P		1	
Animalia	Amphibia	Limnodynastidae	3058	*Limnodynastes dumerilii*		Eastern Banjo Frog	P		1	
Animalia	Amphibia	Limnodynastidae	3063	*Limnodynastes tasmaniensis*		Spotted Grass Frog	P		1	
Animalia	Mammalia	Ornithorhynchidae	1001	*Ornithorhynchus anatinus*		Platypus	P		2	
Animalia	Mammalia	Tachyglossidae	1003	*Tachyglossus aculeatus*		Short-beaked Echidna	P		1	
Animalia	Mammalia	Phascolarctidae	1162	*Phascolarctos cinereus*		Koala	E1,P	E	2	
Animalia	Mammalia	Vombatidae	1165	*Vombatus ursinus*		Bare-nosed Wombat	P		3	
Animalia	Mammalia	Macropodidae	T085	*Macropus sp.*		kangaroo / wallaby	P		2	

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 03-May-2023

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	39
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	18
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	7
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	800 - 900km upstream from Ramsar site	In feature area
Riverland	800 - 900km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	900 - 1000km upstream from Ramsar site	In feature area
The macquarie marshes	200 - 300km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities			[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area	In feature area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species			[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia			
Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Aphelocephala leucopsis](#) Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Botaurus poiciloptilus](#) Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Callocephalon fimbriatum](#) Gang-gang Cockatoo [768]	Endangered	Species or species habitat likely to occur within area	In feature area
[Calyptorhynchus lathami lathami](#) South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Climacteris picumnus victoriae](#) Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Falco hypoleucos](#) Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Grantiella picta](#) Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
[Leipoa ocellata](#) Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
FISH			
Galaxias rostratus Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat may occur within area	In feature area
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat may occur within area	In buffer area only
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chalinolobus dwyeri			
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area
Nyctophilus corbeni			
Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In feature area
PLANT			
Dichanthium setosum			
bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Euphrasia arguta			
[4325]	Critically Endangered	Species or species habitat may occur within area	In feature area
Homoranthus darwinioides			
[12974]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Lepidium aschersonii			
Spiny Peppercress [10976]	Vulnerable	Species or species habitat may occur within area	In feature area
Prasophyllum petilum			
Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area	In feature area
Prasophyllum sp. Wybong (C.Phelps ORG 5269)			
a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Swainsona recta Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area	In buffer area only
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
Vincetoxicum forsteri listed as Tylophora linearis [92384]	Endangered	Species or species habitat may occur within area	In feature area
REPTILE			
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area	In feature area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Commonwealth Trading Bank of Australia		
Commonwealth Land - Commonwealth Trading Bank of Australia [13274]	NSW	In buffer area only
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [13275]	NSW	In buffer area only

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Barneys Reef Wind Farm	2022/09358		Assessment	In buffer area only
Central-West Orana Renewable Energy Zone Transmission Project	2022/09353		Assessment	In buffer area only
Controlled action				
Valley of the Winds wind farm	2020/8668	Controlled Action	Assessment Approach	In buffer area only
Wollar to Wellington 330kV Transmission Line Project	2005/2202	Controlled Action	Post-Approval	In feature area
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Referral decision				
Proposed large-scale solar farm project	2022/9171	Referral Decision	Referral Publication	In buffer area only
Stubbo Solar Farm	2022/9180	Referral Decision	Referral Publication	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Department of Primary Industries

KFH - Murray Darling Basin North

1: 18,056

Legend

Key Fish Habitat - Murray Darli

Notes

0.9 0 0.46 0.9 Kilometers

WGS_1984_Web_Mercator_Auxiliary_Sphere

26-May-2023

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Department of Primary Industries

Freshwater Fish Comm - Poor

Legend

Freshwater Fish Community St

- Very Good
- Good
- Fair
- Poor
- Very Poor

Notes

0.9 0 0.46 0.9 Kilometers

WGS_1984_Web_Mercator_Auxiliary_Sphere

26-May-2023

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Department of Primary Industries

Southern Purple Spotted Gudgeon

Legend

Southern Purple Spotted Gudg

Notes

0.9 0 0.46 0.9 Kilometers

WGS_1984_Web_Mercator_Auxiliary_Sphere

26-May-2023

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

hr HOME RULE

SUMMARY

409 km² undulating low hills. Sediment derived from the Gulgong and Rouse Granites. Relief 30 - 60 m; slopes 4 - 8%. Mainly Siliceous Sands (Uc1.42) and Earthy Sands (Uc4.21; Uc4.32) on upper and mid-slopes. Bleached sands (Uc2.21; Uc2.22), Yellow Podzolic Soils (Dy2.41; Dy2.21) and yellow Solodic Soils (Dy3.13; Dy3.42) on lower slopes and flats. Layered Siliceous Sands in some larger drainage lines.

LIMITATIONS

Very low fertility; low available waterholding capacity; acidic surface soils; seasonal waterlogging; sodic subsoils in lower slopes; high permeability on mid to upper slopes; moderate to high erosion hazard under cultivation.

LOCATION

Located to the east and north of Gulgong.

CLIMATIC ZONE

Zone 3C (Edwards 1979).

TOPOGRAPHY

Undulating low rises ranging from 420 - 500 m elevation. Slopes are gently inclined 4 - 8%, with slopes from 2000 - 6000 m long. Local relief varies from 30 - 60 m. Drainage lines are 300 - 1000 m apart.

NATIVE VEGETATION

A grey gum, narrow-leaved red ironbark woodland community. A riverine community of river she-oak and rough-barked apple is common along perennial streams and main drainage lines.

GEOLOGY/GEOMORPHOLOGY

Geological Zone	Siliceous Granites
Geological Units	Quaternary alluvium (Cza) and the Gulgong and Rouse Granite
Parent Rocks	Gulgong and Rouse Granite (siliceous)
Parent Materials	Alluvium and colluvium derived from the Gulgong and Rouse Granites

LAND USE

Grazing on improved and unimproved pastures.

EXISTING LAND DEGRADATION

Minor sheet erosion with moderate to severe gully erosion. Some areas of very severe gully erosion.

INCLUDED SOIL LANDSCAPES

Rouse **(rs)**; Dexter **(dx)**; Gulgong **(gu)**.

SOIL QUALITIES AND LIMITATIONS

Soil Fertility - chemical

Soil fertility is very low and surface soils are acidic.

Soil Fertility - physical

The fragile, light textured surface soils are susceptible to soil structure degradation including surface sealing and low infiltration, although the loose sand surface soils are not. Waterholding capacity is low to very low; profile permeability is high to very high. Subsoils do not restrict root growth but they are often shallow and very sandy. Yellow Solodic Soils have very low permeability and very low waterholding capacity. Root growth is severely restricted in the subsoils of the yellow Solodic Soils.

SOILS

Siliceous Sands

Topsoil

Loose brown to dark brown loamy sand; small angular stones of quartz and felspar; pH 6.0; to 10 - 35 cm depth. Clear change to—

Subsoil

Bright brown to reddish-brown, loose clayey sand; small stones of quartz and orthoclase felspar; pH 7.0.

Earthy Sands

Topsoil

Hardsetting brown to dark brown changing to pale brown sandy loams; pH 7.0; to 40 cm depth. Gradual change to—

Subsoil

Yellowish-brown sandy loam to loamy sand; coherent; pH 7.5.

Yellow Solodic Soils/Soloths

Topsoil

Hardsetting brown to dull yellowish-orange to dull yellowish-brown, massive sandy loam to fine sandy loam; pH 6.0 - 8.5; to 40 cm depth.

Subsoil

Mottled dull yellowish-orange to bright yellowish-brown sandy clay; moderate structure, coarse columnar; pH 6.0 - 8.5; to 150 cm depth.

Bleached Sands

Topsoil

A_1 horizon. Dark brown to dull brown sandy loam or loamy sand; weakly structured to single-grained. Clear boundary to—

A_2 horizon. Pale brown to bleached sandy loam or loamy sand, single-grained or massive. Sharp boundary to—

Subsoil

B_{21} horizon. Yellowish-brown loamy sand to sandy loam with grey mottles; coherent and weakly structured; extends to 100 cm; cemented pans may be present.

Erosion Hazard

Erosion hazard is high when surface cover is low or flows are concentrated. Erosion control requires maintaining surface cover to minimise runoff and may require the construction of strategic earthworks in flow lines. Soils in drainage depressions are highly susceptible to gully erosion without adequate protection from high runoff.

Salinisation

Low levels of soil salinity are apparent and common across the landscape. Landform elements affected include drainage lines, depressions, footslopes, lower slopes and more rarely, mid and upper slopes.

Foundation Hazard

Very sandy soils and loose sand of low wet bearing strength are limitations to foundations. Areas of salinity will affect foundations.

Landscape Limitations

The slopes are sufficient to be a moderate to high erosion hazard when surface cover is low. Soils on mid to upper slopes tend to be sandy and very permeable, while those in depressions have dense sodic subsoils with very low permeability causing perched watertables in winter.

Urban Capability

Generally suitable for urban development but care needs to be taken to minimise runoff onto the highly erodible subsoils in depressions. Low wet bearing strength may be a localised problem for foundations. Areas of salinity will affect foundations.

Rural Capability

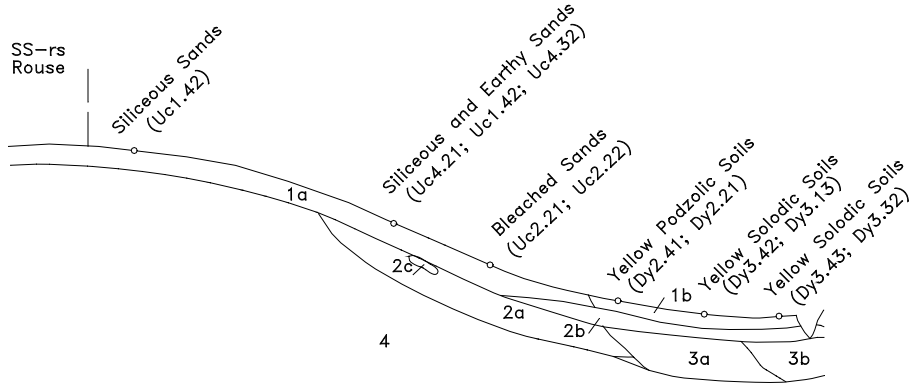
Land is largely suitable for grazing (Classes IV and V), but there are areas of lesser slope that are suitable for cropping (Class III).

Soil Conservation Earthworks

Sandy soils and low clay content will limit the number of sites suitable for earthworks. Earthworks built in sandy soils are likely to be permeable, and could be susceptible to slumping if large heads of water are held against the wall. In drainage depressions and lower slopes, the subsoils are more clayey but are sodic, dispersible and probably tunnelling susceptible when a head of water is held against the wall.

RECOMMENDATIONS FOR SUSTAINABLE LAND USE

Land is mainly suitable for grazing on native/volunteer pastures. Acidic surface soils restrict introduction of sown pastures. Grazing rates should be adjusted to maintain ground cover for erosion control and maximising water use. Trees should be strategically planted to maximise water use.



1a. Weakly structured dark brown to brown loamy sand to sandy loam.
1b. Massive dull yellowish brown–orange sandy loam.
2a. Bright brown clayey sand to sandy loam.
2b. Dull yellow–orange, sometimes bleached sandy loam.
2c. Hard siliceous pan.
3a. Structured bright yellowish brown sandy clay.
3b. Mottled yellowish brown (sometimes bleached) sandy to medium clay.
4. Quaternary alluvium and colluvium largely derived from Gulgong & Rouse Granites.

■ ***Distribution diagram of Home Rule soil landscape illustrating the occurrence and relationship of dominant soil materials.***

SUMMARY TABLE FOR THE MAIN SOILS OF HOME RULE SOIL LANDSCAPE		
	Siliceous Sands	**Yellow Solodic Soils**
Dominance	Co-dominant	Co-dominant
Landform element	Crests, mid to upper slopes	Lower slopes
Surface condition	Loose	Hardsetting
Drainage	Excessively well-drained	Imperfectly drained
Soil permeability	High	Slow
Watertable depth	>150 cm	>150 cm
Available waterholding capacity	Low	Moderate to low
Depth to bedrock	100 - 300 cm	150+ cm
Flood hazard	Nil	Low
pH (topsoil)	Slightly acidic	Slightly acidic to neutral
Fertility (chemical)	Low	Low
Expected nutrient deficiencies	N, P	N, P
Soil salinity	Low	Low to moderate
Erodibility (topsoil)	Moderate	High
Erodibility (subsoil)	Moderate	High
Erosion hazard	High	High to very high
Structural degradation hazard	Low	High
Land capability classification	III, VI	IV, V, VI
USCS (subsoil)	CL, SM, SP, SW	CL, SC
Shrink-swell potential	Low	Moderate
Mass movement hazard	Low	Low

Preliminary Biodiversity Assessment

Appendix C

pitt&sherry

Biodiversity

Preliminary assessment Gulgong Solar Farm

December 2021

Project Number: 21-134

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Document verification

Project Title:	Preliminary assessment Gulgong Solar Farm
Project Number:	21-134
Project File Name:	21-134 Biodiversity_GulgongSF_20211209

Revision	Date	Prepared by	Reviewed by	Approved by
Draft	9/12/20219/12/2021	Gillian Young	Brooke Marshall	Brooke Marshall
	[Enter the date]			
	[Enter the date]			
	[Enter the date]			

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Appendices

Acronyms and abbreviations

BAM	Biodiversity Assessment Method, pursuant to the BC Act (NSW)
BCD	Biodiversity Conservation Division, NSW
BDAR	Biodiversity Development Assessment Report
BMV	Biodiversity values mapping
DPIE	Department of Planning, Industry and Environment (NSW)
EIS	Environmental Impact Statement
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
ha	hectares
km	kilometres
m	metres
MNES	Matters of National Environmental Significance under the EPBC Act (*c.f.*)
PCT	Plant Community Type
SAII	Serious and Irreversible Impacts
TEC	Threatened Ecological Community
VI	Vegetation Integrity

1. Scope and approach

NGH were engaged to provide preliminary biodiversity advice in relation to the proposed Gulgong Solar Farm covering Lot 1 DP 108711, Lot 2 DP 528667 and Lot 2 DP 734669 located directly west of Barney's Reef Rd, six km north west of Gulgong NSW (the Study Area)**.**

A Preliminary assessment of the biodiversity values of the Study Area was undertaken. The approach includes:

- Data base searches and examination of aerial imagery and publicly available reports in the locality as background information.
- Rapid site assessment by a senior botanist to determine key vegetation types and potential for vegetation and habitat of conservation significance. The survey effort included 7 hrs onsite (by vehicle as well as on foot) inspecting vegetation types and biodiversity values.
- Preparation of a biodiversity constraints map indicating areas of higher constraint with a brief explanation of these features.

The biodiversity assessment is preliminary and based on rapid field surveys only. Collection of further data will improve the accuracy of the Plant Community Types (PCT) assignment, vegetation zone delineations and offset estimates. In particular:

- One Biodiversity Assessment Method (BAM) vegetation plot was conducted in representative grassland, inside the Study Area and proposed solar farm area. This allowed a vegetation integrity score (VI) to be determined to see whether an offset obligation may be needed for clearing groundcover only (no trees). It is only one plot of several that would be needed to confirm the VI score for each vegetation zone.
- No targeted surveys have yet been undertaken.
- Hollow bearing trees have not been mapped. Instead, only general observations of habitat were noted that may include general observations of habitat trees.
- Plant Community Types (PCTs) were mapped based on rapid assessments taken over the Study Area. This included the three most dominant species present in canopy, shrub and ground stratum where present. The Vegetation Classification Information Tool was used to filter plant species found to best matching PCTs. Landscape characters and location attributes were also used to find the best matching PCT.
- Vegetation communities were highly degraded making PCT identification difficult amongst box gum communities which lacked diversity of shrubs and native groundcovers.

2. Results

The Study Area is located in the following landscape units. This information is used in the BAM calculator and is relevant to PCT and species distribution.

Table 2-1 Landscape assignment

IBRA region	NSW South Western Slopes
IBRA Subregion	Inland Slopes
Mitchell Landscapes across Study Area	Cope Hills Granite

2.1 Data base searches

Database searches were completed for records of Commonwealth and State listed threatened species, populations, and ecological communities. Searches were conducted on 26th November 21. NSW Bionet Atlas records and Commonwealth Protected Matters Searches are included in Appendix A.1.1.

Ten threatened fauna and three flora species have Bionet records present within 10km of the Study Area. The species detailed in Table 2-3 below have some potential to occur inside the Study Area. As no thick midstory was present inside the Study Area and most groundcover observed was highly degraded, some species were assumed to have a low probability of occurring inside the Study Area. For a full list of species found please refer to Appendix A.1.1.

2.1.1 Threatened ecological communities, threatened species and migratory species with potential to occur

Table 2-2 Threatened entities with potential to occur inside the Study Area

Entity	**EPBC Act**	**BC Act**	**Records 10km radius**
(PCT 201) *Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions*	Not listed	Endangered	Confirmed Vegetation mapping inside Study Area
(PCT 281) *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW*	Critically Endangered	Critically Endangered	NA

Entity	EPBC Act	BC Act	Records 10km radius
North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions			
Austfeld's Wattle (*Acacia ausfeldii*)	Not listed	Vulnerable	30
Black Falcon (*Falco subringer*)	Not listed	Vulnerable	3
Little Lorikeet (*Glossopsitta pusilla*)	Not listed	Vulnerable	1
Large-eared Pied Bat (*Chalinolobus dwyeri*)	Vulnerable	Vulnerable	1
Koala (*Phascolarctos cinereus*)	Vulnerable	Vulnerable	1

2.1.2 Biodiversity values mapping

Clearing within Biodiversity values mapping areas will trigger the Biodiversity Offset Scheme, regardless of the area of clearing. Biodiversity Values Mapping have been identified inside the Study Area and includes the banks of the Slapdash Creek that adjoins onto the north-eastern boundary of the Study Area. It has been mapped because it is considered sensitive riparian land. Refer to Appendix A.1.2 for a map of Biodiversity Values.

2.2 Site assessment

2.2.1 Plant community types and stratification

Over 90% of the Study Area contains either cultivated or land containing exotic trees which cannot be classified into a PCT. These were mapped as 'Cultivated_low' or 'Exotic-Low'.

Within the remaining 5% of the Study Area, three PCTs were confirmed to occur, and these are:

- PCT 201 '*Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion*' on lower lying areas and
- PCT 281 '*Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion'* on higher slopes inside the Study Area.
- PCT 78 '*River Red Gum riparian tall woodland / open forest wetland in the Nandewar Bioregion and Brigalow Belt South Bioregion'* was confirmed to exist along major watercourses and tributaries draining into Slapdash Creek, dominated by Angophora floribunda.

PCT 201 correlates with existing vegetation mapping data found inside the Study Area. PCTs 281 and 78 were also existed in the Central Tablelands vegetation mapping across the Study Area,

however, were not chosen as confirmed PCTs and instead PCT 281 was chosen because of dominant tree species Fuzzy Box (*Eucalyptus conica*) existing within the Study Area and noted as a dominant tree species in PCT 281. Fuzzy Box was not present in either mapped PCTs 281 or 78 and therefore not chosen. PCT 281 was a better floristic match and correlated with IBRA region, subregion and landscape characters.

PCT 201 occurs in two condition categories being PCT 201 'Trees-High' and PCT 201 'Trees-Mod'. PCT 281 occurs in two condition categories also being PCT 281 'Trees-High' and PCT 201 'Grassland-Low'.

PCT 78 was confirmed to exist in watercourses in the northern parts of the Study Area due to presence of Apple Box (*Angophora floribunda*), Blakelyi's Red Gum (*E. blakelyi*) and Yellow Box (*E. melliodora*) and occurs in one condition category being PCT 78 'Trees-High'.

In total, seven zones could be delineated, reflecting dominant vegetation and condition. None are considered to meet the Commonwealth criteria but three (zones 1,2 and 3) meet the NSW Threatened Ecological Community criteria. The area extent of each zone is a high-level estimate in advance of more detailed survey. it is mapped in Appendix A.1.3.

Table 2-3 Preliminary vegetation zones mapped across the Study Area

Zone ID	PCT	Condition state	EPBC Act (Y/N)	BC Act (Y/N)
1	201	Trees-High	N	Y
2	201	Trees-Mod	N	Y
3	281	Trees-High	Y	Y
4	281	Grassland-Low	N	N
5	78	Trees-High	N	N
6	-	Cultivated-Low*	N	N
7	-	Exotic-Low	N	N

*Any isolated trees within zones 6 are likely to be mapped as 'scattered trees' under the BAM and removal of isolated trees will require assessment and generation of credits under BAM.

2.2.2 Important habitat features

In terms of habitat onsite, the following may provide threatened species habitat and are likely to generate expensive offsets for species verified or assumed to occur. They are best avoided if possible:

- Areas containing trees. It is best to avoid areas where trees are less than 50m away from each other.
- Riparian zones, especially where trees are present (including habitat 20m either side of riparian zones)

- Isolated large trees, especially if hollows are present.

2.3 Key issues

In terms of the biodiversity constraints verified onsite and their potential to impact the developability of the site for a solar farm, the following key constraints are noted and mapped where possible in Appendix A.1.4.

2.3.1 Threatened ecological communities – avoid and minimise mandate

For the Study Area, TECs exist where trees are present, either as a sparse woodland (trees less than 75m apart) or forested patches of trees. Areas containing very sparse trees could also be a constraint, even if groundcover is exotic, and may generate credit obligations. Zones containing less trees or no trees and exotic groundcover are likely to generate lowest or no credit obligations in comparison to areas of higher tree density.

Any areas containing trees on watercourses will also be a constraint if cleared. In general, most trees within watercourses were large and senescent and likely to have hollows meaning a high likelihood of threatened species habitat which may generate additional species credits.

TECs are mostly to coincide with PCT 201 Trees-High, PCT 201 Trees-Mod, PCT 281 Trees-High PCT 78 Trees-High (Zones 1, 2, 3 and 5). Although PCT 78 has not been classified as TEC, it contains good fauna habitat complexity and may generate additional species credits. It is best to avoid these areas.

2.3.2 Biodiversity values mapping – avoid and minimise mandate

This mapping is generated and updated by BCD, to capture at a landscape level those more important areas of land that should be protected from impacts. They can be generated by species habitat and vegetation but also include larger waterways and their riparian buffers.

As the BVM covers the riparian zones adjoining the Study Area, it is best to avoid development near watercourses and buffer development in accordance with Strahler stream buffering guidelines which vary distances according to the stream order classification. Buffering riparian zones will be necessary as riparian zones are very prone to flooding and could damage any infrastructure associated with solar farms (including fences and tracks).

2.3.3 Serious and irreversible impacts

If SAII candidates are found within the Project site after surveys, additional impact assessment provisions will have to be addressed within the Biodiversity Development Assessment Report (BDAR) that would accompany the future EIS. SAII can be a fatal flaw for a project, rendering it non approvable. While BCD can consider not approving a SAII, in practice project thresholds are likely to be set; early consultation with BCD would be required and for these species to be surveyed rather than the assumption of presence would be recommended. Offsets for SAII also require additional consideration. Recent experience suggests that DPIE will be unwilling to approve SSD solar farms that have a SAII and the project will need to be modified to reduce impacts on SAII candidates.

According to Bionet Atlas, no SAII listed flora-fauna species have records present within 10km of the Study Area from the desktop review. In looking at candidate species associated with the

dominant PCT 281, the following species are listed as SAII. Species likely to require targeted survey onsite include the following.

Table 2-4 SAII listed species associated with PCT 281

Species	Likely presence of habitat inside Study Area
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	Likely (treed areas only)
Regent Honeyeater	Possible (treed areas only)
Large-eared Pied Bat	Possible
Euphrasi arguta	Possible
Prasophyllum sp. Wybong	Possible
Swift Parrot	Possible (treed areas only)
Little Bent-wing Bat	Unlikely (Caves key habitat not seen onsite)
Brushtail Rock Wallaby	Unlikely (Cliffs key habitat not seen onsite)
Eastern Cave Bat	Unlikely (Caves key habitat not seen onsite)

There are 26 candidate species associated with PCT 281 which include the SAII entities listed above. In accordance with BAM, these entities will require targeted survey if clearing of suitable habitat is proposed. There may be additional species requiring survey that may be associated with other PCTs mapped inside the Study Area (i.e. PCT 201 and 78).

2.3.4 'Credit drivers'

Applying the BAM to assessing biodiversity impacts, ecosystem credits are a measure of the value of vegetation and the habitat it provides. Similarly, areas of verified or assumed threatened species will generate additional species credits. 'Credit drivers' are those areas of greater conservation significance that generate more credits per ha or where the credit costs are higher. As only one BAM plot has been undertaken, these cannot be accurately predicted. However, it is noted the offset costs for solar farms can be very high, even in degraded habitat, due the area of impact of utility scale solar farms.

In relation to ecosystem credits, vegetation zones associated with categories 'Tree-High' and 'Trees-Mod' are likely to generate the highest number of ecosystem credits (Zones 1 and 2). In addition, PCTs 281 and 201 are classified as TECs and could be categorised into the highest tier for offset obligations meaning they will generate more expensive credits.

The zones likely to generate the highest offset obligation per ha are likely to be;

- Zone 1 PCT 201 Trees-High

- Zone 2 PCT 201 Trees-Mod
- Zone 3 PCT 281 Trees-High
- Zone 5 PCT 78 Trees-High

These vegetation zones are also likely to be associated with threatened species habitat and may generate species credits for the 26 candidate species that were associated with PCT 281 across the Study Area.

Concentrating development in 'low' condition zones may totally exclude candidate species from requiring survey, assessment and offsets.

PCT 281 'Grassland-Low' may not require offset obligations as the one BAM plot revealed that the vegetation integrity score is below the requirement for offsets. This was based on one plot only so may increase or decrease following further replication of plots over the site. If this zone does generate credits, then its likely to be a minimal amount and there may be further incentives to reduce credit obligations.

For most solar farm projects in NSW, for the impacts beneath the panels, a 100% vegetation loss has been assumed for the purpose of the biodiversity assessment and offsets. Considering the tree less zones (1600 Grass-Mod, 1600 Grass-Low), there are now two precedents in NSW to reduce credit obligations where the vegetation can be guaranteed to be retained which is referred to as a 'shading' discount. In both cases extensive additional information was required pre-approval to investigate the likely effect of the panel arrangement on the grasslands beneath them over time. Darlington Point solar farm is the most recent and received approximately 50% discount for grassland shading contingent on meeting operational monitoring targets. A commitment to develop a monitoring plan to verify the assessment's assumptions and monitor groundcover composition and structure under the solar panels would be required. Careful consideration of this approach is recommended, in consultation with BCD, early in the project.

2.3.5 Category 1 land – low constraint

Areas able to be classified as Category 1 land in the Land Category Assessment, equate to areas historically cultivated and thereby retaining low to no biodiversity value. This could potentially be 95% of the Study Area. Once endorsed by BCD, these areas are mostly exempt from the BAM with the exception of 'prescribed impacts'. These are areas generally classified as a low constraint and most suitable for development.

For this site, a Land Category Assessment is likely to be warranted. 'Cultivated-Low' , 'PCT 281 Grassland_Low' and Exotic-Low (Zones 4, 6 and 7) should be explored for their potential to be classified as Cat 1 land. If this is the case, then approximately 95% of the development footprint can be excluded from generation of ecosystem credits under BAM and is not likely to generate species credits unless there are prescribed impacts.

2.3.6 Offset options – Stewardship Agreement

For large projects, establishing a Stewardship site in residual areas of land onsite or close to it is usually the least costly option. NGH's experience from other solar farm proposals is that a 30-50% cost reduction is possible if securing a physical offset site, versus paying directly into the BCF.

Consideration of Stewardship areas close to the impact areas of the project is usually recommended. As most parts (95%) of the Study Area are highly degraded, they may not be suitable as an offset area. Confirmation of Category 1 land versus degraded native vegetation that

is capable of regeneration would be required to provide further advice on areas most suitable for development versus stewardship.

3. Conclusion and recommendations

The Gulgong Study Area is likely to form a suitable site for development of a solar farm in relation to biodiversity constraints onsite. Approximately 95% of the Gulgong solar farm Study Area is of low biodiversity constraint. This correlates with cleared and cultivated land inside the Study Area that is set back from watercourses. A Land Category Assessment should be conducted to verify land that can be classed as Category 1 land and thereby be excluded from generating ecosystem credits under the BAM and most of the assessment required by the BAM.

Even if it is not able to be classed as Category 1 land, it would be unlikely to generate expensive offset obligations due to the highly degraded state.

Treed areas are recommended for avoidance, as much as possible. Tree patches in higher areas containing Apple Box (*Angophora floribunda*), Yellow Box (*E. melliodora*) and Blakely's Red Gum (*E. blakelyi*) are likely to be PCT 281 and of high biodiversity constraint and likely to be classified as TEC 'White Box - Yellow Box - Blakely's Red Gum Grassy Woodland' which is critically endangered under both NSW and Commonwealth legislation. PCT 281 is also listed as Serious and Irreversible Impact candidate. It must be demonstrated that efforts have been made to avoid this PCT as much as possible. Solar farm development is unlikely to be permitted where the project would have a SAII.

Areas that contain trees Fuzzy Box (*E. conica*) in lower areas best matched PCT 201, which is classified as NSW EEC '*Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions'*. The Apple Box (*Angophora floribunda*) trees inside watercourses in the northern part of the Study Area is likely to be mapped as PCT 78 and is also likely to be high constraint.

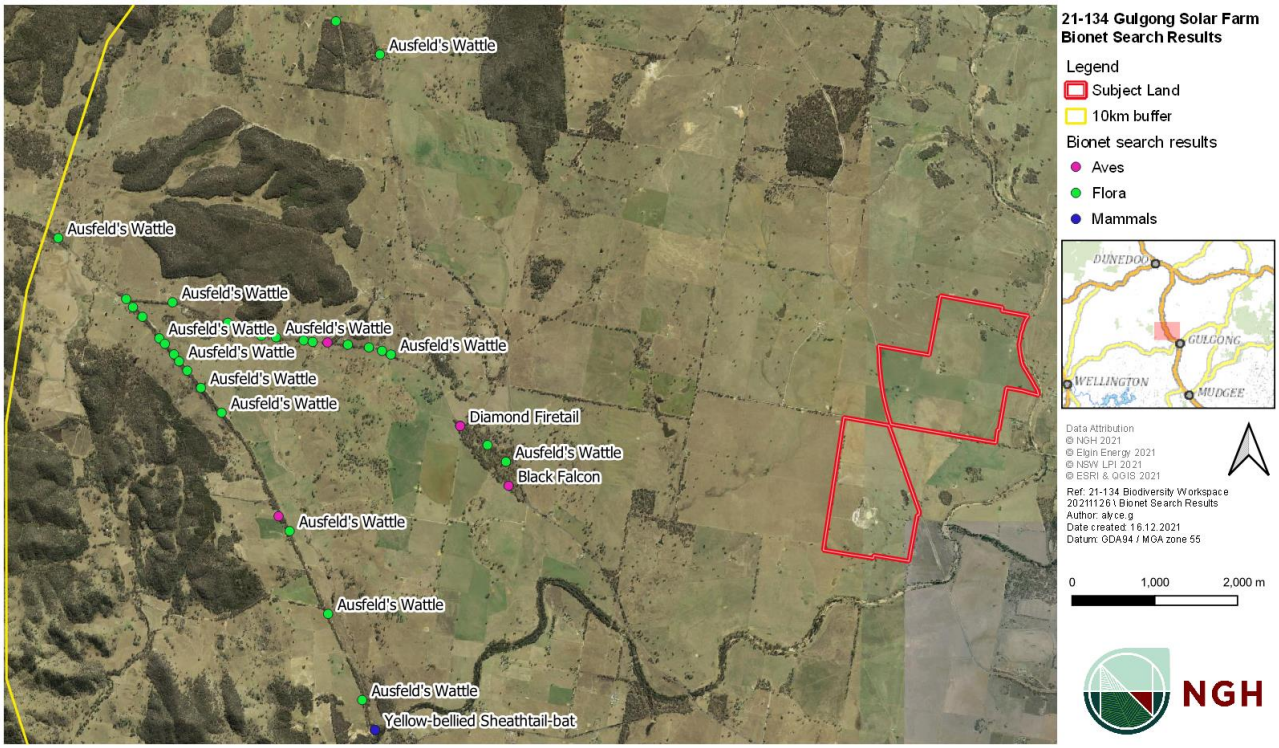
Collection of further BAM plots will allow:

- Refinement of PCT mapping and habitat polygons to guide further surveys, where required
- Estimates of credits generated from clearing versus from offsets (stewardship)

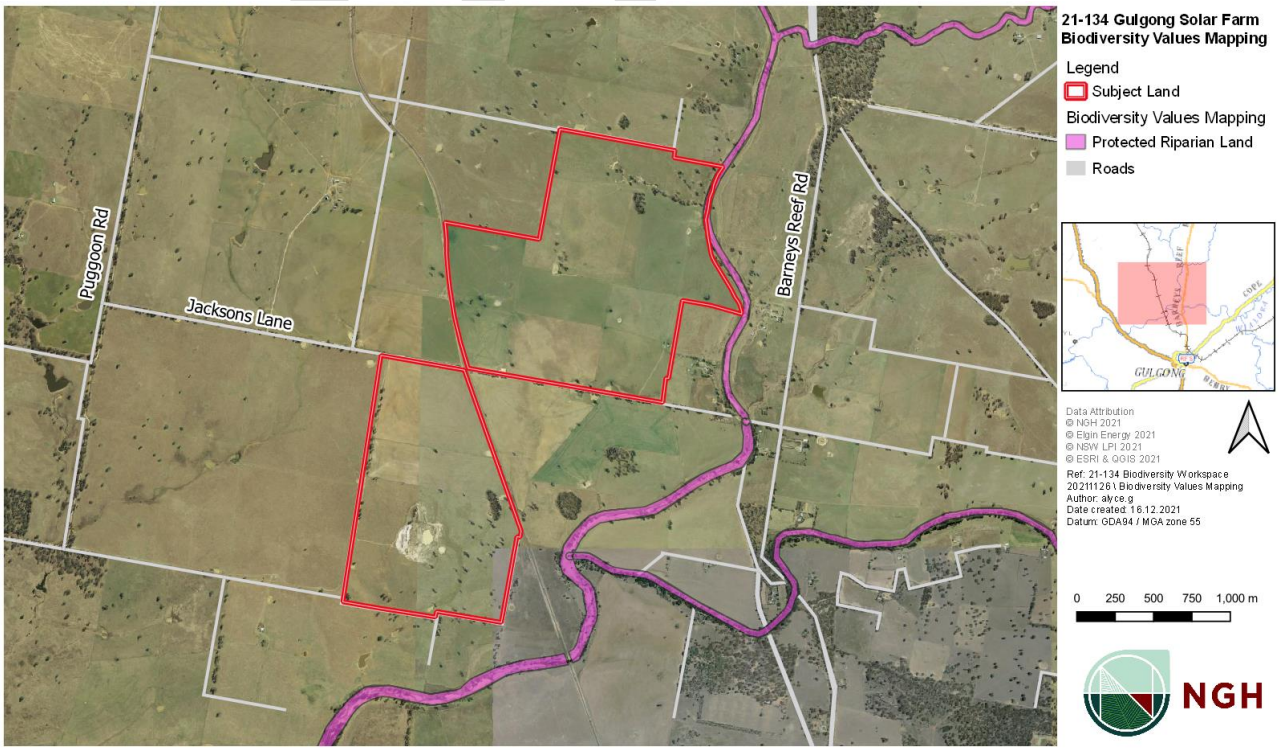
Both of which may assist further layout development. With this and an endorsed Land Category Assessment, a targeted survey program for residual areas can be planned to complete the biodiversity assessment of the project.

Appendix A Map set

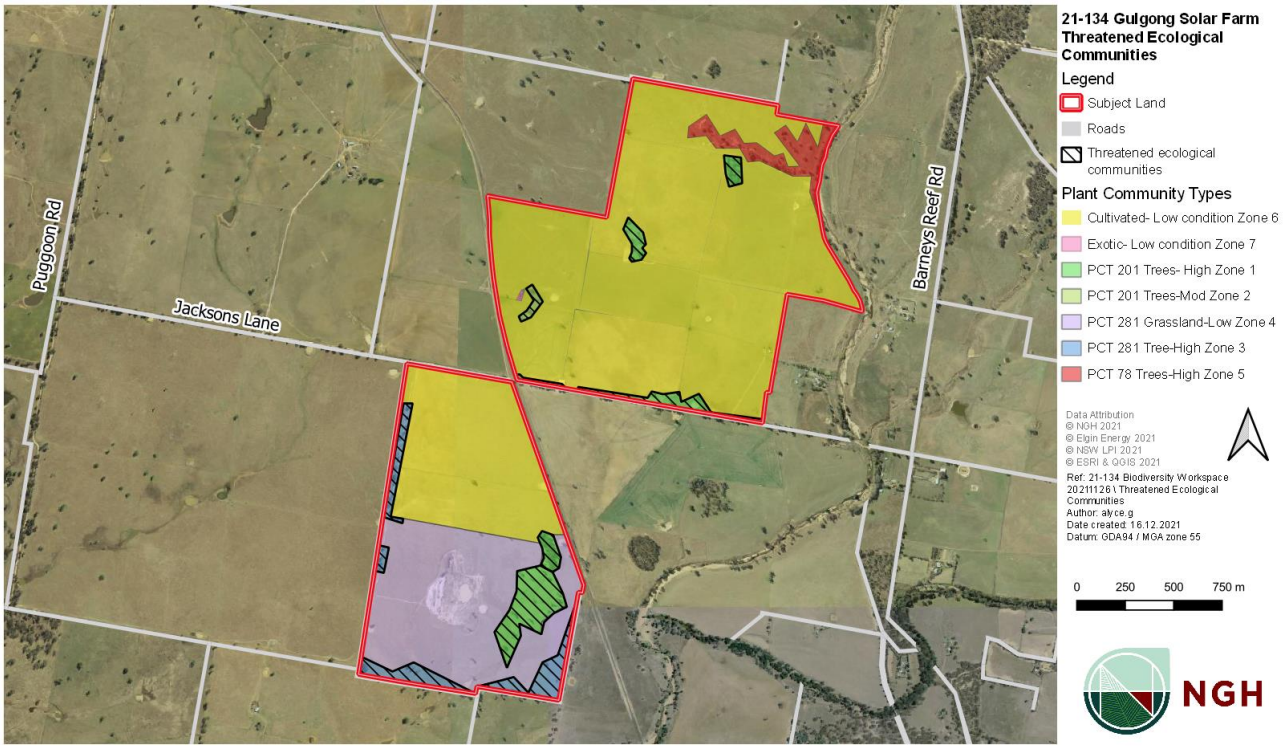
A.1.1 Threatened species records



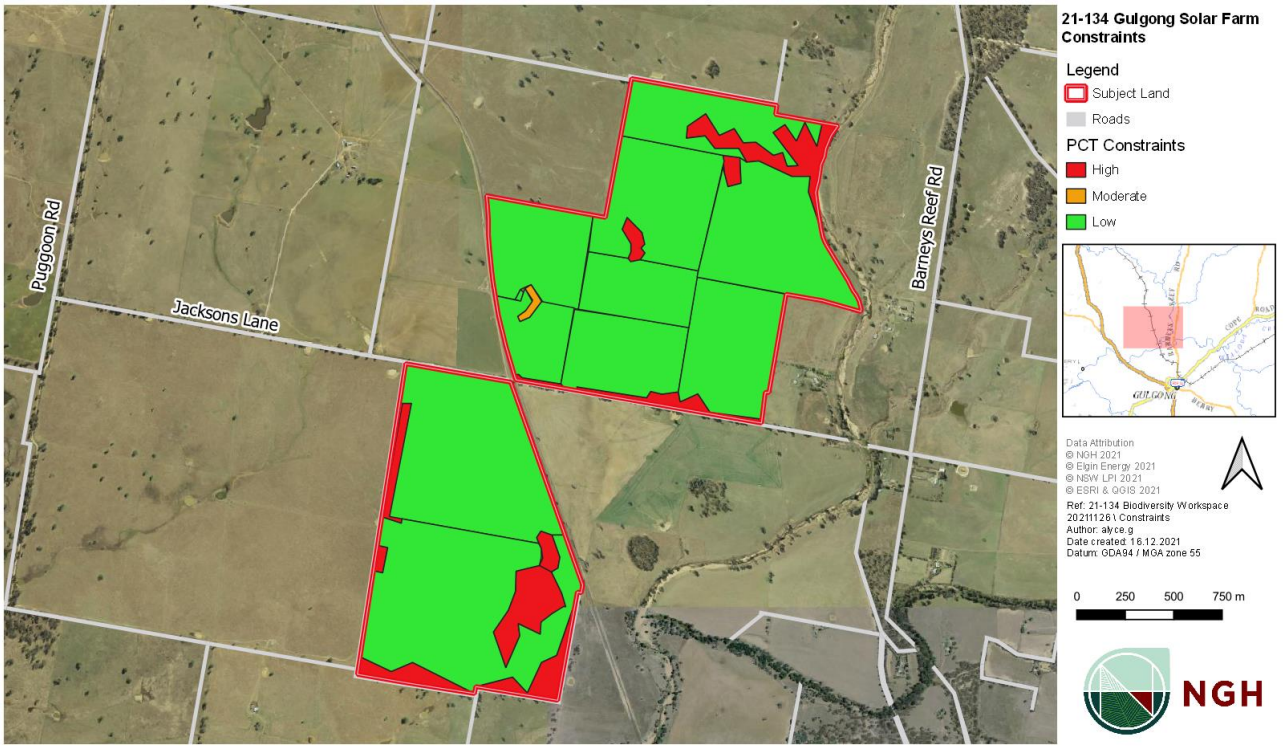
A.1.2 Biodiversity values mapping



A.1.3 Ground validated PCT (TEC), zone and habitat feature mapping



A.1.4 Key constraints



Preliminary Landscape and Visual Impact Assessment

Appendix D

pitt&sherry

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20 April 2023	Attention: Adam Bishop, Pitt & Sherry From: Stacey Brodbeck, Envisage Consulting
Ref: 20823 REV01	**Proposed Mayfair Solar Farm, Landscape and Visual Impact Assessment** **Preliminary Assessment Stage**

1.0 Introduction

Envisage Consulting Pty Ltd prepared this preliminary visual assessment for the proposed Mayfair Solar Farm for Pitt & Sherry Pty Ltd, on behalf of Elgin Energy Pty Ltd (the 'proponent').

The preliminary assessment responds to requirements of the *Large-scale Solar Energy Guideline* (DPE, 2022) and the *Technical Supplement - Landscape and Visual Impact Assessment* (DPE, 2022). Its primary purpose is to identify viewpoints that could be visually impacted by the Project and those that will require 'detailed assessment' in the Environmental Impact Statement (EIS) phase.

2.0 Site context and landscape character

The site is situated about 4.3km north-west of the residential core of the small heritage town of Gulgong. On the town's fringe there is some rural-residential development, with larger rural farming properties further afield. Nearby to the site are existing and approved energy infrastructure sites, including the Beryl Solar Farm (about 6km to the south-west), Stubbo Solar Farm (approved, not yet constructed. about 4km to the north-east) and numerous lattice tower transmission lines. About 4km to the south-west is the two-lane Castlereagh Highway and the Wallerawang to Gwabegar railway line passes along the south-western site boundary (which is closed to passenger trains).

The site is within the NSW South Western Slopes biogeographical region[1], with the bioregion's characteristics described as: 'a large area of foothills and ranges comprising the western fall of the Great Dividing Range and comprised of a wide variety of rock and soil types across the region'. The area has also been classified in terms of a 'visual landscape region'[2], as having landscape characteristics comprised of elevated, undulating granitic slopes; undulating black soil slopes with crops, pasture grasses and scattered timber; higher, forested slopes and ridges; and hilly lands with native grasses and scattered trees.

In proximity to the site, distinctive natural landscape features take in Barneys Reef (an elevated rocky outcrop to the north-west); extensive, undulating, cleared paddocks; scattered trees within open pastures; intermittent dense stands of tall trees (particularly on steeper slopes, along creeklines and road reserves); and distant vegetated ridgelines.

The site is gently undulating, with the elevation varying by about 13-15m across the site.

3.0 Planning environment

The site is within the Central-West Orana renewable energy zone. It is on land zoned RU1 Primary Production under *Mid-Western Regional Local Environmental Plan (LEP) 2012*. Objectives for the RU1 zone include:

1 Interim Biogeographic Regionalisation for Australia, Version 7, 2012. Includes attributes of climate, geomorphology, landform, lithology, and characteristic flora and fauna

2 Thorvaldson, F. 1996, Characteristic Landscapes and Visual Landscape Regions of NSW.

- To maintain the visual amenity and landscape quality of Mid-Western Regional Council by preserving the area's open rural landscapes and environmental and cultural heritage values.
- To promote the unique rural character of Mid-Western Regional and facilitate a variety of tourist land uses.

Through the objectives, the LEP recognises, and seeks to protect, the area's existing rural landscape character. Those objectives will be considered in the detailed landscape character and visual impact assessment for the EIS.

4.0 Preliminary assessment

Methodology

The *Technical Supplement's* steps to be undertaken for the preliminary assessment are:

- Calculating the distance of each receiver (viewpoint (VP)) from the nearest point of the Project
- Determining the relative height difference'[3] between the Project and each receiver
- Plotting each receiver on the PAT Graph – based on distance and relative height difference (from above) to determine the Vertical Field of View'[4] (as either 1, 2, 3 or 4+ degrees)
- Measuring the worst-case horizontal field of view'[5] of the Project from each receiver (note this does not allow for the elimination of Project areas obstructed by landform and/or vegetation)
- Comparing the vertical and horizontal fields of view (using the matrix in Table 1 of Guidelines) to determine which receivers are to be assessed in the next stage (i.e., detailed visual assessment for EIS).

Identification of viewpoints

To identify viewpoints, a viewshed of the site (based on an approximate height of 3.5 metres (m) for the solar panels extending close to the Project boundary), was used to identify receivers with theoretical line-of-sight of the Project. The Project's 'theoretical' viewshed is shown in yellow in **Figure 1**. It was produced via geographic information systems (GIS) which account line-of sight to the Project based only on 'bare earth' terrain, and is therefore 'theoretical' as it does not account for intervening elements such as vegetation or buildings which could obstruct views.

The following public viewpoints were identified within 2.5km of the project:

- a short section of the Castlereagh Highway,
- a number of local roads and
- the Wallerawang to Gwabegar railway line.

The following private viewpoints were identified within 4 km of the project (as identified in **Figure 1**):

- 83 residential receivers and
- two recreational receivers (Gulgong Turf Club and Cugegong Soaring Club)

Of the 83 residential receivers identified, two are landholders associated with the Project (R63 and R64) and as such will not be included in the detailed assessment.

Preliminary Assessment

To determine whether the identified viewpoints require detailed assessment, calculations using steps 3-7 of the preliminary assessment methodology are undertaken. The calculations principally determine the vertical and horizontal field of view that a development is likely to occupy when viewed from each viewpoint, and is influenced by distance, height elevation changes and width of a project.

The results of the preliminary assessment are shown in **Attachment A**, **Table 1.**

Based on the preliminary assessment, the following viewpoints require a detailed assessment:

- Two private residences within 4km – being Receivers R1 and R2 (refer **Figure 1**)
- A 1.2km section of the Castlereagh Road to the south-west

[3] 'Relative height difference' is calculated based on Figure 3 of the *Technical Supplement* and determined by measuring the total project elevation (highest point to lowest point) relative to the viewpoint elevation.
[4] 'Vertical field of view' is calculated based on Figure 2 of the *Technical Supplement* and reflects the visual height of the project relative to the viewpoint
[5] 'Horizontal field of view' is a measurement of degrees and reflects the visual width of the project relative to the viewpoint.

- Viewpoints along parts of the only main local road within 2.5km, being Barneys Reef Road
- Viewpoints along some minor local roads with 2.5km such as Stubbo Lane, Old Barneys Reef Road, Jacksons Lane and Puggoon Siding Road.

5.0 Next stage - detailed Landscape and Visual Impact Assessment

A detailed Landscape and Visual Impact Assessment (LVIA) will be prepared as part of the EIS process, to assess the visual impacts on the viewpoints identified in the preliminary assessment in accordance with the methodology set out in the *Large-scale Solar Energy Guideline* (DPE, 2022) and the *Technical Supplement - Landscape and Visual Impact Assessment* (DPE, 2022).

Figure 1

Viewshed and preliminary assessment of viewpoints

Regional context

Inset A - Receiver viewpoints

See inset A

Project features
- Site
- Indicative solar layout
- 2.5km site buffer
- 4km site buffer

Assessment requirements following preliminary assessment phase (including viewshed analysis)
- Assessment required
- No assessment required
- Residential
- Recreational
- Associated receiver

Topographic features
- Road
- Existing electricity transmission line
- Railway
- Runway
- Watercourse
- Contour
- Lot boundary (cadastre)

Viewshed commentary

This viewshed represents all areas from which the project may be visible using a modelled solar farm height of 3.5m (applied to the indicative solar layout) with an observer height of 1.5m using a total of 2,710 points to represent the solar layout. Site buffers are based on the site boundary.

The viewshed is a preliminary assessment tool that analyses a bare earth scenario based on a 5m 3D digital elevation model and does not consider existing vegetation or other mitigating factors that may filter or screen views and therefore represents a worst case visual scenario.

Viewshed

0 0.4 0.8 1.2 1.6 km

Source: NSW Government Department of Planning and Environment, Technical Supplement - Landscape and Visual Impact Assessment (2022), Esri, Maxar, Geoeye (2023), Commonwealth of Australia (Geoscience Australia) (2023), Elvis Elevation and Depth - Foundation Spatial Data (2023), Elgin Energy (2023), Pitt & Sherry (2023), Envisage Consulting (2023), Cambium Group (2023).

Table 1: Preliminary assessment of receivers within 4km

Viewpoint (VP)	Type	Address	Distance to solar panel area (m)	Receiver viewpoint elevation (m)	Solar panel area max elevation (m)	Solar panel area max elevation (m) +3.5m	Solar panel area min elevation (m)	Relative height difference (m)	Vertical field of view (FOV) (sector from graph)	Horizontal FOV (category)	Assessment requirements following preliminary assessment phase (including viewshed analysis)
R1	Residential	30 Jacksons Lane, Stubbo	382.2	424.0	441.8	445.3	422.3	23.0	3°	71-130	Yes
R2	Residential	489 Barneys Reef Road, Stubbo	528.0	426.1	441.8	445.3	422.3	23.0	2°	71-130	Yes
R3	Residential	401 Barneys Reef Road, Stubbo	1040.6	423.3	441.8	445.3	422.3	23.0	1°	51-60	No
R4	Residential	412 Barneys Reef Road, Stubbo	1179.4	423.6	441.8	445.3	422.3	23.0	1°	51-60	No
R5	Residential	366 Barneys Reef Road, Stubbo	1474.8	422.8	441.8	445.3	422.3	23.0	1°	41-50	No
R6	Residential	124 Barneys Reef Road, Gulgong	1806.1	423.6	441.8	445.3	422.3	23.0	1°	31-40	No
R7	Residential	358 Barneys Reef Road, Stubbo	1709.4	422.6	441.8	445.3	422.3	23.0	1°	31-40	No
R8	Residential	325 Barneys Reef Road, Stubbo	1356.2	422.9	441.8	445.3	422.3	23.0	1°	41-50	No
R9	Residential	71 Old Barneys Reef Road, Gulgong	2046.2	420.1	441.8	445.3	422.3	25.2	1°	31-40	No
R10	Residential	62 Sandgrove Lane, Gulgong	2210.3	426.8	441.8	445.3	422.3	23.0	1°	31-40	No
R11	Residential	87 - 89 Sandgrove Lane, Gulgong	2137.8	425.1	441.8	445.3	422.3	23.0	1°	31-40	No
R12	Residential	155 Sandgrove Lane, Gulgong	2357.8	425.7	441.8	445.3	422.3	23.0	1°	31-40	No
R13	Residential	179 Sandgrove Lane, Gulgong	2614.5	426.0	441.8	445.3	422.3	23.0	1°	31-40	No
R14	Residential	417 Cope Road, Stubbo	3034.4	428.4	441.8	445.3	422.3	23.0	0°	21-30	No
R15	Residential	391 Cope Road, Gulgong	Project not visible								No
R16	Residential	85 Martins Crossing Road, Gulgong	3850.9	430.9	441.8	445.3	422.3	23.0	0°	21-30	No
R17	Residential	39 Martins Crossing Road, Gulgong	Project not visible								No
R18	Residential	9 Mineshaft Lane, Gulgong	3763.0	431.4	441.8	445.3	422.3	23.0	0°	21-30	No
R19	Residential	41 Hideaway Lane, Gulgong	3996.7	437.8	441.8	445.3	422.3	23.0	0°	21-30	No
R20	Residential	49 Hideaway Lane, Gulgong	3910.7	437.7	441.8	445.3	422.3	23.0	0°	21-30	No
R21	Residential	85 Black Lead Lane, Gulgong	4218.9	440.6	441.8	445.3	422.3	23.0	0°	11-20	No
R22	Residential	97 Black Lead Lane, Gulgong	4177.2	441.4	441.8	445.3	422.3	23.0	0°	11-20	No
R23	Residential	101 Black Lead Lane, Gulgong	4124.6	442.6	441.8	445.3	422.3	23.0	0°	11-20	No
R24	Residential	80 Barneys Reef Road, Gulgong	3820.4	442.2	441.8	445.3	422.3	23.0	0°	21-30	No
R25	Residential	80 Barneys Reef Road, Gulgong	3876.2	439.7	441.8	445.3	422.3	23.0	0°	21-30	No
R26	Residential	102 Barneys Reef Road, Gulgong	3739.2	440.6	441.8	445.3	422.3	23.0	0°	21-30	No
R27	Residential	112 Barneys Reef Road, Gulgong	3562.0	440.1	441.8	445.3	422.3	23.0	0°	21-30	No
R28	Residential	122 Barneys Reef Road, Gulgong	3463.1	438.1	441.8	445.3	422.3	23.0	0°	21-30	No
R29	Residential	148 Barneys Reef Road, Gulgong	3353.1	437.9	441.8	445.3	422.3	23.0	0°	21-30	No
R30	Residential	168 Barneys Reef Road, Gulgong	3165.1	435.5	441.8	445.3	422.3	23.0	0°	21-30	No
R31	Residential	172 Barneys Reef Road, Gulgong	3090.2	433.1	441.8	445.3	422.3	23.0	0°	21-30	No
R32	Residential	35 Old Barneys Reef Road, Gulgong	2601.4	428.9	441.8	445.3	422.3	23.0	1°	21-30	No
R33	Residential	66 Old Barneys Reef Road, Gulgong	2439.9	426.4	441.8	445.3	422.3	23.0	1°	31-40	No
R34	Residential	37 Racecourse Road, Gulgong	2308.8	424.6	441.8	445.3	422.3	23.0	1°	31-40	No
R35	Residential	167 Barneys Reef Road, Gulgong	3014.0	431.5	441.8	445.3	422.3	23.0	0°	21-30	No
R36	Residential	153 Barneys Reef Road, Gulgong	3117.3	435.2	441.8	445.3	422.3	23.0	0°	21-30	No
R37	Residential	8 Racecourse Road, Gulgong	3345.1	436.9	441.8	445.3	422.3	23.0	0°	21-30	No
R38	Residential	37 Racecourse Road, Gulgong	3081.3	429.1	441.8	445.3	422.3	23.0	0°	21-30	No
Gulgong Turf Club	Recreational	37 Racecourse Road, Gulgong	2953.2	426.1	441.8	445.3	422.3	23.0	0°	21-30	No
R39	Residential	93 Barneys Reef Road, Gulgong	3676.1	444.1	441.8	445.3	422.3	23.0	0°	21-30	No
R40	Residential	41 Prosperity Lane, Gulgong	3517.8	446.6	441.8	445.3	422.3	24.3	0°	21-30	No
R41	Residential	57 Prosperity Lane, Gulgong	3516.9	454.6	441.8	445.3	422.3	32.3	0°	21-30	No
R42	Residential	132 Black Lead Lane, Gulgong	Project not visible								No
R43	Residential	176 Black Lead Lane, Gulgong	Project not visible								No
R44	Residential	202 Black Lead Lane, Gulgong	3601.9	450.5	441.8	445.3	422.3	28.2	0°	21-30	No

Table 1: Preliminary assessment of receivers within 4km

Viewpoint (VP)	Type	Address	Distance to solar panel area (m)	Receiver viewpoint elevation (m)	Solar panel area max elevation (m)	Solar panel area max elevation (m) +3.5m	Solar panel area min elevation (m)	Relative height difference (m)	Vertical field of view (FOV) (sector from graph)	Horizontal FOV (category)	Assessment requirements following preliminary assessment phase (including viewshed analysis)
R45	Residential	220 Black Lead Lane, Gulgong	3533.4	445.4	441.8	445.3	422.3	23.1	0°	21-30	No
R46	Residential	221 Black Lead Lane, Gulgong				Project not visible					No
R47	Residential	199 Black Lead Lane, Gulgong	3774.3	453.0	441.8	445.3	422.3	30.7	0°	21-30	No
R48	Residential	183 Black Lead Lane, Gulgong	3789.3	457.4	441.8	445.3	422.3	35.1	0°	21-30	No
R49	Residential	171 Black Lead Lane, Gulgong				Project not visible					No
R50	Residential	155 Black Lead Lane, Gulgong				Project not visible					No
R51	Residential	143 Black Lead Lane, Gulgong				Project not visible					No
R52	Residential	21 Shepherds Lane, Gulgong	3796.9	427.5	441.8	445.3	422.3	23.0	0°	11-20	No
R53	Residential	164 Old Mill Road, Gulgong	3694.4	420.4	441.8	445.3	422.3	24.9	0°	21-30	No
R54	Residential	210 Old Mill Road, Gulgong	4055.0	421.8	441.8	445.3	422.3	23.5	0°	11-20	No
R55	Residential	312 Castlereagh Highway, Gulgong	3847.3	441.6	441.8	445.3	422.3	23.0	0°	11-20	No
R56	Residential	314 Castlereagh Highway, Gulgong	3547.3	421.1	441.8	445.3	422.3	24.2	0°	11-20	No
R57	Residential	370 Castlereagh Highway, Gulgong	3950.7	426.7	441.8	445.3	422.3	23.0	0°	11-20	No
R58	Residential	396 Castlereagh Highway, Gulgong	4048.9	412.8	441.8	445.3	422.3	32.5	0°	11-20	No
R59	Residential	900 Castlereagh Highway, Beryl				Project not visible					No
R60	Residential	900 Castlereagh Highway, Beryl				Project not visible					No
R61	Residential	343 Puggoon Road, Beryl				Project not visible					No
R62	Residential	146 Puggoon Road, Beryl	2216.0	432.2	441.8	445.3	422.3	23.0	1°	21-30	No
R63	Residential (associated)	340 Jacksons Lane, Beryl	840.9	460.6	441.8	445.3	422.3	38.3	2°	61-70	No (however, if not an associated resident assessment would be required)
R64	Residential (associated)	340 Jacksons Lane, Beryl				Project not visible					No
R65	Residential	588 Puggoon Road, Stubbo				Project not visible					No
R66	Residential	800 Puggoon Road, Tallawang	4002.1	438.5	441.8	445.3	422.3	23.0	0°	21-30	No
R67	Residential	588 Puggoon Road, Stubbo				Project not visible					No
R68	Residential	913 Barneys Reef Road, Stubbo	3236.0	435.6	441.8	445.3	422.3	23.0	0°	21-30	No
R69	Residential	913 Barneys Reef Road, Stubbo	3228.9	437.1	441.8	445.3	422.3	23.0	0°	21-30	No
R70	Residential	913 Barneys Reef Road, Stubbo	3321.3	439.1	441.8	445.3	422.3	23.0	0°	21-30	No
R71	Residential	955 Barneys Reef Road, Stubbo				Project not visible					No
R72	Residential	955 Barneys Reef Road, Stubbo				Project not visible					No
R74	Residential	97 Stubbo Road, Stubbo	2377.1	433.8	441.8	445.3	422.3	23.0	1°	21-30	No
R75	Residential	99 Stubbo Road, Stubbo	2656.1	435.6	441.8	445.3	422.3	23.0	1°	21-30	No
R76	Residential	101 Stubbo Road, Stubbo	2842.1	436.8	441.8	445.3	422.3	23.0	0°	21-30	No
R77	Residential	151 Stubbo Road, Stubbo	2918.0	442.2	441.8	445.3	422.3	23.0	0°	21-30	No
Cugegong Soaring Club	Recreational	221 Stubbo Road, Stubbo	3397.9	444.8	441.8	445.3	422.3	23.0	0°	21-30	No
R78	Residential	106 Stubbo Road, Stubbo	2814.3	440.7	441.8	445.3	422.3	23.0	0°	21-30	No
R79	Residential	224 Stubbo Road, Stubbo	3077.4	442.1	441.8	445.3	422.3	23.0	0°	21-30	No
R80	Residential	423 Carramar Road, Stubbo	3141.6	442.6	441.8	445.3	422.3	23.0	0°	21-30	No
R81	Residential	421 Carramar Road, Stubbo	3764.4	445.3	441.8	445.3	422.3	23.0	0°	21-30	No
R82	Residential	45 Carawatha Road, Stubbo	3688.3	441.4	441.8	445.3	422.3	23.0	0°	21-30	No
R83	Residential	359 Carawatha Road, Stubbo	4266.0	447.3	441.8	445.3	422.3	25.0	0°	11-20	No
R84	Residential	66 Elouera Road, Stubbo	4160.8	440.7	441.8	445.3	422.3	23.0	0°	11-20	No

Scoping Social Impact Assessment

Appendix E

pitt&sherry

Mayfair Solar Farm EIS

Social Impact Assessment - Scoping Report

May, 2023

Whitaker Consulting

Strategy Planning Engagement

This Report has been prepared for:

Pitt & Sherry

This report has been prepared by:

C Change Sustainable Solutions Pty Ltd

ABN: 66 858 725 526

Together with:

Whitaker Consulting

Strategy Planning Engagement

TABLE OF CONTENTS

1. Introduction

This report – the Scoping Report (Social component) - constitutes the first phase of the Social Impact Assessment for the Mayfair Solar Farm (the Project). The report has been compiled with reference to the Department of Planning and Environment's Social Impact Assessment Guideline for State Significant Projections (the SIA Guideline).

As per the SIA Guideline, the Scoping Report:

- Provides information on the Project and the Project's locality (Section 2);
- Outlines the policy context and the wider region (Section 3);
- Summarises the consultation undertaken throughout the scoping stage and the key issues noted (Section 4);
- Identifies the potentially impacted stakeholders (Section 5);
- Provides a preliminary review of potential social impacts based on a review of information gathered as part of the scoping study (Section 6);
- Provides recommendations on any early project changes, and the impacts that will require further assessment in the EIS (Section 7).

Considerations in the SIA scoping report includes consideration of how the Project is likely to impact on:

- ***The way of life in the Project's locality:*** That is, consideration on whether the project will impact on how people live, how they get around, how they work, how they play, and how they interact on a daily basis.
- ***The community itself:*** That is, the composition, character, cohesion, function, and sense of place of the locality in which the Project is located.
- ***Access to a range of services, facilities and areas:*** For example, how people in the Project's locality access and use infrastructure, services and facilities, whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or groups.
- ***The Community's culture/s:*** How the Project is likely to impact on both Aboriginal and non-Aboriginal culture, including shared beliefs, customs, values, and stories, and connections to country, land, waterways, places, and buildings.
- ***The health and wellbeing of individuals and the community:*** This includes consideration of the Project's impact on the physical and mental health of the community, especially for those who are highly vulnerable to social exclusion or substantial change, plus wellbeing of individuals and communities.
- ***The Project's surroundings:*** That is, whether implementation of the project will impact access to, and use of, public safety and security, access to and use of the natural and built environment, and its aesthetic value and amenity.
- ***Individual's livelihoods:*** That is, people's capacity to sustain themselves, whether they experience personal breach or disadvantage, and the distributive equity of impacts and benefits.
- ***Decision-making systems:*** Including whether people experience procedural fairness; can make informed decisions; have power to influence decisions; and can access complaint, remedy and grievance mechanisms.

Information utilised to compile the scoping report includes a review of other solar farms in the vicinity of the Project, preliminary visual and transport / access studies, and the consultation conducted by the Stakeholder Engagement team for the Scoping Phase. It is noted that the recommendations included in Section 7 are based on the assessments conducted to date, but that through the further EIS stages additional considerations may arise and require inclusion in the EIS.

2. The Project in Context

The Project

Elgin Energy Pty Ltd (Elgin) propose to construct a land based solar farm and battery energy storage system (BESS) at Stubbo in NSW, approximately 5km north of Gulgong and 300 km northwest of Sydney. The site comprises rural land, is located in the Mid-Western Regional Local Government Area (LGA) and in the Central-West Orana Renewable Energy Zone (REZ).

The Project is proposed to have a capacity of approximately 60 megawatt(MWac) and will include a 60 MW Battery energy Storage System, a substation to connect the project to the electricity network, all associated power conversion equipment such as inverters and transformers, and internal access tracks. The Project will supply electricity to the grid via connection to an existing 66 kilovolt (kV) transmission line which crosses the site. The Project will generate up to 151,000 MWh per year of clean electricity, enough to power approximately 10,000 NSW houses (Ausgrid, 2022), and reduce carbon emissions by approximately 119,300 tonnes (t) carbon dioxide equivalent (CO_2-e) assuming a carbon factor of 0.79 t/MWh(DCCEEW,2022).

The Project Area (also referred to as the "site") is approximately 217 hectares (ha) and comprises two lots, Lot 2 DP734669 and Lot 2 DP528667, at 204 Jacksons Lane, Stubbo. These lots are part of a much larger land holding. Access is proposed under a long-term lease agreement with a single host landowner. Within the 217 ha Project Area, the solar farm, BESS, and associated infrastructure would occupy up to about 140 ha.

The Project Area is zoned RU1 – Primary Production under the *Mid-Western Regional Local Environmental Plan 2012* (Mid-Western LEP). The area surrounding the Project is predominantly rural, mostly cleared of native vegetation and used for agricultural purposes. The Project Area is bordered by Jacksons Lane in the south, the Wallerawang Gwabegar Railway in the west, rural land in the north, and Slapdash Creek in the east. Access to the site would be via Jacksons Lane and Barneys Reef Road.

Construction vehicle access and materials transport would be via the Castlereagh Highway, bypassing the main town of Gulgong using Caledonian Street, Rouse Street, Barneys Reef Road, and Jacksons Lane.

The Project will have a capital investment value higher than $30 million and hence will trigger the provisions for State Significant Development (SSD) under *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

Objectives

The objectives of the Project are to:

1. Design, construct, and operate a utility scale solar farm and BESS while minimising environmental, social, and cultural impacts upon the site and adjoining land through adaptive design approaches;
2. Generate and store electricity on the site from renewable sources to reduce the amount of greenhouse gasses generated by the NSW power generation sector;
3. Encourage and enable community and stakeholder engagement and participation across the life of the Project; and
4. Provide local and regional employment opportunities and other social benefits during construction and operation of the development and contribute to the local and regional economies.

The Applicant

The Applicant is Elgin Energy Australia Pty Ltd (ABN 95 629 627 416). Elgin is a full-service, utility scale, solar and storage developer bringing projects from origination through development. The company has a portfolio of projects in late-stage development totalling 6 gigawatt (GW) solar + 3 GW storage across three key markets of the United Kingdom, Australia, and Ireland.

Details of the Applicant are provided in Table 1.

Table 1 Applicant Details

Condition	Detail
Company Name	Elgin Energy Pty Ltd
Address	Level 3, 50 Bridge Street, Sydney NSW 2000
ABN	95 629 627 416
Nominated Contact	Antoine Pavone
Contact Details	0412 384 521

The Project's Locality

As noted, the Project is located in the Mid-Western Regional LGA in Stubbo, approximately 5 km north of Gulgong in the Central Tablelands of NSW, some 300 km northwest of Sydney (refer Figure 1). The traditional custodians of the land are the Wiradjuri nation and Gulgong, meaning 'deep waterhole', is derived from the Wiradjuri nation's native language.

Gulgong is a town that is valued for its historic buildings both by its surrounding community and also visitors to the area. Renowned for its goldmining days, and being the childhood home of bush poet Henry Lawson, the town is beautifully preserved with around 130 National-Trust listed buildings and historic looking streetscapes.

Figure 2: Mayne Street, Gulgong

Figure 1: Gulgong in Context

Source: https://gulgong.com.au/directory/gulgong-pioneers-museum/

The Mid-Western LGA's Local Strategic Planning Statement notes that Gulgong has "*fascinating museums, iconic events and festivals, and a progressive and passionate community steeped in history. The town offers quality restaurants, cafes and boutique shopping. Gulgong has many attractive facilities including health services, recreational offerings and three schools. The town hosts many annual and bi-annual events including the Gulgong Show & Rodeo, Clay Gulgong, Prince of Wales Eisteddfod, Gold and Mining Festival, Henry Lawson Festival and Folk Festival*".

Although cited as having a population of up to 20,000 at the height of the gold rush (1873), at the 2021 Census, Gulgong had a population of 2,680. This was an increase of 159 people from 2016.

The median age of the population was 41 years old in 2021 (unchanged from 2016) and around 88% of the population classified their cultural ancestry as either English (44.9%) or Australian (43.7%). Seven point 5 percent (7.5%) of the population identified as Aboriginal and/or Torres Strait Islanders (216 people) in 2021, which is markedly higher than the NSW proportion of 3.4%.

In 2021, there were 1,202 private dwellings in Gulgong with the majority of these being separate houses (94.2%). Average number of people per household in 2021 was 2.4 and couple family without children accounted for 41.8% of households, which was higher than NSW's proportion at 37.9%. Approximately 72% of dwellings were either owned outright or with a mortgage, which often indicates a stable community committed to the area.

As would be expected by the relatively older median age of the area, in 2021, Gulgong had lower proportions of people aged under 44 years of age, and higher proportions of people over 65 when compared with NSW (refer Figure 3). However, Gulgong's proportion of 5-14 year olds was higher than NSW's as a whole.

Figure 3: Age Structure, Gulgong and NSW, 2021

Source: ABS Census 2021 Quickstats

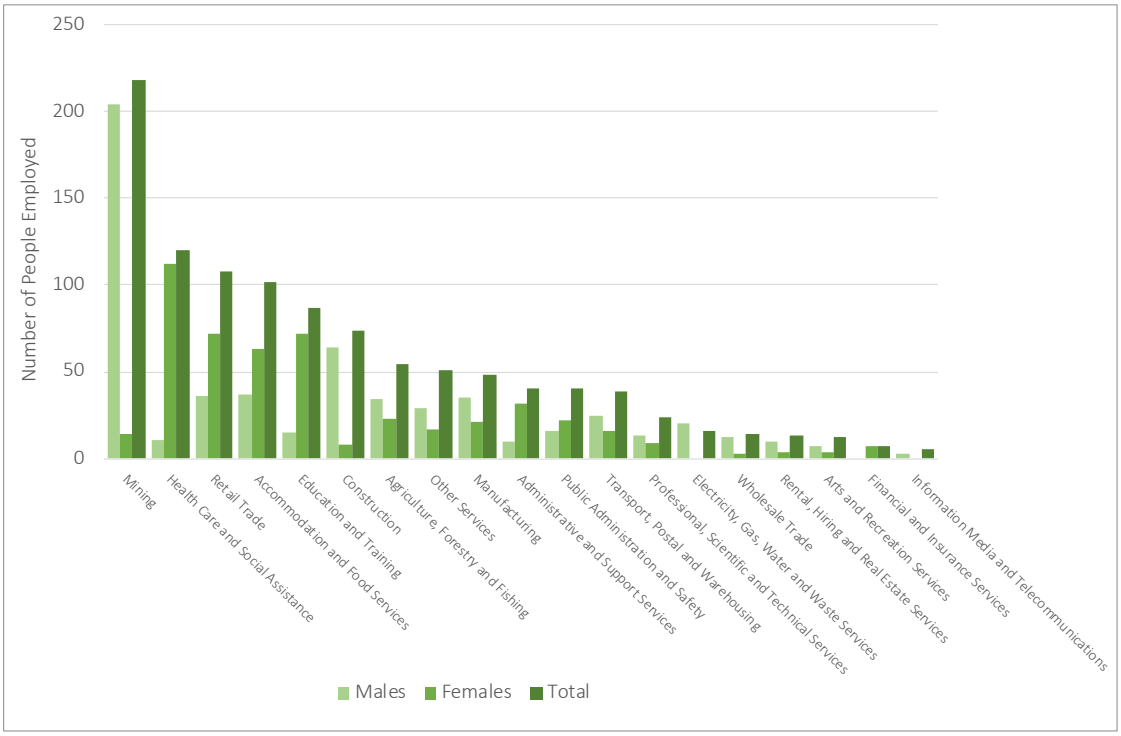
Gulgong's Labourforce participation rates were similar to NSW in 2021, with 55.4% of people over the age of 15 indicating they were 'in the labourforce' compared to 58.7% for NSW.

The population of Gulgong is employed in many industries, showing a relatively diverse economic base (refer Figure 4). Mining employs the largest number of people, however, and is dominated by males. Health and social assistance is the second largest employer, and is dominated by females. Retail trade and accommodation and food services were also large employers in Gulgong in 2021.

Based on ABS Quickstats for 2021, the top 5 industries of employment were coal mining (18.2%), supermarket and grocery stores (4.1%), accommodation (3.6%), aged care residential services (3.5%) and primary education (2.8%).

In 2021, the ABS Census indicated that male unemployment in Gulgong was 3.5%, female unemployment was 5.2% and overall unemployment was 4.3%.

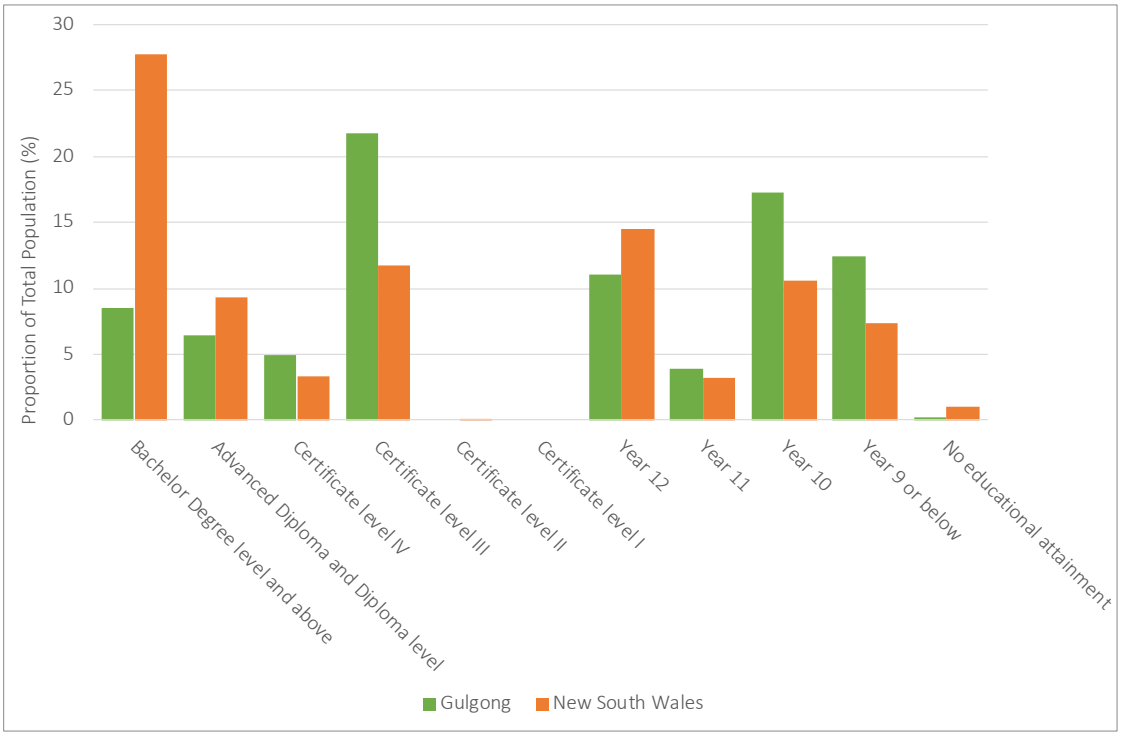
Figure 4: Industry Structure, Gulgong and NSW, 2021



Source: ABS Census 2021 Community Profile

In 2021, the highest level of educational attainment for over two thirds of people in Gulgong (66.3%) was secondary schools and Certificate 3 qualifications (refer Figure 5).

Figure 5: Highest Education Level, Gulgong and NSW, 2021



Source: ABS Census 2021 Quickstats

3. The Policy Context and Wider Region

Renewable Energy in NSW and the Region

The NSW Government's NSW Climate Change Policy (2023) is a policy document that outlines the NSW Government's plan to grow the economy, create jobs and reduce emissions over the next decade. It addresses:

- NSW's statutory objectives to protect, restore and enhance the quality of the environment in NSW, and to reduce the risks to human health and prevent the degradation of the environment, under section 6(1) of the *Protection of the Environment Operations Act 1997* (POEA Act)
- NSW's statutory duty to develop environmental quality objectives, guidelines and policies to ensure environment protection from climate change, under section 9(1)(a) of the POEA Act.

The Policy aims to maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate and current and emerging international and national policy settings and actions to address climate change. Its overall aim is to achieve incremental reductions over the years to 2050 such that net-zero emissions are produced by 2050.

The Policy notes that the NSW Government endorses the Paris Agreement and is committed to taking action that builds upon the NSW's strong track record in expanding renewable energy, helping households and businesses reduce their energy bills by saving energy and preparing for the impacts of climate change.

The suite of documents that support the Climate Change Policy highlights that NSW is a state and international leader in energy efficiency, is home to Australia's largest utility scale solar plants, and has more ongoing renewable energy jobs than any other state or territory in Australia.

To support action on climate change, in November 2020 New South Wales released one of Australia's most ambitious renewable energy plans – The Electricity Infrastructure Roadmap. The Electricity Infrastructure Roadmap is the NSW Government's plan to *"transform our electricity system into one that is cheap, clean and reliable"*.

The Roadmap is expected to attract significant private investment and create considerable number of construction and ongoing jobs. As noted on the website, expectations include:

- Attracting up to $32 billion in private investment for regional energy infrastructure by 2030.
- Supporting 6,300 construction jobs and 2,800 ongoing jobs, mostly in regional NSW.
- Reducing NSW electricity emissions by 90 million tonnes by 2030.

To achieve the Roadmap, the NSW has delineated Renewable Energy Zones (REZs). Five Renewable Energy Zones (REZs) have been created. These REZs group new wind and solar power generation into locations "*where it can be efficiently stored and transmitted across NSW*"(source: https://www.energyco.nsw.gov.au/cwo-rez).

The area that encompasses Gulgong is the Central-West Orana region. This area covers approximately 20,000 square kilometres and includes Dubbo and Dunedoo, on the land of the Wiradjuri, Wailwan and Kamilaroi people (refer Figure 6). Expectations from this REZ include the following:

- *The Central-West Orana REZ will unlock 3 gigawatts of new network capacity by the mid-2020s, enough to power 1.4 million homes;*
- *New transmission infrastructure will enable generators (such as solar and wind farms) participating in the REZ to export electricity to the rest of the network;*
- *It is expected to bring up to $5 billion in private investment to the Central-West Orana region by 2030;*
- *At its peak, this REZ is expected to support around 3,900 construction jobs in the region*

Source: https://www.energyco.nsw.gov.au/cwo-rez

It is noted that Mayfair Solar Farm project is **not** within the REZ scheme, but that the REZ is still an important consideration for the project.

Figure 6: The Central-West Orana Renewable Energy Zone

Source: https://www.energyco.nsw.gov.au/cwo-rez

The Planning Context and Wider Region

Although the full scoping report will note all important planning and legislative considerations for the project, of particular important for the SIA are the desired outcomes for localities in which Projects are based.

Being located in the Mid-Western Regional LGA, the Mayfair Solar Farm will need to be particularly cognisant of the Mid-Western Regional Local Strategic Planning Statement 2020 (LSPS), which sets out the 20 year vision for land use planning in the Mid- Western Regional Council LGA, and the Central West and Orana Regional Plan 2041 (draft).

The Mid-Western Regional Local Strategic Planning Statement 2020 (LSPS)

The LSPS notes that the main town in the Mid-Western LGA is Mudgee and this is supported by smaller towns of Gulgong, Rylstone, Kandos (see Figure 7).

In 2021 Mudgee had a population of 11,457 – an increase of 491 people from the 2016 base. As noted in the Orana Economic Development Strategy, Mudgee has beautiful historic buildings, a vibrant café culture, market days and a thriving arts community. The surrounding area is home to a vast array of wineries nestled in the picturesque countryside.

The Rylstone area was originally called Dabee in the 1820s and was home to 904 people in 2021, a decrease of 16 people from the 2016 base. The area features many aesthetic sandstone buildings and hosts wineries, olive estates and gourmet foods businesses. The town is also a gateway to the World Heritage-listed Wollemi National Park to the east and the scenic Capertee Valley to the south.

Kandos is located at the northern entrance to the Capertee Valley and on the western edge of the Blue Mountains. The Orana Economic Development Strategy notes that that town was established in 1913, when the New South Wales Cement Lime and Coal Company was set up to take advantage of local supplies of limestone. In 2021, Kandos had a population of 1263, a decrease of 52 people on the 2016 base.

Figure 7: The Mid Western Council LGA

Source: Mid Western Regional Council, Local Strategic Planning Statement

Key priorities for the Mid-Western LGA include respecting and enhancing the history, aesthetics of the towns and village, as well as the biodiversity and natural heritage. Good governance is seen as important as is building a strong economy. With regards to the economy, attracting and retaining important industries is considered a priority, as is ensuring that efficient inter-connections and intra-connections across the LGA and to broader regions. The Mid-Western LGA's priorities are shown in Figure 8.

Figure 8: Priority Areas for the Mid Western LGA

Source: Mid Western Regional Council, Local Strategic Planning Statement

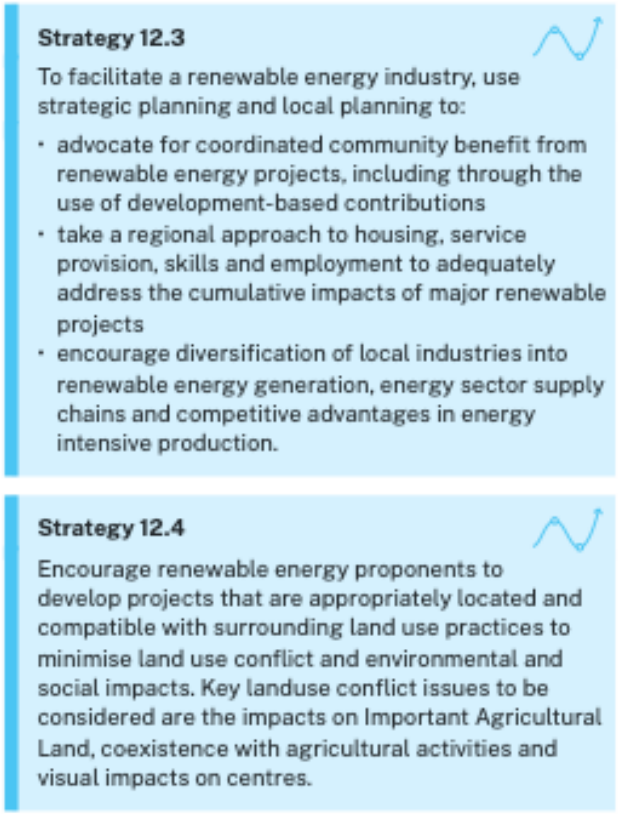
Central West and Orana Regional Plan 2041 (draft)

The Central West and Orana Regional Plan 2041 is currently in draft form and will replace the Central West and Orana Regional Plan 2036. The Plan is a "*20-year blueprint and overarching strategic planning framework*" for the future of the Central West and Orana region.

The vision outlined in the Plan includes elements that aims to ensure that the Central West and Orana region is a "*healthy, connected and resilient region, with a prosperous economy*". The vision acknowledges the importance of:

- Its cities, regions and communities - their sense of place and character, residents' lifestyles and access to facilities and services, as well as connections throughout the region.
- The expansive ecosystems and natural features in the region, and ensuring these are managed and enhanced effectively wherever possible.
- Connection to country, and the importance of the First Nation people in the region, their cultural heritage and expanding opportunities.
- Creating a prosperous future, through focusing on emerging and growing industry sectors, on workforce development, retention and attraction (for both non-Indigenous and Indigenous people), broadening the tourism sector within the region, providing adequate infrastructure and efficient connections.
- Climate change risk and the importance of adopting adaptation and mitigation measures. Key to this is embracing renewable energy and the REZ is seen as a pathway to the region becoming a renewable energy leader.

Figure 9: Strategies supporting renewable energy projects in the Central West and Orana Regional Plan 2041 (draft)



Strategy 12.3

To facilitate a renewable energy industry, use strategic planning and local planning to:

- advocate for coordinated community benefit from renewable energy projects, including through the use of development-based contributions
- take a regional approach to housing, service provision, skills and employment to adequately address the cumulative impacts of major renewable projects
- encourage diversification of local industries into renewable energy generation, energy sector supply chains and competitive advantages in energy intensive production.

Strategy 12.4

Encourage renewable energy proponents to develop projects that are appropriately located and compatible with surrounding land use practices to minimise land use conflict and environmental and social impacts. Key landuse conflict issues to be considered are the impacts on Important Agricultural Land, coexistence with agricultural activities and visual impacts on centres.

The draft Regional Plan provides support for solar projects in appropriate areas where there are appropriate safeguards for surrounding land uses, under Objective 12: Leveraging existing industries and employment areas and support new and innovative economic enterprises.

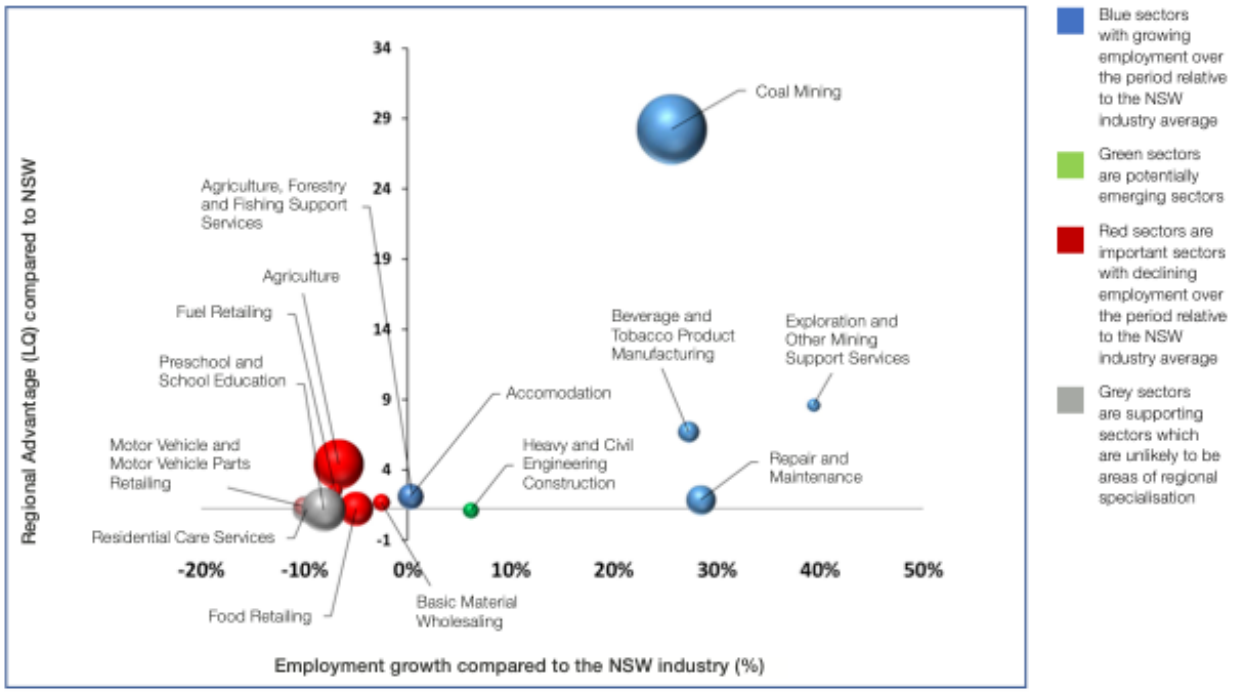
It is important to note that tourism remains a strong foci in the Region, and that it has been acknowledged by Council that the existing tourism accommodation needs to be augmented to adequately support the industry. This is an important point as short term accommodation can be impacted upon through construction phases of major projects.

Mid-Western Regional Council Regional Economic Development Strategy (2018-2022)

Although somewhat dated now, the Mid-Western Regional Council Regional Economic Development Strategy (2018-2022) also supports the renewable energy sector. Its vision is that the region is developed with "A prosperous and diversified economy delivering lifestyle benefits to the community through employment, income and sustainable economic growth."

The strategy focuses on developing a mature and diversified tourism sector, including sports and heritage tourism; capitalising on the existing viticulture strengths, growing industry clusters associated with mining, energy, manufacturing and agriculture, and developing the emerging retiree/aged care sector to best support the local communities. Important industry sectors are shown below in blue, green and red.

Figure 10: Location Quotients and Employment Growth for Industries in Mid-Western Region



Source: CERD.

6. A region's competitive advantage for an industry includes its ability to produce goods and services at a lower cost or differentiate its products from other regions, along with access to external factors which enhance business and operations/minimise risk (Stimson, Stough and Roberts, 2006).
7. A LQ of 1.25 is identified in the literature as denoting a specialisation.

Other Projects in the Vicinity of the Project

It is important to acknowledge other projects in the vicinity of the Project and identify, mitigate or enhance any cumulative impacts.

The 2023 Technical Guideline notes that cumulative impacts can be:

- "*Spatial impacts* [that] *occur over the same area (e.g. trucks from multiple operations may produce a cumulative noise impact along a common haulage route);*
- *Temporal impacts* [that] *vary over time (e.g. the construction of multiple large projects over the same timeframe require temporary workers in an area, creating a cumulative shortage of accommodation);*
- *Linked impact* [involving] *more complex interactions – one impact may trigger another, or a single activity may have multiple impacts (e.g. a mining project may generate noise and dust, consume local water resources or increase traffic on local roads*)".

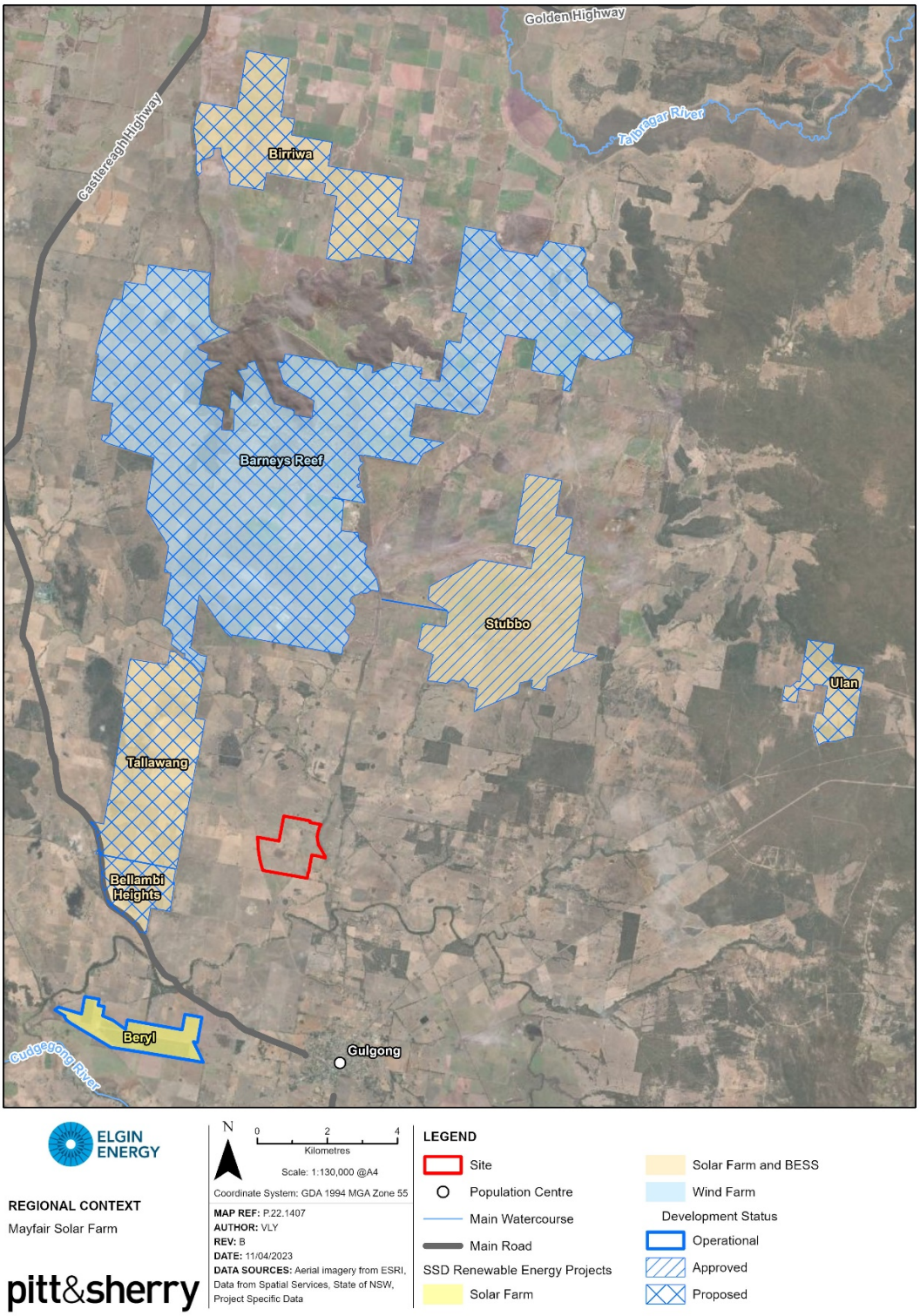
As expected given the REZ, there are other renewable projects in the vicinity of the Project. The projects in the vicinity of the Mayfair Solar Farm include:

- Tallawang Solar Farm;
- Stubbo Solar Farm;
- Bellambi Heights;
- Beryl Solar Farm;
- Barneys Wind Farm.

The location of these are shown below in Figure 11 and short descriptions follow. Also included in this section are a number of major projects that, depending on their construction and operation periods, could compete for local workforce and resources. These include:

- Ulan Solar Farm;
- Birriwa Solar Farm;
- Central-West Orana Transmission Line;
- Orana Wind Farm;
- Bowdens Silver Mine;
- Burrendong Wind Farm.

Figure 11: Other Solar Projects in the Vicinity of Mayfair Solar Farm



Tallawang Solar Farm[1]

The proposed Tallawang Solar Farm comprises a solar farm and battery storage infrastructure located in the locality of Tallawang, NSW, approximately 8 kilometres northwest of Gulgong.

If developed, Tallawang Solar Farm will involve the construction, operation, and maintenance of a 500MW solar farm on approximately 1300 hectares. Energy storage infrastructure located within the project boundary will have a capacity of up to 1000 MWh.

The solar farm will connect to the Central West REZ and feed into the National Electricity Market. It is anticipated that the solar farm will generate enough electricity to supply approximately 330,000 NSW households.

The Tallawang Solar Farm has undergone EIS preparation, exhibition and is at the assessment of submissions phase.

Stubbo Solar Farm[2]

The Stubbo Solar and Battery Project is a 400-megawatt (MW) renewable energy project that was approved by the NSW Department of Planning, Industry and Environment in July 2021. It is being proposed across 1,250 hectares of mostly cleared grazing land in the Central West region of NSW.

The project will be situated in the locality of Stubbo about 10 kilometres north of the historic mining town of Gulgong in the Mid-Western Regional Local Council LGA.

The project is expected to produce about one million megawatt hours of electricity each year, enough energy to power approximately 185,000 average Australian homes.

This project has been approved.

It is noted that Stubbo is proposing another farm adjacent to the existing approved farm, of approximately equal size. No details about this proposal is yet available on their website.

Bellambi Heights[3]

The Bellambi Heights Battery Energy Storage System is a 408 MW battery capable of providing up to 2 hours of storage and will be supported by associated infrastructure. The BESS could be built in 2 stages up to 204 MW per stage or all at once.

The Project is located approximately 6.5 kilometres north-west of Gulgong within the Mid-Western Regional Council area and the Central-West Orana Renewable Energy Zone.

This project is currently undergoing EIS preparation.

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[1] Information sourced from: http://www.barneysreef-renewableenergy.com/tallawang-solar-farm/the-project/

[2] Information sourced from: https://stubbosolar.com.au/the-project/

[3] Information sourced from: https://www.venaenergy.com.au/all_projects/bellambi-heights-bess/

Beryl Solar Farm[4]

The Beryl Solar Farm is a 109 MW DC project located approximately five kilometers west of Gulgong, NSW. The proponent is Tranex Solar Pty Ltd.

The Beryl Solar Farm (developed by First Solar) consists of 44,175 Piles 8,835 Exosun Trackers and 309,000 PV modules. The project has a 15 year PPA with Sydney Metro and is used to meet operational electricity needs of the Sydney Metro Northwest rail link.

The Beryl Solar Farm will see electricity generated with the smallest carbon footprint of any PV technology available and is expected to generate more then 199,000 MWh of electricity per operating year.

This project has been in operation since 2019.

Barneys Reef Wind Farm[5]

The proposed Barneys Reef Wind Farm will be located approximately 12 kilometres north of Gulgong, in the Mid-Western Regional Council LGA, and 18 km to the south of Dunedoo within the neighbouring Warrumbungle Shire Council area.

Barneys Reef Wind Farm will have a capacity of approximately 440MW and at this early stage of planning would include up to 65 wind turbines. The proposed site extends over 13 free-hold properties where RES has recently formed agreements with the host landholders.

Barneys Reef Wind Farm is expected to generate enough electricity to supply around 265,000 NSW homes.

Infrastructure on the site may include two substations and transmission connections to the Central-West Orana REZ Transmission Corridor. It is expected this would traverse the northern end of the Project Area.

This project is currently undergoing EIS preparation.

Ulan Solar Farm[6]

The Ulan Solar Farm is a project by Edify Energy Pty Ltd, proposed to be located in the township of Ulan, New South Wales. The project is aimed at addition to the generation of new and dispatchable carbon-free electricity supply for NSW. Subject to necessary approvals, Edify Energy (Edify) anticipates construction to commence in 2024.

The proposal is expected to have a generation capacity up to 50 Megawatt (MW) alternating current (AC). The site is located approximately 16 kilometres (km) northeast of Gulgong and 37km north of Mudgee, located within the Central West and Orana region.

This project is currently undergoing the approval process.

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[4] Information sourced from: https://www.tranexsolar.com.au/project/BERYL-SOLAR-FARM

[5] Information sourced from: http://www.barneysreef-renewableenergy.com/barneys-reef-wind-farm/the-project/

[6] Information sourced from: https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PDA-46397211%2120220718T024831.950%20GMT

Birriwa Solar Farm[7]

Birriwa Solar and Battery Project is a 600-megawatt renewable energy project that is being proposed across an area of approximately 1,200 hectares of mostly cleared grazing land, about 20km southeast of Dunedoo, in the Birriwa district.

The solar component of the project will have an indicative capacity of around 600 megawatts (MW) and include a centralised battery energy storage system (BESS) of up to 600 MW for 2 hours. The BESS will enable energy from solar to be stored and then released during times of demand.

This project is currently undergoing the approval process.

Central-West Orana Transmission Line[8]

The Central-West Orana Renewable Energy Zone (REZ) will be serviced by new transmission network infrastructure, including "*high-capacity transmission lines and energy hubs, which will transfer power generated by solar and wind farms to electricity consumers. This infrastructure will be critical for the successful operation of the REZ*".

EnergyCo is responsible for developing and overseeing the planning and approval processes for the REZ network infrastructure. They are also evaluating competitive tenders for a Network Operator to design, build, finance, operate and maintain the REZ transmission network.

EnergyCo is currently completing a variety of field investigations to better understand local land uses, confirm environmental conditions, local topography and engineering constraints, which will inform the design of the infrastructure and requirements for the REZ. An Environmental Impact Statement (EIS) for the REZ transmission infrastructure is currently being prepared, and is expected to be lodged with the NSW Department of Planning and Environment and placed on public exhibition for community feedback in late 2023.

Orana Wind Farm[9]

The proposed Orana Wind Farm is located south of Dunedoo (about 90km east of Dubbo) in the Central West Region of New South Wales. It is a part of the REZ and its location spreads across Warrumbungle Shire Council and Mid-Western Regional Council areas. The site is exposed to consistent winds across this part of the country and provides a suitable resource for the development of a wind farm.

The proposed project will be up to 600MW, with ancillary infrastructure, including on-site substations, and the potential for energy storage.

This project is currently undergoing the approval process.

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[7] Information sourced from: https://birriwasolar.com.au/the-project/

[8] Information sourced from: https://www.energyco.nsw.gov.au/cwo

[9] Information sourced from: https://www.acciona.com.au/orana/?_adin=02021864894

Bowdens Silver Mine[10]

As noted by Silver Mines Limited, Bowdens Silver is the largest, undeveloped silver project in Australia and one of the largest globally. The project is located near the village of Lue, approximately 30 km east of Mudgee in central New South Wales and comprises mineral tenements covering 2,007 square kilometres (496,000 acres) across the mineralised Rylstone Volcanics on the western edge of the Great Dividing Range.

This project is approved and construction is expected to commence in 2024.

Information from Silver Mines Limited indicates that 320 direct construction jobs and 228 ongoing operational jobs are likely to be created, and that there are many opportunities for local businesses and the communities to capitalise on indirect jobs generated throughout the life of the Project. The mine's total project life is expected to be 23 years, which includes construction and rehabilitation. The production timeframe of silver (and the by products of zinc and lead) is expected to last almost 17 years.

Burrendong Wind Farm

The Burrendong Wind Farm, will involve the construction, operation and decommissioning of up to 105 Wind Turbine Generators (WTGs) and associated ancillary infrastructure, with a total capacity around 650 MW. The proposed Project Site is located approximately 30 km southeast of Wellington and to the east of Lake Burrendong and is situated within Dubbo Regional Council and Mid-Western Regional Council.

The Project Site is currently primarily used for agriculture, including farming and grazing operations, and lies within the Lake Burrendong Catchment. The project is in the Central-West Orana REZ.

This project is currently undergoing the approval process.

Potential Cumulative Employment Impacts

Although the projects stated above are likely to have different construction periods, Council indicated that if they commenced at a similar time, the area could see a construction workforce influx of approximately 6,000 people. Obtaining high proportions of locals for the workforces may prove difficult, as many skilled workers may already be employed in the resource sector. Given the differing scale of budgets available for solar farms versus mining projects, competing with the mining sectors' salary levels and extended construction and operational timeframes is likely to be difficult for the solar projects.

[10] Information sourced from: https://bowdenssilver.com.au and https://bowdenssilver.com.au/wp-content/uploads/2017/02/BOWD001-Bowdens-Silver-Project-Brochure_A4_v1.5-Web2.pdf.

4. Consultation undertaken through the scoping stage

Through the scoping stage, a number of consultation activities were performed. These are listed in the Table below. Key consultation activities and issues raised are summarised overleaf, and further detail can be found in the Stakeholder Engagement – Scoping Phase report.

Table 2 Scoping Stage Consultation

Engagement Method	Timing	Purpose	Stakeholders
Phone call	2022	Project introduction	Local Government
Emails and meeting	March 2023	Project introductory meeting with EnergyCo.	Industry
Letters	31 March 2023	Project introduction, provide links to Project website, email, and phone number, and invite participation at community drop-in sessions	Receivers within 4 km (84) Community groups (7) Educational facilities (5) Emergency Services (2) Environmental Group (1) Local businesses (38) Tourism group (9)
Face-to-face meetings	4 April 2023	Project introduction and relative location	Adjacent landowners (2)
Newspaper advertisement	14 April 2023	Advertise community information drop-in session. Included a one-off ad placement (1/4 page) in the Mudgee Guardian and Gulgong Advertiser	Media Wider community
Email	15-27 April 2023	Project enquiry and response regarding community information drop-in session and proposed community benefit scheme	Community group
Phone call	24 April 2023	Provide further updates on Project and arrange one-on-one meetings with Project team	Adjacent neighbours (6)
Face-to-face meetings	26 & 28 April 2023	In person meeting to provide Project information packs, answer any questions, and note any concerns	Adjacent neighbours (4)
Community drop-in sessions	27 April 2023	To provide the community with information about the Project and seek initial input.	Community Business Local Government
Face-to-face meeting	28 April 2023	Project introduction meeting to brief MWRC and hear their concerns about the Project and/or cumulative impacts in context of other developments in the area	Local Government

Community Drop In Session

On April 27th, two community drop in sessions were hosted. Both were at the Gulgong Memorial Hall, with the first one occurring between 11.30 to 2pm and second at 4-6.30pm. The sessions offered the wider community the chance to engage with and provide important feedback to the Project team on important local values and raise any concerns regarding the development they may have.

Information associated with the Project was posted on the walls of the Memorial Hall, and attendees could ask team members any questions about the Mayfair Solar Project. Attendants were also provided the opportunity to complete a feedback survey, available as a hardcopy on the day, digitally on the project website, accessible via a URL or a by scanning a QR code on posters.

In total, 6 people attended these sessions, and all attendees were residents of Gulgong or the immediate surrounds. Attendees expressed that there could be 'consultation fatigue' among the community due to the number of proposed projects in the area.

Issues raised throughout the Scoping Phase

The following sub-section outlines the issues raised throughout all engagement in the scoping phase. Overall, community sentiment about the project was mixed, with some respondents being very passionate about the need to mitigate negative impacts and/or questioning the need for another solar project in the region.

While many appreciated the potential benefits of the project (particularly associated with the potential opportunities to strengthen community infrastructure and public space through grants and projects), there were also a number of concerns raised.

The major concerns were around where the workforce would be accommodated (as it was noted that there was already a lack of short term accommodation for bona fide visitors in the region) as well as issues associated with visual impacts, land being utilised for purposes other than agriculture, waste management (and it was noted that Gulgong does not have the capacity for increased waste disposal), and where water was going to be sourced for the construction period.

With regard to accommodation impacts, Council noted that they expected a completed Workforce Engagement Strategy to be submitted with EIS showing how all of the construction workforce could be accommodated without impacting on existing rentals and short term accommodation. Council's noted that they were open to discussing workforce accommodation camps at the edge of Gulgong's township.

The impact of the project on community services, particularly emergency services and health services, was also raised during consultation.

The project's contribution to energy security and support for renewable energy to combat climate change was considered a potential benefit by most, although there were a couple of people who felt the renewables 'boom' was not going to be able to accommodate all energy requirements and that the benefits from the regional projects were overstated. A couple of people also felt that international manufacturers (as opposed to Australian made supplies) would be relied upon in the construction and operation phases.

Risks and hazards were discussed in the scoping engagement phase, as was the impact on tourism and the locality generally, particularly with regard to accommodation impacts as well as visual and amenity impacts.

Key points noted by themes are shown below. Further information can be found in the Stakeholder Engagement - Scoping Phase report:

- Community benefit
    - Opportunities for community grants
    - Public space improvement

- Energy security and climate change
    - Support of renewable energy developments to combat climate change
    - Reliance on international manufacturers to supply infrastructure
    - Some doubt regarding the extent of the benefit from renewable energy

- Workforce accommodation
    - Influx of workers potentially placing pressures on rental housing affordability for locals
    - Public services meeting the increased demands, particularly healthcare, police, and utilities

- Land use and environmental impacts
    - Impacts to endangered species and communities
    - Waste management/volumes during construction and decommissioning
    - Decommissioning and rehabilitation of site at Project end
    - Potential loss of agricultural land
    - Scepticism and mistrust of reporting of impacts

- Risks and hazards (heightened concerns due to a recent fire at a nearby operating solar farm, and concerns over BESS safety)
    - Contamination to air, soil, and waterways

- Tourism and locality
    - Visual amenity and landscape character
    - Short term accommodation pressure if workforce accommodation not provided
    - Maintain rural locale tourism destination

5. Potentially Impacted Stakeholders

Stakeholders that may be affected by the project have been based on those that either live, work, and/or recreate near the project; have an interest in the proposed project; use or value a resource associated with the project; and/o are affected by the project in some way.

As noted in the preceding section, a number of consultation activities were undertaken during the scoping stage. As well as these, the consultant teams completed a stakeholder identification process to support not only the scoping phase, but also the broader EIS project. From this, potentially impacted stakeholder groups for the Mayfair Solar Farm were determined. These are noted in Table 1 below.

Also included in Table 1 are potential impacts that might arise from stakeholders. These impacts have been identified via a review of previous solar farms' EISs (and submissions pertaining to the EISs) in the area, discussions with the proponent and the wider consultant group, and the outcomes from the Community Drop-In session conducted for the scoping study. The impacts have been cognisant of the SIA Guidelines' descriptions of potential impacts (refer Table 2).

Table 3: Potentially Impacted Stakeholders – Social Impacts[11]

Stakeholder Group	Description	Potential Key Interest or Concern
Directly affected landholders	• Host Landowner • Neighbours adjacent to the project • Landowners along the construction transport route	• Visual impacts • The perception and safety implications of glare from panels • Increased traffic, noise and dust during construction • Impacts on road conditions • Removal of valuable agricultural land from local economy and impacts on jobs • Potential decrease in property values • Perceived physical and safety effects due to potentially perceived health risks associated with potential fire and battery storage • Decommissioning and site restoration
Indirectly affected landholders	• Receivers within 4 km of the Mayfair site, of which 80 have been identified to date	
Traditional Owners, First Nations Peoples and Aboriginal and Torres Strait Islander Groups	• Traditional Owners - Wiradjuri Nation People • Indigenous businesses and community organisations • Native title bodies (if required)[12]	• Impacts on cultural heritage sites and on spiritual connection with the land • Need for cultural awareness training for employees and contractors • Reserve rights to be consulted and rights to negotiate about future acts which Applicant wants to undertake within the native title claim area if it is determined to exist • Ensuring there is genuine consultation and opportunity to negotiate

[11] Note, no environmental groups listed as these are assumed to be considered in the environmental scoping assessment. Indigenous issues are assumed to be addressed separately in the Cultural Heritage component of the scoping assessment.

[12] The Site is within an active Native Title Claim (National Native Title Tribunal Number: NC2018/002 - Warrabinga-Wiradjuri #7, Federal Court File Number: NSD857/2017). Should Native Title be determined to exist, the Applicant would comply with all provisions of the Native Title Act and undertake consultation with Native Title claimants as required.

Stakeholder Group	Description	Potential Key Interest or Concern
Local Community	• Gulgong Residents • Gulgong Community Groups • Gulgong Heritage Building Managers and Heritage Groups	• Visual impacts • The perception and safety implications of glare from panels • Increased traffic, noise and dust during construction • Impacts on road conditions • Removal of valuable agricultural land from local economy and impacts on jobs • Workforce accommodation impacts during construction • Workforce impacts on existing health services • Labourforce impacts on other industries during construction • Sense of place/cohesion impacts through construction due to increased non-resident workforce • Decommissioning and site restoration • Disposal of waste at Council waste facilities • Sheep and livestock safety • Waste water, waste and water supply impacts • Impacts on public infrastructure • Cumulative impacts due to the number of major projects in the area • Concern that mitigations/enhancements as part of the EIS process may not be implemented • (Positive) potential for local jobs – but potential concerns that the positive elements may be overstated • (Positive) potential for local procurement – but potential concerns that the positive elements may be overstated • (Positive) impact on climate change • (Positive) potential for infrastructure upgrades
Local Businesses, and Suppliers	• Gulgong Businesses • Gulgong Business Groups • Gulgong Tourism Groups and Operators	• Impacts on heritage values in town • Impacts on tourism in town, including short term accommodation during construction • Labourforce impacts on other industries during construction – competition for labourforce • (Positive) potential for local jobs – but potential concerns that the positive elements may be overstated • (Positive) potential for local procurement – but potential concerns that the positive elements may be overstated • (Positive) impact on climate change • (Positive) potential for infrastructure upgrades • (Positive) potential for lower electricity prices

Stakeholder Group	Description	Potential Key Interest or Concern
Local Services and Not for Profit Organisations	• All Hallows Catholic School • Cugegong Soaring Club • Gulgong Community Group (FB) • Gulgong Community Action Group • Gulgong High School • Gulgong Netball Club • Gulgong Preschool • Gulgong Postie Girls • Gulgong Public School • Gulgong Musical and Dramatic Society (MADS) • Gulgong Show Society • Other clubs and groups • Fire and Rescue NSW Gulgong Fire Station • Gulgong District Hospital • NSW Rural Fire Service • NSW Police Force • NSW Ambulance • NSW State Emergency Service •	• Impacts on health and wellbeing services during construction • Impacts on demand for community infrastructure, retail and personal services should a component of the construction workforce locate in town • Influx of workers placing additional pressure on social services
Wider Community	• Communities within the Mid-Western LGA, including Mudgee, Rylstone, Kandos	• (Positive) impact on climate change • (Positive) potential for infrastructure upgrades • (Positive) potential for lower electricity prices
Wider Businesses	• Business, tourism groups and economic development organisations within the Mid-Western LGA and Orana areas • Refer to list in the Community Participation Plan	• (Positive) potential for local jobs – but potential concerns that the positive elements may be overstated • (Positive) potential for local procurement – but potential concerns that the positive elements may be overstated

Stakeholder Group	Description	Potential Key Interest or Concern
Local and Regional Government Representatives	• Mid-Western Regional Councillors • Mid-Western Regional Council officers • Publicly Elected Officials	• Development infrastructure impacts (roads, water, sewerage) and adequate upgrades to these where required through construction • Increased traffic during construction and its amenity and safety impacts on the community • How and where construction workforce will be accommodated • Waste volumes, types and destinations • Adequacy of social infrastructure including health care, policing and emergency services
Energy market players, particularly EnergyCo, TransGrid	• Energy market players, particularly EnergyCo, TransGrid	• (Positive) Potential to create a region-wide mitigation plan for all solar projects • (Positive) impact on climate change • (Positive) ability to assist climate change targets in NSW, including renewable energy and jobs in the sector • (Positive) potential for lower electricity prices • (Positive) More secure, renewable energy market leading to greater intergenerational equity
Utility owners and other Solar Farms / Energy Production in the area **Other projects that may compete for workforce/resources**	• Tallawang Solar Farm; • Stubbo Solar Farm; • Bellambi Heights; • Beryl Solar Farm; • Barneys Wind Farm. • Ulan Solar Farm • Birriwa Solar Farm • Central-West Orana Transmission Line • Orana Wind Farm • Bowdens Silver Mine • Burrendong Wind Farm	• Competition from Mayfair for resources and customers • (Positive) Potential to collaborate in addressing mitigations
State Government Authorities	• DIEP • Publicly elected officials	• Ensuring all EIS requirements are met, and information and data is up-to-date and accurate • Ensuring that cumulative impacts are adequately addressed • Ensuring that stakeholders are adequately briefed, consulted and kept up to date throughout the project • Ensuring that commitments are implemented
Federal Government Authorities	• Federal Regulators • Publicly elected officials	

Table 4: Types of Impacts

CATEGORIES	EXAMPLES
A social impact may be physically observable or it may manifest as rational or justified fears (of negative impacts in the future) or aspirations (of positive impacts in the future).	**Physically observable impacts** More paths and cycleways Acquisition of residential properties
	Rational or justified fears Psychological stress regarding the future personal and community impacts of compulsory property acquisition
A social impact may be experienced positively by some people, and negatively by others.	**Positive** Improved livelihoods owing to more work opportunities
	Negative Increased prevalence of adverse health conditions
A social impact may be tangible or intangible.	**Tangible** Availability of affordable housing
	Intangible Community cohesion
Social impacts may be direct or indirect. They may also combine with other impacts from a single project or be cumulative with impacts from other projects.	**Direct** Sleep disturbance caused by construction noise
	Indirect Strain on family relations and health from sleep disturbance caused by construction noise
	Combined Sleep disturbance due to increased noise and restricted access because of significantly reduced street parking caused by a single project
	Cumulative Sleep disturbance due to increased noise and restricted access because of significantly reduced street parking from one project. In addition, poor air quality creating health conditions and strained family relations from another project
A social impact may be best assessed using quantitative methods or qualitative methods.	**Directly quantitative** Changes in population demographics
	Partially/indirectly quantitative Incidence of voluntary work among a community as a proxy indicator of community cohesion
	Qualitative (measurable through perception surveys or oral story telling, for example) Cultural values Sense of place Connection to Country
A social impact may be experienced differently within a community, by different communities, and at different times/stages of the project.	**Different experiences within a community** An increase in the value/cost of housing may be positive for homeowners wanting to rent out or sell their properties, but negative for individuals and families wanting to buy or rent.
	Different experiences for different communities People living near a project may experience most of the noise and dust impacts, while people in the region's nearest town may benefit from most of the job opportunities.
	Different experiences over time People's experiences of impacts during project construction may be quite negative, whereas experiences during operation may be more positive.

Source: DEIP, SIA Guideline and Technical Worksheet

6. Potential Social Impacts – Scoping Phase

As per the SIA Guideline, the potential social issues/concerns grouped by category type in the previous section were assessed for their potential impact on stakeholder groups. Where cumulative impacts are likely, these were also noted. From the preliminary scoping assessments, potential mitigation / enhancement measures have been noted. The following section (Section 7), notes where the proponent has taken on board the mitigation measures and included project changes. In addition, the final section (Section 7) provides recommendations moving forward for the SIA component of the full EIS.

Assessment of Social Impacts

To determine the significance of social impacts identified at this early stage, a high level assessment using the categories in the SIA guideline technical supplement and the SIA scoping worksheet was utilised. All impacts identified at scoping stage were assessed by defining the likelihood of social impacts (Table 3) and determining the magnitude of the social impact (Table 4 and 5). Once these were determined, the social significance was noted (Table 6). The categories utilised for these elements are shown below in Tables 3-6.

The SIA Guideline Technical Worksheet, filled in for the Mayfair Solar Farm, is included at Appendix 1, and a description of outcomes noted in the next sub-section. It is noted that impacts assessed here will be revisited in the full EIS once the Project changes have been incorporated, and once further investigations and stakeholder consultation has been completed.

Table 5: Defining Likelihood Levels of Social Impacts

Likelihood level	Meaning
Almost certain	Definite or almost definitely expected (e.g. has happened on similar projects)
Likely	High probability
Possible	Medium probability
Unlikely	Low probability
Very unlikely	Improbable or remote probability

Source: DEIP, SIA Guideline Technical Supplement

Table 6: Dimensions of Social Impact Magnitude

Dimensions		Details needed to enable assessment
MAGNITUDE	Extent	Who specifically is expected to be affected (directly, indirectly, and/or cumulatively), including any vulnerable people? Which location(s) and people are affected? (e.g. near neighbours, local, regional, future generations).
	Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
	Intensity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
	Sensitivity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
	Level of concern/interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or intensity.

Table 7: Defining Magnitude Levels for Social Impacts

Magnitude level	Meaning
Transformational	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	Little noticeable change experienced by people in the locality.

Source: DEIP, SIA Guideline Technical Supplement

Table 8: Social Impacts Significance Matrix[13]

		Magnitude Level				
Likelihood level		1	2	3	4	5
		Minimal	Minor	Moderate	Major	Transformational
A	Almost certain	Low	Medium	High	Very High	Very High
B	Likely	Low	Medium	High	High	Very High
C	Possible	Low	Medium	Medium	High	High
D	Unlikely	Low	Low	Medium	Medium	High
E	Very unlikely	Low	Low	Low	Medium	Medium

Source: DEIP, SIA Guideline Technical Supplement

Assessment of Impacts

As per the SIA Guideline, the potential social issues/concerns grouped by category type in the previous section were broadly assessed for their potential impact on stakeholder groups. Where cumulative impacts are likely, these were also noted. The outcomes of these early scoping assessments are shown below, and the SIA Scoping Worksheet as per the Guidelines Technical Supplement is included at Appendix 1.

[13] Please note that the impact assessment in Table 10 utilises the colouring colouring in Table 8 for negative impacts. For any positive benefits, a 'medium' or 'high' positive impact is coloured in a shade of green to reflect the positive nature of the expected outcome.

Table 9: Scoping Assessments of Social Impacts

Category of Impact	Potential Impact	Positive/ Negative	Likeli-hood	Magni-tude	Social Impact Significance	Mitigation/Enhancement	Likeli-hood	Magni-tude	Residual Impact	Scope for early action?
Way of Life	Potential to increase stress and anxiety for residents that are uncertain about their future / economic security	Negative	B	3	High	• Early consultation with stakeholders about the project • Detailed investigations at EIS level regarding workforce capacity and local requirements • Ongoing consultation with stakeholders	C	3	Medium	Yes
Way of Life	Infrastructure disposal and environmental rehabilitation at end of project life	Negative	C	4	High	• Elgin to prepare plans for infrastructure disposal and environmental rehabilitation through a Rehabilitation Bond Commitment (RBC) early in the process. • Communicate the RBC to stakeholders during the EIS phase	D	2	Low	Yes
Way of Life	Transition from fossil fuels and reducing emissions compared to non-renewable sources	Positive	B	3	High	• Elgin to continue to provide information to stakeholders regarding the extent to which the Project will assist the reduction of emissions and contribute to positively to climate change targets	B	3	High	Yes
Way of Life / Community	Cohesion impacts in town with a FIFO/DIDO workforce	Negative	B	4	High	• Preparation of a workforce code of conduct for employees on and off site, including zero tolerance to community disruption. • Induction processes for anyone working on the project to include expectations for behaviour in the community	D	2	Low	Yes

Category of Impact	Potential Impact	Positive/ Negative	Likeli-hood	Magni-tude	Social Impact Significance	Mitigation/Enhancement	Likeli-hood	Magni-tude	Residual Impact	Scope for early action?
Community	Cohesion / division impacts if there are stakeholders likely to benefit in the communities versus those who consider themselves to be impacted (This would only be a concern if there were areas that could earn passive income, which is unlikely to be the case for this project).	Negative	D	2	Low	• No mitigations necessary, but this should be discussed in the engagement for the EIS			Low	No
Community	Impacts on emergency services during construction due to an incident at the project location	Negative	C	4	High	• Development of Emergency Services Action Plan – to be completed in consultation with Emergency Services.	C	3	Medium	Yes
Community	Impacts on community's access to community infrastructure, services and facilities during construction	Negative	C	3	Medium	• Discussions with community infrastructure providers during EIS to determine the additional demand likely to be generated during the construction phase and how this can be accommodated.	D	1	Low	Yes
Access	Housing and accommodation impacts during construction	Negative	A	4	Very High	• Elgin to prepare a Workforce Accommodation Strategy in consultation with Council and DPE to be approved prior to the submitted version of the EIS.	C	2	Medium	Yes
Access	Impacts to existing industries access to workforce (due to competition from the project and the cumulative impacts from other projects)	Negative	B	4	High	• Elgin to develop workforce and resource requirements for the delivery of the Project and determine the extent to which this can / cannot be sourced within the region.	C	2	Medium	Yes

Category of Impact	Potential Impact	Positive/ Negative	Likeli-hood	Magni-tude	Social Impact Significance	Mitigation/Enhancement	Likeli-hood	Magni-tude	Residual Impact	Scope for early action?
Access	Water usage and potential impacts on agricultural and other water users	Negative	C	4	High	• Elgin to determine water usage requirements for the project and assess the level of impact that this might have on overall access to water and the impact on agriculture. • Elgin to prepare plans to show how water will be accessed in ways that do not impact other users. • Host discussions with agriculture businesses to ensure that their concerns can be allayed.	C	2	Medium	Yes
Access	Potential for infrastructure upgrades (e.g. improving local roads, major roads, proponent contributing to community infrastructure to offset impacts etc)	Positive	C	3	Medium	• Jacksons Lane will be sealed from the intersection of Barney's Reef Road to site access, with the existing vehicle crossing over Slapdash Creek being replaced. • Elgin may wish to establish a community infrastructure fund – Community Shared Benefit Strategy to help support other infrastructure and/or the heritage/tourism elements of Gulgong	B	3	High	Yes
Culture	Impacts on Aboriginal Cultural Values and Heritage Impacts on non-Indigenous Cultural Heritage	Assessed separately	• Impacts to Aboriginal Cultural Heritage values will be assessed in the Aboriginal Cultural Heritage Assessment Report (ACHAR), to be prepared during the EIS phase, and in consultation with Registered Aboriginal Parties (RAPs). • Impacts on non-Indigenous Cultural Heritage to be assessed during EIS phase by Cultural Heritage experts.							
Health and Wellbeing	Impacts on community's access to health services during construction	Negative	C	4	High	• Discussions with health services during EIS to determine the additional impact the construction phase may have on demand for health services	C	3	Medium	Yes

Category of Impact	Potential Impact	Positive/ Negative	Likeli-hood	Magni-tude	Social Impact Significance	Mitigation/Enhancement	Likeli-hood	Magni-tude	Residual Impact	Scope for early action?
Health and Wellbeing	Waste disposal issues	Negative	C	4	High	• Waste disposal strategies will need to be determined prior to submission of EIS	C	3	Medium	Yes
Health and Wellbeing	Perceived glare issues and overlooking from adjacent landholders (Previous SIAs for solar farms have indicated that glare is not an issue, however, the perception will still need to be mitigated).	Negative	C	3	Medium	• Provide stakeholders with information to allay their concerns about glare. • Provide demonstrations at consultations to show that glare will not be an issue	E	1	Low	Yes
Health and Wellbeing	Noise and dust during construction	Negative	A	3	High	• Establishment of Traffic Management Plan to be implemented as part of construction phase. • Any stockpiles that can produce dust to be sprayed with water prior to trucks being loaded. • Haul trucks loads covered with tarpaulins. • Elgin to conduct community information sessions to share planned construction management techniques.	C	2	Medium	Yes
Health and Wellbeing	Increase of traffic during construction	Negative	B	3	High	• Transport routes have been selected to minimise community impacts- please refer to Transport Report	C	3	Medium	Yes
Health and Wellbeing	Impacts on road conditions - decreased road conditions due to increased traffic	Negative	B	3	High	• Transport routes have been selected to minimise community impacts- please refer to Transport Report	C	2	Medium	Yes
Health and Wellbeing	Run off and potential contamination due to increased non-permeable surfaces – unlikely due to minimal increase in non-permeable surface (as	Negative	C	3	Medium	• The area of solar arrays to be promptly rehabilitated to restore vegetation cover	D	2	Low	Yes

Category of Impact	Potential Impact	Positive/ Negative	Likeli-hood	Magni-tude	Social Impact Significance	Mitigation/Enhancement	Likeli-hood	Magni-tude	Residual Impact	Scope for early action?
	panels are raised and underlying ground is permeable)					• Employ stormwater detention systems and water quality controls in accordance with best practice guidance • Ensure potential contaminants are stored securely in accordance with relevant Australian Standards				
Health and Wellbeing	Perceived physical and safety effects due to perceived health risks, fire risks, battery storage etc	Negative	C	3	Medium	• Elgin to provide clear information showing the safety of the site during construction and operation and include this in stakeholder consultation	D	2	Low	Yes
Health and Wellbeing	Impacts on road conditions - improved due to upgrades	Positive	C	3	Medium	• Jacksons Lane will be sealed from the intersection of Barney's Reef Road to site access, with the existing vehicle crossing over Slapdash Creek being replaced	B	3	High	Yes
Surroundings	Visual amenity: issues associated with solar farms too close to roads (and the need for set backs and/or screening. Most receivers have been assessed during the scoping phase, but 2 residential receivers and up to 5 public viewpoints along roads within 2.5 km will require further assessment during the EIS stage.	Negative	B	3	Medium	• Mitigation measures to be explored during EIS stage	D-C	2-3	Low-Medium	Yes
Livelihood	Livelihood impacts due to conflicts between good quality ag land and land used for solar (productive land a finite - and shrinking - resource) - ie. agricultural productivity impacts	Negative	C	2	Medium	• Land is currently Category 5 – Moderate to low capability regarding agricultural uses. A Level 2 – agricultural impact assessment would be completed in accordance with the Large-Scale Solar Energy Guideline (DPE, 2022) • It is proposed to graze sheep on the Site once the Project is operational	C	2	Medium	Yes

Category of Impact	Potential Impact	Positive/ Negative	Likeli-hood	Magni-tude	Social Impact Significance	Mitigation/Enhancement	Likeli-hood	Magni-tude	Residual Impact	Scope for early action?
Livelihood	Any impacts on tourism - amenity generally (construction and operation) and accommodation impacts during construction	Negative	C	3	Medium	• Elgin to screen solar farm as much as possible so amenity is not impacted • Elgin to prepare a Workforce Accommodation Strategy during the EIS to ensure that there are no impacts on short term accommodation. • Elgin to host discussions with accommodation operators to input into, and discuss outcomes of Workforce Accommodation strategy in due course.	C	2	Medium	Yes
Livelihood	Potential to decrease property values - construction and operation	Negative	D	2	Low	• Elgin to produce comparative information from other areas showing minimal impact on property values for stakeholder consultation	D	2	Low	Yes
Livelihood	Potential to increase rental housing and impact on affordability	Negative	A	4	Very High	• Elgin to prepare a Workforce Accommodation Strategy in consultation with Council and DPE to be approved prior to the submitted version of the EIS.	C	2	Medium	Yes
Livelihood	Local employment, procurement and training - construction and to a lesser extent operation - and assisting in economic sustainability of the town (construction)	Positive	C	3	Medium	• Elgin to determine their workforce and resource needs early and commence discussions with businesses in Gulgong and wider region to determine supply chains. It is noted that there may be many projects competing for local workforce and resources	C	3	Medium	Yes
Decision-making systems	Ensuring that consultation is adequate and that information acknowledged and considered - for both non-Indigenous and Indigenous people	Neither negative or positive	B	3	High	• Consultation to be undertaken as required by the NSW DPE's SIA and EIS guidelines	B	3	High	Yes

7. Project Changes and Recommendations regarding SIA for Next Phase (EIS Requirements)

Project Changes

Based on the findings throughout the scoping phase, a number of project changes have been made. These include:

- The removal of the southern land parcel from the footprint to avoid areas of potential biodiversity value, including EPBC Act and BC Act listed Threatened Ecological Communities; and,
- The reduction in development footprint to include setbacks from property boundaries to minimise potential visual and noise impacts to nearby neighbours. It is noted that this change has also been made in consideration of the requirements of Section 6.5 of the Mid-Western Regional Council Development Control Plan 2013 for solar energy farms, despite SSD not needing to comply with local development controls.

All assessments in the EIS period will be based on the refined project.

Recommended Actions Moving Forward

To ensure that the SIA for the full EIS is conducted appropriately, the following assessments will be required. To best assist planning for consultation and engagement, this table should be read in conjunction with the mitigation measures suggested in Table 7:

Table 10: Assessments of Social Impacts for EIS

PROJECT ACTIVITIES	CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE	ASSESSMENT LEVEL AND TYPE FOR EACH IMPACT			
				Secondary data	Primary Data - Consultation	Primary Data - Research
Construction and Operation	Way of Life	Potential to increase stress and anxiety for residents that are uncertain about their future / economic security	Detailed	✓	✓	
Post operation	Way of Life	Infrastructure disposal and environmental rehabilitation at end of project life	Detailed			✓
Operation	Way of Life	Transition from fossil fuels and reducing emissions compared to non-renewable sources	Detailed	✓		
Construction	Community	Cohesion impacts in town with a FIFO/DIDO workforce	Detailed	✓	✓	
Operation	Community	Cohesion / division impacts if there are stakeholders likely to benefit in the communities versus those who consider themselves to be impacted	Detailed		✓	
Construction	Community	Impacts on emergency services during construction due to an incident at the project location	Detailed		✓	✓

PROJECT ACTIVITIES	CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE	ASSESSMENT LEVEL AND TYPE FOR EACH IMPACT			
				Secondary data	Primary Data - Consultation	Primary Data - Research
Construction	Community	Impacts on community's access to community infrastructure, services and facilities during construction	Detailed		✓	✓
Construction	Access	Housing and accommodation impacts during construction	Detailed	✓	✓	✓
Construction	Access	Impacts to existing industries access to workforce (due to competition from the project and the cumulative impacts from other projects)	Detailed	✓	✓	✓
Construction and Operation	Access	Water usage and potential impacts on agricultural and other water users	Detailed	✓	✓	
Construction	Access	Potential for infrastructure upgrades (e.g. improving local roads, major roads, proponent contributing to community infrastructure to offset impacts etc)	Detailed		✓	✓
Construction and Operation	Culture	Impacts on Aboriginal Cultural Values and Heritage	Detailed		✓	✓
Construction and Operation	Culture	Impacts on non-Indigenous heritage in Gulgong	Minor			✓
Construction	Health and Wellbeing	Impacts on community's access to health services during construction	Detailed		✓	✓
Construction	Health and Wellbeing	Waste disposal issues	Detailed		✓	✓
Operation	Health and Wellbeing	Perceived glare issues and overlooking from adjacent landholders	Minor	✓		
Construction	Health and Wellbeing	Noise and dust during construction	Detailed		✓	✓
Construction	Health and Wellbeing	Increase of traffic during construction	Detailed		✓	✓
Construction, Operation and post operation	Health and Wellbeing	Impacts on road conditions	Standard		✓	✓
Construction	Health and Wellbeing	Potential to improve road conditions	Detailed		✓	✓
Operation	Health and Wellbeing	Run off and potential contamination due to increased non-permeable surfaces	Detailed	✓		✓
Operation	Health and Wellbeing	Perceived physical and safety effects due to perceived health risks, fire risks, battery storage etc	Detailed	✓		✓
Operation	Surroundings	Visual amenity: industrialisation of the landscape (eroding the rural character)	Detailed		✓	✓
Operation	Surroundings	Visual amenity: issues associated with solar farms too close to roads (and the need for set backs and/or screening	Detailed		✓	✓

PROJECT ACTIVITIES	CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE	ASSESSMENT LEVEL AND TYPE FOR EACH IMPACT			
				Secondary data	Primary Data - Consultation	Primary Data - Research
Operation	Livelihood	Livelihood impacts due to conflicts between good quality ag land and land used for solar and agricultural productivity impacts	Detailed		✓	✓
Construction and Operation	Livelihood	Any impacts on tourism - amenity generally (construction and operation) and accommodation impacts during construction	Detailed	✓	✓	✓
Operation	Livelihood	Potential to decrease property values - construction and operation	Detailed	✓		✓
Operation	Livelihood	Potential to increase rental housing costs and impact on affordability	Detailed	✓		✓
Construction	Livelihood	Local employment, procurement and training - construction and to a lesser extent operation - and assisting in economic sustainability of the town (construction)	Detailed	✓	✓	✓
Pre-construction and during project delivery	Decision-making systems	Ensuring that consultation is adequate and that information acknowledged and considered - for both non-Indigenous and Indigenous people	Detailed		✓	

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- *https://stubbosolar.com.au/the-project/ \https://www.venaenergy.com.au/all_projects/bellambi-heights-bess/*
- *https://www.tranexsolar.com.au/project/BERYL-SOLAR-FARM*
- *http://www.barneysreef-renewableenergy.com/barneys-reef-wind-farm/the-project/*

- *https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PDA-46397211%2120220718T024831.950%20GMT*
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Appendix 1: SIA Guideline Supplementary Worksheet

Assessment (SIA) Worksheet

Project name: Mayfair Solar Farm

Date: 31/05/2023

Update Assessment Level Impact

Clear Assessment Level Impact

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS		ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT				PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact.	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project modify (without mitigation or enhancement) cause a material social impact in terms of its: **extent** i.e. number of people potentially affected?	**duration** of expected impacts? (i.e. construction vs operational phase)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity or vulnerability of people potentially affected?**	**level of concern/interest of people potentially affected?**	Level of assessment for each social impact	Which data sources will be used to investigate this impact? Secondary data	Primary Data - Consultation	Primary Data - Research	Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
Way of Life	**Potential to increase stress and anxiety for residents that are uncertain about their future / economic security**	Negative	**Yes - other project**	Tallawang - levels of anxiety and stress that the Project may bring for nearby residents was raised across both rounds of consultation, largely due to the fear of the unknown, the uncertainty of impacts, and a feeling of losing control over the future and local surroundings	Yes	Depending on construction timeframes, the potential projects could cause cumulative impacts: •Tallawang Solar Farm; •Stubbo Solar Farm; •Bellambi Heights; •Beryl Solar Farm; •Barneys Wind Farm •Ulan Solar Farm •Bimlwa Solar Farm •Central-West Orana Transmission Line •Orana Wind Farm •Bowdens Silver Mine •Burrendong Wind Farm	Unknown	Unknown	Unknown	Unknown	Unknown	Detailed	Yes	Yes			Early consultation with stakeholders about the project Detailed investigations at EIS level regarding workforce capacity and local requirements Ongoing consultation with stakeholders
Way of Life	**Infrastructure disposal and environmental rehabilitation at end of project life**	Negative	No	Tallawang - This issue was raised in several submissions, but particularly from local councils. The matters were deemed to be inadequately considered / addressed at a project level or with regard to cumulative impacts.	Yes		Unknown	Unknown	Unknown	Unknown	Unknown	Detailed			Yes		Elgin to prepare plans for infrastructure disposal and environmental rehabilitation through a Rehabilitation Bond Commitment (RBC) early in the process Communicate the RBC to stakeholders during the EIS phase
Way of Life	**Transition from fossil fuels and reducing emissions compared to non-renewable sources**	Positive	**Yes - other project**	Tallawang - A positive impact of the Project acknowledged by members of the community was the transitioning away from traditional energy sources such as fossil fuels, reducing carbon emissions and the impact of greenhouse gas emissions on the surrounding environment. However, one community group expressed concern that although renewable energy projects typically reduce global carbon emissions and temperature change, there is the possibility that emissions may be released during the Projects' construction phase, through the transportation of materials and over the course of the Project life.			Yes	Yes	Yes	No	Yes	Detailed	Yes				Elgin to include information on the extent to which the Project will assist the reduction of emissions and contribute to positively to climate change targets
Community	Cohesion impacts in town with a FIFO/DIDO workforce	Negative	**Yes - other project**	Tallawang - incoming workforce, with suggestions that Project employees would not share the same values and respect for the area	Yes	Depending on construction timeframes, the potential projects could cause cumulative impacts: •Tallawang Solar Farm; •Stubbo Solar Farm; •Bellambi Heights; •Beryl Solar Farm; •Barneys Wind Farm •Ulan Solar Farm •Bimlwa Solar Farm •Central-West Orana Transmission Line •Orana Wind Farm •Bowdens Silver Mine •Burrendong Wind Farm	Unknown	Yes	Unknown	Unknown	Unknown	Detailed	Yes	Yes			Preparation of a workforce code of conduct for employees on and off site, including zero tolerance to community disruption. Induction processes for anyone working on the project to include expectations for behaviour in the community
Community	Cohesion / division impacts if there are stakeholders likely to benefit in the communities versus those who consider themselves to be impacted	Negative	**Yes - other project**	Tallawang - Distributive inequity between landholders – those who receive financial gain from hosting project infrastructure, compared to neighbours who live on or own land adjacent, and do not personally obtain any benefit from the Project. Bellambi Heights Scoping - Distributive equity and the desire of nearby landholders to receive 'fair' compensation for the impacts they experience by living near the project, including compensation of perceived flow on affects to personal insurances, compounded by expectations created by nearby projects.	Yes		Unknown	Unknown	Unknown	Unknown	Unknown	Detailed			Yes		No mitigations necessary, but this should be discussed in the engagement for the EIS
Community	Impacts on emergency services during construction or operation due to an incident at the project location	Negative	**Yes - other project**	Tallawang - Access to emergency services Bellambi Heights Scoping - access to emergency services	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Elgin to develop an Emergency Services Action Plan in consultation with emergency services in the region
Community	Impacts on community's access to community infrastructure, services and facilities during construction	Negative	**Yes - other project**	Tallawang - Access to community services Bellambi Heights Scoping - access to community services	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Elgin to consult with community infrastructure providers to determine the additional demand able to be met during construction phase and how this can be accommodated
Access	Housing and accommodation impacts during construction	Negative	**Yes - other project**	Tallawang - Access to housing through construction Bellambi Heights Scoping - Strain on local accommodation and housing (both affordability and availability) during construction and negative impact on tourism sector	Yes	Depending on construction timeframes, the potential projects could cause cumulative impacts: •Tallawang Solar Farm; •Stubbo Solar Farm; •Bellambi Heights; •Beryl Solar Farm; •Barneys Wind Farm •Ulan Solar Farm •Bimlwa Solar Farm •Central-West Orana Transmission Line •Orana Wind Farm •Bowdens Silver Mine •Burrendong Wind Farm	Unknown	Yes	Unknown	Unknown	Unknown	Detailed	Yes	Yes	Yes		Elgin to prepare a Workforce Accommodation Strategy in consultation with Council and DPE to be approved prior to the submission of EIS
Access	Impacts to existing industries access to workforce (due to competition from the project and the cumulative impacts from other projects)	Negative	**Yes - other project**	Bellambi Heights Scoping - Competition - Difficulties sourcing qualified, skilled staff within the locality or taking away skilled workforces from existing industries	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed	Yes	Yes	Yes		Elgin to develop workforce and resource requirements for the delivery of the Project and determine the extent to which this can / cannot be sourced within the region.
Access	Water usage and potential impacts on agricultural and other water users	Negative	**Yes - other project**	Tallawang - amount of water used for the Project during construction and operational phases	Yes		Unknown	Unknown	Unknown	Unknown	Unknown	Detailed	Yes	Yes			Elgin to determine water usage requirements for the project and assess the level of impact that this might have on overall access to water and the impact on agriculture. Elgin to prepare plans to show how water will be accessed in ways that do not impact other uses. Host discussions with agriculture businesses to ensure that their concerns can be allayed.
Access	Potential for infrastructure upgrades (e.g. improving local roads, major roads, proponent contributing to community infrastructure to offset impacts etc)	Positive	**Yes - other project**		Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Jacksons Lane will be sealed from the intersection of Barney's Reef Road to site access, with the existing vehicle crossing over Slapdash Creek being replaced. Elgin may wish to establish a community infrastructure fund to help support other infrastructure and/or the heritage/tourism elements of Gulgong
Culture	Impacts on Aboriginal Cultural Values and Heritage	Negative	**Yes - other project**	Tallawang - Local Aboriginal community groups and traditional owner organisations consulted shared their general interest and concern for: • Land rights, land uses and land management • Preservation of cultural sites and traditional practices • Cultural connection to Country • Community support programs and representation of Aboriginal people in the local area. Bellambi Heights - Potential loss of Aboriginal cultural heritage, impacting on values relating to physical and symbolic linkages to landscape and ancestry			Unknown	Unknown	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Cultural heritage to determine works required
Culture	Impacts on non-Indigenous heritage in Gulgong	Negative					No	No	No	No	No	Minor			Yes		Cultural heritage to determine works required
Health and Wellbeing	Impacts on community's access to health infrastructure, services and facilities during construction	Negative					Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Discussions with health services during EIS to determine the additional impact and how this may be accommodated and/or the additional support that might be required.
Health and Wellbeing	Waste disposal issues	Negative					Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Waste disposal strategies to be determined prior to EIS submission
Health and Wellbeing	Perceived glare issues and overlooking from adjacent landholders	Negative	**Yes - other project**	Tallawang and Stubbo Solar both claimed that Glare is not an issue - solar panels are designed to absorb light and therefore are generally not highly reflective, and as such are not likely to cause glare that would impact traffic or nearby receivers. This is refuted in a number of submissions made to Tallawang.		Depending on construction timeframes, the potential projects could cause cumulative impacts: •Tallawang Solar Farm; •Stubbo Solar Farm; •Bellambi Heights; •Beryl Solar Farm; •Barneys Wind Farm •Ulan Solar Farm •Bimlwa Solar Farm •Central-West Orana Transmission Line •Orana Wind Farm •Bowdens Silver Mine •Burrendong Wind Farm	No	No	No	No	No	Minor	Yes				Provide stakeholders with information to allay their concerns about glare. Provide demonstrations at consultations to show that glare will not be an issue
Health and Wellbeing	Noise and dust during construction	Negative	**Yes - other project**	Tallawang - Noise and dust during construction also an issue Bellambi Heights Scoping - Changes to amenity resulting from construction, affecting how people live (i.e., because of construction dust and noise) Stubbo Solar - proposal related traffic on unsealed roads within the proposal boundary may contribute to localised dust generation primarily during the construction phase of the proposal. During the construction phase of this proposal, dust generation and mitigation should be considered to reduce potential impacts.	Potentially - would need to understand other projects construction routes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Establishment of Traffic Management Plan to be implemented as part of construction phase. Any stockpiles that can produce dust to be sprayed with water prior to trucks being loaded. Haul trucks loads covered with tarpaulins. Elgin to conduct community information sessions to share planned construction management techniques.
Health and Wellbeing	Increase of traffic during construction	Negative	**Yes - other project**	Tallawang - The increase in traffic volumes on local roads and associated noise Bellambi Heights - Public safety risks because of increased traffic and road conditions	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Transport routes have been selected to minimise community impacts
Health and Wellbeing	Impacts on road conditions	Positive		Tallawang - Positive benefits of the Project identified by neighbouring landholders included contributions to local Council to maintain and improve the road network			Unknown	Yes	Unknown	Unknown	Unknown	Standard		Yes	Yes		Transport routes have been selected to minimise community impacts
Health and Wellbeing	Impacts on road conditions	Negative	**Yes - other project**	Tallawang - impact on the condition of local roads Bellambi Heights - Public safety risks because of increased traffic and road conditions	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Transport routes have been selected to minimise community impacts
Health and Wellbeing	Run off and potential contamination due to increased non-permeable surfaces	Negative	**Yes - other project**	Tallawang - how the construction of non-permeable surfaces will impact surface run off and another raised concerns about creek contamination	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed	Yes		Yes		The area of solar arrays to be promptly rehabilitated to restore vegetation cover. Employ stormwater detention systems and water quality controls in accordance with best practice guidance. Ensure potential contaminants are stored securely in accordance with Australian Standards
Health and Wellbeing	Perceived physical and safety effects due to perceived health risks, fire risks, battery storage etc	Negative	**Yes - other project**	Bellambi Heights Scoping - Public safety risks because of infrastructure, and perceived increased risk of bushfires. Health impacts resulting from infrastructure including solar panels and transmission lines and anxiety related to the potential for permanent change to surroundings. Tallawang - increased chance of fire that could heighten the public safety risk.			No	No	No	No	No	Detailed	Yes		Yes		Elgin to provide clear information showing the safety of the site during construction and operation and include this in stakeholder consultation
Surroundings	Visual amenity: industrialisation of the landscape (eroding the rural character)	Negative	**Yes - other project**	Tallawang - Concerns for visual amenity changes was raised most frequently by neighbouring landholders and service providers and businesses. Project may likely cause industrialisation of the landscape and reduce the natural amenity and rural character of the area, which is highly valued by local residents. Bellambi Heights - Changes to the visual landscape affecting how people experience their rural surroundings and lifestyles.	Yes	Depending on construction timeframes, the potential projects could cause cumulative impacts: •Tallawang Solar Farm; •Stubbo Solar Farm; •Bellambi Heights; •Beryl Solar Farm; •Barneys Wind Farm •Ulan Solar Farm •Bimlwa Solar Farm •Central-West Orana Transmission Line •Orana Wind Farm •Bowdens Silver Mine •Burrendong Wind Farm	No	Yes	Unknown	Unknown	Yes	Detailed		Yes	Yes		Mitigation measures to be explored during EIS
Surroundings	Visual amenity: issues associated with solar farms too close to roads (and the need for set backs and/or screening	Negative	**Yes - other project**	Tallawang - General visual impacts – don't want to see it. Close to road or townships – impacts on visual amenity – move further back from road or visually screen. Stubbo Solar - Visual impact - This report indicated there were limited visual receptors to the proposal site, only one dwelling is located within the study area and outside the development footprint. There is the potential for some elevated residences located further away (more than 2km) to have distant views of the site, and this will be further assessed during the EIS phase.			No	Yes	Unknown	Unknown	Yes	Detailed		Yes	Yes		Mitigation measures to be explored during EIS

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS	Update Assessment Level Impact	ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT	Clear Assessment Level Impact			PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact.	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project **directly** (without mitigation or enhancement) cause a material social impact in terms of its: **extent** i.e. number of people potentially affected?	duration of expected impacts? (i.e. **construction vs operational phase**)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity** or **vulnerability of people potentially affected?**	**level of concern/interest of people potentially affected?**	Level of assessment for each social impact	Which data sources will be used to investigate this impact? Secondary data	Primary Data - Consultation	Primary Data - Research	Has the project been **refined in response to preliminary impact evaluation or stakeholder feedback?**	What **mitigation / enhancement measures** are being considered?
Livelihood	Livelihood impacts due to conflicts between good quality ag land and land used for solar (productive land a finite - and shrinking - resource) - i.e., agricultural productivity impacts	Negative	**Yes - other project**	Tallawang - Conflicting use for agriculture and renewable energy generation – productive land a shrinking resource - Competing land use and displacement of agricultural production was highlighted as a key concern Many submission highlighted that the Tallawang EIS did not adequately address loss of agricultural land impacts. Eg. Mid Western Regional Council - •Council requests an economic analysis be provided to demonstrate the impact of removing 1,370ha of valuable agricultural land from the local economy, as this has not been included within the EIS.	Yes	Depending on construction timeframes, the potential projects could cause cumulative impacts: •Tallawang Solar Farm; •Stubbo Solar Farm; •Bellambi Heights; •Beryl Solar Farm; •Barneys Wind Farm •Ulan Solar Farm •Birriwa Solar Farm •Central-West Orana Transmission Line •Orana Wind Farm •Bowdens Silver Mine •Burrendong Wind Farm	Unknown	Yes	Unknown	Unknown	Unknown	Detailed		Yes	Yes		Land is currently Category 5 - Moderate to low capability regarding agricultural uses. A level 2 agricultural impact assessment would be completed in accordance with the Large Scale Solar Energy Guideline (DPE, 2022).It is proposed to graze sheep on the Site once the Project is operational
Livelihood	Any impacts on tourism - amenity generally (construction and operation) and accommodation impacts during construction	Negative	**Yes - other project**	Bellambi Heights Scoping - Strain on local accommodation and housing (both affordability and availability) during construction and negative impact on tourism sector	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed	Yes	Yes	Yes		Elgin to screen solar farm as much as possible so amenity is not impacted. Elgin to prepare a Workforce Accommodation Strategy during the EIS to ensure that there are no impacts on short term accommodation in the region. Elgin to host discussions with accommodation providers so they can input into, and discuss the outcomes of the Workforce Accommodation Strategy in due course.
Livelihood	Potential to decrease property values - construction and operation	Negative	**Yes - other project**	Tallawong - The potential changes to property values due to proximity of the Project. • Concerns regarding the potential effect of the Project on personal property values were raised predominantly by neighbouring landholders and community groups. Bellambi Heights Scoping - Devaluation of adjacent and nearby properties	Yes		No	No	No	No	No	Detailed	Yes		Yes		Elgin to produce comparative information from other areas showing minimal impact on property values so this information can be shared during stakeholder engagement.
Livelihood	Potential to impact rental costs during construction	Negative	**Yes - other project**	Tallawong - The potential changes to property values due to proximity of the Project. • Concerns regarding the potential effect of the Project on personal property values were raised predominantly by neighbouring landholders and community groups. Bellambi Heights Scoping - Devaluation of adjacent and nearby properties	Yes		No	No	No	No	No	Detailed	Yes		Yes		Elgin to produce a Workforce Accommodation Strategy in consultation with Council and DPE to be approved prior to the submission of the EIS
Livelihood	Local employment, procurement and training - construction and to a lesser extent operation - and assisting in economic sustainability of the town (construction)	Positive	**Yes - other project**	Tallawang - Local employment, procurement, and training opportunities. The economic sustainability of rural towns hosting the Project, relating to the increased business and service provision capacity, as well as the prospect of ongoing tourism. Stubbo Solar - The proposal will create a significant number of jobs (up to approximately 400 full time employees during peak construction phase) in regional NSW during the construction period. The proposal will create a range permanent jobs (up to approximately 10 full time employees) during the operation and maintenance of the solar farm. Provide direct and indirect employment opportunities, economic boosts for small business in rural communities. Contribute indirectly to the sustainability and resilience of the regional community more broadly, beyond the landholders directly associated with the proposal, as a result of the long-term financial stimulation. Bellambi Heights Scoping - New employment opportunities and income stimulus from direct and indirect jobs and supply chain opportunities	Yes		Unknown	Yes	Unknown	Unknown	Unknown	Detailed	Yes	Yes	Yes		Elgin to determine their workforce and resource needs early and commence discussions with businesses in Gulgong and wider region to determine supply chains. It is noted that there may be many projects competing for local workforce and resources.
Decision-making systems	Ensuring that consultation is adequate and that information acknowledged and considered - for both non-Indigenous and Indigenous people		**Yes - other project**	Stubbo Solar - Early consultation with the community regarding cumulative impacts should be conducted. Bellambi Heights - Compounding effects on population relating to consultation fatigue and distrust in the sector due to experiences on a nearby project and enforcement of conditions of approval Tallawang - Community groups frequently raised ecological or environmental impacts, the Project's community engagement and decision-making processes and concerns for the potential cumulative impacts of the Project.			No	No	No	No	No	Detailed		Yes			Consultation to be undertaken as required by the NSW DEIP's SIA and EIS guidelines

pitt&sherry

Scoping Report

Mayfair Solar Farm

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Located nationally —
Melbourne
Sydney
Brisbane
Hobart
Launceston
Newcastle
Devonport