Griffith BESS

15 Bob Irvin Road, Yoogali NSW 2680

For Eku Energy

29 May 2025

cogency

Planning | Engagement | Strategy

Document Details

Griffith BESS

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1	16-05-2025	Scoping Report	OS, RA	RW
2	29-05-2025	Further Information	RA	RW
3				

We celebrate the physical and spiritual connections between Indigenous people and place expressed through the Birrarung Wilam (Common Ground) art project on the banks of Melbourne's Yarra River.

Acknowledgement of Country

Cogency acknowledges the Traditional Owners and Custodians of the land on which we meet, work and write, the Wurundjeri Woi-wurrung peoples of the Kulin nation, and their connections to land, sea, and community. We pay our respect to their Elders past and present and emerging.

Cogency also extends that respect and acknowledges the Traditional Custodians of Griffith, the Wiradjuri people. We recognise and respect their cultural heritage, beliefs and continuing connection with the land and waterways. We also recognise the resilience, strength, and pride of the Wiradjuri and First Nations communities and acknowledge that Sovereignty was never ceded.

Executive Summary

This Scoping Report has been prepared by Cogency Australia (Cogency) on behalf of Eku Energy (the Proponent) for the proposed long duration Griffith Battery Energy Storage System (BESS) and associated infrastructure (the Project). The objective of the Project is the development of a BESS with a nominal capacity of up to 100 MW power supply into the National Electricity Market (NEM) for up to 10 hours capacity, providing the network greater reliability and electricity firming.

The Project is a State Significant Development (SSD) in accordance with Section 20(a) of the *State Environmental Planning Policy (Planning Systems) 2021*. It was awarded a Long Duration Storage (LDS) Long Term Energy Service Agreement (LTESA) by AEMO Services in February 2025 for its 8 hour duration storage capacity to store excess renewable energy and dispatch it during periods of high demand.

The purpose of this Scoping Report is to request project-specific Secretary's Environmental Assessment Requirements (SEARs) which will guide the Environmental Impact Statement (EIS) for the Project including necessary consideration of any cumulative impact assessment (CIA). It has been prepared in accordance with the *State Significant Development Guidelines – Preparing a Scoping Report* (the Guidelines) (*DPIE, 2022)* and the *Cumulative Impact Assessment Guidelines for State Significant Projects* (CIA Guidelines) (DPIE, 2021).

Relevant preliminary assessments have been undertaken to support the preparation of this Scoping Report and to provide a basis for further technical impact assessments that will form part of the Project's EIS. These include preliminary ecological, Aboriginal and historical heritage, traffic, and noise analyses, the results of which have informed the Project's potential Development Area and engagement strategy. They have been summarised and included in this Scoping Report to help determine the scope of work to be set under the project-specific SEARs.

A range of further technical assessments will be required to support the EIS. These are expected to include:

- Access impacts, such traffic and parking facilities
- Land impacts, such as agricultural capability, soil, and stability
- Hazards and risks, such as dangerous goods, contamination, waste, and flooding
- Amenity impacts, such as to landscape, visual, and noise environments
- Water impacts, such as surface water hydrology, availability, and quality
- Social and economic impacts, such as community sentiment, jobs, and culture

In this context and based on preliminary assessments, some potential impacts are already well understood, easy to predict, and any actual impact readily able to be mitigated. Furthermore, there are expected to be little to no impacts of significance regarding other topics. Notably, biodiversity and heritage are both areas where there are scarce values present on the Project Site and therefore no further assessment is warranted. A Biodiversity Development Assessment Report (BDAR) Waiver will be applied for.

In support of this Scoping Report, a range of community and stakeholder engagements have been carried out since 2024 including with regulators, local community groups, and direct neighbours. The purpose of this engagement has been to both to inform, as well as conduct early consultation to help guide ongoing detailed design development. This engagement will continue following the submission of this Scoping Report.

The Project will be located directly adjacent to the approved Yoogali Solar Farm located on the balance of land at 15 and 41 Bob Irvin Road. The Yoogali Solar Farm is in a pre-construction phase. When built, both the Project and the Yoogali Solar Farm will be operationally and functionally separate developments and are being delivered by separate unrelated entities who nonetheless are working closely together to ensure a coordinated and harmonious outcome.

Table 1 below provides a summary of the application.

Table 1 – Application Summary

Application Summary	
Project Site	
Address (all involved land)	15 Bob Irvin Road Yoogali 2680 41 Bob Irvin Road Yoogali 2680 11 Hamilton Road Yoogali 2680
Title Description (all involved land)	1//DP1252779 2//DP1252779 1//DP865611 2500//DP1195971
Project Site Area	48 ha
Development Area	6 ha
BESS Area	2 ha
LGA	Griffith City Council
Restrictions on title	41 Bob Irvin Road Yoogali 2680 and 15 Bob Irvin Road Yoogali 2680: ▪ Easement for 132 kV overhead transmission line ▪ 3 m water supply easement on western boundary of lot ▪ 20 m pipeline easement on northern boundary of lot 15 Bob Irvin Road Yoogali 2680 ▪ Lot is leased to Yoogali Solar Farm Pty Ltd until 16/01/2060.
Planning	
Local Environmental Plan	Griffith Local Environment Plan 2014
Consent Authority	NSW Department of Planning, Housing and Infrastructure (DPHI)
Zones	RU1 – Primary Production
Protection Layers and other planning layers	Terrestrial Biodiversity *part* Bush Fire Prone Land Category 0 *part* Bush Fire Prone Land Category 3 *part*
Development Outcome	
Construction jobs	150
Ongoing jobs	5-10
Power and storage	100 MW discharge capacity to NEM (power) 10 hours / 1000 MWh storage capacity

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Glossary

Abbreviation	Meaning
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
AEMO	Australian Energy Market Operator
BC Act	Biodiversity Conservation Act 2016
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
CIA Guidelines	Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2021)
DPHI	Department of Planning, Housing and Industry
EDPR	EDP Renewables
EII Act	Electricity Infrastructure Investment Act 2020
EIS	Environmental Impact Statement
EPA	NSW Environmental Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
the Guidelines	State Significant Development Guidelines – Preparing a Scoping Report (DPIE, 2022)
IAP2	International Association for Public Participation
LDS	Long Duration Storage
LGA	Local Government Area
LTESA	Long-Term Energy Service Agreement
LVIA	Landscape Visual Impact Assessment
kV	Kilovolt
MIA	Murrumbidgee Irrigation Area
MIL	Murrumbidgee Irrigation Ltd
MW	Megawatt
MWh	Megawatt-hour
NEM	National Energy Market
OSOM	Oversize and overmass
PEVA	Preliminary Ecological Values Assessment
PMST	Protected Matters Search Tool
REZ	Renewable Energy Zone
SEPP	State Environmental Planning Policy
Strategy	Community and Stakeholder Engagement Strategy

1. Introduction

1.1 Project and Report Overview

Cogency Australia has prepared this Scoping Report on behalf of Eku Energy (the Proponent), to accompany an application for a State Significant Development (SSD) for the Griffith Battery Energy Storage System (Griffith BESS) (the Project). The Project involves the construction, operation and decommissioning of a BESS with a nominal capacity of up to 100 MW discharge capacity providing power to the NEM for up to 10 hours. It will be developed with a direct connection to the existing TransGrid managed 132 kV Griffith Substation.

The Project is located at 15 Bob Irvin Road, Yoogali 2680 on approximately 6 hectares of land including directly adjoining road reserve. It is approximately 8 km southeast from the Griffith town centre, 3 km southeast of the Yoogali suburban centre, and 500 m south of the Griffith Substation, within the Griffith City Local Government Area (LGA) (Figure 2).

The Project objective is to provide additional storage for the electricity grid, strengthen the region's energy stability, lower wholesale electricity costs, and support the transition to net-zero. Siting adjacent to existing and proposed solar infrastructure, the project aims to support other energy infrastructure and the grid of the broader region while minimising the amenity impact on the community.

The purpose of this report is to provide the Minister for Planning and Public Spaces and the Department of Planning, Housing and Infrastructure (DPHI) with information regarding the Project, to inform and obtain project-specific Secretary's Environmental Assessment Requirements (SEARs). This report has been prepared with consideration to the requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the State environmental planning policies (SEPPs), the Griffith Local environmental plan (LEP), and other Local, State and Federal Government policies and guidelines. This report has been guided by the *State Significant Development Guidelines – Preparing a Scoping Report* (2022).

A range of preliminary assessments have been undertaken to inform the siting of the BESS, support the preparation of this Scoping Report, and provide a basis for further technical impact assessments that will form part of the Project's Environmental Impact Statement (EIS). They include:

- Preliminary Ecological Values Assessment
- Noise Scoping Report
- Aboriginal Cultural Heritage Due Diligence Assessment
- Preliminary Transport and Route Assessment

The findings gathered from the preliminary assessments have helped inform the potential Development Area layout and will continue to influence the EIS and its contents including a complete suite of relevant technical assessments. To help determine the scope of work to be set under the project-specific SEARs, the findings have been summarised and included in this Scoping Report.

Following the receipt of SEARs, relevant technical assessments will be carried out by an appointed team of expert consultants. Community and stakeholder engagement will continue in accordance with the Community and Stakeholder Engagement Plan, and a BDAR Waiver will be applied for.

1.2 Project Background

As major coal power stations continue to retire and government decarbonization policies accelerate, the percentage of renewably generated electricity has increased in the national electricity market (NEM). The Australian Energy Market Operator (AEMO) forecasts the NEM will need to almost triple its generation capacity in response to increased electricity demand as a result of households and businesses switching from fuel and gas to renewable energy[1].

[1] https://aemo.com.au/-/media/files/major-publications/isp/2024/2024-integrated-system-plan-isp.pdf?la=en

The Project intends to provide critical storage and firming services for the local and regional electrical grids as a greater share of variable renewable energy is continually developed across the Riverina Murray region. Storage and firming technologies will help maintain grid stability and inertia to balance the peaks and troughs of the increasing amounts renewable generation across the state.

The Project will be adjacent to the Yoogali Solar Farm which was approved by the Griffith City Council in 2019 (DA 291/2018) and is currently in a pre-construction phase, to be developed by EDP Renewables (EDPR).

Concurrent to this Project under the SSD process, EDPR is seeking Modification of DA 291/2018 to provide physical accommodation of the Project across the entire landholding with realigned title boundaries. This process is underway. The boundary realignment will create more space for a BESS, while retaining solar generation capacity. Griffith BESS and Yoogali Solar Farm will operate independently with separate connections into the NEM grid.

The Project has been successfully awarded an LDS LTESA by AEMO Services which was announced on the 27th of February 2025[2]. As LDS, the Project must provide at least 8 hours of dispatch in accordance with the *Electricity Infrastructure Investment Act 2020* (EII Act). Such a contract being awarded to Griffith BESS is a recognition of the contribution that the Project will make towards system reliability, security and local communities, benefiting all NSW energy consumers over the long term. As established by the Minister for Energy under the EII Act, NSW will require at least 28 GWh of long duration energy storage by 2034. It also reinforces the Proponent's commitment to community engagement and benefit sharing which will include community benefit funding, investment into local manufacturing, investment into local training and development, local and First Nations procurement, and targeted local employment opportunities. See Chapter 5 for further discussion of these commitments and engagement carried out to date and planned.

1.3 Location and Project Site

The Project Site is located approximately 8 km and 3 km southeast of the Griffith and Yoogali town centres respectively at the intersection of Bob Irvin Road and Irrigation Way

The Project Site comprises lots 1 and 2 on DP1252779 addressed as 41 and 15 Bob Irvin Road Yoogali, which will contain the BESS Area and most proposed built form. Additionally, for the purpose of electricity transmission, the Project Site includes a Transmission Corridor area being the road reserves of Bob Irvin Road, Irrigation Way, and Hamilton Road, the Yanco-Griffith Railway Line corridor, a drainage reserve lot 2500//DP1195971 owned by Murrumbidgee Irrigation Ltd (MIL), and the Griffith Substation being lot 1//DP865611 located at 11 Hamilton Road. Not all land within the Project Site is expected to be used. Subject to further detailed design and technical impact assessment, the ultimate Development Area comprising the BESS Area and route within Transmission Corridor will be defined.

Concurrent and separate to this Project, the land parcels for the Project Site will be realigned subject to Council approval to assist facilitation of this Project and the Yoogali Solar Farm as separate developments. It is expected that lot 1//DP1252779 will be realigned to the BESS Area boundary and be exclusively associated with the Project. For the purposes of this Scoping Report, land descriptions at the time of writing are used throughout.

The Development Area includes the BESS Area, its access from public roads, and a transmission corridor to connect to the Griffith Substation. These relationship of these areas and proposed development components within them are identified in Table 2.

[2] https://aemoservices.com.au/news/media-release/250227-asl-nsw-long-duration-storage-tender-awards-more-than-1gw-and-13gwh

Table 2 – Project Site, areas, and components

Areas within Project Site			Components	Address	Lot
Project Site	Development Area	BESS Area	Battery units Inverters Transformer Switchroom Control building Workshop Water tanks Water detention basin Laydown area Access tracks Primary access Secondary / emergency access	15 Bob Irvin Road Bob Irvin Road, road reserve	2//DP1252779
		Transmission Corridor	Underground cable Connection to substation bay	15 Bob Irvin Road Irrigation Way, MR8 Irrigation Way, Yanco-Griffith Railway Irrigation Way, drainage reserve 11 Hamilton Road, Griffith Substation	2//DP1252779 Irrigation Way 11//DP1198376 2500//DP1195971 1//DP865611
	Outside Dev. Area	*N/A*	*N/A*	*41 Bob Irvin Road*	*1//DP1252779*

A TransGrid overhead 132kV transmission line runs along the northern boundary of the BESS Area and southeast to northwest through the entire Project Site, before turning north to connect to the Griffith Substation.

The primary access to the Project Site will be established on Bob Irvin Road, north of a separate proposed crossing to access the Yoogali Solar Farm along the same stretch of road. Bob Irvin Road connects to Irrigation Way approximately 200 m north of the proposed access track. Irrigation Way is an NSW State Road connecting Griffith, Yoogali and Widgelli.

Aside from the Griffith Substation, there is other energy infrastructure planned or completed in proximity to the Project. The Griffith Solar Farm (operational) and Riverina Solar Farm (planning) are north of the Project, closer to the Grifith Substation.

The Yoogali Solar Farm (approved) is on the same property as the Project yet is an independent undertaking. The Project and the Yoogali Solar Farm have been designed to exist and operate on the land separately, including through separate access tracks on Bob Irvin Road.

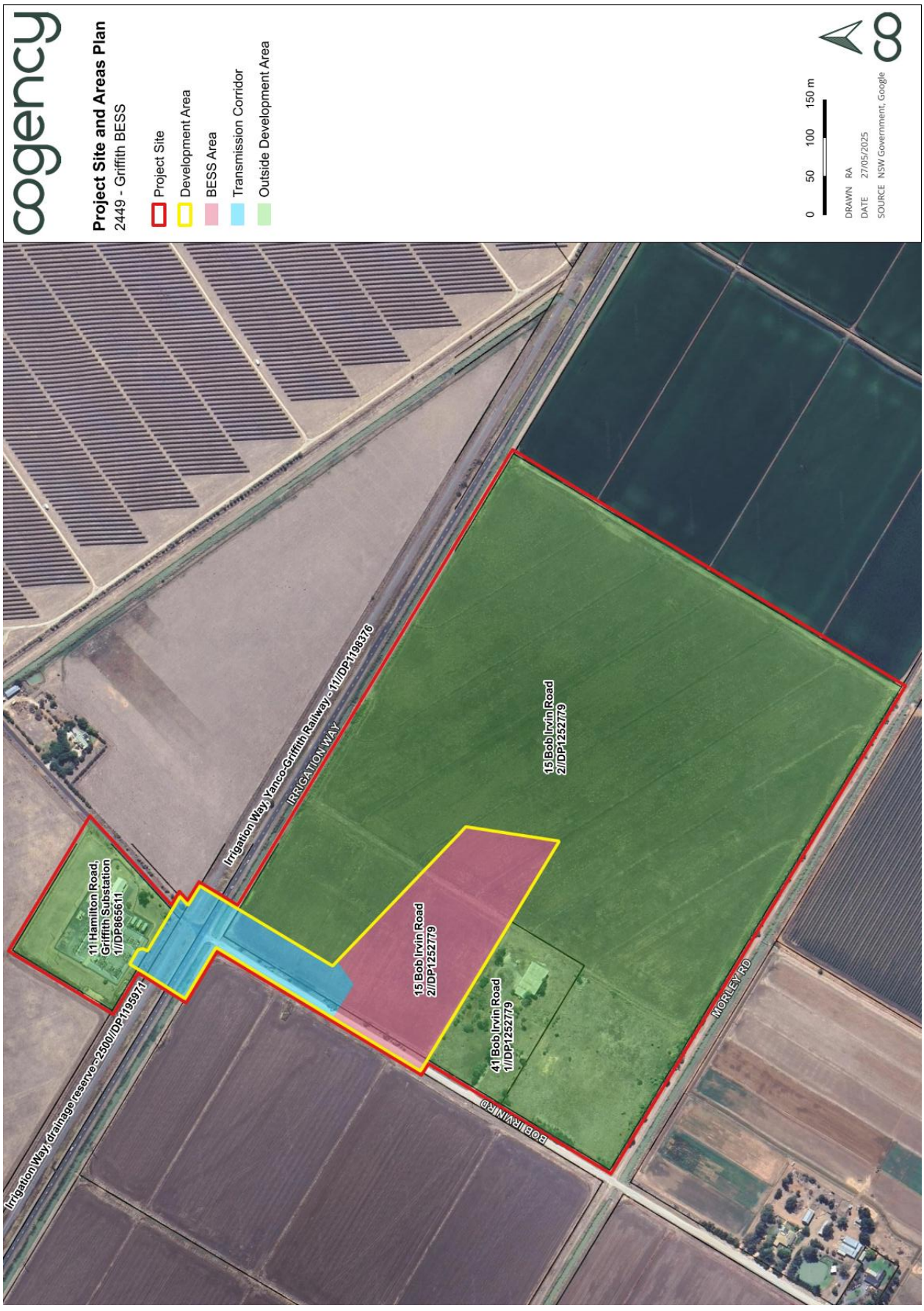

Figure 1 – Project Site and Areas Plan

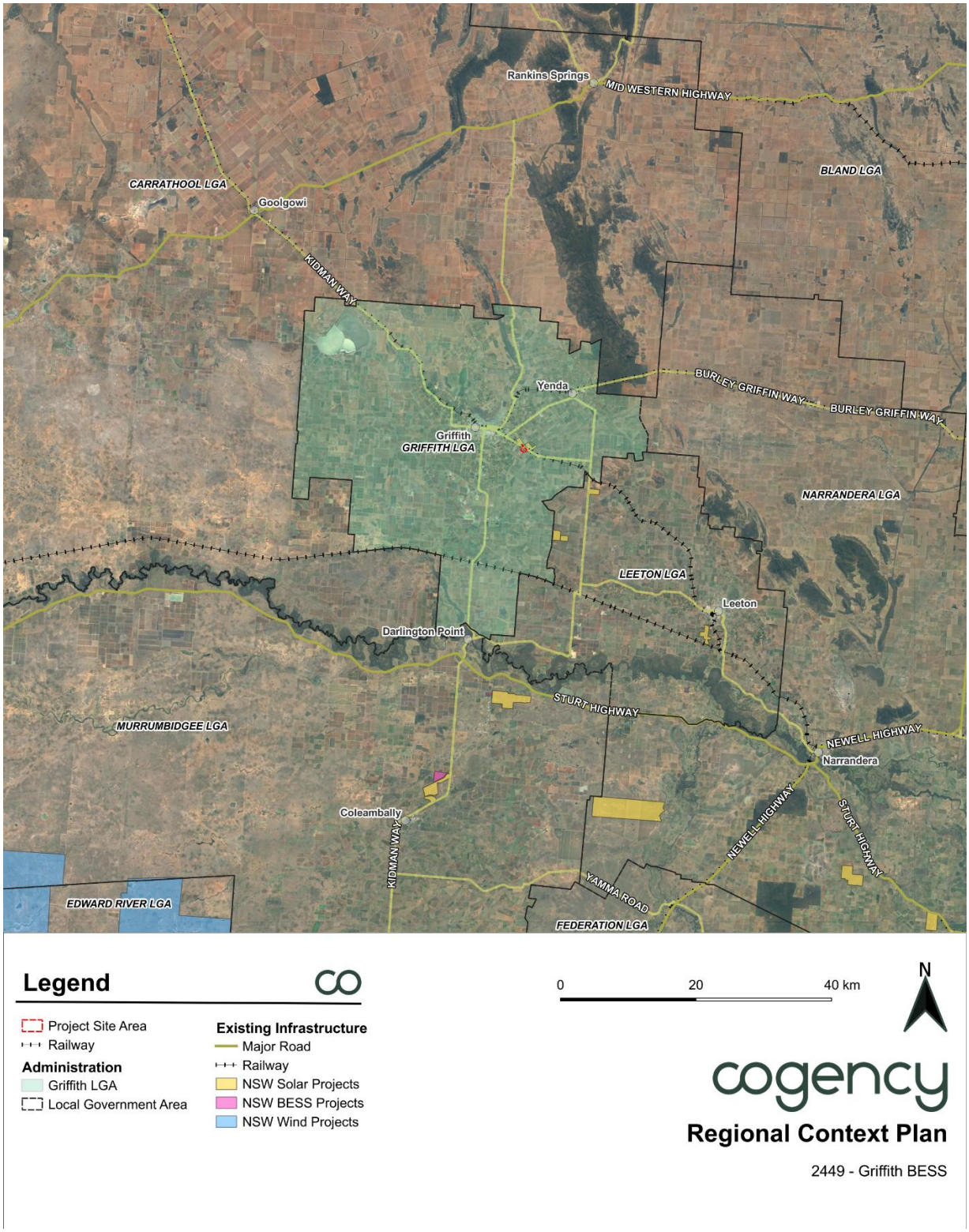

Figure 2 - Regional Context Plan

1.4 Project Applicant

Key details of the Proponent are provided in Table 3.

Table 3 – Applicant Details

Requirement	Details
Full Name/s	Eku Energy Australia Pty Ltd c/o Cogency Australia
Postal Address	Level 16, 60 Carrington St, Sydney NSW 2000
Street Address (Project Site)	15 Bob Irvin Road, Yoogali (2//1252779) and immediate road reserve 11 Hamilton Road, Yoogali (1//865611) and immediate road reserve Irrigation Way (unaddressed drainage reserve) 2500//DP1195971 Irrigation Way (Yanco-Griffith Railway Line corridor) 11//DP1198376
ABN	99 662 797 382 – Eku Energy Australia Pty Ltd 34 643 783 528 - Eku Energy Projects (Australia) Pty Ltd 66 499 564 268 - The Trustee for Eku Energy Projects (Australia) Trust
Nominated Contact	Rebecca Wardle Founding Director, Cogency Australia 0400 797 106 rebecca@cogencyaustralia.com.au

Eku Energy (the Proponent) is a global energy storage development specialist who develop, build and operate energy storage systems with a key focus in Australia, Japan and the United Kingdom. Owned by two global financial powerhouses, a Macquarie Asset Management (MAM) managed fund and British Columbia Investment (BCI) Management Corporation, Eku Energy was established to meet the growing need for utility-scale battery storage worldwide, and exclusively focusses on BESS technologies and their applications.

Their mission centres around developing and managing advanced energy storage systems that enhance grid stability, integrate renewable resources, and provide reliable, clean energy to communities. With a commitment to excellence and sustainability, the Proponent leverages cutting-edge technology and industry expertise to deliver projects that not only meet but exceed environmental and performance standards.

The Proponent currently has three other projects in Australia, including the operational Hazelwood BESS and the Rangebank BESS in Cranbourne, Victoria and Williamsdale BESS in the Australian Capital Territory under construction. In addition, SEARs have recently been requested for the proposed Wongalea BESS near Armidale (SSD PDA-82713708).

1.5 Project Objectives

The key project objective is to utilise the Project Site's proximity to the Griffith Substation and numerous solar farms, as well as suitable distance from neighbouring dwellings, to store excess energy during period of high generation and release when required in periods of high demand.

The Project will help support grid stability, reliability and efficiency to the NEM and help integrate a greater share of renewable energy generation. Generally, BESS projects are increasingly being developed to offer support services for the rollout of renewable energy generation facilities including supporting imbalances between supply and demand of locally and regionally generated renewable energy, providing voltage support and backup power when necessary and providing load leveling support.

The Project will offer benefits to the local community by providing direct and indirect employment opportunities and a collaboratively developed benefits sharing scheme. Such BESS projects have also been successful in providing for easing pressure on energy prices for regional communities similar to Yoogali and Griffith. The Project's engagement strategy has been guided by the applicant's extensive experience engaging with local landowners, broader community, and relevant stakeholders, as well as in-depth ongoing consultation.

1.6 Purpose of this Document

This Scoping Report has been prepared to support a request to the DPHI for project-specific SEARs. The Project is considered SSD under Section 2.6 of the State Environmental Planning Policy (Planning Systems) 2021. This Scoping Report has been prepared in accordance with the DPIE guidelines *State Significant Development Guidelines – Preparing a Scoping Report* (2022).

Accordingly, approval for the project is required under Part 4 of the EP&A Act.

The Scoping Report aims to:

- Describe the Project in simple terms.
- Give an early indication of community views of the Project and provide an overview of the community engagement that will be carried out during the preparation of the EIS.
- Identify the key matters requiring further assessment in the EIS and the proposed approach to assessing each of these matters, having regard to any relevant Government legislation, plans, policies, or guidelines.

This Scoping Report also aims to provide a description of the Project to key regulatory agencies and to identify the key environmental, social, and economic matters of relevance to the Project to inform the preparation of the Secretary's Environmental Assessment Requirements (SEARs). Under the provisions of Clause 4.12(8) of the EP&A Act, an EIS is required (and will be prepared) to accompany the SSD application for the Project, to be lodged with the NSW DPHI on behalf of the Planning Secretary. The SEARs will identify specific assessment considerations relevant to the Project that must be addressed in the EIS.

2. Strategic Context

This chapter provides a high-level identification of the key strategic elements that provide a preliminary justification for the development of the Project in the context of local, regional, state and national strategic planning and policy commitments.

2.1 Strategic Alignment

The Project addresses key federal, state and local planning policies as set out below:

Table 4 – Summary of Strategy and Policy Alignment

Strategy, Policy, or Plan	Description	Project Alignment
National and International Context		
United Nations Framework Convention on Climate Change Conference of Parties (COP21) – The Paris Agreement	▪ The Paris Agreement, adopted at COP21 in December 2015, is an international treaty aiming to combat climate change. The primary goal of the document is to limit global warming to well below 2°C above pre-industrial levels, with efforts to keep it below 1.5°C. To achieve this, the Agreement requires countries to reduce their greenhouse gas emissions and transition to low-carbon, climate-resilient economies. ▪ Each country sets its targets, known as nationally determined contributions (NDCs), which are reviewed and updated every five years to reflect increasing ambition and progress. ▪ The Agreement also emphasises the importance of financial and technical support for developing countries to help them mitigate and adapt to climate change impacts.	▪ By increasing the storage and availability of renewable energy in the electricity grid, thereby reducing greenhouse gas emissions, the Project will directly support the goals of the Paris Agreement. The Paris Agreement seeks to keep global temperature rise below 2°C above pre-industrial levels. ▪ The Project aligns with Australia's NDCs under the Paris Agreement. These NDCs include targets for reducing emissions and increasing the use of renewable energy sources. By providing additional storage for renewable energy generation, the Project supports these targets and helps Australia meet its emissions reduction commitments.
Integrated System Plan 2024 (Australian Energy Market Operator (AEMO))	▪ AEMO's Integrated System Plan (ISP) is a roadmap for the transition of the NEM power system, with a clear plan for essential infrastructure that will meet future energy needs. The ISP's optimal development path sets out the needed generation, storage and network investments to transition to net zero by 2050 through current policy settings and deliver significant net market benefits for consumers.	▪ The Project would contribute to the energy storage targets as outlined in the ISP and provide grid support services and stability as new variable renewable energy sources enter the NEM.
Net Zero Plan	▪ The *Net Zero Plan* will guide the Commonwealth Government in the transition to the legislated target of net zero greenhouse gas emissions by 2050. The Plan will determine a 2035 emissions reduction target which is due by the end of February 2025. The Plan will set out government priorities, establish policies and measures to drive down emissions and support ongoing and new investment in low emissions and renewable activities.	▪ The Project will support the transition towards net zero greenhouse gas emissions by 2050 and the 2035 emissions reduction target.

Strategy, Policy, or Plan	Description	Project Alignment
State Context		
Climate Change (Net Zero Future) Act 2023	▪ The *Climate Change (Net Zero Future) Act 2023* legislates NSW's ambitious approach to addressing climate change, enshrining a whole-of-government climate action to deliver net zero by 2050.	▪ The Project will support the transition towards net zero greenhouse gas emissions by 2050 and the interim targets of 50% reduction on 2005 levels by 2030 and 70% reduction on 2005 levels by 2035.
NSW Electricity Strategy	▪ The NSW Electricity Strategy is the NSW Government's plan for a reliable, affordable and sustainable electricity future that supports a growing economy. ▪ The *Strategy* sets out three major goals. The first includes ensuring investment in generation technologies. The second guarantees an Energy Security Target if a level of capacity is not met by the market. The third is to ensure the NSW Government has the power to handle electricity emergencies. ▪ The Electricity Plan details the generation, transmission, distribution, and retail elements that combine to provide the State's electricity network. ▪ While the Plan states that the NSW Government has a neutral approach to electricity generation technology, it details that both NSW and Commonwealth laws prohibit the development of nuclear power stations. Furthermore, the Plan explains that the State's aging coal-fired power stations are reaching the end of their technical lives.	▪ The Project aligns with the *NSW Electricity Plan* by contributing to the replacement of ageing generation equipment (i.e. coal-fired power stations) by storing and distributing renewable energy across the electricity grid. ▪ The Project will help manage demand and maximise share of renewable energy in the NEM.
NSW Transmission Infrastructure Strategy	▪ The *NSW Transmission Infrastructure Strategy* is a comprehensive plan by the NSW Government aimed at transforming the state's energy infrastructure. This plan seeks to support the development of REZ's in the Central-West, New England, and South-West regions, projected to generate significant private investment, regional economic growth, and job opportunities.	▪ The Project aligns directly with the Strategy by storing excess energy during periods of high generation and disperse during periods of high demand which will help lower household electricity costs.
NSW Electricity Infrastructure Roadmap	▪ The NSW Electricity Infrastructure Roadmap is the State's comprehensive plan to transition to renewable energy. It aims to ensure reliable, affordable, and sustainable energy for the future. Key components include the development of REZ's, supporting new transmission infrastructure, encouraging investment in renewable generation and storage, and creating jobs[3].	▪ The Project will significantly contribute to the NSW Electricity Infrastructure Roadmap by enhancing the state's renewable energy capacity and alone provide more than 5% of the 2030 LDS target. ▪ The Project aligns with the *Roadmap*'s goals of reducing greenhouse gas emissions and

[3] https://www.energy.nsw.gov.au/sites/default/files/2022-08/NSW%20Electricity%20Infrastructure%20Roadmap%20-%20Overview_1.pdf

Strategy, Policy, or Plan	Description	Project Alignment
	▪ 'Pillar 2' of the Roadmap is the delivery of energy storage to firm renewable generation and support the reliable availability of 24-hour power. One key action to achieve this is the establishment of LDS LTESA to encourage new and low cost projects, reduce investment risk and delay, and signal opportunity to the market and investors. ▪ LTESA will give projects the option to receive an availability payment. This provides revenue assurance for the term of the Agreement and ensures long duration storage projects are built to keep the grid reliable. ▪ A minimum LDS target 2 GW / 16 GWh by 2030 and 28 GWh by 2034 is legislated[4].	lowering electricity costs for consumers. ▪ The Project will create construction and ongoing jobs and stimulate economic growth in the region, further supporting the state's broader economic and environmental objectives outlined in the Roadmap.
NSW Renewable Energy Planning Framework	▪ These guidelines aim to provide clarity on the variety of infrastructure projects associated with renewable energy, as well as the related community engagement. ▪ The *Framework* provides specific directions for wind energy, solar energy, transmission, and hydrogen projects as well as benefit sharing schemes and landowner private agreements.	▪ The Project will seek to comply with all guidelines contained in the *Framework* in relation to BESS projects. Notably, there is no specific Guideline for BESS projects, however there are elements of the Transmission and Benefit sharing Guidelines that apply.
Regional Context		
Riverina Murray Regional Plan 2041	▪ The *Riverina Murray Regional Plan 2041* is a land use plan for the Riverina Murray region, within which the Griffith BESS is situated. ▪ The *Plan* recognises the importance of agriculture for the region's economy as it acts as 'Australia's food bowl'. ▪ The vision for the region to 2041 is implemented through objectives, strategies and actions for the three parts of the plan: Environment, Communities and places, and Economy. ▪ Under Objective 13, 'Support the transition to net zero by 2050', the region has expressed a desire to play an active role in the NSW target for net zero emissions by 2050.	▪ The Project will assist in the region's effort to contribute to the target through facilitating greater capacity for renewable energy in the region, whilst carefully considering the local impacts flagged on p.59 of the *Plan*. ▪ The strategic site selection of the BESS has minimised impact on productive agricultural land and visual impact, working toward negligible conflict in relation to those outlined in the *Plan*.
Riverina & Murray Joint Organisation (RAMJO) Statement of Strategic Regional Priorities	▪ This *Statement* represents the high-level strategic priorities of 11 of the councils within the Riverina Murray region, including Griffith. ▪ The *Statement* outlines seven 'Priority Pillars' to achieve the desired diverse	▪ One of the seven 'Priority Pillars' is to 'Improve Energy Security and Affordability'. The Project directly supports the outcomes identified within this pillar by increasing energy access for the region as well

[4] https://www.energy.nsw.gov.au/sites/default/files/2024-10/20241017_NSW_DCCEEW_Long_Duration_Storage_Review_Position_Paper.pdf

Strategy, Policy, or Plan	Description	Project Alignment
	population growth over the medium term.	as improving 'regional energy security'.
Riverina & Murray Joint Organisation (RAMJO) Regional Energy Strategy	▪ This *Regional Energy Strategy* outlines the challenges being faced by the RAMJO in relation to energy infrastructure and consumption. It explains the challenges and opportunities that Councils are facing in relation to the energy transition and what should be done to improve financial and sustainability efficiencies. ▪ The RAMJO also specifies the opportunity presented by the growing prominence of 'more flexible and location based renewable energy generation and storage.'	▪ The Project supports RAMJO's Regional Energy Strategy by providing greater grid stability and energy security for regional communities. ▪ The Project's commitment to developing a benefit sharing scheme additionally supports RAMJO's desire to reap the benefits of the renewable energy transition across the region.
Western Riverina Regional Economic Development Strategy – 2023 Update	▪ This update to the *Economic Development Strategy (EDS)* provides a more recent strategy for the Western Riverina region, including how key industries are performing and which are emerging into relevance. It also highlights the progress made since the EDS was first developed in 2018. ▪ Renewable energy is mentioned with the EDS is as a key 'growing source of investment' across the region. Griffith Solar Farm, located opposite the Project Site, is identified as a 'significant contributor' to the industry and energy network of the Western Riverina.	▪ The Project will further expand the region's renewable energy industry which is identified in the Update as emerging and a key opportunity for growth in investment in the local economy. Through supporting local employers and manufacturers through the lifecycle of the Project, there will be a positive impact on the region's economy.
Local Context		
Griffth Community Strategic Plan 2025 – 2035 (Draft)	▪ The *Community Strategic Plan,* currently under review, seeks to provide a high-level vision for the Griffith LGA over the next 10 years. The goals and priorities established within the document serve to guide the actions of council officers and subsequent development of policies/objectives over the 10-year period. ▪ The document establishes four key themes for Griffith City LGA, Leadership, Liveable, Growing, and Sustainable. Each of these are assigned to various objectives and strategies.	▪ The Project is of relevance to the local community's response within the Plan regarding the Sustainability theme. By relieving grid pressure and allowing a greater level of renewable energy generation within the region, the Project promotes 'efficient use of natural resources'. ▪ The Project will also assist in alleviating an identified strategic risk to Griffith, that being climate change threats. The Project, and BESS projects more broadly are key enablers of a faster transition away from fossil fuel energy use and therefore can assist in mitigating future climate risks to the LGA.

Strategy, Policy, or Plan	Description	Project Alignment
Growing Griffith to 2045 – Griffith Local Strategic Planning Statement	▪ The *Griffith Local Strategic Planning Statement (LSPS)* provides a land use planning vision for the Griffith LGA for the next 25 years. It establishes key values for the land use of the area and these inspire four themes of planning related actions and priorities of the council. ▪ The Griffith Council has a strong focus on the revitalisation and improvement of the Griffith CBD, while also maintaining strong economic activity across the council area through residential expansion and improved built form.	▪ The Project assists in further supporting the expansion of solar energy which is identified in the LSPS as 'ideal' for the area. BESS installations increase the capacity of the energy grid which can assist in storing surplus energy generated by solar farms during off-peak periods.

2.2 Project Site and Context

This chapters describes the Project Site, its context, and the key existing features. It then provides detail on the site selection. Justification on the Project's location and associated benefits can be found in 37.

2.2.1 Regional Setting

The Project is located within the Griffith City LGA and is a part of the Riverina Murray region of southern NSW. The Riverina Murray, sitting entirely within the Murray Darling Basin, is well known for its productive agriculture and favourable geographic connections to Victoria, ACT and the rest of NSW.

Griffith City is one of 20 LGAs within the Riverina Murray region and is one of the three primary regional centres of the region. Yoogali is a 'village' of Griffith sitting southeast of the Griffith CBD by approximately 3km. At the 2021 Census, there were 1,334 people living in Yoogali, compared to 19,505 living in Griffith.

Griffith, Yoogali and their surrounds are all within the Murrumbidgee Irrigation Area (MIA), which has allowed for continuous agricultural prosperity within the region across many decades. Notably, the Riverina wine region, which is centred on Griffith, is the largest viticulture region in NSW and the second largest in Australia.

Renewable energy is becoming a key industry of Griffith with multiple solar farms proposed, already operating or within the planning process at the time of writing. Yoogali is not within a Renewable Energy Zone (REZ), however is just 40km northwest of the boundary of the NSW South West REZ.

Locating BESS facilities both within and outside of designated REZs is an important part of the broader energy development picture, because the primary purpose of supporting infrastructure such as grid-scale storage is to provide stability for existing and new electrical infrastructure, regardless of location. Furthermore, a large portion of existing storage development is currently located outside REZs and continued development outside of these areas will be required to support a full transition to renewable energy. In other words, future projects are permissible and should be anticipated to occur outside formally designated REZs.

Access to Griffith and Yoogali is facilitated through several NSW State Roads and Highways which include Burley Griffin Way to the east and Kidman Way to the south and west, as well as the Newell Highway and Sturt Highway further east and south.

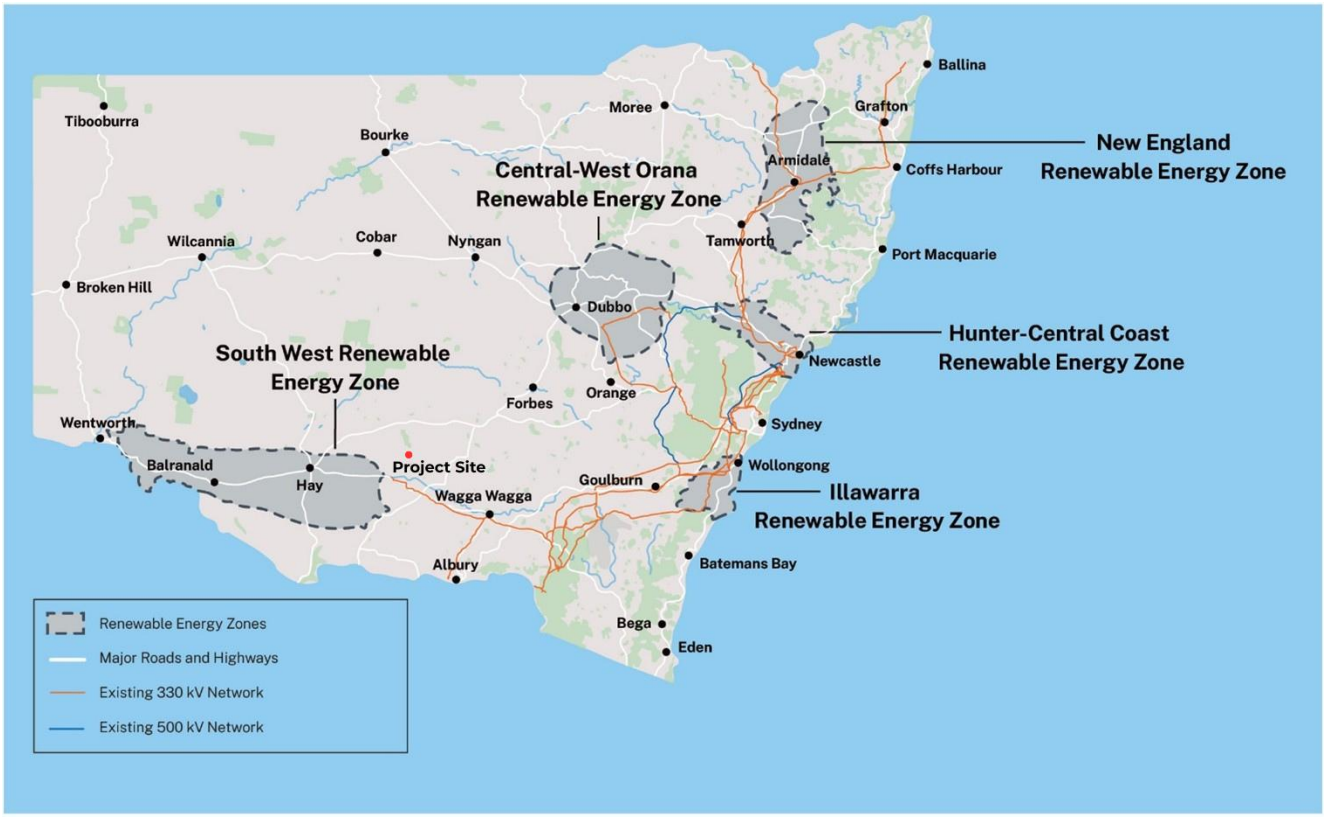

Figure 3 – Location of NSW REZs[5]

2.2.2 Community Profile

The Project Site is located on Wiradjuri land, which is the largest nation of Aboriginal and Torres Straight Islander people in NSW. Known as the land of three rivers (Macquarie, Lachlan, Murrumbidgee), the Wiradjuri people have a strong connection to the waterways that border their lands.

Prior to white settlement of the area, it is estimated that 12,000 people spoke the Wiradjuri language. Today, the Wiradjuri Nation is the largest nation of Aboriginal and Torres Strait Island people in Australia. Across the Griffith LGA, 4.1% of the population is Indigenous and is represented in governance by the Griffith LALC. The Murrumbidgee River has remained a focal point not only for the Wiradjuri people but also the wider settler community. A totem of the Wiradjuri, the goanna, is celebrated through the design of the Three Ways Cultural Park in Griffith.

Today, Yoogali and Griffith as a city is a highly multicultural area. The population of Griffith (19,505) and Yoogali (1,334) has grown by 7-8% in the period between the 2016 and 2021 Census, reflecting broader migration patterns from urban areas due to changing lifestyles following the COVID-19 pandemic. In Yoogali, the leading ancestry of residents is Italian (41%), which is similar in Griffith. Italian migration, which occurred primarily from 1880 – 1940, was key in establishing Griffith's regional economy as many immigrants chose to open businesses and instigate commercial farms. The Riverina wine region includes many wineries with Italian names and heritage. There is also an above average Indian population across the region, with the annual Griffith Shaheedi Tournament being held to celebrate the Sikh community in Griffith.

In Yoogali, the leading industry of work is wine and other alcoholic beverage manufacturing, followed by supermarket and poultry processing work. Notably, the median age of residents is above the national/state medians, with an additional higher proportion of families with children and significant Catholic religious affiliation. The local employment industries are on the labour-intensive side, with lower rates of university

[5] https://www.transgrid.com.au/energy-transition/what-are-renewable-energy-zones-rezs-and-why-are-they-important-for-our-sustainable-future/

enrolment and high school completion. There are high rates of labour force participation (67.4%) in Yoogali, with weekly incomes above the state and national averages.

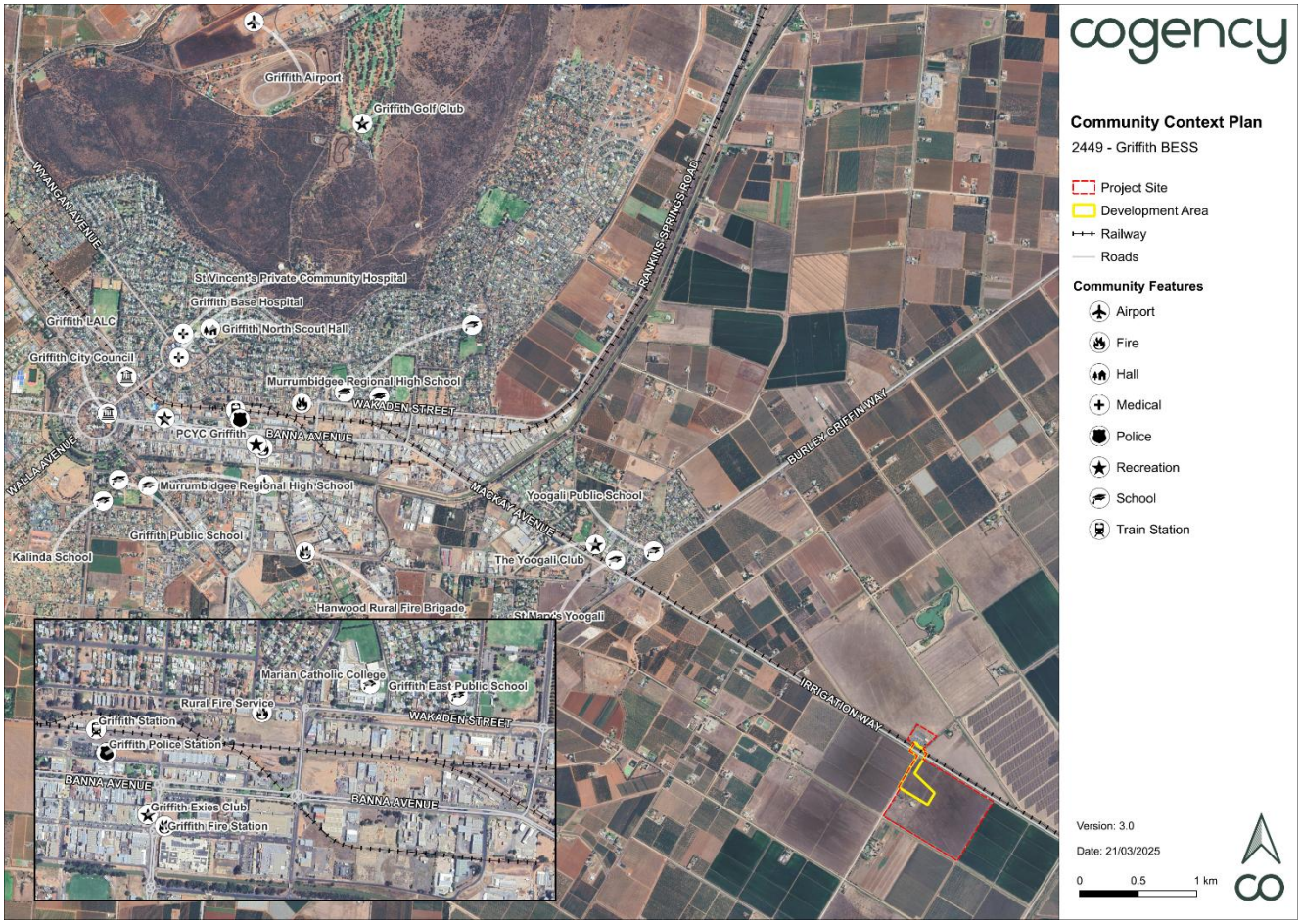

Figure 4 - Community Context Plan

2.2.3 Location and Features

The Development Area including the BESS Area occupies approximately 6 hectares at 15 Bob Irvin Road, Yoogali and is part of a larger landholding which is currently approved for the construction and operation of the Yoogali Solar Farm. The Project Site once held a residential dwelling that has since been demolished and is now cleared, inactive agricultural land. The terrain is generally flat with minimal vegetation other than along the road reserve of Bob Irvin Road. The western frontage to Bob Irvin Road is the primary frontage yet there is also a boundary frontage onto State Road Irrigation Way. Significant disturbance has occurred to the natural environment across the land due to a history of cropping and grazing. Crossing the Project Site in a northwest to southeast direction is the 132 kV Yanco to Griffith transmission line which connects the Griffith Substation to the Yanco Substation.

The Project Site, also encompassing the approved Yoogali Solar Farm, will host the access points to the BESS on Bob Irvin Road. It is a 45-hectare rural lot that sits on the southeastern corner of intersection of Bob Irvin Road and Irrigation Way. Surrounding the Project Site are farms and rural lifestyle residences that increase in density to the northwest, closer to the Yoogali (3 km) and Griffith (8 km) town centres. The Griffith Substation is directly opposite the Project Site on the northwest corner of Bob Irvin Road and Irrigation Way. The operational Griffith Solar Farm is also located between 500 m and 1 km northwest. Within a 2 km radius of the centre of the Development Area, 50 dwellings have been identified, of these 3 are within a 1km radius (Figure 6). There are no associated dwellings with the Project at this stage.

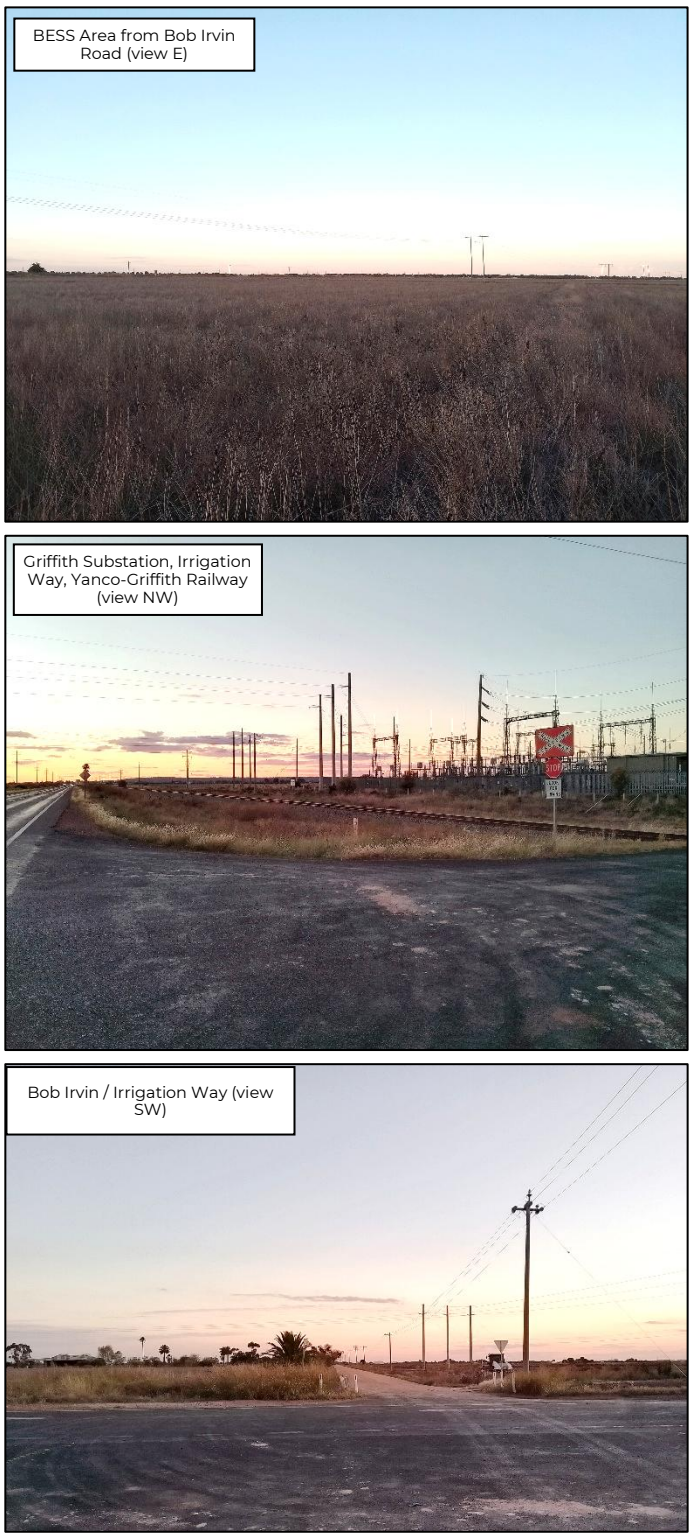

Figure 5 – Site Photos (29/04/2025)

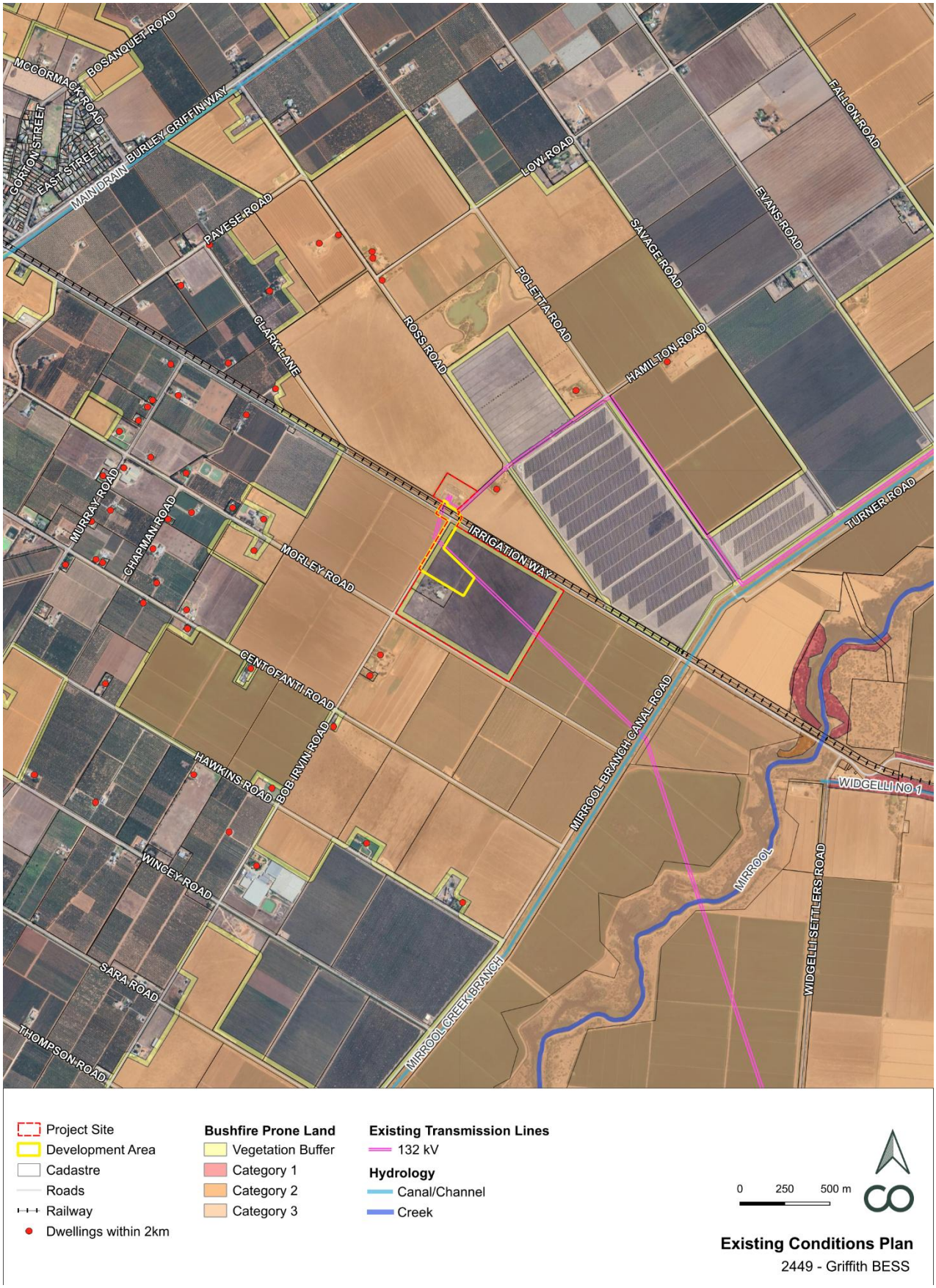

Figure 6 - Existing Conditions Plan

2.2.3.1 Access and Transport

The Project Site faces westward onto Bob Irvin Road, however, it is in close proximity to the intersection of Bob Irvin Road and Irrigation Way, the latter of which is a Transport for NSW State Road. Access to the Project is proposed via two new crossings on Bob Irvin Road (one primary and one secondary/emergency access), set considerably south of the aforementioned intersection.

2.2.3.2 Biodiversity

A Preliminary Ecological Values Assessment (PEVA) (Appendix E) was completed in May 2025 based on desktop and field surveys of the Development Area. It found to have little to no naturally occurring or valuable biodiversity due to its historical use for cropping. As such, no habitat value for any threatened flora nor fauna species has been observed. It is therefore relatively insignificant on measures of native vegetation, threatened species, and notable flora and fauna.

Within the road reserve of Bob Irvin Road where access points will be established, there is widely scattered Weeping Myall shrub alongside exotic non-native revegetation. However, these were determined in the PEVA as lacking sufficient structure and of limited habitat value[6]. The access point placement has been designed to avoid this native shrub regardless.

2.2.3.3 Hydrology and Waterways

To the north of the Project Site running parallel to Irrigation Way, there is an existing 20 m wide open irrigation channel. Along Bob Irvin Road, along the western edge of the Project Site, there is a 3m water pipeline supplying to a previous dwelling at 41 Bob Irvin Road. The broader area is irrigated and forms part of MIA within the Murray Darling Basin. The Mirrool Creek runs approximately 2km south and southeast of the Project Site and the major Murrumbidgee River runs 30km south of the Project Site. The broader catchment is drained via the Mirrool Creek Branch Canal which is located closer to eastern boundary of the Project Site.

Griffith has been prone to flood events in the past and as such, the Mirrool Irrigation Area which sits as a sub area of MIA, has been examined and more directly managed by Griffith City Council.

In 2012, a record flood event occurred within this catchment which saw 147 mm of rain fall within 16 hours, exceeding a 0.1% AEP. While the Project Site itself was not inundated, much of the surrounding region suffered significant infrastructure damage and has experienced ongoing social trauma. AS described in the investigation of the flood event Griffith Main Drain J and Mirrool Creek Flood Study (BMT WBM, 2015):

> *"There are two main mechanisms governing flood behaviour in the Main Drain J catchment. Runoff from within the catchment produces high flow conditions within the irrigation drainage channels and presents a flood risk to communities such as Yoogali, Hanwood and other areas adjacent to Main Drain J. Significant floods within the Mirrool Creek catchment also present a risk to the community of Yenda, as evidenced by the March 2012 flood. Myall Park can flood from both local catchment runoff and Mirrool Creek flood events."*

Models by this most-recent study found that the Project Site is not expected to be subject to flooding under any of 10%, 5%, 2%, 1%, 0.5%, or 0.2% AEP scenarios and is subsequently not covered by the Flood Prone Area extent (Torrent Consulting, 2021). This is largely due to the protection afforded by the Mirrool Canal and Creek.

2.2.3.4 Bushfire Risk

Parts of the primary Project Site are located within a designated bushfire prone area under the NSW Rural Fire Service land mapping. The BESS Area itself (2//DP1252779) is not mapped as Bushfire Prone Land, however Category 0 'vegetation buffer' mapping applies to the interior perimeter of lots 1//DP1252779 and 2//DP1252779, affecting the BESS Area and Transmission Corridor (Figure 12).

[6] PEVA p.15 (Red-Gum Environmental Consulting, 2025)

The vegetation buffer 30 m from Category 3 land and is to identify vegetation and areas where there is the highest risk of ignition from surrounding bushfire. Category 3 land, which wholly covers Bob Irvin Road, Irrigation Way and the Griffith Substation, is medium bush fire risk vegetation.

Additionally, land in the Transmission Corridor between beyond lot 2//DP1252779, including Irrigation Way and the Griffith Substation, is mapped as Category 3 'medium bush fire risk vegetation'.

The wider region has not been subject to significant bushfire activity historically, however there are persistent fire threats. Swathes of parcels in Yoogali, east of the Project Site, are Category 3 Bushfire Prone Land which marks a 'medium bushfire risk'.

2.2.3.5 Historic Heritage

There are no sites recorded on the NSW State Heritage Register nor World Heritage Sites list within the vicinity of the Project Site. There are similarly no records on the Australian Heritage Database for the entirety of Yoogali.

2.2.3.6 Aboriginal Heritage

An Aboriginal Cultural Heritage Due Diligence Assessment (ACHDDA) (Appendix F) was completed in May 2025 based on desktop and field surveys of the Development Area.

A desktop assessment using the NSW Government's Aboriginal Heritage Information Management System (AHIMS) Search Tool measuring approximately 2 kilometres surrounding the Project Site, and additionally on the Project Site itself has been undertaken.

While there were no records within the Project Site, there are 35 records of sites within a 2km radius. The closest, 49-2-0153 "Yoogali Site 3, Artefact, is located approximately 400m north of the BESS Area, next to the Griffith Substation.

Despite low levels of visibility and exposure, a walkover of the Development Area found zero (0) Aboriginal artefacts, objects, places, undisturbed areas of potential, or culturally modified trees. It was also acknowledged that mechanical disturbance to the Project Site over many years of agricultural use have likely permanently altered any pre-existing natural landscape features.

2.2.4 Land Categorisation under the Land Management Framework

The Project Site is zoned RU1 – Primary Production under the Griffith Local Environmental Plan 2012 (LEP) (**Error! Reference source not found.**). Under the *State Environmental Planning Policy (Transport and Infrastructure) 2021* electricity generating works are permitted with consent in RU1.

Under the NSW Land and Soil Capacity (LSC) assessment scheme, the land within the Project Site is classified as Class 3 (Figure 7). This land class represents high capability land with only moderate limitations that must be actively managed to achieve agricultural productivity.

Figure 7 – Land & Soil Capacity Plan

2.2.5 Site Selection

The Project Site has been intentionally chosen due to its location immediately adjacent to existing electrical infrastructure and on land that is surplus to the needs of the approved Yoogali Solar Farm. The Project is located away from sensitive noise receptors and will have a minimal impact on significant public viewpoints.

The Project Site's characteristics are highly conducive to BESS development. The Project Site is traversed by two existing transmission lines, is located close to a State Road, on surplus land with insignificant agricultural capacity and limited ecological value. Importantly, the Project Site is immediately adjacent to existing electrical infrastructure, including the Griffith Substation, two 132kV transmission lines, and three solar farm projects that are either operational or approved. Locating the BESS amongst this electricity infrastructure creates a level of cohesion in the land uses of the area, meaning that the visual impact of the BESS is somewhat mitigated through the highly modified landscape.

A majority of the Project Site has been approved for the Yoogali Solar Farm by Griffith City Council in 2018. This decision is emblematic of the Project Site's agricultural potential being outweighed by a need for renewable energy assets in the area. This Project seeks to enhance the development potential of the land, without consuming further agricultural land, by reallocating the boundaries of the approved Yoogali Solar Farm to allow for an independent BESS to nestle adjacent.

Figure 8 – Zoning Plan

2.3 Cumulative Impact Considerations

An evaluation of potential cumulative impacts will be undertaken in accordance with the CIA Guidelines that outline DPHI's expectations and requirements for evaluating project-level cumulative impacts related to SSD projects. In scoping the CIA relevant for the Project, consideration has been given to the 'six question test' outlined in the CIA Guidelines Section 3. The methodology for this consideration is shown in Figure 9.

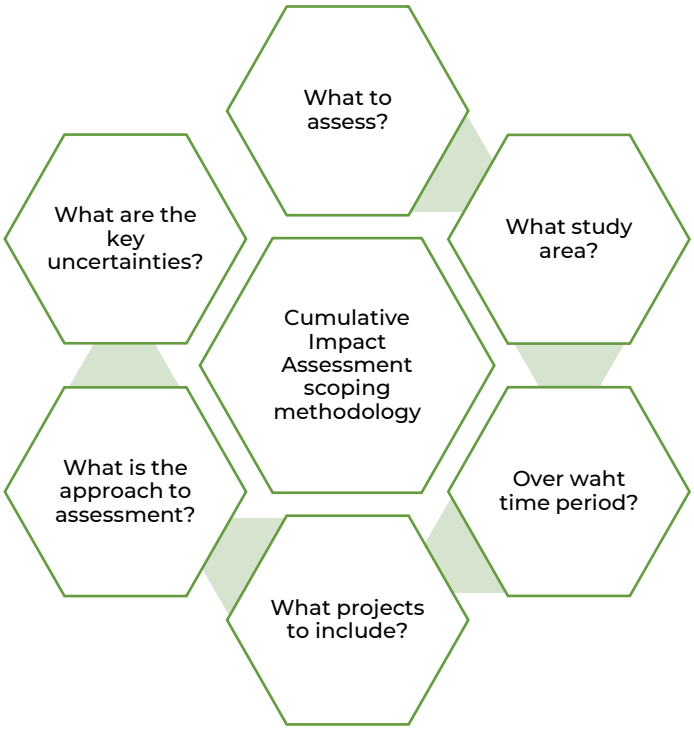

Figure 9 – Methodology for scoping Cumulative Impact Assessment (adapted from CIA Guidelines, Figure 2)

During the EIS phase, a further examination of other relevant construction, industrial, and employment-generating activities in the surrounding area will be completed.

Considering the number of proposed renewable energy projects in the region, it is necessary to thoroughly assess the potential cumulative environmental, social, and economic impacts of the Project during the construction and operation phases, in accordance with the CIA Guidelines. This assessment will take place as part of the preparation of the EIS.

The following sub-sections present known SSD and energy projects within the vicinity. A summary of proposed CIA scoping in accordance with the CIA Guidelines is presented in Appendix C.

2.3.1 Renewable Energy Projects

There are several renewable energy projects within the region, at differing stages of the approval process. It is anticipated that there will be additional renewable energy projects proposed in the vicinity of the Project Site that are not known at the time of preparing this report. At this time, the closest renewable energy developments to the Project are described in Table 5 and some are shown in Figure 10.

Table 5 – Nearby Renewable Energy Projects

Project Name	Project Type and Capacity (MW/MWh)	Status	Distance to Project Site	Developer
Griffith Solar Farm (SSD 6604)	36 MW Solar farm	Operational	~600 m Northeast	Neoen/Bouygues-Construction
Riverina Solar Farm (SSD 7482)	40 MW solar farm	Approved – Pre-construction	~500 m Northwest	Suntech/EPS Energy

Yoogali Solar Farm	15 MW solar farm	Approved – Seeking modification	Shared property	EDP Renewables
Yanco Solar Farm	72 MW solar farm	Approved – Pre-construction	40 km southeast	Origin Energy
Woodlands BESS	200 MW/800 MWh BESS	Approved – Pre-construction	37 km south	Risen
Darlington Point Solar Farm	333 MW solar farm	Operational	38 km south	Edify
Yanco BESS	250 MW/1100 MWh BESS	With DPHI for determination	40 km southeast	ACEnergy
Comet Park BESS	150 MW/600 MWh	Planning – preparing EIS	42 km southeast	Samsung C&T Renewable Energy Australia
Boags Creek Solar Farm	300 MW solar farm	Planning – preparing EIS	40 km south	Edify

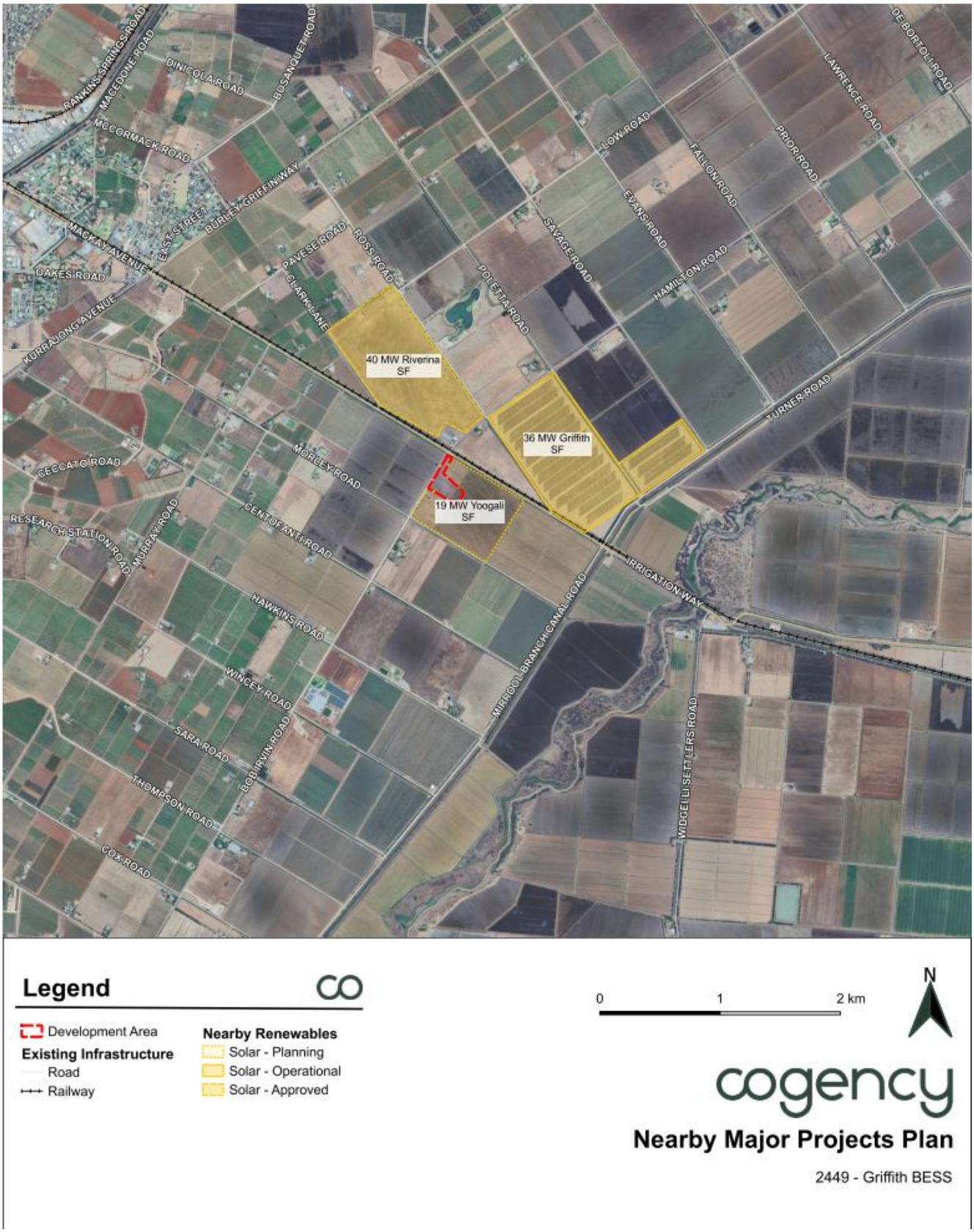

Figure 10 – Nearby major projects plan

2.3.2 Other State Significant Development Proposals

The Griffith area, as a key regional centre in the Riverina Murray region, is host to other SSD proposals related to core industry and infrastructure of the city. These are described in the below Table 6. Although these identified are not in the same electricity generation and supply industry as the Project, awareness of other SSD proposals is vital in consideration of cumulative impacts of the Project.

Table 6 – Nearby SSD Proposals

Project Name	Project Type	Status	Distance to Project Site	Developer
De Bortoli Winery	Winery	Operational	6 km north	De Bortoli Wines Pty Ltd
McWilliams Winery Expansion Project	Winery	Operational	7 km southwest	McWilliam's Wines Pty Ltd
Griffith Bio-hub	Bioenergy facility	Planning – Preparing EIS	9 km southwest	Optimal Renewable Gas
Riverina Bioenergy Facility	Bioenergy facility	Planning – Preparing EIS	9 km southeast	Valorify
Griffith Private Hospital	Hospital	Operational	8 km northwest	St Vincent's
Griffith Base Hospital Redevelopment	Hospital	Construction	8 km northwest	NSW Government

2.4 Project Benefits

2.4.1 Supporting the clean energy transition

The Project's primary justification is its ability to enhance energy reliability and resilience, while contributing to the decarbonisation of the electricity grid. Griffith BESS is of particular importance due to its long-duration storage capacity, exceeding 8 hours duration. Specific justifications include:

Voltage Control

TransGrid's 2024 Transmission Annual Planning Report (TAPR) predicts that over the next 10 years, NSW will experience increasing voltage control capability issues during both high demand and low demand conditions.

Currently, under-voltages can occur in Southern NSW following a trip of the Darlington Point to Wagga 330 kV line during times of high renewable generation. Generation dispatch is constrained in the area to mitigate these voltage stability issues. Since Griffith BESS will connect in this region, its reactive power capability would help to address the under-voltages in the area and reduce the need to constrain generation in the area.

There is also a risk of high voltages at times of high renewable generation under low demand conditions, particularly when there is high rooftop solar generation. With the transition away from coal generation, there will be a heightened risk of high voltage issues. Following the completion of Project EnergyConnect, the risk of over-voltages will increase due to line charging of the new 330 kV lines. This will be exacerbated further following the completion of VNI West, with the new 500 kV lines being connected from Victoria as well as the uprating of the Dinawan to Wagga line. The reactive power capability of Griffith BESS would help to address these over-voltage issues in the southern NSW region.

System Strength

Synchronous generators have traditionally provided system security services. However, the retirement of Eraring (2025/26), Vales Point (2028), Bayswater (2033) and Mt Piper (2040) power plants will create fault level shortfalls across the network. Griffith BESS will utilise grid-forming inverters, meaning that it will also be able to contribute to the fault level in the network at the inverter terminals. While not big enough to

singlehandedly replace a coal-fired generator, it can provide support in combination with other generators to address the shortfalls created by the transition away from coal generation. Transgrid specifically seeks responses from grid-forming plant to provide system strength services in NSW.

By improving the fault levels in South-West NSW, Griffith BESS will help stabilise electricity in the region and also increase the hosting capacity for inverter-based resource (IBR) technology.

Frequency Control

Frequency control is provided in the form of inertia, Fast Frequency Response (FFR) and Frequency Control Ancillary Services (FCAS). The Griffith BESS will be capable of rapid changes in active power output to provide FFR and FCAS services. FFR services provide rapid adjustments to power output levels to correct frequency deviations if there is a sudden mismatch between generation and consumption while FCAS can offer grid operators options for continuous and automatic adjustments of generation or consumption to correct minor frequency deviations. In addition, the grid-forming inverters of Griffith BESS will be able to provide virtual inertia to the network. This is of particular importance, with inertia levels expected to decline over the next decade following the retirement of the coal generators.

Power Flow Control

The following transmission lines are located near the Project:

- Yanco to Griffith 132kV
- Griffith to Darlington Point 132kV

In particular, the Darlington Point Substation (132/220/330kV) has been the subject of specific focus by AEMO in relation to improving capacity and reducing the number of restrictions on MVA ratings. This Project will aim to assist in these goals as the BESS will allow greater control of flow for the immediate network around Darlington Point. Importantly, for instances of trip threat, the Griffith BESS would work to mitigate risk of overloading.

Demand Management

The growth of rooftop solar has shifted peak grid demand to later in the day. As peak demand shifts into the evening, it can no longer be supplied by large-scale solar farms. Griffith BESS would charge during periods of low demand and high renewable generation, and discharge at times of high demand. In particular, Griffith BESS would be capable of discharging at peak capacity for up to 8 hours as generation from the three nearby Griffith, Riverina, and Yoogali solar farms (and rooftop solar) declines in the early evening.

LDS capacity of 2 GW and 16 GWh by 2030, and a further 12 GWh by 2034, have been legislated through the EII Act and NSW Electricity Infrastructure Roadmap. This Project will therefore provide a significant contribution of at least 5% to the 2030 storage capacity target.

Other General Benefits

Currently, the majority of Australia's electricity is provided by coal-fired thermal power stations, many of which are functioning beyond their original anticipated operational lifespan. Many of these existing plants are scheduled to cease operations within the coming years, as announced by state and federal governments. AEMO's 'Optimal Development Path', as indicated in the 2024 Integrated Systems Plan outlines the continuation of a Step Change scenario that will see a rapid transformation in the NEM, consisting of a significant investment in renewable generation, storage and firming generation as coal plants exit. This scenario includes achieving at least 17.9 GW of energy storage capacity by 2030, including 4.8 GW of 'medium storage' capable of 4 to 12 hours of duration. This will help to maintain system reliability and security by the mid-2030s, in additional to the proposed storage capacity of the Snowy Hydro 2.0 project. These closures will leave to a significant shortfall in generated electricity which will need to be rapidly filled with reliable renewable energy.

The Project directly responds to the need for additional storage capacity identified by both AEMO and the New South Wales government. It would benefit the electricity grid by providing an additional 100MW of long-duration storage with the capacity to discharge for more than 8 hours, helping balance the network. This stored energy would be utilised during periods of low renewable output to fill and stabilise generational and transmission deficiencies.

2.4.2 Job Creation

In addition to its energy benefits, the Project will create significant economic and employment opportunities, particularly during the construction phase. The Project is expected to create up to 150 jobs during construction and up to 5-10 full time operational and maintenance jobs. The Proponent is dedicated to supporting local manufacturers and contractors where possible, with arrangements in place to prioritise local workers, contractors and suppliers.

The predicted increase of workers would generate economic stimulus in Griffith City and the wider region. These would provide accommodation, food, fuel and trade equipment and services. A full economic impact assessment will be completed during the EIS phase.

2.4.3 Local Benefits

The Project would offer several specific benefits to the local community, particularly in terms of opportunities for local landowners and community members to contribute to the Project's planning and design, and opportunities to benefit from the revenue generated during the Project's operation through a benefit sharing scheme guided by the relevant NSW Guidelines. The Proponent has extensive experience delivering energy storage projects that prioritise community benefit sharing arrangements and procuring social license early into the planning process and will rely on that experience during the planning and delivery of the Griffith BESS Project.

The Project's construction and operation will generate local employment opportunities through procuring skilled labour and materials from a localised catchment area, in turn supporting local businesses and the regional economy. The Project will enhance local grid stability and energy security by providing essential electrical storage services, reducing the risk of blackouts or energy shortages. Aside from technical advantages, the Proponent intends to invest long term in the local community through the establishment of a community benefit fund to support local community groups or other local initiatives.

3. Project

3.1 Project Description

The Project involves the construction, operation and decommissioning of a BESS with a nominal capacity of up to 100 MW / 1,000 MWh. The Project includes an underground 132kV transmission connection between the Project's onsite substation and the adjacent Griffith Substation, underneath Irrigation Way and the Yanco Griffith railway. It will supply electricity to the NEM during peak demand periods.

A BESS operates by storing electrical energy for later use and are becoming increasingly crucial for grid stabilisation, integrating renewable energy and providing backup power during times of variable electricity generation. The Project will be a typical BESS installation, consisting of lithium-ion batteries, a Battery Management System (BMS) for monitoring, inverters to convert DC to AC electricity, a cooling system, noise suppression systems and a control system. The Project would also involve a direct transmission connection to the adjacent 132kV/330kV Griffith Substation through an underground cable connection, perimeter fencing, vegetative screening planting, internal access tracks and road upgrade works.

The BESS has been configured within the broader landholding as such to minimise the reduction in size of the collocated Yoogali Solar Farm, whilst also retaining proximity to the Griffith Substation and access via Bob Irvin Road. Access to the BESS will be facilitated via a new access point along Bob Irvin Road, independent to another similar proposed access for the Yoogali Solar Farm.

The key elements of the Project include the following:

- Assembly containers, containing lithium-ion batteries
- Transformers and inverters to convert and step voltage up or down as required
- A switching room containing circuit breakers, disconnect switches, and protection relays
- Intersection and road upgrades as required
- Associated ancillary infrastructure including:
    - Electrical/power conversion systems
    - Switchgear
    - Control building
    - Cabling and collector units
    - Storage and maintenance area
    - Internal access tracks
    - On-site parking
    - Security fencing and lighting
    - Temporary construction laydown area
- Native vegetation screening

The Project will connect into one of the 132kV bays at the Griffith Substation. The details of the connection will be finalised during the EIS phase pending discussions with TransGrid.

The capital investment value (CIV) of the Project is currently valued at $275 million.

3.2 Proposed Project Delivery

3.2.1 Construction

The Project construction period is expected to require 24-28 months (pending final design and capacity) and will be expected to operate for 25 years. Construction would involve:

Construction of permanent infrastructure, including:

- Battery containers
    - Inverters
    - Transformers
    - Cooling systems
    - Fire suppression systems
    - Switch room
    - Operations and Maintenance facilities and associated parking
- Construction of temporary infrastructure:
    - Site office and amenities
    - Tool and material storage shed
    - Construction laydown area
    - Truck parking and unloading areas
- Construction of access points
- Construction of internal access tracks
- Delivery of construction materials and infrastructure
- Assembly of the BESS units
- Transmission connection
- Vegetation removal
- Vegetation planting
- Boundary fencing.

3.2.1.1 Transmission Connection

The Project will seek to connect to the Griffith Substation via an underground 132 kV transmission connection.

The connection between the BESS Area and Griffith Substation will be designed to minimise impacts on surrounding land, MIA channel, Irrigation Way and the Yanco Griffith Railway line. Perpendicular crossings at a provisional depth of 3 – 4 metres below surface level to safely clear all assets will be sought, complying with each regulator's requirements. It is expected that the underground cable can surface wholly within Griffith Substation land owned by TransGrid.

3.2.1.2 Site Access

Two new access points will be created by means of a new crossing on Bob Irvin Road within the realigned 1/-/DP1252779 allotment. Due to the potential cumulative impact of the Yoogali Solar Farm being constructed in a similar timeframe to the Project, upgrades to Bob Irvin Road have been considered in the design process and will be further discussed with Transport for NSW following traffic assessments.

3.2.2 Operation

The operational lifespan of the Project is expected to be 25 – 30 years.

As a BESS, operation of the Project involves the storage of energy during periods of low demand and discharge during periods of high demand. The storage and discharge of electrical energy occurs independently of any external activity or physical movements. Thus, BESS structure and facility remain in a constant physical state regardless of operational status. Designated computational systems control the functioning of each BESS unit. Human oversight and maintenance are still required and during operation it is likely that up to 5 - 10 full time equivalent staff may be employed for on-site and remote work. A social impact assessment and economic impact assessment will be completed during the EIS for a more accurate estimate of the number of jobs generated.

3.2.3 Decommissioning

The Project has a finite life span. Upon reaching the expected lifespan of the BESS, upgrades could be undertaken subject to development application approval, or additional alterations or extensions to the facility would be considered as battery storage technologies continually innovate.

3.3 Project Development and Alternatives

3.3.1 Design Considerations

There are a broad range of considerations to be made when selecting an appropriate site for a BESS development, spanning environmental, technical, social, and commercial factors.

- Location on land surplus to the needs of the approved Yoogali Solar Farm, with no mapped biodiversity values
- Setbacks from sensitive receptors to minimise impacts on nearby properties
- Direct adjacency to an existing and operating grid-connected solar farm and substation
- Good access to existing major road network, minimising need for costly road upgrades and roadworks
- Retaining the most productive area of the parcel for the solar farm panels
- Establishing separate connections to Griffith Substation and access tracks for the Project and Yoogali Solar Farm, allowing the two to remain fully operationally independent
- Access point on Bob Irvin Road as opposed to the busier, NSW State Road, Irrigation Way.

3.3.2 Alternatives

The following alternatives were considered during the site selection process:

- **Sites more distant from the substation** – these were ruled out as they would have required a longer transmission connection and increased the area of impact to the surrounding landscape and agricultural land. There are also limited other suitable sites in the area that could offer the same benefit as the current selection.
- **Overground transmission connection** – this was ruled out because it would have resulted in greater visual amenity impact. There was also the potential for interference with Irrigation Way and the Yanco Griffith railway line.

- **Smaller facility** – this was ruled out as it would not sufficiently support the local network and was not economically viable.
- **Larger facility** – this was ruled out as it would significantly impact the potential output and footprint of the approved Yoogali Solar Farm project.

In addition, once the Project Site was selected, the size of the BESS Area allowed for micro-siting in an ideal location. The location of the BESS Area within the property was refined through consideration of:

- Proximity to the Griffith Substation and existing transmission lines
- Setback from Irrigation Way
- Optimising the panel area of the Yoogali Solar Farm.

The Project Site also provides an optimal combination of:

- Sufficient levels of available capacity on the grid
- Close proximity to the operation Grifith Solar Farm and planned Yoogali and Riverina solar farms, Griffith Substation and grid connection
- Suitable land use planning context
- Low potential impacts for biodiversity and heritage
- Low potential social impacts, such as noise and visual impacts
- Ample road access.

Throughout the detailed design process, the design will be refined to minimise impacts as far as practicable. Furthermore, the construction methodology will be considerate towards sensitive receivers and minimise impacts where possible.

3.3.3 Proposed technologies

The Project will involve utilising an array of lithium-ion phosphate (LFP) battery units, which is the most common technological approach for battery storage for electrical applications, and the safest type of lithium-ion batteries currently in widespread use. At is core, lithium-ion batteries store energy by moving lithium ions between two layers, called electrodes, in the battery. Charging the battery with electricity from the grid causes the lithium ions to move from one electrode to other, storing energy. When the energy from the battery is discharged, the ions move back, releasing the stored energy.

The battery consists of a positive electrode (cathode), and negative electrode (anode), and a liquid or gel-like substance called an electrolyte that helps the ions move between the electrodes. A separator prevents the electrodes from touching and short circuiting. Lithium-ion batteries are commonly used because they can hold large amounts of energy in a small space, recharge quickly and have a longer lifespan compared to other types of batteries. This makes them ideal for modern energy needs, and their large-scale application like that proposed by this Project, ideally complement the storage needs of a grid shifting to variable renewable energy sources.

Emerging battery technologies, such as solid-state batteries, sodium-ion batteries and flow batteries are being developed to address the limitations of current lithium-ion technology. These innovations promise benefits like higher energy densities, faster charging times and enhanced safety. However, despite these advancements, lithium-ion batteries remain the most advanced and dependable technology available today. Their proven track record, established manufacturing processes, and continuous incremental improvements ensure that lithium-ion batteries continue to be the preferred choice for a wide range of applications, particularly large-scale energy storage needs.

3.4 Project benefits

The Project will provide long-term, strategic benefits to NSW in its ability to:

- Contribute to and support the NEM by providing energy storage capacity and improving the security, stability, and resilience of the NEM.
- Contribute to demand management needs that are increasingly necessary as the growth of rooftop solar has shift peak demand to later in the day, when existing solar farms will not be generating.
- Support the transition to a net zero carbon emission State by 2050 (NSW Net Zero 2050).
- Help the State reach its goal of 2GW of long-duration storage as set out in the Electricity Infrastructure Roadmap.
- Capitalise on a changing regional economy and the emerging renewable energy industry in the Riverina Murray region.
- Accelerate economic growth to ensure regional NSW continues to play a critical role in the Australian economy/generate investment, economic growth and provide job opportunities.
- Facilitate the shift away from coal-fired power generation and traditional fossil fuel firming assets, supporting Australia's transition towards clean and renewable sources of energy.
- Provide energy storage for sustainable renewable energy to enable continuous and reliable electricity output as part of a rapidly expanding industry in NSW.
- Plan for the implications of climate change and the need for resilient, sustainable communities.
- Establish a strong network of positive and long-term relationships within the local community and contribute to economic and social growth with a community fund and a neighbour benefit fund that meets the unique needs of the wider community, and delivers long-lasting social, economic, and environmental benefits for decades to come.
- Make efficient use of existing electrical infrastructure, including nearby solar farms.
- Utilise land that has already been approved by Griffith City Council for electricity infrastructure.

4. Statutory Context

This section outlines the key statutory requirements for the Project under the *Environmental Planning and Assessment Act 1979* and other Local, State and Federal Government Guidelines, with specific regard to the *State Significant Development Guidelines – Preparing a Scoping Report* (DPIE, 2022).

4.1 NSW Planning Framework

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) provide the overall framework for guiding land use planning and development controls within New South Wales. This broad framework establishes the roles of state, regional and local planning authorities and also includes regional plans that set long-term visions for growth and development. The EP&A Act and EP&A Regulation are supported by several Environmental Planning Instruments (EPIs), which include State Environmental Planning Policies (SEPPs) and the Local Environmental Plan (LEP).

Part 4, Division 4.7, Section 4.36(2) of the EP&A Act states:

A State environmental planning policy may declare any development, or any class or description of development, to be State significant development.

Section 2.6(1) of the Planning Systems SEPP 2021 states:

(1) Development is declared to be State significant development for the purposes of this 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.

Clause 20(a) of Schedule 1 of the Planning Systems SEPP 2021 declares electricity generating works (using any energy source including wind) that has an estimated development cost of more than $30 million.

Accordingly, the Project is considered SSD under Section 4.36(2) of the EP&A Act in conjunction with Section 2.6(1) and Clause 20(a) of Schedule 1 of the Planning Systems SEPP 2021, since it is not permissible without consent under Part 4 of the Act, defined as electricity-generating works, and has an anticipated development cost in excess of $30 million.

Under Section 4.12(8) of the EP&A Act, a development application (DA) for SSD is to be accompanied by an EIS that meets the requirements the EP&A Regulation. An EIS will be prepared once SEARs have been received for the Project. This Scoping Report is the first step in that process and is intended to provide a broad overview of the Project, the site and surrounds, and a range of potential impacts, to inform the issuing of SEARs.

4.2 Statutory Requirements for the Project

The main statutory requirements for the Project are summarised in Table 6 and discussed in further detail in the below sections.

Table 6 – NSW Statutory Requirements

Statutory Matter	Statutory Reference	Consideration
Power to grant consent	▪ Part 4, Section 4.5(a) and 4.36(2) of the EP&A Act ▪ Section 2.6 of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) ▪ Clause 20(a) of Schedule 1 of the Planning Systems SEPP	▪ The Project is a SSD ▪ The consent authority for SSD is the Minister for Planning and Public Spaces or the Independent Planning Commission in the event that the Council or community (over 50 submissions) object to the proposal ▪ The assessment will be coordinated by DPHI.

Statutory Matter	Statutory Reference	Consideration
Permissibility	▪ Part 2 of the Griffith LEP ▪ Section 2.7 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) ▪ Section 2.36 of the Transport and Infrastructure SEPP	▪ The Project Site is located within the RU1 Primary Production Zone and the proposed use, electricity generating works, is not permissible with consent in this zone; However: ▪ Chapter 2, Section 2.7 of the Transport and Infrastructure SEPP: overrides any inconsistencies between the instruments. ▪ Section 2.36(1)(b) of the Transport and Infrastructure SEPP: allows for the development for electricity-generating works with consent on land in a non-prescribed residential zone ▪ Considering the above, the Project is permissible with consent.
Other approvals	▪ *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) ▪ *Native Title Act 1993* ▪ *Biodiversity Conservation Act 2016* ▪ *Biosecurity Act 2015* ▪ *Contaminated Land Management Act 1997* ▪ *Crown Land Management Act 2016* ▪ *Electricity Supply Act 1995 and Electricity Network Assets (Authorised Transactions) Act 2015* ▪ *Native Title (New South Wales) Act 1974* ▪ *Protection of the Environment Operations (POEO) Act 1997* ▪ *Roads Act 1993* ▪ *Waste Avoidance and Resource Recovery Act 2001*	▪ The Project may need to seek approvals as required under these Acts.
Pre-conditions to exercising the power to grant consent	N/A	▪ No pre-conditions to exercising the power to grant approval have been identified for the Project.
Mandatory matters for consideration	▪ Section 4.15 of the EP&A Act ▪ Requirements of other legislation (refer to 'Other approvals')	▪ What the consent authority must take into consideration ▪ What approvals the Project will need to seek under other Acts (refer to 'Other approvals')

4.2.1 Power to Grant Consent

The EP&A Act sets out that the applicable approval pathway for the Project as the State Significant Development (SSD) process. The Project will require SSD Approval pursuant to Clause 4.36 of the EP&A Act:

> *4.36 Development that is State significant development*
>
> *(1) For the purposes of this Act, State significant development is development that is declared under this section to be State significant development.*
>
> *(2) A State environmental planning policy may declare any development, or any class or description of development, to be State significant development.*
>
> *(3) The Minister may, by a Ministerial planning order, declare specified development on specified land to be State significant development, but only if the Minister has obtained and made publicly*

available advice from the Independent Planning Commission about the State or regional planning significance of the development.

Editorial note—

For orders under this subsection, see the Historical notes at the end of this Act.

(4) A State environmental planning policy that declares State significant development may extend the provisions of the policy relating to that development to State significant development declared under subsection (3).

Clause 2.35 of the Transport and Infrastructure SEPP defines the Project as 'electricity generating works', being:

a building or place used for the following purposes, but does not include a solar energy system—

(a) making or generating electricity,

(b) electricity storage.

The Planning Systems SEPP sets out SSD's at Schedule 1. The Project triggers SSD through Schedule 1, Clause 20:

20 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, or

(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance.

As the estimated capital investment value of the Project is greater than $30 million, and the Project requires development consent under Part 4 of the Act, the Project is required to be assessed as an SSD.

Part 4 Division 4.7 of the Act allows the consent authority to determine and grant consent for SSD development applications.

4.2.2 Consent Authority

The Minister for Planning and Public Spaces will be the consent authority for the Project in accordance with Division 4.2, Section 4.5 of the EP&A Act. However, in accordance with Clause 2.7 of the Planning Systems SEPP, the Independent Planning Commission (pursuant to clause 2.7 of the Planning Systems SEPP) is the consent authority for the following types of SSD:

a) *Development in respect of which the council of the area in which the development is to be carried out has duly made a submission by way of objection under the mandatory requirements for community participation in Schedule 1 to the Act,*

b) *Development in respect of which at least 50 persons (other than a council) have duly made submissions by way of objection under the mandatory requirements for community participation in Schedule 1 to the Act; and*

c) *Development the subject of a development application made by a person who has disclosed a reportable political donation under section 10.4 to the Act in connection with the development application.*

Therefore, the Minister for Planning and Public Spaces is the consent authority this SSD application, if none of the above criteria are triggered, and DPHI will coordinate the assessment of the application on behalf of the Minister. The requirement for the IPC to be the determining authority is to be confirmed following the completion of the EIS public exhibition.

4.2.3 Permissibility

As identified above, the Project is considered 'electricity generating works' in accordance with Clause 2.35 of the Transport and Infrastructure SEPP. Pursuant to the Griffith LEP, 'electricity generating works' are prohibited in land zoned RU1 Primary Production.

However, in this instance, and pursuant to Part 2.1, section 2.7(1), the Transport and Infrastructure SEPP prevails over the Griffith LEP and accordingly allows development of a BESS with consent on land zoned RU1 Primary Production, as Part 2.3, section 2.36 of the Transport and Infrastructure SEPP states that:

> *(1) Development for the purpose of electricity generating works may be carried out by any person with consent on the following land –*
>
> *(b) any land in a prescribed non-residential zone.*

The RU1 Primary Production is listed as a non-residential zone, meaning the Project is permissible with consent.

4.2.4 Other Approvals

4.2.4.1 State Legislation and Instruments

A number of pieces of state level legislation and instruments may be applicable to the Project (refer to Table 7 and Table 8). Their exact applicability will be determined during preparation of the EIS.

Table 7 – Relevant NSW Legislation

Legislation	Requirement
Biodiversity Conservation Act 2016	This Act aims to conserve threatened species, populations and ecological communities through ensuring appropriate assessment, management and regulation of actions that may damage critical or other habitat for a listed threatened species, or may otherwise significantly affect a threatened species, population or ecological community. The EIS of the Project would include a detailed assessment of biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016*.
Biosecurity Act 2015	Under this Act, all plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Section 22 requires that any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable. The *Biosecurity Act 2015* may be applicable if listed weeds are identified within the Project Site. A detailed Flora and Fauna assessment which will determine the presence of identified weeds within the Project Site, will form part of the Project EIS.
Contaminated Land Management Act 1997	This Act outlines the circumstances in which notification of the NSW Environment Protection Authority (EPA) is required in relation to the contamination of land. This may become relevant during construction and/or operation of the Project and would be discussed in greater detail in the EIS.
Crown Land Management Act 2016	This Act provides for the administration and management of Crown lands in NSW. Crown land may not be occupied, used, sold, leased, licensed, dedicated, reserved or otherwise dealt with unless authorised by the Act. There are some areas of Crown land and travelling stock reserves/routes within the Project Site and should any work be proposed in these areas, approval would be sought from NSW Crown Lands.

Legislation	Requirement
Native Title (New South Wales) Act 1974	This Act provides for native title in relation to land or waters. The Project does not affect land subject to a native title claim or determination, or land to which an Indigenous Land Use Agreement applies.
Roads Act 1993	Section 138 of this Act states: A person must not (a) erect a structure or carry out a work in, on or over a public road, or (b) dig up or disturb the surface of a public road, or (c) remove or interfere with a structure, work or tree on a public road, or (d) pump water into a public road from any land adjoining the road, or (e) connect a road (whether public or private) to a classified road, otherwise than with the consent of the appropriate roads authority. Required approvals under s138 of the Roads Act 1993 (NSW) will be identified in the future EIS. Consultation has commenced with TfNSW. Consent under section 138 of this Act cannot be refused if necessary for carrying out an SSD if development consent has been issued.
Waste Avoidance and Resource Recovery Act 2001	This Act encourages the most efficient use of resources in order to reduce environmental harm. Waste and resource impacts associated with the Project would be considered as part of the EIS.

Section 4.41 of the EP&A Act exempts the following additional approvals for an approved SSD. These include:

- An excavation permit under section 139 of the *Heritage Act 1997*
- A permit under section 201,205, or 2019 of the *Fisheries Management Act 1994*
- An Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1979*
- A bushfire safety authority under section 100B of the *Rural Fires Act 1997*
- A water use approval under section 89, a water management work approval under section 90 or an activity approval under section 91 of the *Water Management Act 2000*

Table 8 – Relevant NSW Planning Instruments

Planning Instrument	Relevant Consideration(s)
Transport and Infrastructure SEPP	Under Division 4, Section 2.36(1) of the Transport and Infrastructure SEPP, development for the purpose of electricity generating works (the Project), may be carried out by any person with consent on the following land: a) … any land in a prescribed non-residential zone The Project will be sited on land Zoned RU1 – Primary Production under the LEP, a prescribed non-residential zone, and therefore is permissible with consent.
State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) (formerly State Environmental Planning Policy No. 33 – Hazardous and Offensive Development)	Chapter 3 of the Resilience and Hazards SEPP aims to: *a) Ensure that any measures proposed to be employed to reduce the impacts of a potentially hazardous or dangerous industry development are taken into account* *b) Ensure that the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact* In accordance with Section 3.7 of the Resilience and Hazards SEPP, consideration will be given to current guidelines published by the DPHI regarding hazardous or offensive development. Chapter 4 of the Resilience and Hazards SEPP provides a state-wide planning approach to the remediation of contaminated land. Under Section 4.6(1), a consent authority is required to consider whether a proposed development site is contaminated before granting consent. A land contamination assessment will be prepared as part of the Project EIS to determine the potential contamination risk of the Project on surrounding land. This assessment will take into consideration historical land use within and surrounding the Project Site, noting the predominately historic agricultural land use.

Planning Instrument	Relevant Consideration(s)
Griffith LEP	The Project EIS will directly address relevant components of the Griffith LEP, including: ▪ Section 1.2 – Aims of Plan: – To minimise land use conflict in general by creating areas of transition between different and potentially conflicting land uses, – To provide a variety of development options to meet the needs of the community with regard to housing, employment and services, – To manage and protect areas of environmental significance. Objectives and permissible uses of the RU1 – Primary Production Zone. The objectives of the RU1 Zone include: ▪ To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. ▪ To encourage diversity in primary industry enterprises and systems appropriate for the area. ▪ To minimise the fragmentation and alienation of resource lands. ▪ To minimise conflict between land uses within this zone and land uses within adjoining zones. ▪ To permit a range of activities that support the agricultural industries being conducted on the land and limit development that may reduce the agricultural production potential of the land.

4.2.4.2 Commonwealth Environmental Legislation

Environmental Protection and Biodiversity Conservation Act 1999

The EPBC Act is the Commonwealth Government's overarching environmental legislation providing a legal framework for protecting the Australian natural environment, its inherent biodiversity as well as naturally and culturally significant places. Its application primarily revolves around ensuring that the proposed development does not significantly impact the environment, particularly Matters of National Environmental Significance (MNES).

The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) provides the Protected Matters Search Tool (PMST) for project proponents. This tool supports preliminary desktop assessment to evaluate the potential impacts of development on MNES within a site and its surrounding areas.

At the time of writing this Scoping Report, an assessment of the Project Site was conducted using the PMST to gain a preliminary understanding of the Project's potential impacts on MNES. The assessment included the Project Site and an additional 10 km buffer zone. A summary of the findings is presented in Table 9.

Table 9 – EPBC Act PMST Search Summary

Matter	Comment
World Heritage Properties	No World Heritage Properties were identified in the PMST search area.
National Heritage Place	No National Heritage Places were identified in the PMST search area.
Wetlands of International Importance (RAMSAR)	4 RAMSAR listed wetlands were identified in the PMST report area.

Listed Threatened Ecological Communities	One listed TEC was found to be likely to occur within the Project site: ▪ Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (*Endangered)* Three listed TEC were found to maybe occur within the Project site: ▪ Weeping Myall Woodlands *(Endangered)* ▪ Poplar Box Grassy Woodland on Alluvial Plains *(Endangered)* ▪ White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland *(Critically Endangered)* One listed TEC was found to potentially occur within the 10km buffer area: ▪ Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions *(Endangered)*.
Listed Threatened Species	A total of 37 threatened species or species habitat were noted to occur within the PMST report area.
List Migratory Species	A total of 8 listed migratory species or species habitat were noted to occur within the PMST report area.

A detailed assessment of the Project's potential impact on MNES by a qualified ecologist will be undertaken to inform whether a referral under the EPBC Act to the Minister for the Environment is warranted and will inform a pre-referral meeting. The Minister will determine if the Project will be considered a controlled action and whether it requires formal assessment and approval under the EPBC Act.

Native Title Act 1993

The *Native Title Act 1993* (Commonwealth) provides a legislative framework to provide a national system for the recognition and protection of Aboriginal land rights, tenure and land sovereignty and for coexistence with the national land management system. The *Native Title Act 1993* sets up processes to determine where native title exists, how future activity impacting upon native title may be undertaken and to provide compensation where native title is impaired.

A search of the National Native Title Register and National Native Title Tribunal Spatial Data identified three unsuccessful native title determinations undertaken by the Griffith LALC over the 2017-2023 period. These occurred on land parcels within the Griffith town centre. There are no current or previous Native Title determinations that have occurred in Yoogali and therefore, the Project Site.

Heavy Vehicle National Law

As large, long structures, approval will be required for the transportation of some of the electrical infrastructure components (for example, transformers). A detailed route study will investigate the most appropriate route from the Port to the Project Site and identify any required road upgrades.

4.2.5 Preconditions to exercising the power to grant consent

There are no pre-conditions to exercise the power to grant approval that haven been identifies for the Project.

4.2.6 Mandatory Matters for Consideration

Table 10 sets out the mandatory matters for consideration under the relevant Environmental legislation and instruments, in addition to those set out in Sections 4.2.4.1 and 4.2.4.2 above. Any further requirements will be identified within the SEARs and addressed in the EIS.

Table 10 – Mandatory Matters for Consideration

Legislation or Instrument	Relevant Consideration
EP&A Act	Section 1.3 Objectives of the Act Section 1.7 Application of Part 7 Section 4.15 Evaluation: ▪ the provisions of environmental planning instruments, development control plans, planning agreements and regulations as relevant ▪ the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality, ▪ the suitability of the Project Site for the development, ▪ any submissions made in accordance with this Act or the regulations, ▪ the public interest.
EP&A Regulation	Clause 28 Development applications relating to Biodiversity Conservation Act 2016 Clause 59 Additional requirements for State significant development—the Act, s 4.39 Clause 190 Form of environmental impact statement Clause 191 Compliance with environmental assessment requirements Clause 192 Content of environmental impact statement Clause 193 Principles of ecologically sustainable development
Griffith LEP	Objectives of the RU1 Zone
Biodiversity Conservation Act 2016	Section 7.9 Biodiversity assessment for State significant development or infrastructure
Other Acts and Instruments	To be determined at EIS stage

5. Engagement

5.1 Community and Stakeholder Engagement Strategy

The Proponent acknowledges that active and early engagement with the community and other relevant stakeholders is a crucial part of the development process, as it helps to foster a greater understanding of and support for the Project and to improve the design and development outcomes through the exchange of knowledge and information.

A Community and Stakeholder Engagement Strategy (CSEP) was prepared at commencement of the Project to outline principles, objectives and an action plan to guide engagement through all phases of the Project. The CSEP includes social demographic analysis, stakeholder identification and key messaging.

The engagement approach developed in the CSEP for the Project highlights the importance of early and proactive engagement, building trustful relationships, partnering with key community stakeholders, and enabling open and transparent dialogue.

Three key community engagement objectives have been derived using relevant frameworks and guidelines related to NSW BESS projects and also leading engagement literature:

1. Facilitate deeper understanding of issues and decisions surrounding the project.
2. Improve the quality of any decisions made.
3. Allow stakeholders to be involved in decisions that will impact their lives.

These objectives aim to foster effective community engagement, build trust, and ensure that the development and delivery of SSD projects align with the values and needs of the local community.

The Proponent is committed to delivering best-practice engagement, with the overarching objective of ensuring that the identified community and stakeholder groups are proactively and meaningfully informed, consulted and involved and that the benefits of the project are genuinely felt by the local community. Furthermore, the proponent pledges to treat members of the local community and other stakeholders fairly, courteously and consistently and ethically.

The objectives are expected to be met through the implementation of the engagement principles, an implementation plan, and a monitoring, evaluation and reporting (MER) plan.

Understanding the Level of Interest

As a proposal of state significance, the Project is likely to receive interest from not only direct and nearby neighbours - those who will directly experience, interact with, or be affected by the Project - but also multiple communities of a broader range beyond the immediate surrounds. This interest can be broadly categorised as local (in this instance up to approximately 3 km from the site), regional (3-100 (approx.) km from the site), and state-wide (more than 100 km from the site).

At a local level, up to approximately 3 km, the Yoogali community comprises both residences directly associated with productive agriculture and ‘lifestyle’ farming dwellings. This community is expected to be interested in the Project as a local development that may affect them directly, such as through potential short-term traffic disruptions during construction, and indirectly, such as through access to community benefit sharing initiatives.

Regionally (3-100km), encompassing the broader City of Griffith and Riverina region, direct impacts are unlikely to be experienced. However, community interest is still expected. At this scale, strong interest leading to direct engagement is more likely to reflect general support for, or scepticism about, the rollout of grid-scale energy storage and renewable generation in response to the phase-out of coal-fired power plants. In this case, interest may be spurred by broader environmental and energy network concerns rather than this Project’s specific local benefits and environmental impacts.

Additionally, as a major regional centre the Griffith community may also be interested in the Project due to its potential local economic impacts such as opportunities for local procurement, jobs, training, investment, and industry diversification.

From a state-wide level (beyond 100km) the Project may attract interest from individuals and groups concerned by the potential impacts, both positive and negative, of grid-scale energy storage. However, any such interest is likely to be thematic, focusing on system-wide energy transition issues, and is unlikely to be Project-specific.

Key stakeholders outlined in the CSEP include: adjacent and near neighbours (Table 12), broader public and community, local businesses, Traditional Owners, elected representatives at all three tiers of government, local media, government agencies and departments and other relevant organisations.

Phases of Engagement

The supporting engagement action plan set out activities to be undertaken in key phases of the Project:

- Phase 1 (Q4 2024-Q1 2025) – Early Planning & Design (early neighbour & stakeholder engagement)
- Phase 2 (Q1 – Q2 2025) – Scoping Report Preparation (continued early neighbour & stakeholder engagement)
- Phase 3 (Q3 – Q4 2025) – Public Exhibition (engagement pre-public exhibition and during EIS exhibition)
- Phase 4 (Q4 2025) – Post-Public Exhibition (follow up and updates until a decision reached)
- Phase 5 (2026-2027 onwards) – Pre-Construction, Construction & Operation
- Phase 6 (2027 onwards) – Energising and Operations
- Phase 7 (Dates TBC) – Decommissioning.

Engagement undertaken to date has informed the concept layout of the potential Development Area and is outlined in Section 5.2.

5.2 Engagement Undertaken to Date

5.2.1 Agency and Elected Official Stakeholder Engagement

The project team has engaged with key agencies and officials before requesting project-specific SEARs. This preliminary consultation was undertaken to ensure alignment with regulatory expectations, identify any potential issues or opportunities for improvement, and address agency concerns in advance. Details of this engagement are discussed in Table 11.

Table 11 – Stakeholder Engagement Overview

Agency	Date	Mechanism	Purpose	Key Feedback
Griffith City Council	September - December 2024	Face to Face meetings	Meeting with Griffith LALC, Education Groups, Griffith City Council Community & Economic Development team	▪ Meeting with Griffith City Council Community & Economic Development team ▪ Identified areas of local and social benefit contributions; engagement channels including Council Café (informal Councillors & Community meeting) ▪ Council's Investment Prospectus specifically identifies energy infrastructure investment as a priority. Suggested (1) industry partnerships to support nearby intermodal freight hub; (2) Grow Our Own for employment pathways. ▪ Met with Griffith LALC to listen and learn about the Wiradjuri Peoples, partnership opportunities and introduce the project ▪ Met with Griffith TAFE, Western Riverina Community College to explore education and workforce partnership opportunities
	January 2025	Face to Face	Community Drop In Session, Griffith Senior Citizens Hall	▪ Shared information about the proposed Project with interested members of the community ▪ Presented Project information, concept layout and design documents ▪ Engaged with interested community members and potential workers for the project
	February 2025	Special Council Meeting (Face to Face)	Briefing with Griffith City Council (GCC) Councillors	▪ Special General Meeting help with GCC Councillors to introduce the proposed project, share information about BESS technology and gain feedback on community and stakeholder engagement opportunities. ▪ Engage with Community and Economic Development Team to maximise local industry participation and Benefits Sharing Design. ▪ Invite to future drop-in sessions. ▪ Engage in DA modification.
	February 2025	Online meeting	Briefing with the CEO, CEO and Community Engagement Manager	▪ Ran through three-month plan for engagement (April-June) ▪ Interest in SSD process and wants to be provided with a timeline for the planning process and clear direction as to where/when GCC will be able to formally engage with the Scoping Report/EIS ▪ CEO commended Proponent for proactive door knocking initiative ▪ Discussed benefit sharing approach and reviewed relevant stakeholders ▪ Recommended a detail meeting with Councils Community Development Coordinator.
	March 2025	Online meeting	Meeting with Community Development Coordinator	▪ Provided more information about Proponent's three areas of funding ▪ Council requested sample benefit sharing Terms of Refence and Fund documents for ACT project ▪ Helped identify where there are gaps in funding that could benefit the community (e.g. Council provides funding for events etc but not capital expenditure, insurance etc).

				▪ Provided contact details for local not-for profit groups to progress benefit sharing ideas ▪ Provided recommendations on venues for future engagement and community events to align our engagement activities alongside.
Local industry partners	September 2024	Briefings	Briefing pack provided	▪ Online introductory meetings to introduce the proposed project with potential industry partners (Western Riverina Community College; Griffith TAFE)
	December 2024	Briefings	Briefing pack provided	▪ Griffith TAFE – introduced project, explored employment pathways and workforce alignment for the Proposed Project. ▪ Western Riverina Community College – introduced project, learnt about curriculum and advanced training services to support Project's workforce (i.e. construction training); explored WRCC's investment areas and needs from a benefits sharing perspective.
Transgrid	May 2024	Online meeting	Detailed grid analysis and studies in preparation of grid application.	▪ Submission of Connection Enquiry; receipt of successful connection enquiry response. ▪ Detailed grid analysis and studies in preparation of grid application.
	Ongoing	Online	Regular Project update meetings	▪ Connection Process Agreement entered into in December 2024. ▪ Grid application expected to be lodged by July 2025. ▪ Detailed grid modelling continuing.
Griffith LALC	December 2024	In person	Briefing pack provided, GLALC preferred verbal discussion	▪ Met CEO (Stephen Young). Offered introduction Wamara (local FN owned construction business) and other FN owned trade services in the area. Also able to provide cultural heritage assessment services. ▪ Requested introduction to Wamara for BOP sub-contracting. ▪ Listened and learnt about local Wiradjuri Peoples and Communities and areas of potential partnership for the Project.
	May 2025	In person meeting	Briefing pack provided	▪ CEO provided feedback on the site and benefit sharing opportunities ▪ Keen to develop revenue streams for the LALC ▪ Looking to build an in-house civil construction contracting business ▪ Desire for indigenous youth to find employment avenues including in energy ▪ Concerned that previous projects have made commitments that weren't followed through ▪ Desire to ensure that cultural artefacts are more routinely identified and recorded, especially by agricultural producers.
Department of Planning, Housing and Infrastructure (NSW)	March 2025	Online meeting	Pre-planning application meeting detailed the project and raised any initial concerns. The Department was supportive of proposed timelines.	▪ Clearly differentiating Yoogali Solar Farm and Griffith BESS. ▪ Appropriateness of timeline. ▪ Be aware of vexatious objections during exhibition. ▪ Refer to Hume North, Liddell, Yanko SEARs. ▪ Approach to include BDAR waiver.

Transport for NSW	March 2025	Online meeting	Introduce Project and discuss key requirements for underground crossing of asset in Transmission Corridor, detailed the project's potential impact, discuss route analysis requirements.	▪ Full accounting of all vehicle requirements must include works to the transmission corridor and substation. ▪ If both routes remain options at EIS, then a full analysis of both is required. ▪ Underground cross assets perpendicular.
RFS		In Person	Introduce Project and discuss key learnings from the local area or other BESS	▪ Request that access tracks in Project Site and through asset protection zone are at least 4 metres wide and hard surface, noting difficulty experienced in other developments navigating fire trucks around BESS infrastructure.
Murrumbidgee Irrigation		Online	Introduce Project and discuss key requirements for underground crossing of asset in Transmission Corridor	▪ Bore preferred; open trench would be limited to a variable 4 month window in winter. ▪ Culvert/road upgrade also limited to 4 month window. ▪ Underground assets must comply with Development Rules, including minimum 1.5 metres below channel bed.
APA		Online	Introduce Project and discuss key requirements for underground crossing of asset in Transmission Corridor	▪ Underground cable can run below or between gas pipeline subject to space availability. ▪ Earthing study will be require, determined by proposed discharge arrangements. ▪ Consider potential impact of landscaping within pipeline easement (already considered within Yoogali Solar Farm). ▪ Consider access and use of pipeline easement by heavy vehicles during construction, may along require road upgrades. ▪ Requires perpendicular crossing of gas pipeline asset. ▪ Requests to be informed about any earthworks on site to ensure safety and knowledge. ▪ May require co-deed in existing easement.
UGL Regional Linx		Online	Introduce Project and discuss key requirements for underground crossing of asset in Transmission Corridor	▪ Requires perpendicular crossing of railway assets, within 5 degrees. ▪ Assets within the rail corridor including access pits to underground cable would not be allowed because active passenger line and separation from track insufficient. ▪ Ensure DPHI is aware to notify both TfNSW and UGL during Scoping Report phase. ▪ Agreement in Principle requires ~30% design completion, should be lodged by EIS.

5.2.2 Community Engagement to Date

The Proponent has taken a proactive approach to engaging with neighbours and the wider community by addressing their feedback and concerns early in the Project's development. This approach demonstrates a commitment to fostering positive relationships with the local community and ensuring that potential impacts are identified and managed collaboratively from the outset.

By actively listening to and incorporating community input, the Proponent aims to build trust and promote transparency throughout the development process. Details of local community engagement are discussed in Table 12.

Table 12 – Community Engagement Summary

Stakeholders	Date	Mechanism	Notes
Neighbours	Mid-January 2025	Neighbour mailout #1 Area Newspaper 1/3 page ad	▪ A flyer was mailed to nearby dwellings offering initial information on the project and inviting them the CDIS on 30 January 2025. ▪ Ad listed in the Area Newspaper inviting interested community members to attend the CDIS or contact the Project team if interested
Local community and neighbours	30 January 2025	Community Drop In Session (CDIS)	▪ A CDIS held at the Senior Citizens' Centre in Griffith. ▪ Two attendees came to the event, enquiring about the proposed project, proposed technology, location selection, benefits to the electricity grid, employment opportunities and general FAQ's about end-of-life rehabilitation and fire risks.
Neighbours	16 April 2025	Neighbour mailout #2	▪ A flyer was mailed to nearby dwellings to provide notification of door knocking and community information events.
Local community and neighbours	3 May - 18 May 2025	Advertisement in *The Area News*	▪ An advert was placed in the local newspaper to promote the upcoming community information events.
Neighbours		Door knocking	▪ 39 dwelling properties visited ▪ 22 absent, mostly those distant from Project Site in the 'lifestyle area' closer to Yoogali ▪ 14 discussions with residents ▪ 1 concern of access and existing condition of Bob Irvin Road, noting Council's route re-grading. ▪ 1 concern of fire and potential pollution in smoke, if a BESS were to burn. ▪ 2 concerns of noise impacts. ▪ 1 concern of health impacts from radiation or EMI. ▪ 1 concern of security lighting which may be excessive in the landscape. ▪ 1 concern of potential localised flooding.
Local not-for-profits and community groups	14 May 2025	Griffith Community Partnerships afternoon tea	▪ The project will be available to meet with representatives of not-for-profits in the Riverina to discuss the Proponent's benefit sharing program, outlining the timeline for the project and subsequent funding opportunities. ▪ Hosted at local café Limone.
Local community and neighbours	15 May 2025	Community Drop-In Session (CDIS)	▪ A CDIS will be held at Griffith Library for six hours to provide a large window of time for neighbours and community members to attend.
Local community and neighbours	16 May 2025	Project team meet and greet	▪ Hosted at local café Limone, the project team were available to talk about the Project and benefit sharing opportunities over coffee.

A summary of community views and involvement will be provided in the Engagement Summary Report which will be lodged as part of the EIS.

5.2.3 Community Influence

The engagement approach for the Project has been guided by the IAP2 Core Values and the Public Participation Spectrum (see Table 13). The spectrum is founded on the premise that different stakeholders will have varied levels of involvement in decision-making.

The level of engagement for the Project will vary across stakeholders and phases of the engagement. The Proponent commits to **'inform', 'consult' and 'involve'** the appropriate stakeholders through an effective engagement process based on the objectives and promises outlined in the spectrum in Table 13.

Table 13 – Approaches to community engagement (IAP2, Public Participation Spectrum)

	Inform	Consult	Involve	Collaborate	Empower
Community engagement objective	Provide balanced and objective information. Assist the community in understanding all aspects of the project, including possible problems/issues.	Obtain feedback from the community on plans, options and/or decisions.	Work directly with the community throughout all stages of the project. Ensure community concerns and aspirations are consistently understood and considered.	Partner with the community in each aspect of planning, development and decision-making, including the development of alternatives and the identification of the preferred solution.	Place decision-making in the hands of the community, so the community leads the development of the renewable energy project.
Promise to community	Keep the community informed through all stages of development, including issues and delays.	Keep the community informed, listen and acknowledge suggestions and concerns. Provide feedback on how input influenced the decision.	Work with the community to ensure concerns and aspirations are directly reflected in the alternatives developed. Provide feedback on how input influenced the decision.	Look to the community for direct advice and innovation in formulating solutions. Incorporate advice and recommendations into decisions to the maximum extent possible.	Implement what the community decides.

Details of the Project will be dependent on several factors, including Project Site constraints and the outcome of stakeholder and host landholder engagement. This will be resolved during the EIS stage.

A number of elements of the Project may be influenced by the community, including:

- The Powering Big Dreams community benefit program.
- Local procurement.
- Potential worker housing and accommodation during the construction period.
- Design of mitigation measures such as the extent of landscaping/vegetation screening or noise mitigation measures such as walls.

5.3 Engagement Proposed

As the Project progresses, the Proponent will continue to actively engage with the community and other relevant stakeholders as outlined in the Community and Stakeholder Engagement Plan (CSEP). Engagement is a crucial part of the development process, as it helps to foster greater understanding of and support for the Project. It also improves the design and development outcomes through the exchange of local knowledge and information. The Proponent is of the view that meaningful engagement can assist in fostering social licence and facilitating social value.

The CSEP identifies the relevant stakeholders to engage with and their interest in and influence on the outcomes of the Project. It also outlines the communication and engagement tools and activities that will be used to support the engagement for the Project.

The project team envisages the next engagement activities (within the design and planning assessment phase) to include:

- A second community drop-in session & benefit sharing workshop (May 2025)

- A second round of contact with nearby dwellings via doorknock offers in person with nearby neighbours (Q3/Q4 2025)
- Potentially a third community information drop-in session (Q3/Q4 2025)
- Face-to-face and online stakeholder meetings as required/relevant
- A community benefit sharing design workshop with local stakeholders and organisations
- Potential sponsorship of local events
- Updates to community and stakeholders as technical investigations and design progress through the EIS phase
- Additional stakeholder contact points (e.g. newsletter, website updates, potential third information day) as required and depending upon the length of time taken to prepare the EIS.

EIS exhibition, assessment and response to submissions will be undertaken after the EIS has been prepared and submitted.

6. Proposed Assessment of Impacts

6.1 Key Environmental, Social and Economic Matters

As part of the initial scoping report, several environmental, social, and economic assessment matters relevant to the Project have been identified that will require further assessment during the EIS. Table 14 outlines the proposed level of assessment for each key matter.

Table 14 – Matters Proposed for Assessment in Project EIS

Group	Specific Matter	Proposed Level of Assessment
Access	Access, traffic Parking and road facilities	Standard Assessment
Land	Agricultural land capability	Standard Assessment
Land	Topography Soil chemistry Stability	Standard Assessment
Hazards and risks	Dangerous goods Groundwater contamination Flooding Waste	Standard Assessment
Amenity	Visual and landscape	Standard Assessment
Hazards and risks	Bushfire	Detailed Assessment
Amenity	Noise Vibration	Detailed Assessment
Water	Hydrology and run-off Water availability Water quality	Detailed Assessment
Social	Combined social impacts	Detailed Assessment
Economic	Combined economic Impacts	Detailed Assessment

The following sections provide a preliminary assessment and assessment approach for each matter requiring further consideration (also summarised in Appendix A).

6.2 Matters Requiring Further Assessment in the EIS

6.2.1 Landscape and Visual

Existing Environment

The existing environment is markedly flat without any significant or notable natural viewpoints or vistas beyond the Scenic Hill Reserve overlooking Griffith, more than 6 km northwest of the Project Site and only 60 metres of prominence above the landscape. Indeed, within a 3 km radius of the Project Site, there is no variation to natural ground level which exceeds even 10 metres. Subsequently, the most prominent features in the landscape are human-made: fruit orchards, sporadic farming sheds, and transmission lines both high and low voltage. Notably, at close to medium distances the dense orchards provide effective and complete screening, including around the dwellings scattered in the area. Similarly, many residential properties manage mature gardens which provide further screening to and from dwellings. A desktop study was undertaken to locate dwellings from satellite imagery, and opportunistically verified to confirm the presence and location of buildings during site visits.

Irrigation Way, at the location of the Project Site, may be considered a primary rail gateway into Griffith, and a secondary road gateway after Burley Griffin Way and Kidman Highway. This particular location is dominated by the existing Griffith Substation and to a lesser extent the existing Griffith Solar Farm (SSD 6604) which is well screened and only partly visible from Irrigation Way despite the proximity.

The Riverina Solar Farm (SSD 7482) is 'under construction' yet there is limited to no activity on site as of the date of this report. If built, it would be as close as 200 metres to the Project Site, but visually screened to Irrigation Way and any potential views.

The Yoogali Solar Farm (DA 291/2018) has not started constructed. When built, it will surround the Project on three sides: north to Irrigation Way, east, and south. Endorsed plans for the Yoogali Solar Farm include complete visual screening to most of the same external interfaces, and therefore also to the Project Site.

Potential Impacts

The potential landscape and visual impacts are well understood, relatively easy to predict, and capable of being mitigated.

The Project will increase the visual impact of electrical infrastructure but will not be a significant change to the existing visual character of the area. The Project has been sited close to the existing Griffith Substation, setting an existing context of electrical infrastructure, and within the approved Yoogali Solar Farm which will add to this context where visible while also provide additional and separate screening to roads and dwellings. Design iterations of the Project will involve visual screening to minimise potential visual impacts and may benefit from the cumulative impact of the Yoogali Solar Farm to provide additional screening. The bulk and form of the main Project components, particularly the battery housing units, inverters and transmission connection are not expected to be visually prominent within the existing landscape.

Assessment Approach

A standard assessment of the Project's impacts on the surrounding visual landscape will be undertaken in the form of a Landscape Visual Impact Assessment (LVIA) with a consideration of the potential cumulative impacts of the existing and approved solar energy projects.

While there are currently no Commonwealth, NSW or local government planning policies, guidelines or standards directly applicable to guide the visual assessment of BESS projects, the LVIA would be prepared with reference to the requirements and procedures outlined in the following guidelines:

- Cumulative Impact Assessment Guidelines for State Significant Development (DPIE, 2022)
- Guidelines for landscape character and visual impact assessment (TfNSW, 2023)
- Large-Scale Solar Energy Guideline (DPE, 2022).
- Technical Supplement Landscape and Visual Impact Assessment – Large-Scale Solar Energy Guideline (DPE, 2022).
- Landscape Institute and Institute of Environmental Management and Assessment – Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013).
- Wind Energy: Visual Assessment Bulletin for State significant wind energy development (2016).

The LVIA will involve a methodology comprising on-site assessments, digital modelling and the development of photomontages to provide a preliminary understanding of the Project's expected visual impact and prominence.

It will further provide a number of potential mitigation measures to be employed during construction and operation. For similar battery projects, a range of vegetative screening measures are typically suggested to help mitigate the Project's visual prominence while simultaneously improving the BESS Area's ecological profile.

A Social Impact Scoping Worksheet (Appendix A) has been prepared to provide guidance on engagement, including any engagement specific to visual impact considerations. A Cumulative Impact Scoping Summary (Appendix C) considers the potential for the Project to have cumulative impacts, particularly in relation to other BESS projects.

6.2.2 Noise and Vibration

Existing Environment

The Project is located less than 6 km from central Griffith and wholly within the Griffith/Yoogali agricultural irrigation area, a wide and flat region dominated by cropping agriculture and interspersed with physical infrastructure such as roads, railway line, and electricity transmission. As such, the existing environment of noise and vibration can generally be described as quiet and rural occasionally disturbed by farm and transport machinery and, in some parts, irrigation water and pumps.

Relevant noise-sensitive receivers were identified from inspection of aerial images and verified on the ground. This includes six (6) dwellings within a 1 km radius of the Project Site. See Figure 11 for identified relevant dwellings and assumed noise source location.

Figure 11 - Noise sensitive receivers in relation to the Project (Marshall Day Acoustics, May 2025)

Potential Impacts

A Preliminary Noise Impact Assessment was completed by Marshall Day Acoustics (May 2025). Key project impacts in relation to noise and vibration were identified as:

- Noise and vibration from construction activities. This would be limited to a relatively short period of time compared to the entire lifetime of the Project and include sources such as excavation, piling, and truck movements.
- Noise for operational activities. The bulk of this noise is generated from cooling fans and in practice is dependent on actual load and local environmental conditions. Because the recharge or discharge of

the BESS would be highly responsive and temporally limited to availability of supply and demand in the market and grid, operational noise is not expected to be constant.

- Cumulative noise emissions from the existing Griffith Solar Farm (operational), and Yoogali Solar Farm and Riverina Solar Farm (both approved).

The Preliminary Noise Impact Assessment has been prepared with highly conservative assumptions to provide a 'worst case scenario' or upper limit to potential noise impacts with regard to the Noise Policy for Industry (NPfI) (NSW EPA, 2017). For example, this included a 5 dB reduction to amenity noise levels to accommodate cumulative noise impacts, the BESS operating at 100% utilisation, and closest possible distance based on Project Site boundaries not equipment specifically.

Noise-sensitive receiver dwellings were incorporated into this noise assessment to determine the risk of noise impacts at each of these closest dwellings. It was found that under the conservative assumptions, there would be a moderate risk of noise impact at the three closest dwellings approximately 500 – 700 metres from the Project Site.

Noting the range of conservative assumptions which lead to this result, a further detailed assessment of noise and vibration impacts will be required for the EIS which accurately account for real-world circumstances and may include additional mitigation measures such as physical noise walls or operational design constraints. It is therefore not expected that noise and vibration impacts during construction and operation would ultimately exceed NPfI limits at these closest, and therefore any other, sensitive receptor.

Assessment Approach

A detailed assessment of noise and vibration impacts from the construction and operation of the Project will be required for the EIS through a Noise and Vibration Impact Assessment (NVIA).The NVIA would be conducted in accordance with the NPfI as well as other key guidelines including:

- Construction Noise Strategy (Transport for NSW, 2013)
- Draft Construction Noise Guideline (Environment Protection Authority, 2020)
- NSW Road Noise Policy (DECCW, 2011)
- Assessing vibration: a technical guideline (Department of Environment and Conservation, 2009).

The NVIA is expected to include, across operational noise, construction noise, and traffic noise:

- Project-specific equipment selections and corresponding sound power level data/specifications.
- Operational conditions specific to each assessment period.
- A maximum noise level event assessment.
- A detailed Project design including discrete positions for all noise generating infrastructure.
- 3-dimensional noise modelling, including the effect of topography on predicted noise levels at
- receivers.
- An assessment of tonality, with reference to specific equipment selections nominated by the Proponent.
- Noise mitigation measures – if required – including but not limited to - manufacturer noise attenuation kits or noise barriers.

A Social Impact Scoping Worksheet (Appendix B) has been prepared to provide guidance on engagement, including any engagement specific to noise and vibration impact considerations. A Cumulative Impact Scoping Summary (Appendix C**Error! Reference source not found.**) considers the potential for the Project to have cumulative impacts, particularly in relation to other nearby projects.

6.2.3 Traffic and Transport

Existing Environment

Primary access to the Project Site is from Bob Irvin Road, a council road, which connects to the NSW State Road and major heavy vehicle route of Burley Griffin Way (B94) via Irrigation Way (MR8). Bob Irvin Road, while sealed in parts, is unsealed at the Project Site instead being regularly graded with a sand dressing. Both Burley Griffin Way and Irrigation Way provide a sealed single carriageway with unsealed shoulder. Adjacent to the Project's proposed transmission corridor to the Griffith Substation an unsignalised level crossing to the Yanco-Griffith Railway line, which itself follows Irrigation Way on the north side into Griffith. This line is actively used for both freight and passenger trains. The south side of Irrigation Way contains a main open irrigation channel for managed by Murrumbidgee Irrigation.

Traffic in the area comprises local residential vehicles, as well as regular trucks and road trains, including accessing farms along Bob Irvin Way.

Potential Impacts

The potential traffic and transport impacts are well understood, relatively easy to predict, and capable of being mitigated.

There are number of anticipated traffic and transport impacts associated with the Project. These will include:

- An increase in heavy vehicle traffic movements on the local road network primarily during the construction phase and subsequently the impact these movements will have on the unsealed rural roads that provide access to the Project Site.
- Increased light vehicle traffic movements on the local road network during construction, operation and maintenance phases of the Project.

Based on the current route assessment and proposed route, specific impacts to be considered will also include the capacity and safety of heavily vehicles turning movements from Bob Irvin Road into Irrigation Way, as well as the short-term but potentially intense use of Bob Irvin Road for the delivery of equipment via oversize and/or overmass (OSOM) vehicles.

Assessment Approach

A standard Traffic and Transport Impact Assessment (TIA) will be undertaken to accompany the EIS. The TIA will be undertaken following relevant NSW Government guidelines and assessment standards, including the *Draft Guide to Transport Impact Assessment* (TfNSW, 2024), *Guide to Traffic Generating Developments* (RTA, 2002), *Road Design Guide*, and relevant *Austroads Standards* and *Austroads Guide to Traffic Management* guidelines.

It is expected that the key elements of the TIA will include:

- A review of existing road conditions and future road network planning considerations
- A detailed assessment of traffic demands during construction, operation and decommissioning of the Project
- A detailed assessment of intersection and access arrangements
- A detailed road safety assessment and road use management plan
- Concept Level Route Analysis required for High Risk OSOM; and
- Identification of necessary mitigation measures.

Other approvals may be required for the transport of infrastructure by OSOM vehicles, under National Heavy Vehicle Law. These requirements will be assessed via a route analysis study as part of the EIS.

A Social Impact Scoping Worksheet (Appendix B) has been prepared to provide guidance on, including any engagement specific to traffic and transport considerations. A Cumulative Impact Scoping Summary (Appendix C) considers the potential for the Project to have cumulative impacts, particularly in relation to other nearby projects.

6.2.4 Agricultural land capability

Existing Environment

The Project Site is within the RU1 Primary Production zone of the Griffith LEP has been classified as class 3 under the Land and Soil Capability (LSC) assessment scheme version 4.5 (NSW Office of Environment & Heritage, 2021). Class 3 land is generally has "limitations that must be managed to prevent soil and land degradation." Despite the lack of any slope typical of Class 3 land, the poor soil quality means that the extensive use of irrigation is critical to the productivity of the land. Still, the region successfully exploits the availability of irrigation water to produce extensive crops of grapes, citrus, cereals, nuts, and other fruits and vegetables. Griffith alone provides nearly 3% of the state's annual value of nut production, more than 5% of wine and table grape value, and nearly 9% of citrus value.

The Project Site has existing access to irrigation water from the main irrigation channel on Irrigation Way through its parent land parcel. However, as part of a land holding only approximately 40 hectares in area, it is much smaller than many surrounding multi-paddock farming enterprises and partly constrained by the existing high-voltage power line and easement through.

The Project Site is not currently actively farmed and notably has an existing DA for the development of a solar farm over most of the parent land parcel. In this sense, the land can be considered to have already been approved for the use of agricultural land for energy.

Potential Impacts

The potential impacts to agricultural productivity and capability are well understood, relatively easy to predict, and capable of being mitigated. It is noted that because the entirety of the BESS Area has existing approval for development of the Yoogali Solar Farm, should the Project not proceed it is expected to developed for solar energy generation regardless. As such the land can reasonably be considered to have already been considered to be removed from agricultural availability.

Nonetheless, due to the importance of irrigated land within the MIA, potential impact to land capability is still proposed to be considered for the Project. Any impact would likely come from:

- Topsoil disturbed and existing irrigated plant beds removed for the establishment of hardstand and pads for battery units and inverters.
- Development of a fire water detention basin.
- Construction of access tracks and laydown areas.
- Planting of landscape screening vegetation.

Furthermore, in the unlikely event of a battery fire, there is the potential for leaching of chemicals contained within the lithium-ion battery units. This would be limited by use the use of hardstand and bunding to prevent spreading outside of the immediate BESS development area, as well as ready access to on-site water storage for fire fighting purposes with an associated runoff detention basin.

It is noted that, considering the underlying land capability class of 3, the main driver of agricultural productivity in the immediate and surrounding area is the access to irrigation water, which will continue to be available to Project Site into the future.

Assessment Approach

Notwithstanding the existing approved DA for the Yoogali Solar Farm which itself will render the Project Site's parent land parcel unavailable for agriculture when constructed, an Agricultural Impact Assessment (AIA) will be carried out to determine the long-term impact of the Project on the underlaying land, its future capacity for returning to agricultural use, and the impact the project may have on surrounding agricultural capacity.

- It is expected key elements of the AIA will include:
- A review of the existing environment including current land use, soil types and fertility, land capacity, enterprises and ownership.
- An assessment of the impacts of the project on loss of agricultural land, livestock production activities and biosecurity risks.
- Engagement with current landowners and key stakeholders including biosecurity officers.
- Address cumulative agricultural impacts
- Development of possible mitigation or management strategies to minimise resource loss, disruption, biosecurity risks and other impacts.
- Land Use Conflict Risk Assessment (LUCRA)

A Social Impact Scoping Worksheet (Appendix A) has been prepared to provide guidance on, including any engagement specific to agricultural considerations. A Cumulative Impact Scoping Summary (Appendix C) considers the potential for the Project to have cumulative impacts, particularly in relation to other nearby projects. Griffith Main Drain J and Mirrool Creek - Yenda Flood Mapping Update Flood Mapping Compendium

6.2.5 Social and Economic

Existing Environment

With a population of 19,505 (ABS 2021), Griffith is a regional city located in the Griffith City LGA. Prior to European settlement, Griffith was occupied by the Wiradjuri people whose land historically spans through the Riverina Murray region of southern NSW. The Project Site is located within the suburb of Yoogali, approximately 3km southeast of the Griffith CBD.

The Wiradjuri is the largest nation of Aboriginal and Torres Strait Islander people in NSW. Known as the land of three rivers (Macquarie, Lachlan, Murrumbidgee), the Wiradjuri people have a strong connection to the waterways that border their lands.

The Riverina Murray, sitting entirely within the Murray Darling Basin, is well known for its productive agriculture and favourable geographic connections to Victoria, ACT and the rest of NSW. Griffith, Yoogali and their surrounds are all within MIA, which has allowed for continuous agricultural prosperity within the region across many decades. Notably, the Riverina wine region, which is centred on Griffith, is the largest viticulture region in NSW and the second largest in Australia.

In Yoogali, wine and other alcoholic beverage manufacturing is the key economic industry that drives the local economy, followed by supermarket and poultry processing work. There are high rates of labour force participation (67.4%), with weekly incomes above the state and national averages. The local employment industries are labour-intensive, with lower rates of university enrolment and high school completion. The wider area includes many wineries with Italian names and heritage. Italian migration, which occurred primarily from 1880 – 1940, was key in establishing Griffith's regional economy as many immigrants chose to open businesses and instigate commercial farms.

Renewable energy is becoming a key industry of Griffith, with multiple solar farms proposed or operating within proximity to the Project Site. Renewable energy is mentioned with the Western Riverina Regional Economic Development Strategy (2023 Update) as a key 'growing source of investment' across the region.

Griffith Solar Farm, located opposite the Project Site, is identified as a 'significant contributor' to the industry and energy network of the Western Riverina. The Project Site is not within a Renewable Energy Zone (REZ), however is just 40km northwest of the boundary of the NSW South West REZ.

The majority of future economic and population growth is expected to occur in Griffith City. As of the 2021 Census, the population of Griffith (19,505) and Yoogali (1,334) has grown by 7-8% since the 2016 Census, reflecting broader migration patterns from urban areas. Notably, the median age of residents is above the national/state medians, with an additional higher proportion of families with children and significant Catholic religious affiliation. The leading ancestry of residents is Italian (41%), which is similar in Griffith City LGA. There is also an above average Indian population in Griffith, with a strong Sikh community.

There are three dwellings within a 1km radius of the Development Area. Within a 2km radius of the centre of the Development Area, 50 dwellings have been identified. There are no associated dwellings with the Project at this stage.

Potential Impacts

A Social Impact Scoping Worksheet has been prepared to assist in the identification of potential socio-economic impacts and how they may be assessed in the EIS stage (see Appendix B). The identified potential socio-economic impacts include:

- Amenity impacts on the local community due to increased disturbances during construction and operation periods (such as noise, vibration, and traffic)
- Increased demand for local services, resources and accommodation of a non-resident workforce, including housing, during construction
- Physical and safety impacts due to perceived health and risks from battery operation and storage
- Impacts on local road conditions, such as road damage and increased congestion due to construction traffic
- Local employment, procurement and training opportunities during construction
- Potential impacts to natural values and visual landscape as valued by the community.

If the Proponent seeks to enter into a Private Agreement with a neighbour (for instance a Neighbour Agreement), the Private Agreement Guideline (DPHI, 2024) will be used for guidance.

Assessment Approach

A detailed social impact assessment (SIA) and economic impact assessment will be undertaken in accordance with the requirements of the NSW Social Impact Assessment Guideline (DPIE, 2023), Technical Supplement Social Impact Assessment Guideline for State Significant Projects (DPIE, 2023) and Cumulative Impact Assessment Guidelines (DPIE, 2022).

A Social Impact Scoping Worksheet (Appendix B) and CSEP (Appendix I) has been prepared to provide guidance on engagement, including any engagement specific to socio-economic considerations. A Cumulative Impact Scoping Summary (Appendix C) considers the potential for the Project to have cumulative impacts, particularly in relation to the nearby solar farm projects.

6.2.6 Bushfire

Existing Environment

A desktop assessment of the NSW Rural Fire Service Bushfire Prone Land database was undertaken during the development of this Scoping Report. The search results indicated that the Project Site is partly covered by Category 0 vegetation buffer along the Bob Irvin Road interface, while Category 3 medium bush fire risk vegetation is mapped over carriageways and reserve of Bob Irvin Road, Irrigation Way, and the Yanco-Griffith Railway Line. The Project Site's parent land parcel has been removed entirely from Bushfire Prone Land Mapping.

Figure 12 – Bushfire Prone Land

Potential Impacts

The Project could pose a risk to environmental and human safety by exacerbating bushfire potential during construction and operation.

Assessment Approach

Because the Project Site and surrounding land includes partial mapping of Bushfire Prone Land, the EIS will incorporate a detailed assessment of the bushfire risk associated with the Project and the Project's design iterations will consider the Planning for Bushfire Protection (November 2019) guidelines published by NSW Rural Fire Service.

While specific guidelines for BESS proposals are absent from the Planning for Bushfire Protection guidelines, Section 8.3.5 provides detailed guidelines for wind and solar farms which have been considered in tandem with BESS developments across other States and Territories. Under the current NSWRFS guidelines, a minimum 10m asset protection zone (APZ) for structures and associated infrastructure must be established and maintained for the operational life of the Project. A Bushfire Emergency Management and Operations Plan must also be established to identify all risks and mitigation measures associated with construction and operation including measures to prevent or mitigate fires igniting and details of availability of fire suppression equipment, access and water.

While adherence to these guidelines is not technically required for the Project, the Proponent has extensive experience in considering and planning for bushfire risk for BESS projects for construction and operational periods and has consistently adhered to similar guidelines for other similar developments. In addition, the Project will consider the Victorian Country Fire Authority Design Guidelines and Model Requirements Renewable Energy Facilities v4 which were updated in August 2023 to include BESS specific considerations.

Furthermore, the Proponent intends to extensively engage with the NSW RFS, other local fire authorities and engage a bushfire risk technical specialist throughout the design and development phases of the Project.

A Social Impact Scoping Worksheet (Appendix B) has been prepared to provide guidance on engagement including any engagement specific to bushfire considerations. A Cumulative Impact Scoping Summary (Appendix C) considers the potential for the Project to have cumulative impacts, particularly in relation to other nearby projects.

6.2.7 Dangerous Goods

Potential Impacts

The potential impacts of dangerous goods are well understood, relatively easy to predict, and capable of being mitigated.

The development and operational phases of the Project would require the transportation, use and storage of potentially hazardous materials which present a potential risk to the local environment and community. These include the transportation, storage and use of lithium batteries, transformer oils, fuels, aerosols and solvents.

Under the Australian Dangerous Goods Code, lithium-ion batteries are identified as a Class 9 Dangerous Good which encapsulates a range of miscellaneous dangerous substances and articles that present a hazard during transport, but do not fall into the specific categories of other dangerous goods classes. Lithium-ion batteries are listed under this Class due to their potential to catch fire.

Under state planning guidelines, specifically, the Hazardous and Offensive Development Application Guidelines – Applying SEPP 33, Class 9 goods (including lithium-ion batteries) are excluded from the risk screening process for potentially hazardous industry since they are considered to '…pose little threat to people or property'. Regardless, the guidelines determine that '…the consent authority should consider whether or not a potential for environmental harm exists'.

Assessment Approach

To assist the consent authority in determining the Project's risk potential, a Preliminary Hazard Analysis (PHA) will be undertaken and provided as part of the EIS. The PHA will inform the Fire Safety Study required by Fire

and Rescue NSW as per the large-scale external lithium-ion battery energy project systems – Fire safety study considerations guideline.

A Social Impact Scoping Worksheet (Appendix B) has been prepared to provide guidance on engagement, including any engagement specific to dangerous goods considerations. A Cumulative Impact Scoping Summary (Appendix C) considers the potential for the Project to have cumulative impacts, particularly in relation to other nearby projects.

6.2.8 Hydrology

Existing Environment

The Project Site and broader region is dominated by the 378,911 hectare MIA, an irrigation scheme established in 1912 and now operated by MIL, that provides more than 1,000 gigalitres of agricultural water to more than 3000 properties through generally open channels fed by the Gogeldrie Weir and Berembed Weir on the Murrumbidgee River. Land within the MIA has therefore been extensively modified and maintained to control water flows, including a sprawling network of open irrigation channels surrounding the Project Site.

The Project Site abuts and has direct access to one of the main open irrigation channels along Irrigation Way, from which water has historically been extracted for horticulture. Further open channels run along Morely Road to the south of the Project Site, while the Project Site is more broadly located between the Main Drain J northwest and Mirrool Branch Canal and Mirrrool Creek southeast, placing the Subject Site within the 'Main Drain J catchment'. These constructed and natural waterways drain generally west.

In 2012, a record flood event occurred within this catchment which saw 147 mm of rain fall within 16 hours, exceeding a 0.1% AEP. While the Project Site itself was not inundated, much of the surrounding region suffered significant infrastructure damage and has experienced ongoing social trauma. AS described in the investigation of the flood event *Griffith Main Drain J and Mirrool Creek Flood Study* (BMT WBM, 2015):

> *"There are two main mechanisms governing flood behaviour in the Main Drain J catchment. Runoff from within the catchment produces high flow conditions within the irrigation drainage channels and presents a flood risk to communities such as Yoogali, Hanwood and other areas adjacent to Main Drain J. Significant floods within the Mirrool Creek catchment also present a risk to the community of Yenda, as evidenced by the March 2012 flood. Myall Park can flood from both local catchment runoff and Mirrool Creek flood events."*

Models by this most-recent study found that the Project Site is not expected to be subject to flooding under any of 10%, 5%, 2%, 1%, 0.5%, or 0.2% AEP scenarios and is subsequently not covered by the Flood Prone Area extent (Torrent Consulting, 2021). This is largely due to the protection afforded by the Mirrool Canal and Creek.

Potential Impacts

The potential impacts flooding are well understood, relatively easy to predict, and capable of being mitigated due to the extensive body of existing recent literature and flood modelling in the region.

Notwithstanding the lack of modelled flooding even under the most unlikely of scenarios, flood hazard remains a prominent topic in the minds of the local community and Council, and risk should therefore be considered carefully and appropriately through a standard assessment.

For BESS in particular, impacts to surface water may occur during the construction phase of the Project as necessary earthworks are undertaken. Localised disturbances to surface soils and impacts to groundwater runoff may also occur but are expected to be managed via appropriate design and construction management, noting the importance of protecting the integrity and quality of water within the MIA irrigation channels including those adjacent to the Project Site.

The laying of concrete to form the foundational slab for the BESS elements will increase the imperviousness of the Project Site and increase incidence of groundwater runoff of potentially hazardous materials.

Other hydrological assessment topics such as surface water impacts and changes, supply and quality should be assessed to a detailed level. Of particular note is the importance of protecting water quality in the MIA agricultural supply.

Assessment Approach

A Water and Soil Resources Assessment will be undertaken as part of the Project EIS which will incorporate an assessment of potential surface and groundwater and flooding impacts and provide detailed mitigation measures to minimise environmental risks to onsite and nearby hydrological features and waterways during construction, operation and decommissioning phases.

It will incorporate an assessment of land capability and inform construction management measures to reduce potential erosion and sediment impacts.

A Social Impact Scoping Worksheet (Appendix B) has been prepared to provide guidance on engagement, including any engagement specific to water considerations. A Cumulative Impact Scoping Summary (Appendix C) considers the potential for the Project to have cumulative impacts, particularly in relation to other nearby projects

6.2.9 Other Matters

Contamination

There are no known areas of contamination on the Project Site. Due to its historic agricultural use it may be subject to various sources of fertiliser, fuel, and other chemicals, however these are generally not present at levels which would prevent other development or require remediation.

The potential contamination impacts are well understood, relatively easy to predict, and capable of being mitigated.

A Preliminary Site Investigation (PSI) will be prepared in order to achieve the project objectives, the investigation would be undertaken in general accordance with the requirements of the *National Environment Protection (Assessment of Site Contamination) Measure* (2013 NEPM); the *State Environmental Planning Policy (Resilience and Hazards) 2021*; and any NSW EPA Guidelines.

Waste

The potential waste impacts are well understood, relatively easy to predict, and capable of being mitigated.

Waste will be generated on site primarily during construction and decommissioning, with only a very limited amount of waste expected during operation.

A waste management plan will be prepared for standard assessment with the EIS to describe the likely waste streams to be generated during construction and operation and describe measures to manage, reuse, recycle and dispose of this waste in accordance with relevant guidelines. A decommissioning plan can be appropriately prepared when required at the Project's end of life.

6.3 Matters Requiring No Further Assessment in the EIS

Table 15 outlines the matters considered not required for further assessment during the Project's EIS phase, based on the range of assessment matters listed in the Departmental *Preparing a Scoping Report (SSD)* Guidelines. Comments are provided justifying why no further assessment is required.

Table 15 – Matter Requiring No Further Assessment in the EIS

Group	Specific Matter	Comment
Access	Port, rail and airport facilities	The Project Site is not located close to any port or airport. While the airport has regular flights, it is sufficiently distant that it is unlikely that the Project will impact the airport.
	Rail Facilities	The Project does not propose to utilise any rail facilities.
Air	Atmospheric emissions, particulate matter and gases	By design, the operation of the Project does not emit any greenhouse or negative atmospheric emissions. Evaluating the emissions associated with the construction phase will be included in the EIS. A CEMP will manage air quality impacts.
Amenity	Odor	Generally, BESS developments are not known to emit any significant odours that would impact nearby sensitive receivers during operation or construction.
Hazards and Risks	Biosecurity	The Project has low risk to biosecurity. Potential introduction of weeds to or from the Project Site would be limited to vehicle movements and can be mitigated through the implementation of standard management measures.
	Coastal hazards	The Project Site is not located within any coastal region.
	Dams safety	There are no dams within proximity to the Project Site.
	Land movement	The Project is not anticipated to result in any land movement. The Project results in relatively minor excavation works only and the land itself is not sloped.
Biodiversity	Conservation areas	There are no conservation areas on the Project Site, nor any nearby which might be impacted by the Project.
	Terrestrial flora and fauna	The Project Site has little to no terrestrial flora and fauna that warrants further investigation for the purpose of an EIS. Most of the Project Site is classified as 'Category 1 – exempt land' under the Local Land Services Act draft native vegetation regulation map. While the road and rail reserves (Bob Irvin Road, Irrigation Way) and irrigation channel are indicatively mapped as 'Category 2 – regulated' they contain only scattered Weeping Myall *acacia pendula* and occasional grasses comprising less than 2% native groundcover, below the 15% threshold to be considered a native patch, amongst weeds and exotic grasses and date palms. There is no identified habitat suitable for threatened flora or fauna. The paucity of native vegetation renders this area unable to categorised within a Plant Community Type (i.e. PCT:0), as is the BESS development area in the paddock. Weeping Myall are well defined and identifiable within the road reserve. These may therefore be readily avoided from impact for the creation of site access and any boreholes and pits (due to the proposed use of horizontal directional drilling to create a transmission route to the Griffith Substation). During site inspection, fauna identification was sought for diurnal and nocturnal birds, flying and terrestrial mammals, and reptiles. No habitat including trees, and hollows were found. The area of Terrestrial Biodiversity identified in the Griffith LEP adjacent to the Griffith Substation is aligned with irrigation reserve land and is not proposed to be used because sufficient area is available within the Griffith Substation land. Consequently to points the above, no further terrestrial flora and fauna assessment is considered necessary, and conditions of consent will suitably cover any remaining potential impact for example by avoidance of any residual native vegetation identified. Similarly, a BDAR under the Biodiversity Conservation Act 2016 (BC Act) is considered not necessary. It is noted that the proposal does not exceed the Biodiversity Offset Scheme threshold (PEVA p.44), none of the Project Site is within any Biodiversity Values Mapping (PEVA p.45), and were a BDAR to be carried out, the necessary Biodiversity Assessment Methodology plot and

		calculation would produce no results (PEVA p.15). The proposed development is not likely to have any significant impact on biodiversity values. A BDAR Waiver in accordance with Section 7.9 of the BC Act will be requested. The proposed assessment for requesting a BDAR Waiver is outlined in Appendix J.
	Aquatic flora and fauna	There are no known, identified, or mapped aquatic flora and fauna values in the Project Site because there are no aquatic habitats. While the MIA main channel runs alongside the Project Site and the proposed transmission corridor will pass underneath it, no direct impacts are anticipated and in any case, this channel is routinely cleared and weeded to maintain its primary purpose as an important utility and source of agricultural water provision, not a natural aquatic habitat.
Built environment	Built environment	The Project will have no impacts on the built environment. All works will be undertaken within the Project Site or within existing road reserves.
Heritage	Historic	The Project Site has a recent history of irrigation agriculture. Due to its proximity to Griffith and the main irrigation channel along Irrigation Way, it is likely that the Project Site has been cropped for much of Griffith's contemporary history since established in the early 20th century. More recently, the land containing the Project Site has been notably cropped for rice. The immediate and surrounding area has no known sites of historic heritage significance. A review of the NSW State Heritage Inventory and the Griffith LEP in May 2025 found no registered places, conservation areas, or items on the Project Site. The closest Inventory registration is a Griffith LEP item located more than 2 km west. No further assessment of historic heritage is considered necessary.
	Natural	There are no known sites of natural heritage in the Project Site, which itself is heavily modified by the historic and contemporary intense irrigation agriculture. No further assessment of natural heritage is considered necessary.
	Aboriginal	The Project is located within Wiradjuri land, one of the largest Aboriginal tribe's in Australia and covers an area of 97,000 km2. Within Griffith and the immediately surrounding area, including the Project Site, the Griffith Local Aboriginal Land Council (GLALC) is responsible for local land acquisition, establishment of commercial enterprises and community benefit schemes, and maintenance and enhancement of Aboriginal culture and heritage including through rights conferred by the Aboriginal Land Rights Act 1983. The Project Site, like much of the surrounding area, is highly disturbed from historic intensive irrigated cropping which has the potential to disturb artefacts, other records, and continuing Aboriginal cultural heritage features. The ACHDDA included desktop and field survey, including inspection of the AHIMS database and a site walkover. AHIMS contains zero (0) records within the Project Site boundary, and thirty-five (35) records within 2 km of the Project Site. It is noted that the Project Site itself is relatively small and the absence of records is likely to be influenced by the lack of previous studies. Conversely, the surrounding area including within 2 km has been subject to multiple large-scale and SSD projects including solar farms, and as such has received a relatively high level of attention and study detail. The closest record is a heritage site located approximately 500 metres north of the Project Site. A walkover of the Development Area found no unidentified Aboriginal heritage objects, sites, or undisturbed areas of potential, albeit with parts of the land subject to low levels of surface visibility, exposure, and high disturbance. There is no proposed or expected direct or indirect impact to any of the known Aboriginal heritage records in the immediate area, however the possibility of

occurrence of previously-unknown artefacts, objects, or sites of significance cannot be ruled out. A chance find protocol will be an appropriate tool to account for this possibility and can be readily required as a condition of consent.

Based on previous archaeological investigation in the region and knowledge of Aboriginal cultural practices and traditional activities, the proposal area has the potential to contain archaeological sites, especially given that Aboriginal people have lived in the region for tens of thousands of years. This would most likely be in the form of earth features such as hearths, burials, middens and scarred trees in remnant old growth vegetation. Previous surveys in the local region demonstrate that there is a strong, complex and varied pattern of human use and movement throughout the landscape. This is apparent from the range of site types distributed and concentrated in specific landforms across the region. There appears to be a strong association between the presence of potential resources for Aboriginal use and the presence of archaeological sites.

No further assessment is necessary for the Project so long as works are contained to the area already assessed in the ACHDDA, existing disturbed areas are prioritised for development, and any topsoil disturbance is kept on site.

Additionally, a localised cultural heritage management plan including a chance-find protocol to be followed during construction, operation, and decommissioning, as well as a programme of cultural awareness training, are recommended additions of further work which can be readily included as conditions of consent to account for any potential residual impact.

7. Conclusion

This Scoping Report, prepared by Cogency on behalf of Eku Energy, formally requests SEARs for the construction, operation, and eventual decommissioning of a proposed BESS with a conceptual capacity of up to 100 MW / 1,000 MWh, ancillary infrastructure, and transmission connection to the existing Griffith Substation on land surplus to the needs of the approved Yoogali Solar Farm in Yoogali, NSW.

Following the *State Significant Development Guidelines – Preparing a Scoping Report* (DPIE, 2022), this report provides an overview of the Project and the Proponent, the Project Site context and the statutory context of such a proposal under current NSW planning policy and legislation, and community engagement. Additionally, it presents an overview of the potential impacts of the Project, which will assist in the assessment during the preparation of the EIS.

Early engagement has been undertaken with the local community and a range of state and local stakeholders, including nearby residents, DPHI, Council, Griffith LALC, TfNSW, and NSW RFS to inform the early design and scoping stage of the Project. Eku Energy is committed to ensuring the community and stakeholders are proactively and meaningfully informed, consulted and involved in the planning and development of the Project, and that the benefits are genuinely felt by local people and businesses.

The Project aims to help secure energy reliability and stability for nearby and surrounding communities as an increasing share of renewable energy is integrated into the NEM. It will provide grid supporting services, playing a crucial role in the transition to net-zero emissions by 2050.

The anticipated costs for the Project will exceed $30 million, meaning it is classified as State Significant Development under Clause 20, Schedule 1 of the Planning System SEPP. Accordingly, the Project is permissible with consent under Clause 2.36 of the Transport and Infrastructure SEPP.

Following the issuing of project-related SEARs, a comprehensive EIS will be prepared. This document will provide a detailed description of the Project, a technical assessment of potential direct and indirect impacts from construction, operation, and decommissioning, proposed measures to avoid, minimise, manage, mitigate, offset, and/or monitor potential impacts, and responses to issues raised by stakeholders and community members.

The technical assessment matters requiring further assessment in the EIS will be outlined in the SEARs, including visual amenity, noise, traffic and transport, socio-economic, hazards and safety, water and soil resources.

Cogency and Eku Energy look forward to receiving the SEARs from the DPHI to enable the preparation and submission of the EIS for assessment.

Appendices

Appendix A	Scoping Summary Table
Appendix B	Social Impact Worksheet
Appendix C	Cumulative Impact Assessment Summary
Appendix D	Noise Scoping Report
Appendix E	Preliminary Ecological Values Assessment
Appendix F	Aboriginal Cultural Heritage Due Diligence Assessment
Appendix G	Preliminary Transport and Route Impact Assessment
Appendix H	Communication Material
Appendix I	Community and Stakeholder Engagement Plan
Appendix J	Proposed BDAR Waiver Application Methodology

Appendix A Scoping Summary Table

Level of assessment	Matter	CIA Required	Engagement	Relevant government plans, policies and guidelines	Scoping Report reference
Standard	Amenity – Landscape and visual	Yes	Specific	▪ NSW DPE – Large-Scale Solar Energy Guideline (DPHI, 2024). ▪ NSW DPE – Technical Supplement: Landscape and Visual Impact Assessment – Large-Scale Solar Energy Guideline (DPHI, 2024). *Note the above taken as refence as appropriate noting that lack of specific guidance for BESS.*	Section 6.2.1
Detailed	Amenity – Noise and vibration	Yes	Specific	▪ Construction Noise Strategy (Transport for NSW, 2013) ▪ Draft Construction Noise Guideline (Environment Protection Authority, 2020) ▪ Noise Policy for Industry (Environment Protection Authority, 2017) ▪ Assessing vibration: a technical guideline (Department of Environment and Conservation, 2009) ▪ NSW Road Noise Policy (DECCW, 2011)	Section 6.2.2
No further assessment	Biodiversity – Terrestrial and aquatic flora and fauna	N/A	N/A	▪ Significant Impact Guidelines 1.1 – Matters of national environmental significance (DCCEEW, 2013)	Section 6.3
Detailed	Hazards and risks – Bushfire risk	Yes	Specific	▪ Planning for Bush Fire Protection (NSW Rural Fire Service, 2019)	Section 6.2.6
Standard	Hazards and risks – Dangerous goods	Yes	Specific	▪ Hazardous and Offensive Development Application Guidelines: Applying SEPP 33 (NSW Department of Planning, 2011) ▪ Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning ▪ Hazardous Industry Planning Advisory Paper No 6 – Hazard Analysis and Assessment Guideline –Multi-level Risk Assessment ▪ Australian Code for the Transport of Dangerous Goods by Road and Rail (7th Edition) (National Transport Commission, 2007) ▪ Storage and Handling of Dangerous Goods Code of Practice (WorkCover, 2005) ▪ International Standard (ISO 31010) Risk Management – Risk Assessment Technique	Section 6.2.7
Standard	Hazards and risks – EMF exposure	Yes	Specific	▪ Guidelines for Limiting Exposure to Electromagnetic Fields (100 kHz to 300 GHz) (ICNIRP, 2020)	Section 6.2.7
Standard	Hazards and risks – Groundwater contamination	No	General	▪ NSW Groundwater Dependent Ecosystems Policy (DLWC 2002)	Section 6.2.8

Level of assessment	Matter	CIA Required	Engagement	Relevant government plans, policies and guidelines	Scoping Report reference
No further assessment	Heritage – Aboriginal cultural heritage	N/A	N/A	▪ Aboriginal Consultation Requirements for Proponents (NSW DECCW, 2010) ▪ Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (NSW Office of Environment and Heritage, 2011) ▪ Code of Practice for Archaeological Investigations for Aboriginal Objects in NSW (DECCW, 2010)	Section 6.3
No further assessment	Heritage – Historic	N/A	N/A	▪ The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance (ICOMOS, 2013)	Section 6.3
Standard	Land – Agricultural land capability	No	Specific	▪ The Land and Soil Capability Assessment Scheme (NSW Office of Environment and Heritage, 2012)	Section 6.2.4
Standard	Land – Soil Chemistry, stability and erosion risk	Yes	General	▪ The Land and Soil Capability Assessment Scheme (NSW Office of Environment and Heritage, 2012)	Section 6.2.9
Detailed	Social and economic – Social and economic impacts	Yes	Specific	▪ Social Impact Assessment Guidelines for State Significant Projects (DPIE, 2021) ▪ Undertaking Engagement Guidelines for State Significant Projects (DPIE, 2021) ▪ Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2022) ▪ Private Agreement Guideline (DPHI, 2024)	Section 6.2.5
Standard	Traffic and Transport – Access, traffic, parking and road facilities	Yes	Specific	▪ Draft Guide to Transport Impact Assessment (TfNSW, 2024) ▪ Guide to Traffic Generating Developments (RTA, 2002) ▪ Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2013) ▪ Road Design Guide and relevant Austroads Standards	Section 6.2.3
Detailed	Water – Hydrology (including surface water), water supply, water quality	Yes	Specific	▪ Guidelines for Controlled Activities on Waterfront Land (DPI, 2018) ▪ Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC / ARMCANZ, 2000) and Using the ANZECC Guidelines and Water Quality Objectives in NSW (DEC, 2006). ▪ Managing Urban Stormwater: Soils & Construction (Landcom, 2004) and Managing Urban Stormwater: Soils and construction – Volume 2A manual (Landcom, 2008)	Section 6.2.8
Standard	Water – Flooding	No	General	▪ Flood Impact and Risk Assessment – Flood Risk Management Guide LU01 (DPE, 2022)	Section 6.2.8

Appendix B Social Impact Worksheet

Social Impact Assessment (SIA) Worksheet

Project name: Griffith BESS

Date: 15/05/2025

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. **NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.**	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 activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics					Level of assessment for each social impact	What methods and data sources will be used to investigate this impact?			Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
							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?		Secondary data	Primary Data - Consultation	Primary Data - Research		
Categories in SIA guideline	Free text	Positive Negative	Yes - this project, Yes - other project, No	Free text	Combined Cumulative Combined and Cumulative		Yes No Unknown	Yes No Unknown	Yes No Unknown	Yes No Unknown	Yes No Unknown	Detailed, Standard, Minor	Free Text			Yes No	Free Text
way of life	Potential disruptions to way of life for individuals and the community, caused by temporary disruptions to road users, and potential changes to access for rural businesses.	Negative	Yes - other project	Yoogali Solar Farm Traffic Impact Assessment involving a desktop assessment and collection of traffic data.	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	Yes	No	Unknown	No	Yes	Standard assessment	Required	Not required	Not required	Not yet but will be investigated at the EIS stage	Undertake a detailed Traffic Impact Assessment & Route Assessment. Preparation of a Construction Traffic Management Plan. Consultation with local residents to advise them of likely disruptions throughout the construction period.
culture	Potential impacts on known or unknown tangible Aboriginal Heritage values or intangible Aboriginal Heritage including connections to Country for Aboriginal communities, natural values or heritage items, resulting in impacts to cultural elements which are valued by the community.	Negative	Yes - this project	Aboriginal cultural herigate due diligence assessment involving a site survey.	Yes	Yoogali Solar Farm (DA 291 /2018(1))	No	No	No	No	No	No further assessment	Not required	Required - relevant district of the Griffith LALC and Registered Aboriginal Parties	Required - Aboriginal Cultural Heritage Assessment Report	Not yet but will be investigated at the EIS stage	Undertake Aboriginal Cultural Heritage Assessment Report. Consultation with Griffith LALC and Registered Aboriginal Parties.
health and wellbeing	Potential impacts to residents' safety due to transportation, use and storage of hazardous materials including, lithium batteries, transformer oils, fuels etc.	Negative	Yes - this project	Preliminary traffic impact assessments	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	No	Unknown	Yes	Yes	Yes	Detailed assessment	Required	Required - community and stakeholder consultation	Not required	No	Undertake Preliminary Hazard Analysis. Preparation of a Construction Traffic and Management Plan (CTMP). Consultation with local residents and community to advise them of the safety measures included in the design and to be used throughout operation.
health and wellbeing	Potential impacts to irrigated water channels and groundwater quality, impacting residents and businesses that utilise that water.	Negative	Yes - other project	Yoogali Solar Farm Water Assessment including an assessment of the open irrigation channels	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	Unknown	Unknown	Yes	Yes	Yes	Detailed assessment	Required	Required - community and stakeholder consultation	Not required	No	Undertake a Water and Soil Resoucres Assessment. Preparation of a Construction Traffic and Management Plan (CTMP). Consultation with local residents and community to advise them of the safety measures included in the design and to be used throughout operation.
health and wellbeing	Potential increase to fire and bushfire risk during the operation of the BESS impacting residents' safety.	Negative	No	N/A	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	No	Unknown	Yes	Yes	Yes	Detailed assessment	Required	Required - fire authority and community and stakeholder consultation	Not required	No	Undertake Pbushfire risk assessment. Preparation of Risk and Fire Management Plans as required to control the safety of the site during operation. Consultation with local residents and community to advise them of the safety measures included in the design and to be used throughout operation.
surroundings	Potential impacts on residents and business due to increased noise, vibration and dust as a result of construction or operational activities.	Negative	Yes - this project	Preliminary noise and traffic impact assessments	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	No	Yes	Yes	Yes	Yes	Detailed assessment	Required	Limited - if required (e.g. local council)	Required - determining noise criteria and assessment of impacts	Not yet but will be investigated at the EIS stage	Undertake Noise and Vibration Assessment. Preparation of Construction and Operation Environment Management Plans to control emissions to air (dust and noise), and vibration. Consultation with local residents and community to advise them of the assessments being undertaken and mitigation measures considered in design.
surroundings	Potential impacts on residents and community members as a result of changes to the visual landscape during construction and operation.	Negative	No	N/A	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	No	Yes	No	No	No	Standard assessment	Required	Limited - if required (e.g. local council, neighbours)	Required - determining anticipated impacts and community sentiment to values	Not yet but will be investigated at the EIS stage	Undertake Landscape and Visual Impact Assessment and prepare visual montages. Consultation with local residents and community on the likely visual change as a result of the project
livelihoods	Construction and operation activities will create local employment, procurement and training opportunities and also increase demand for local services and resources, all of which will provide some economic stimulus to benefit local businesses and the community.	Positive	No	N/A	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	Yes	Yes	Unknown	Unknown	Unknown	Detailed assessment	Required	Required - community and stakeholder consultation	Required - determining existing economic environment and likely project impacts	No	Undertake Social and Economic Impact Assessment. Consultation with business groups to understand local impacts of the development and how they may be enhanced.
livelihoods	Residents may experience housing, accommodation and local services impacts during the construction period.	Negative	No	N/A	Yes	Yoogali Solar Farm (DA 291 /2018(1)) Riverina Solar Farm (SSD-7482)	Yes	Unknown	Yes	Unknown	Unknown	Detailed assessment	Required	Required - community and stakeholder consultation	Required - determining existing housing and service environment and likely project impacts	No	Undertake Social and Economic Impact Assessment. Consultation with local residents and community on the likely impacts during construction.
decision-making systems	Community members may express dissatisfaction with their ability to influence the strategic decision making and construction methodology or planning for the project.	Negative	No	N/A	Unknown		Unknown	Unknown	Unknown	Unknown	Unknown	Detailed assessment	Required	Required - community and stakeholder consultation	Not required	No	Consultation with interested community members and businesses as part of project development.

Appendix C Cumulative Impact Assessment Summary

Appendix C Cumulative Impact Assessment Summary

Cumulative Impact Assessment has been scoped in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPIE, 2022). This includes consideration of 'six question test' outlined in Section 3 and Figure 2 of the CIA Guidelines. The table below scopes the potential cumulative impacts of relevant identified future projects within the strategic context of the Project. This is up to approximately 1000 metres from the Project Site. Beyond this distance, there are no relevant known future projects which may contribute to cumulative impact. Furthermore, the potential range of offsite impacts from the Project is unlikely to be experienced beyond this distance. Operational projects, including those assessed as SSD, have not been included because these are considered part of baseline environmental conditions. Similarly, the surrounding region is dominated by agricultural activities which routinely undergo land use changes , infrastructure upgrades, and the like. These have not been considered because of the uncertainty and highly variable nature of what is routine , and often 'as of right' practices.

Key:	No assessment	Standard Assessment	Detailed Assessment

Future Project	**Approx. distance to Project**	**Project Status / Indicative timing/ overlap**	**Potential overlap between the impact of the project on the assessment matter and the impact of other projects on the same assessment matter**						
			Amenity	**Biodiversity**	**Heritage**	**Access**	**Social and economic**	**Hazards and Risks**	**Water**
Yoogali Solar Farm (DA 291/2018)	Shared property	Approved, pre-construction. Construction must commence before August 2026. The Project's construction and operation period will overlap with the Yoogali Solar Farm. *Note: While the Project and Yoogali Solar Farm are separate projects, the developers are working together to coordinate construction where possible to reduce*	Cumulative impact highly likely due to shared property and overlapping construction period and spatial overlap during operation.	Values known. BDAR was not triggered for Yoogali Solar Farm under the BC Act and a BDAR Waiver proposed for Project.	Values known. The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW, 2010) was followed for the Yoogali Solar Farm DA and no further assessment required. Only a standard 'chance find' condition of consent was applied. No historic heritage items were identified for the Yoogali Solar Farm DA and no mitigations	Cumulative impacts highly likely due to shared access and overlapping construction period. Both projects will coordinate and share access routes to minimise detrimental impact.	Nearby communities: Yoogali and Griffith community. Cumulative impacts to the nearby communities highly likely because of the overlapping construction period.	Cumulative impacts highly likely due to the concentration of activities on the same property.	Cumulative impact highly likely due to shared property and overlapping construction period.

		adverse cumulative impacts.			measures were necessary, nor relevant conditions or consent applied. This Project follows the same approach, utilising the same land previously considered and no further heritage assessment is proposed.				
Riverina Solar Farm (SSD 7482)	500 m northwest of the Project	Under construction. Unknown timing. It is understood that although perimeter fencing has been installed, preventing the DA from expiring, no further work has been progressed and project ownership has changed multiple times since approval. Sensitivity testing therefore considers that this project is unlikely to be built.	Cumulative impacts potential, if the Project's construction period overlaps.	Values known, cumulative impacts unlikely due to the 500m separation of projects.	Values known, cumulative impacts unlikely due to the 500 m separation of projects.	Cumulative impacts potential, if the Project's construction period overlaps.	Cumulative impacts potential, if the Project's construction period overlaps.	Cumulative impacts potential, if the Project's construction period overlaps.	Cumulative impacts potential, if the Project's construction period overlaps. Note: both sites are above modelled 0.2% AEP levels and therefore unlikely to impact one another in any flood scenario.

Appendix D Noise Scoping Report

MARSHALL DAY Acoustics

GRIFFITH BESS
SCOPING REPORT - NOISE

Rp 001 20250205| 1 May 2025

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Report No.: **Rp 001 20250205**

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Cover Photo: Matthew Henry on Unsplash

SUMMARY

Eku Energy Pty Ltd (Proponent) proposes to develop a utility scale battery energy storage system (BESS) project known as Griffith BESS (Project) within, but separate to, the approved EDP Renewables (EDP) Yoogali Solar Farm.

The proposed BESS will have a rated capacity of up to 100 MW/800 MWh, with associated infrastructure including inverters, a transformer, and a substation.

Marshall Day Acoustics Pty Ltd (MDA) have been commissioned by the Proponent to undertake a preliminary operational noise assessment for the Project.

This report is intended to support the scoping report for the Project, as prepared by Cogency Australia Pty Ltd (Cogency). The scoping report and accompanying documents are to be submitted as part of the request for project-specific secretary's environmental assessment requirements (SEARs), as required for a state significant development application (SSDA). It contains details of the indicative site layout, relevant environmental noise limits, a preliminary, qualitative assessment to identify the acoustic matters requiring further assessment in the environmental impact statement (EIS), and the proposed approach to assessing each of the acoustic matters.

The outcomes of the qualitative assessment indicate that there is a moderate risk of noise associated with the operation of the Project resulting in exceedances of the relevant environmental noise limits at the receivers nearest to the Project boundary.

Based on the intent of the NSW EPA's Noise Policy for Industry, from which the environmental noise limits are derived, such an outcome indicates a potential noise impact on the community. On this basis a detailed numerical assessment of operational noise will be required as part of the EIS.

It is expected that this would be conducted with reference to a developed Project design, including specific equipment selections, detailed site layouts, 3-dimensional noise modelling, and a review of potential annoying noise characteristics at receivers e.g. tonality. If required, the assessment would also give consideration to noise mitigation measures, to the level of detail required to enable the relevant environmental noise limits to be achieved.

The detailed noise assessment conducted as part of the EIS would also give specific consideration to construction and traffic noise impacts, as is typically required by the SEARs issued for BESS facilities.

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1.0 INTRODUCTION

Eku Energy Pty Ltd (Proponent) proposes to develop a utility scale battery energy storage system (BESS) project known as Griffith BESS (Project) within, but separate to, the approved EDP Renewables (EDP) Yoogali Solar Farm.

The proposed BESS will have a rated capacity of up to 100 MW/800 MWh, with associated infrastructure including inverters, a transformer, and a substation.

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Details have also been provided regarding the assessment method and relevant items for consideration at EIS stage. Detailed design of the Project, including predictive noise modelling of operational, construction, and traffic noise will be conducted during the EIS phase when the equipment selections, layout and numbers have been further developed to a necessary level of detail.

Both the scoping report and subsequent EIS will be submitted to the Department of Planning, Housing and Infrastructure (DPHI) and are required to be prepared with regard to both the NSW DPHI *State Significant Development Guidelines* (SSD Guidelines) dated March 2024, and NSW DPIE *State significant development guidelines – preparing a scoping report - Appendix A to the state significant development guidelines* (SSD Scoping Report Guidelines), dated October 2022.

A glossary of relevant acoustic terminology used within this report has been included in Appendix A.

2.0 PROJECT OVERVIEW

2.1 Description

The Project area is located in the Riverina region of New South Wales, approximately 7 km south-east of Griffith in the rural suburb of Yoogali.

The Project is proposed to comprise:

- A BESS with a rated capacity of up to 100 MW/800 MWh, comprising battery units, inverters and medium voltage (MV) transformers.
- A high voltage (HV) substation, including one HV transformer.
- Ancillary elements including but not limited to internal access roads and parking, control room and staff amenities, infrastructure, amenities, fencing, security systems and landscaping.
- Temporary facilities including site construction compounds and construction power supply, laydown areas, stockpiles, and temporary roads.

For the purposes of the scoping report, the Proponent has developed an indicative layout, as shown in Figure 1 and Figure 2.

2.2 Noise sensitive receivers

Noise sensitive receivers located within 1 km of the Project equipment items have been identified by Cogency and provided to MDA via email dated 15 April 2025.

The receivers included within this assessment and their spatial relationship to the Project is tabulated in Table 1 and presented graphically in Figure 3.

All receivers are zoned 'RU1 – Primary Production', per the NSW Planning Portal Spatial Viewer.[1]

Table 1: Noise sensitive receiver positions included in the assessment, GDA2020 / MGA zone 55

Receiver ID	Easting, m	Northing, m	Approximate distance to Project equipment, m
1	417,618	6,201,640	500
2	417,555	6,201,531	700
3	417,335	6,201,257	1000
11	416,951	6,202,261	1000
12	417,015	6,202,432	900
40	418,322	6,202,525	500

[1] https://www.planningportal.nsw.gov.au/spatialviewer

Figure 1: Indicative Project layout – courtesy of AECOM/Eku

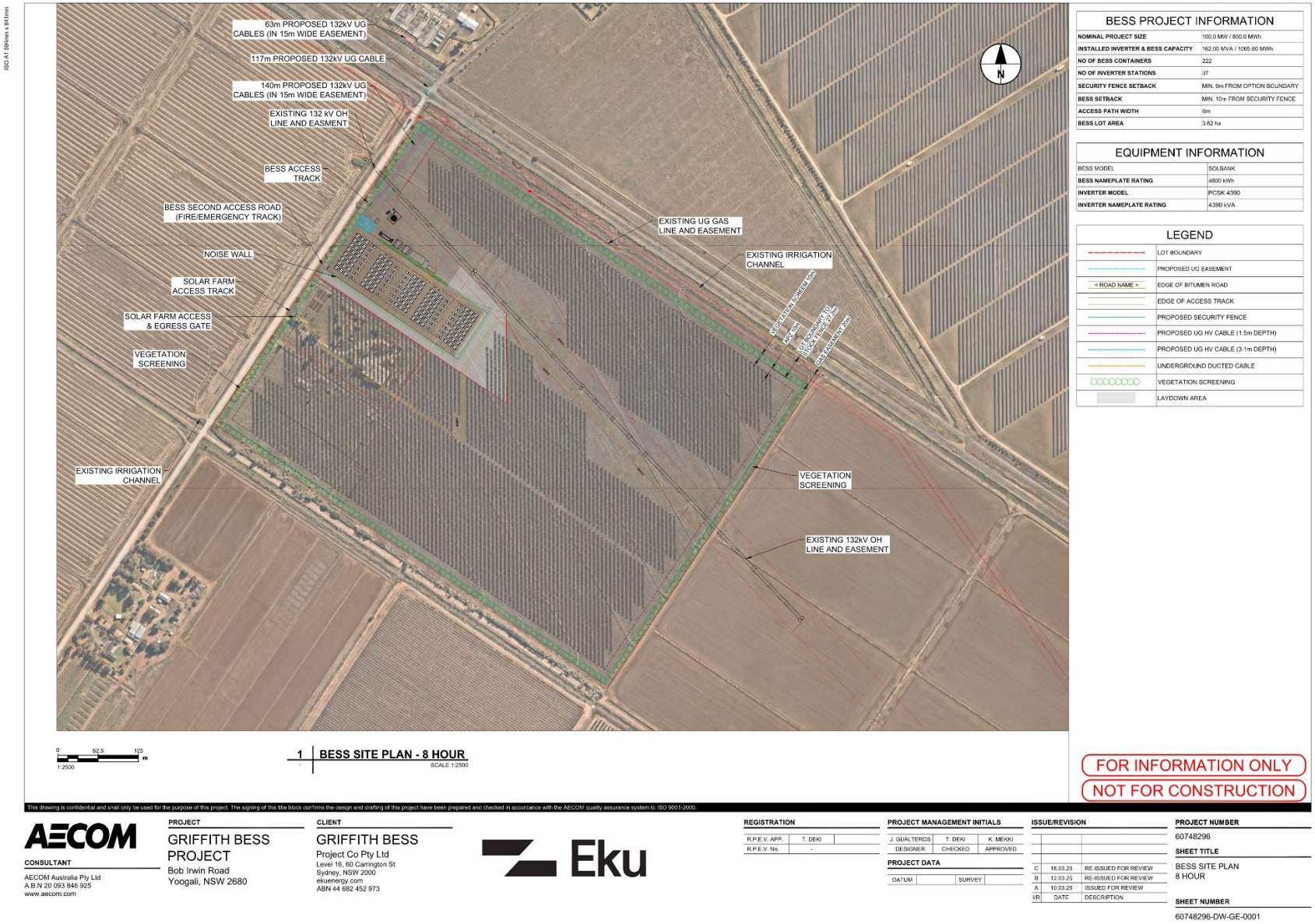

Figure 2: Indicative Project layout - zoomed – courtesy of AECOM/Eku

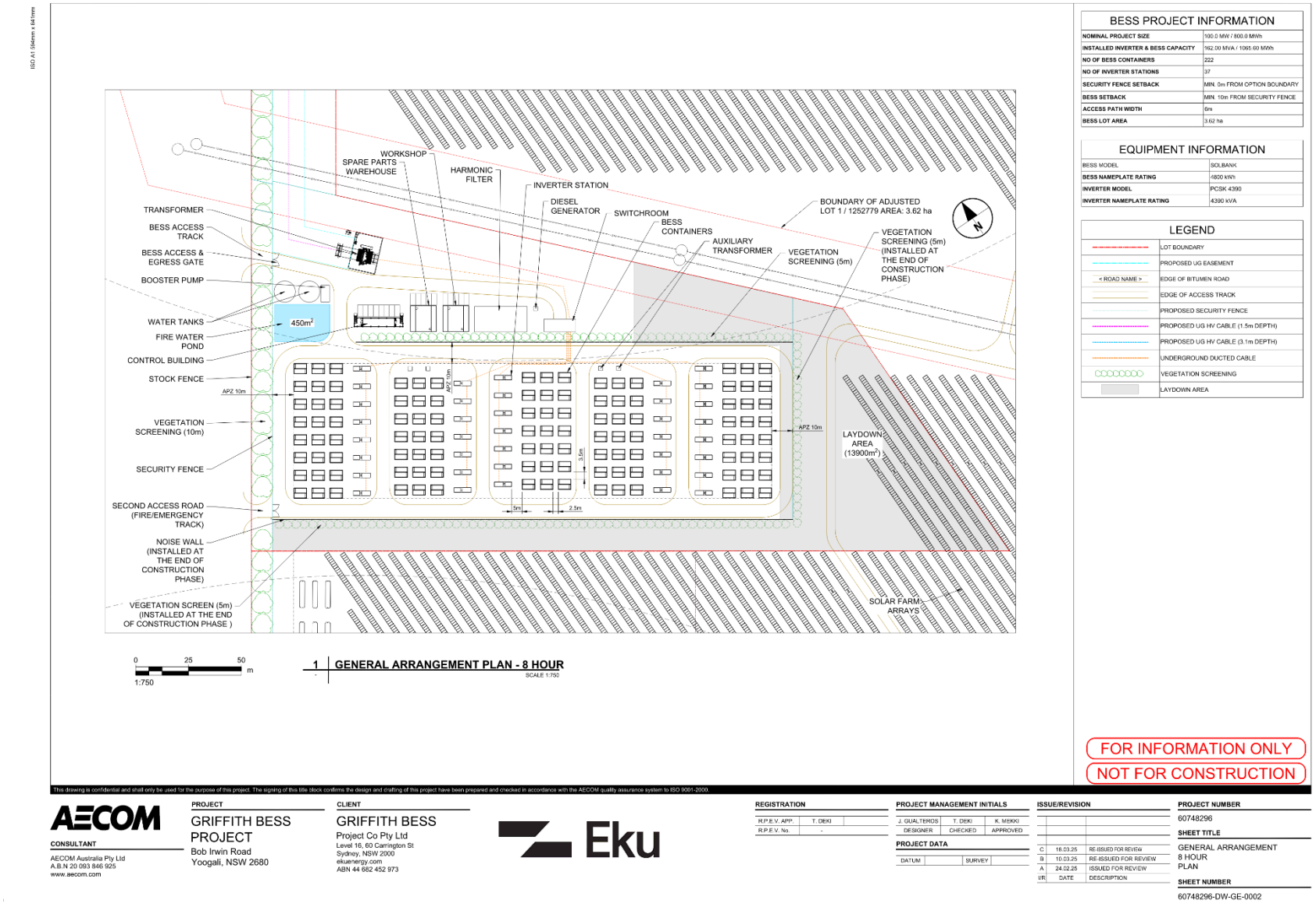

Figure 3: Noise sensitive receivers in relation to the Project

3.0 NEW SOUTH WALES POLICY & GUIDELINES

At this stage of the planning process, project specific SEARs are not known. Based on the assessment requirements typically specified in BESS facility SEARs, the following publications are expected to be relevant to the assessment of noise related to the Project.

- EPA (Environment Protection Authority) *Noise Policy for Industry* (NPfI) 2017
- DECC (Department of Environment and Climate Change) *Interim Construction Noise Guideline* (ICNG) 2009
- DECCW (Department of Environment, Climate Change and Water) *Road Noise Policy* (RNP) 2011.
- DEC (Department of Environment and Conservation) *Assessing Vibration: A Technical Guideline* (AVTG) 2006

Details of the guidance, noise criteria and environmental noise limits provided by these publications are provided in the following sections.

For the purposes of this preliminary noise assessment to support the scoping report the environmental noise limits set out by the NPfI are primarily relevant.

Assessment requirements for construction noise, road noise, and vibration are described and detailed herein but will be addressed at EIS stage.

3.1 Noise Policy for Industry

The NPfI is the applicable guideline for assessing operational noise associated with the Project.

3.1.1 Project noise trigger levels

The NPfI provides a method for determining project noise trigger levels that are used for assessing the potential impact of noise from industry at existing receivers.

Specifically, the project noise trigger levels provide a benchmark or objective for assessing a proposal or site. The NPfI states that the project noise trigger levels are not intended for use as mandatory requirements, but represent the levels that, if exceeded, would indicate a potential noise impact on the community, and so 'trigger' a management response; for example, further investigation of mitigation measures.

The project noise trigger levels are derived from an analysis of the background noise environment and zoning information, accounting for acoustic amenity (described as project amenity noise levels) and, in the case of residential receivers, accounting for intrusiveness (described as project intrusiveness noise levels). The project noise trigger levels are defined as the minimum of either the project amenity noise level or the project intrusiveness noise level (where applicable). Assessment is conducted in terms of $L_{Aeq\ 15\ min}$.

Additional trigger levels are defined for the assessment of maximum noise level events. This is typically associated with sleep disturbance arising from noise sources that are characterised by transient events i.e. brief periods of increased noise levels and applies during the night-time period only.

The following subsections describe the amenity and intrusiveness noise levels used to determine the project noise trigger levels. Further details on the derivation of appropriate project noise trigger levels for the assessment of operational noise from the Project are provided in Appendix B.

3.1.2 Project amenity noise levels

Project amenity noise levels are designed to prevent industrial noise continually increasing above an acceptable level over time with the expansion of infrastructure and development. The NPfI provides recommended amenity noise levels based on receiver categories and typical planning zones, from which the project amenity noise levels are derived.

The recommended amenity noise levels outlined in the NPfI have been determined on the basis of studies that relate industrial noise to annoyance in communities and have been subjectively scaled to reflect the perceived differential expectations and ambient noise environments of rural, suburban, and urban communities for residential receivers. They are based on protecting the majority of the community (90%) from being highly annoyed by industrial noise.

The recommended amenity levels defined in the NPfI relate to total industry noise levels. The project amenity noise levels for an individual industry, i.e. the Project, are set at a level 5 dB below the recommended amenity levels to provide a margin for cumulative industry noise.

A further modification is made to standardise the amenity assessment time period to align with the intrusiveness assessment.

3.1.3 Project intrusiveness noise levels

The intrusiveness noise assessment is applicable to residential receivers and is based on knowledge of the background noise level at the receiver. The background noise levels are referred to as the rating background noise level (RBL) in the NPfI.

The project intrusiveness noise level is the RBL at the nearest noise sensitive location plus 5 dB. Therefore, the noise emissions from the subject industry, i.e. the Project, are considered to be intrusive if the source noise level ($L_{Aeq,\ 15\ min}$) is greater than the RBL (L_{A90}) plus 5 dB.

3.1.4 Maximum noise level event assessment

The NPfI states that the potential for sleep disturbance from maximum noise level events from premises during the night-time period needs to be considered. Sleep disturbance is considered to be both awakenings and disturbance to sleep stages.

The operation of a BESS facility would not typically give rise to transient, short duration maximum noise level events that are associated with sleep disturbance or sleep arousal. Additionally, where the Project is indicated to comply with the NPfI project noise trigger levels at night-time, the screening criteria set out in Appendix B4 will inherently be achieved. This would mean a detailed assessment of maximum noise level event assessment would not be needed.

Notwithstanding the above, maximum noise level event assessment is included herein qualitatively, and will be addressed in more detail as part of EIS assessment.

3.2 Interim Construction Noise Guideline

The ICNG aims to provide a clear understanding of ways to identify and minimise noise from construction works through applying all 'feasible' and 'reasonable' work practices to control noise impacts. The guideline identifies sensitive land uses and recommends construction hours, provides quantitative and qualitative assessment methods, and subsequently advises on appropriate work practices. The ICNG recommended standard construction hours are detailed in Table 2.

Table 2: ICNG recommended standard hours of work

Work type	Recommended standard hours of work	
Normal construction	Monday to Friday	0700 to 1800 hrs
	Saturday	0800 to 1300 hrs
	Sundays/public holidays	No work

In relation to residential receivers considered in this assessment, and based on the recommended standard hours, the ICNG provides two primary management levels for consideration in the assessment of noise at residential receivers:

- The noise affected management level ($L_{Aeq\ 15\ min}$) is set as the RBL (per the NPfI as defined in Section 3.1.3) plus 10 dB.
- The highly noise affected management level is prescriptively set at 75 dB $L_{Aeq,\ 15\ min}$.

Where noise from construction works is above the noise affected management level, there may be some community reaction to noise, and all feasible and reasonable work practices should be applied.

Where the noise from construction works is above highly noise affected management level, there may be a strong community reaction to noise, and restrictions to the hours of construction may be required, with respite periods afforded to those affected.

The ICNG defines additional assessment and reporting requirements that apply if out of hours work is proposed, including justification of the need to work during these periods, including additional management levels for ground borne noise from construction vibration.

3.3 Assessing Vibration: A Technical Guideline

It is common for an assessment of vibration related to the construction and operation of an SSD project to be undertaken in accordance with the AVTG.

The AVTG presents preferred and maximum vibration values for use in assessing human responses to vibration and provides recommendations for measurement and evaluation techniques. Preferred and maximum vibration values outlined in the AVTG are taken from British Standard 6472:1992 *Evaluation of human exposure to vibration in buildings (1-80 Hz)* (BS 6472).

The AVTG identifies three vibration categories:

- *Continuous vibration* – Examples: Machinery, steady road traffic, continuous construction activity (such as tunnel boring machinery)
- *Impulsive vibration* – Examples: Infrequent activities that create up to 3 distinct vibration events in an assessment period, e.g. occasional dropping of heavy equipment, occasional loading and unloading
- *Intermittent vibration* – Examples: Trains, nearby intermittent construction activity, passing heavy vehicles, forging machines, impact pile driving, jack hammers. Where the number of vibration events in an assessment period is three or fewer this would be assessed against impulsive vibration criteria.

Similar to other assessment documentation, the AVTG allows for various receiver types.

3.3.1 Intermittent vibration

The vibration characteristics of most construction activities, e.g. excavation and pilling, are considered to be intermittent. Intermittent vibration can be defined as interrupted periods of continuous vibration, e.g. heavy truck pass-bys or rock breaking, or continuous periods of impulsive vibration, e.g. impact pile driving.

Higher vibration levels are allowed for intermittent vibration compared with continuous vibration on the basis that the higher levels occur over a shorter time period. Hence, for intermittent vibration, human disturbance vibration levels are assessed on the basis of the vibration dose value (VDV), based on the level and the duration of the vibration events. Vibration criteria applicable to residential receivers for intermittent vibration sources are summarised in Table 3.

Table 3: Preferred and maximum vibration levels for human disturbance limits, VDV [a]

Assessment period [b]	Preferred value	Maximum value
Daytime	0.20	0.40
Night-time	0.13	0.26

a These values are only indicative, and there may be a need to assess to other sensitive areas against the relevant criteria.

b Daytime is 0700 hrs to 2200 hrs and night-time is 2200 hrs to 0700 hrs

3.3.2 Continuous and impulsive vibration

Vibration criteria applicable to the residential receivers in the vicinity of the Project for continuous and impulsive vibration sources, are summarised in Table 4.

Table 4: Preferred and maximum vibration levels for human disturbance limits, m/s [a]

Vibration type	Assessment period [b]	Preferred values		Maximum values	
		Z axis	X and Y axes	Z axis	X and Y axes
Continuous vibration	Daytime	0.010	0.0071	0.020	0.014
	Night-time	0.007	0.005	0,014	0.010
Impulsive vibration	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14

a The preferred and maximum values are weighted RMS acceleration values. These values are only indicative, and there may be a need to assess to other sensitive areas against the relevant criteria.

b Daytime is 0700 hrs to 2200 hrs and night-time is 2200 hrs to 0700 hrs

3.4 Road Noise Policy

BESS SEARs also typically require that additional traffic on public roads due to the construction and operation of the Project be assessed against the requirements of the RNP and relevant application notes.

The RNP provides noise level criteria for increased traffic flow as a result of a land-use development with the potential to create additional traffic, as detailed in Table 5.

Table 5: Road traffic noise assessment criteria for residential land uses

Type of development	Day (0700-2200 hrs)	Night (2200-0700 hrs)
Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	60 dB $L_{Aeq, 15\ hr}$ (external)	55 dB $L_{Aeq, 9\ hr}$ (external)
Existing residences affected by additional traffic on existing local roads generated by land use developments	55 dB $L_{Aeq, 1\ hr}$ (external)	50 dB $L_{Aeq, 1\ hr}$ (external)

Additionally, the RNP requires that the relative increase in noise levels at residential receivers not exceed 12 dB for land use developments with the potential to generate additional traffic on existing freeways, arterial or sub-arterial roads. The relative increase criterion does not apply for local roads.

The RNP notes that in assessing feasible and reasonable mitigation measures, an increase of up to 2 dB represents a minor impact that is considered barely perceptible to the average person.

Where night-time construction traffic is likely to occur an assessment of sleep disturbance is appropriate. The RNP provides guidance on this matter:

- Maximum internal noise levels below 50–55 dB L_{Amax} are unlikely to awaken people from sleep
- One or two noise events per night, with maximum internal noise levels of 65–70 dB L_{Amax}, are not likely to affect health and wellbeing significantly.

4.0 EXISTING NOISE ENVIRONMENT

4.1 Policy

Project noise trigger levels (per the NPfI) and noise management levels (per the ICNG) applicable to operational noise and construction noise assessment are in some cases dependent on RBLs (background noise levels) at a subject receiver, or in the vicinity of a subject site or project.

RBLs in the NPfI and ICNG are defined in terms of $L_{A90,\ 15\ min}$.

Measurement procedures for determining RBLs are set out in Fact Sheet B *Measurement procedures for determining background noise* of the NPfI. Background noise data developed for an NPfI assessment is also suitable for use as part of an assessment under the ICNG.

4.2 Background noise levels

At this early stage of the Project background noise measurements have not been conducted, however the NPfI provides minimum assumed RBLs which have been adopted. The minimum assumed RBLS are set out in Table 6.

These have been used for the derivation of the NPfI project noise trigger levels referred to in Appendix B3 and ICNG noise management levels in Section 3.2.

Table 6: Minimum assumed RBLs for NPfI and ICNG, dB L_{A90}

Time of day	Minimum assumed RBL
Day	35
Evening	30
Night	30

Time of day is defined as:

Day	0700 - 1800 hrs Monday to Saturday and 0800 - 1800 hrs Sundays and public holidays
Evening	1800 - 2200 hrs Monday to Sunday and public holidays
Night	the remaining periods

It should be noted that due to the rural environment of the receiver locations, which typically feature low background noise levels, the minimum RBLs set out in the NPfI are likely (but not certain) to apply even if a background noise survey is conducted. Assessment of a Project considering the minimum RBLs would represent the most practically conservative approach to noise assessment under the NPfI.

5.0 PRELIMINARY OPERATIONAL NOISE IMPACT ASSESSMENT

At this early stage of Project development, assessment of potential construction noise or traffic noise is not feasible or practical. On this basis, the preliminary noise assessment considers the primary long-term noise factor associated with the Project, being operational noise.

With regards to operational noise, the SSD Scoping Report Guidelines indicate that detailed assessment of noise should be carried out at EIS stage, however, a scoping report must identify the acoustic matters requiring further assessment in the EIS. On this basis a simplified and generally qualitative assessment of noise has been conducted.

The assessment should be considered as an evaluation of risk, and a screening tool from which the future, detailed noise assessment requirements can be developed, to be carried out at EIS stage.

The assessment herein considers:

- The indicative Project layout (refer to Figure 1 and Figure 2).
- Conservative assumptions regarding sound power levels associated with noise generating infrastructure located within the indicated BESS location.
- Conservative assumptions regarding the operation of the BESS equipment i.e. 100% utilisation for the duration of the assessment period.
- Conservative assumptions regarding the characteristics of the noise at the receivers and the base assumption that a modifying correction factor of 5 dB for tonal noise (as described in Fact Sheet C of the NPfI) is warranted.
- The minimum distances between receivers and noise generating infrastructure included within the indicative layout – per Table 1.
- The night-time project noise trigger level set out in Appendix B3 - 35 dB $L_{Aeq\ 15\ min}$ – being the most stringent applicable under the NPfI.
- Simplified 2-dimensional noise level predictions generally according with ISO 9613.[2]

The outcomes of the assessment indicate that there is a moderate risk of noise impact at receivers 1, 2 and 40 from operation of the BESS. This is based on predicted noise levels being above the project noise trigger level. Predicted noise levels at these receivers are indicated to be in the range 37 to 43 dB $L_{Aeq\ 15\ min}$ based on current conservative assumptions.

It is noted that 43 dB $L_{Aeq\ 15\ min}$ is above the maximum noise level event assessment screening criteria specified in Appendix B4. Given the significant number of conservative assumptions detailed above, it is not expected that this outcome will eventuate in real-world operation. Further consideration to the maximum noise level event assessment will be included in the EIS assessment.

The risk of noise impact from operation of the BESS at other receivers is expected to be low, based on predicted noise levels below the project noise trigger level.

Given the indicated risk of noise impact a detailed assessment of noise is required to be carried out at EIS stage.

Further information about the noise assessment requirements at EIS stage is provided in Section 6.0.

[2] ISO 9613-2:1996 Acoustics – *Attenuation of sound during propagation outdoors Part 2: General method of calculation*

6.0 EIS - PROPOSED ASSESSMENT OF IMPACTS

The following subsections provide a summary of the proposed method for each of the assessment components typically referred to in SEARs for BESS facilities.

6.1 Operational noise

The detailed operational noise assessment would be conducted in accordance with the NPfI (refer to Section 3.1 and Appendix B).

It is expected that this would include:

- Project-specific equipment selections and corresponding sound power level data/specifications.
- Operational conditions specific to each assessment period.
- A maximum noise level event assessment.
- A detailed Project design including discrete positions for all noise generating infrastructure.
- 3-dimensional noise modelling, including the effect of topography on predicted noise levels at receivers.
- An assessment of tonality, with reference to specific equipment selections nominated by the Proponent.
- Noise mitigation measures – if required – including but not limited to - manufacturer noise attenuation kits or noise barriers.

6.2 Construction noise

The construction noise assessment would be conducted in accordance with the ICNG (refer to Section 3.2).

Predicted noise levels would be calculated in general accordance with the method detailed in Australian Standard 2436:2010 *Guide to noise and vibration control on construction, demolition and maintenance sites* (AS 2436).

To predict noise levels at the nearby receivers, construction noise modelling would refer to project-specific work areas, plant items, and construction phasing. These items would need to be determined by the Proponent in advance, such that a representative assessment can be conducted.

Where construction noise levels are predicted to be above the ICNG noise management levels, the Project may require the adoption of reasonable and feasible general management measures and considerate working practices to achieve compliance. These measures are normally documented and agreed upon in a construction noise and vibration management plan (CNVMP) for inclusion in a broader environmental management plan (EMP), however, a high-level summary of these items would be included within the EIS if required.

It is typical for the construction noise assessment at EIS stage to be conceptual in nature, based on expected equipment and work methods. A detailed assessment and associated noise management plan would typically be conducted post EIS once a construction contractor is appointed and specific work processes and equipment are known.

6.3 Traffic noise

The traffic noise assessment would be conducted in accordance with the RNP (refer to Section 3.4).

The likelihood of traffic noise impacts associated with the operation of the Project is expected to be low, with construction stage traffic likely to comprise the majority of traffic movements associated with the Project. On this basis, noise from operational traffic on public roads is unlikely to require detailed consideration as part of the EIS assessment.

Additional consideration would also be given to the likelihood of sleep disturbance impacts associated with out of hours oversize/over mass (OSOM) deliveries during the construction of the Project.

APPENDIX A GLOSSARY OF TERMINOLOGY

Term	Definition	Abbreviation
A-weighting	A method of adjusting sound levels to reflect the human ear's varied sensitivity to different frequencies of sound.	See discussion below this table.
A-weighted 90th percentile	The A-weighted pressure level that is exceeded for 90% of a defined measurement period. It is used to describe the underlying background sound level in the absence of a source of sound that is being investigated, as well as the sound level of steady, or semi steady, sound sources.	L_{A90}
A-weighted average noise level	The equivalent continuous (time-averaged) A-weighted sound level. This is commonly referred to as the average noise level. The suffix "t" represents the time period to which the noise level relates, e.g. (8 h) would represent a period of 8 hours, (15 min) would represent a period of 15 minutes and (2200-0700) would represent a measurement time between 10 pm and 7 am.	$L_{Aeq\,(t)}$
A-weighted maximum noise level	The A-weighted maximum noise level. The highest noise level which occurs during the measurement period.	L_{Amax}
C-weighting	The process by which noise levels are corrected to account for non-linear frequency response of the human ear at high noise levels (typically greater than 100 decibels).	See discussion below this table
Decibel	The unit of sound level.	dB
Hertz	The unit for describing the frequency of a sound in terms of the number of cycles per second.	Hz
Octave Band	A range of frequencies. Octave bands are referred to by their logarithmic centre frequencies, these being 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, and 16 kHz for the audible range of sound.	-
Peak Particle Velocity	The measure of the vibration aptitude, zero to maximum. Used for building structural damage assessment	PPV
Sound power level	A measure of the total sound energy emitted by a source, expressed in decibels.	L_W
Sound pressure level	A measure of the level of sound expressed in decibels.	L_p
Tonality	A characteristic to describe sounds which are composed of distinct and narrow groups of audible sound frequencies (e.g. whistling or humming sounds).	-

The basic quantities used within this document to describe noise adopt the conventions outlined in ISO 1996-1:2016 *Acoustics - Description measurement and assessment of environmental noise – Basic quantities and assessment procedures*. Accordingly, all frequency weighted sound pressure levels are expressed as decibels (dB) in this report. For example, sound pressure levels measured using an "A" frequency weighting are expressed as dB L_A.

Alternative ways of expressing A-weighted decibels such as dBA or dB(A) are therefore not used within this report, unless included in a direct quote of external documentation.

APPENDIX B NOISE POLICY FOR INDUSTRY DERIVATION

In NSW, the EPA's NPfI is the guideline for assessing noise emissions from industrial facilities and other developments with noise sources that may be considered industrial in nature. The NPfI sets out a procedure where an industrial facility can be assessed against a series of noise levels derived from an analysis of background noise levels, ambient noise environment and zoning information. The derived noise levels are described as industrial noise trigger levels.

An NPfI assessment requires the derivation of two industrial noise trigger levels - one from an intrusiveness assessment and another from an amenity assessment. Noise from an industrial source is intended to be assessed at the nearest point within 30m of the dwelling, in the case of residential receivers. Other receiver types may have different requirements.

B1 Project intrusiveness noise level

The intrusiveness noise assessment is applicable to residential receivers only and is based on knowledge of the RBL (background noise level) at the receiver location. In the absence of measured RBLs, minimum assumed RBLs are provided in Table 2.1 of the NPfI. The project intrusiveness noise level is taken to be the RBL plus 5dB. Therefore, the noise emissions from the noise source are considered to be intrusive if the A-weighted source noise level ($L_{Aeq,\ 15min}$) is greater than the RBL (L_{A90}) plus 5 dB.

Assessment time periods are set out in Section 4.2.

The minimum project intrusiveness noise levels set out in Table 2.1 of the NPfI are reproduced in Table 7. These would apply where background noise levels at a receiver location are very low e.g. in quiet rural areas, or where a background noise assessment has not been conducted.

Table 7: Minimum assumed RBLs and minimum project intrusiveness noise levels, dB $L_{Aeq,\ 15\ min}$

Time of day	Minimum assumed RBL	Minimum project intrusiveness noise level
Day	35	40
Evening	30	35
Night	30	35

B2 Project amenity noise level

Project amenity noise levels are designed to prevent industrial noise continually increasing above an acceptable level over time with the expansion of infrastructure and development.

Based on guidance provided in Table 2.3 of the NPfI all receivers relevant for assessment have been determined to be 'Rural Residential', being a residential receiver type in a rural noise amenity area.

Table 2.2 of the NPfI sets out recommended amenity noise levels for each receiver category. Modification of the recommended amenity noise level is required in accordance with Section 2.4 of the NPfI, to account for the potential existing contribution or future contribution of industrial noise on receivers. This has been applied to allow for existing noise from the nearby solar farms.

A further modification is made to standardise the amenity assessment time period to align with the intrusiveness assessment. This adjustment assumes that the $L_{Aeq,\ 15\ min}$ will be taken to be equal to the $L_{Aeq,\ period}$ + 3 dB. The resultant project amenity noise levels are shown in Table 8.

Table 8: Project amenity noise level, dB

Receiver	Time of day	Recommended amenity noise level, dB $L_{Aeq, period}$	Project amenity noise level, dB $L_{Aeq, 15min}$
Residential (Rural)	Day	50	48
	Evening	45	43
	Night	40	38

B3 Project noise trigger levels

The final process in determining the operational noise limits for the Project is to derive the project noise trigger levels. The project noise trigger levels are levels that, if exceeded, would indicate a potential noise impact on the community, and so 'trigger' a management response; for example, further investigation of noise mitigation measures.

The project noise trigger levels are derived by selecting the more stringent of either the project intrusiveness noise level or project amenity noise level. The project noise trigger levels applicable to receivers relevant for assessment of the Project are shown in Table 9.

Table 9: Project noise trigger levels, dB $L_{Aeq, 15min}$

Receiver	Time of day	Project noise trigger level
Residential (Rural)	Day	40
	Evening	35
	Night	35

B4 Maximum noise level event assessment

The NPfI states that the potential for sleep disturbance from maximum noise level events from premises during the night-time period needs to be considered. Sleep disturbance is considered to be both awakenings and disturbance to sleep stages.

A detailed maximum noise level assessment should be undertaken where the subject development night-time noise levels at a residential location exceed:

- 40 dB $L_{Aeq, 15min}$ or the prevailing RBL plus 5 dB, whichever is the greater, and/or
- 52 dB L_{AFmax} or the prevailing RBL plus 15 dB, whichever is the greater.

The NPfI does not currently provide details on how to assess sleep disturbance but refers to the review of research results in the RNP for guidance.

Appendix E Preliminary Ecological Values Assessment

Preliminary Ecological Values Assessment

of the

Griffith Battery Energy Storage System

at

Yoogali, NSW

Prepared for

EDPR Australia &

Eku Energy Australia

Version 2

8/5/25

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Citation	K.Hill & D. Wall. 2025. Preliminary Ecological Values Assessment of the Griffith Battery Energy Storage System at Yoogali, NSW. Report to **EDPR Australia**
Study Area Address	Yoogali Lot 2, DPDP1252779, 15 Bob Irvin Road, Yoogali
Local Government Area	Griffith City Council
Revision / Version #	V2, 8/5/2025
Primary Authors	Damian Wall
Red-Gum Sign-off	 Damian Wall (Managing Director)

Glossary & Acronyms

ACRONYM	DESCRIPTION
BAM	Biodiversity Assessment Methodology
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Reg	Biodiversity Conservation Regulation 2017 (NSW)
BDAR	Biodiversity Development Assessment Report
BCF	Biodiversity Conservation Fund
BCT	Biodiversity Conservation Trust
Development Footprint	Immediate area being impacted by construction works
DA	Development Application
DCCEEW (Commonwealth)	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DCCEEW (NSW)	Department of Climate Change, Energy, the Environment and Water (NSW)
Development Area	Immediate area being impacted by construction works
EEC	Endangered Ecological Community
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
GDE	Groundwater Dependent Ecosystem
ha	hectare(s)
IBRA	Interim Biogeographic Regionalisation for Australia
km	Kilometre
LGA	Local Government Area
masl	Metres above sea level
NSW	New South Wales
OEH	NSW Office of Environment and Heritage
PCT	Plant Community Type
PEA	Preliminary Environmental Assessment
SEARs	Secretary's Environmental Assessment Requirements
SSD	State Significant Development
Development Footprint	The area of land that is directly impacted by a proposed development, the disturbance footprint (synonymous with 'the proposal' as described in Section 1.1).
Development Site	An area of land that is subject to a proposed development under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act), including areas which will be retained and impacted by the project (synonymous with Subject Land or the Proposal Site).
Subject Land	An area of land that is subject to a proposed development under the EP&A Act, including areas which will be retained and impacted by the project (synonymous with Development Site or the Proposal Site).

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1 Introduction

Red-Gum Environmental Consulting Pty Ltd (Red-Gum) was engaged by EDP Renewables on behalf of Eku Energy Australia Pty Ltd (Eku Energy 'the proponent') to prepare this preliminary ecological values assessment of a proposed Battery Energy Storage System (BESS) and associated infrastructure known as the Griffith BESS in the locality of Yoogali near Griffith, New South Wales (the proposal). Refer to Red-Gum staff qualifications and experience in Table 1.

The purpose of this assessment is to inform the request for the Secretary's Environmental Assessment Requirements (SEARs) to start the State Significant Development (SSD) process which will guide the Environmental Impact Statement (EIS) for the project under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). An SSD proposal will default into the NSW Biodiversity Offsets Scheme (BOS) unless a BDAR Waiver is successfully obtained (s7.14 of the NSW *Biodiversity Conservation Act 2016*).

Table 1: Details of staff qualifications and experience

Name	Position/Role	Relevant Qualifications	Relevant Experience
Damian Wall	Biodiversity/field surveys, technical review of report, and contributing author.	• NSW Biodiversity Assessment Method Accredited Assessor (BAAS18081) • Bachelor of Applied Science (Parks, Recreation & Heritage), CSU. • Master Environmental Management & Restoration, CSU. • Certified Environmental Practitioner (CEnvP). • Certified Environmental Practitioner (EIANZ).	+28 years
Katherine Hill	Ecologist and lead author, desktop assessment, reporting.	• NSW Biodiversity Assessment Method Accredited Assessor (BAAS24043) • Bachelor Environmental Science (Conservation Ecology), Deakin University. • Bachelor Science (Ecology) (Hons), Latrobe University.	+23 years

1.1 The Proposal

The Griffith BESS covers approximately 3.62 hectares and entails the construction, operation and decommissioning of a Battery Energy Storage System (BESS) and associated infrastructure with a nominal capacity of up to 100 MW / 800 MWh and a direct connection to the existing TransGrid managed 132 kV Griffith Substation (refer to Figure 1 and Map 1). The proposal is located within the Griffith City Council local government area kilometres southeast of Yoogali, around 7 kilometres southeast of Griffith, New South Wales. The proposal site is comprised of two cadastral lots (hereafter referred to as 'the development or proposal site') with the majority within Lot 2/-/DP1252779 at 15 Bob Irvin Road, Yoogali and a small part of 1/-/DP865611 at 11 Hamilton Road, Yoogali (Griffith sub-station); as well as small sections of Bob Irvin Road, Irrigation Way and Hamilton Road easements for access and transmission lines (refer to Figure 1 and Map 1). The Project Site is a realignment of the existing lot 1//DP1252779 at 41 Bob Irvin Road Yoogali, subject to council approval. Surrounding the site at 15 Bob Irvin Road Yoogali (2/-/DP1252779), is the approved Yoogali Solar Farm, currently being developed in parallel yet independent of the Project, by EDP Renewables. The entirety of the subject land is zoned RU1 – Primary Production within the Griffith Local Environmental Plain 2014. The indicative proposal layout and key features are shown in **Figure 1**.

The proposal involves the following key features:

- the BESS of assembly containers containing lithium-ion batteries, a Battery Management System (BMS) for monitoring, inverters to convert DC to AC electricity, transformers, a cooling system, noise suppression systems and a control system within a control building.
- a 6-metre-wide access way and internal access track from Bob Irvin Road to the BESS site and onsite parking.
- a direct transmission connection and associated easement to one of the bays at the nearby 132kV/330kV Griffith Substation through an underground cable connection underneath the Irrigation Way and the Yanco Griffith railway.
- perimeter security fencing and native vegetative screening planting, and onsite lighting.

The development site/footprint and surrounding land is characterised by a highly modified agricultural landscape where clearing associated with historical agricultural practices (irrigation, cropping, horticulture and grazing) have resulted in the loss of native vegetation since European settlement. Most recently, the proposed BESS location has been irrigated and cultivated for wheat and rice on a land-formed and laser levelled paddock.

The final details of the proposal will be determined as planning continues. For this preliminary assessment, Red-Gum has considered all impacts associated within the development footprint as shown in Figure 1 and Map 1.

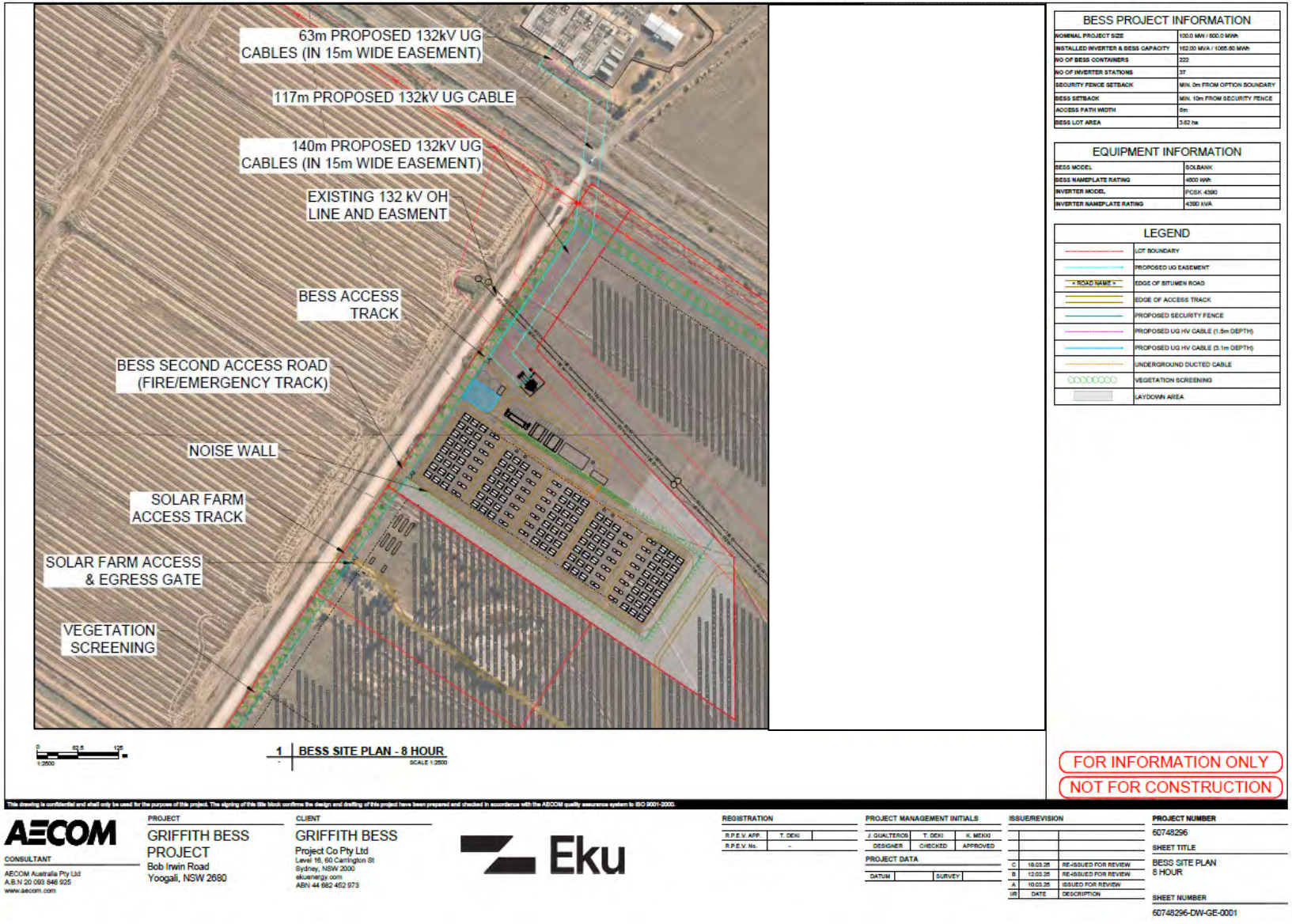


Figure 1: Indicative proposal layout for the Griffith BESS, Yoogali, NSW.

Map 1: Proposal site - Griffith BESS (development site), Yoogali, NSW.

2 Methods

2.1 Desktop assessment

A desktop assessment was undertaken to identify threatened flora and fauna species, populations and ecological communities (threatened biota) listed under the BC Act, and EPBC Act, that could be expected to occur at the proposal site. Information sources used in the preparation of this report include:

- Department of Planning and the Environment (DPE) *NSW BioNet* data including *NSW Wildlife Atlas* database records and *Threatened Species Data Collection* profiles of threatened species listed under the BC Act.
- DPE *Threatened biodiversity profile search* online database for threatened ecological communities listed under the BC Act.
- Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) *Protected Matters Online Search Tool* for MNES listed under the EPBC Act predicted to occur in the locality.
- DCCEEW online species profiles and threats database.
- DPE NSW *BioNet Vegetation Classification* database of plant community types (PCTs).
- Aerial photographs and satellite imagery of the study area from NearMap.
- Recent NSW spatial data for the site includes contours, native vegetation maps, hydrology.

2.2 Field investigation

A site assessment of the proposal site was undertaken by Damian Wall on 8 November 2024 (see Table 1 for qualifications and experience). The study area was traversed to identify the vegetation/habitat types and condition. The site assessment sought primarily to identify the extent and type of native vegetation present and applicable Plant Community Types (PCTs) present within the study area and to identify potential habitat for species and ecological communities listed under the EPBC Act and NSW BC Act.
Site surveys included:

- vegetation mapping
- native habitat assessments
- opportunistic flora and fauna observations
- active searches for fauna scats and signs

2.3 Limitations

The desktop assessment was completed using modelled information and databases maintained by the NSW and Australian governments. The accuracy of the modelled information and results presented here depends on the accuracy and validity of these database records and spatial datasets.

This site survey area is based on client data provided in October 2024 and the environmental and seasonal conditions at that time. These factors do not significantly limit the preliminary assessment of the site's ecological habitat values due to its highly modified condition.

3 Ecological Values Assessment

3.1 Landscape Context

3.1.1 IBRA bioregions and IBRA subregions

The proposal occurs within the NSW South Western Slopes Interim Biogeographic Regionalisation for Australia (IBRA) region and within the Lower Slopes IBRA subregion. Refer to Map 2.

3.1.2 Rivers, streams, estuaries and wetlands

The proposal site contains two irrigation canals/drains along Irrigation Way and within private land north of Bob Irvin Road, as part of the Murrumbidgee Irrigation Area (MIA). There are no farm dams on the site, and it includes a series of retired irrigation water supply channels from when the site was previously flood irrigated for agriculture. Since Yoogali Solar Farm Pty Ltd has leased the lot until 16/01/2060, the is site not currently irrigated. The proposal site is situated 2.5 kilometres north of Mirrool Creek. Refer to Map 3.

3.1.3 Habitat connectivity

Habitat within the assessment area is highly disconnected given the historical clearing associated with irrigated agriculture and other land uses in the locality. Movement corridors for threatened species would not be impacted by the proposal. Native vegetation cover within 1500 metre buffer around the development footprint (the assessment area) was estimated to be 3.5 percent using the NSW extant native vegetation and NVACE modelling.

3.1.4 Karst, caves, crevices, cliffs, rocks or other geological features of significance

No karsts, caves, crevices or cliffs or other areas of geological significance occur in or adjacent to the proposal site.

3.1.5 Areas of Mapped Biodiversity Value

No areas of mapped biodiversity value, as identified under the BC Act, occur in or adjacent to the proposal site, nor within the locality. Refer to attached *Biodiversity Values Map and Threshold Report* in **Appendix C**.

3.1.6 NSW Mitchell landscape

The proposal is located within the NSW Mitchell Landscape of the Murrumbidgee Depression Plains. This area is made up of Quaternary aged alluvial plains of grey to brown clays and clay loams with linear patterns of sandy prior streams. Numerous circular depressions interpreted as high floodplains or low terraces up to 10 metres occur beyond the reach of average floodwaters.

The Murrumbidgee Depression Plains now typically comprises mainly of exotic agricultural grass/crop species but was once home to extensive native grassland/shrublands typically dominated by White-top, Windmill grass, Sand Broom, Spear Grasses, Myall (*Acacia pendula*), Old Man Saltbush (*Atriplex nummularia*), and Bladder Saltbush (*Atriplex vesicaria*); with sandy rises of White Cypress Pine (*Callitris glaucophylla*), Needlewood (*Hakea leucoptera*), Western Pittosporum (*Pittosporum phylliraeoides*) (DECC 2002).

3.1.7 Climate

The climate is characterised by warm to hot summers and cool to cold winters. In Spring and Summer, the prevailing winds are from the east and north, with west and south westerlies, while in Autumn, prevailing winds are from the east. In winter, west and north-westerlies dominate. Mean maximum summer temperatures reach the low 30s, with mean maximum winter temperatures reaching to the mid-teens with minimums around 4 degrees C. Summer temperatures can reach the mid-40s. Average rainfall monthly averages range between an average of 28 mm in February to 40 mm in October (BOM 2025).

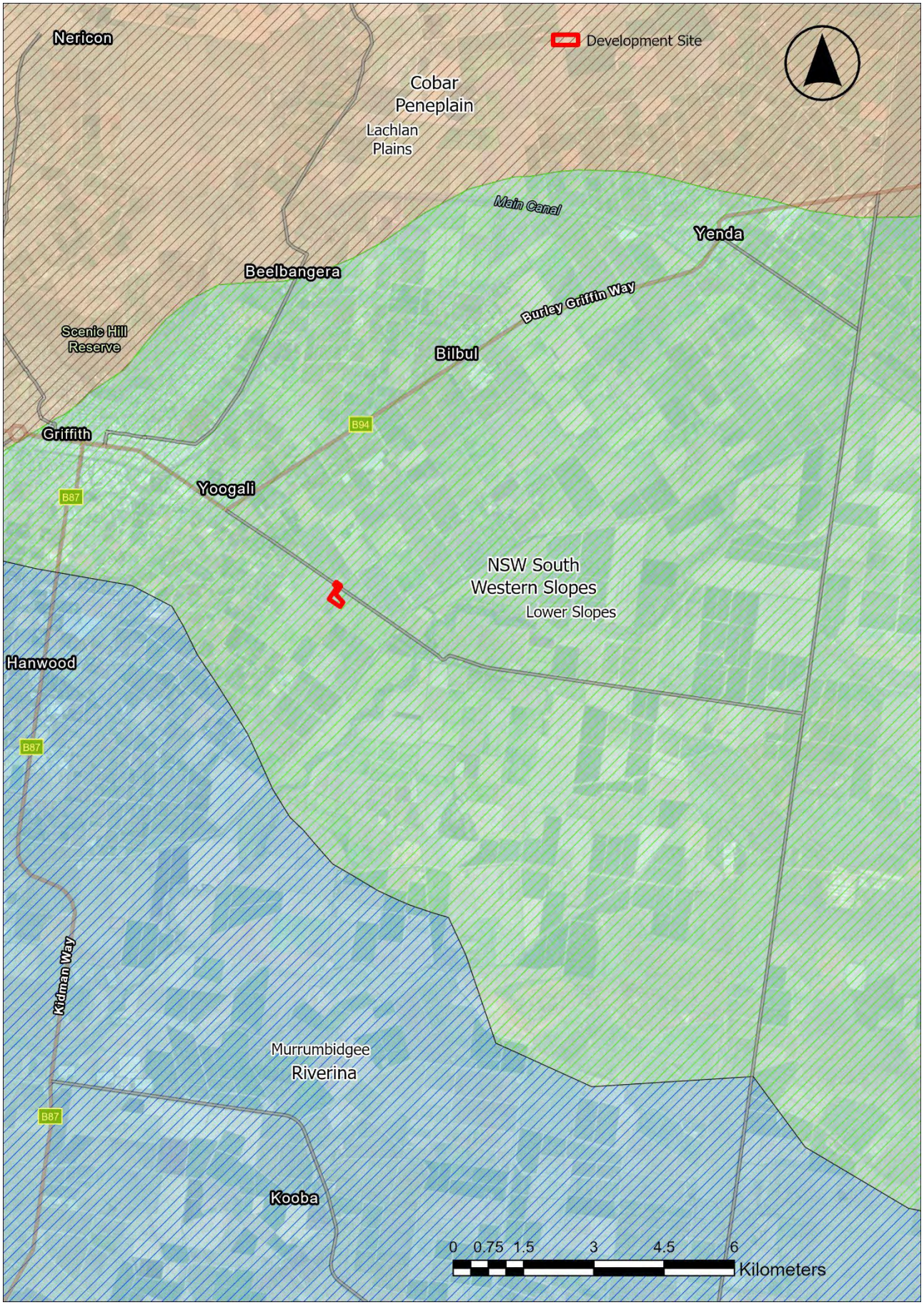
3.1.8 Soil Types and Properties

The soil landscape of the area is characterised as alluvium floodplain deposits of very fine silt to medium-grained lithic to quartz-rich sand and clay. **Map 2** shows the Australian Soils Classification for the area, which is classified as vertosols or cracking clay.

3.1.9 Surrounding Land Uses

The surrounding land uses of the proposal site are dominated horticulture and irrigated agriculture, other energy infrastructure planned or completed, powerlines and substation easements, transport easements and irrigation canal/drain easements.

Aside from the Griffith Substation, there is other energy infrastructure planned or completed in proximity to the proposal. The Griffith Solar Farm (operational) and Riverina Solar Farm (planning) are north of the Project, closer to the Griffith Substation. Also, the Yoogali Solar Farm (approved) is on the same property as the proposal yet is an independent undertaking.



Map 2: IBRA regions and subregions in the proposal vicinity.

Map 3: Aquatic habitat features within the proposal vicinity.

3.2 Vegetation / Habitat Types

Red-Gum assessed all areas of vegetation within the development site areas (Map 1). Vegetation within the wider development site was also broadly assessed. The development site/footprint and surrounding land is characterised by a highly modified agricultural landscape where clearing is associated with historical agricultural practices (mainly broad-acre horticulture, cropping and grazing on laser-levelled paddocks) and historical transport, powerlines and MIA infrastructure have resulted in the loss of native vegetation since European settlement. Most recently, the proposed BESS site paddock has been land formed and laser levelled for flood-irrigation for wheat and rice. Since Yoogali Solar Farm Pty Ltd has leased the lot until 16/01/2060, the site is no longer irrigated.

Most of the development footprint has been identified as non-native vegetation being Category 1 – Exempt Land on the Draft Native Vegetation Regulatory Map (refer to Map 2). The development footprint also contains exotic roadside vegetation and non-vegetated surface areas such as existing road/rail, substations and irrigation channels. The field assessment determined native vegetation within the proposal site to be generally consistent with the NSW SVTM mapping, which showed *PCT 0 – Not native* throughout the development footprint cognisant of the iterative design efforts to avoid and minimise biodiversity impact (refer to Map 4).

The proposal footprint is located in an area that is dominated by exotic grass and forb species and possesses limited native vegetation cover of between zero and 2% consisting of some occasional scattered native grasses. This is well below the criteria (>15% native cover) to be considered a patch of native vegetation in NSW. Refer to recorded flora species in Table 2 with site condition photos in Appendix A. No native indigenous trees are present.

The majority of BESS development footprint is also classified as non-native vegetation of Category 1 - Exempt Land, apart from side of Bob Irvin Road (where one accessway is proposed to be developed) and Irrigation Way, which is classified as Category 2 - Regulated Land Area, that contains some widely scattered individual Weeping Myall *Acacia pendula* shrubs between exotic dominated roadside vegetation of non-native grass and forb species with less then <2% native vegetation. Refer to observed flora list in Table 2 and site condition photos in Appendix A. The Category 2 land is not identified as vulnerable or sensitive.

The proposed access laneway has been designed to avoid these native shrubs meaning the development footprint and the underground transmission line is proposed to be underbore to avoid the removal of any native vegetation. These shrubs lack sufficient structure and diversity to accurately determine its former PCT and also offers limited habitat for threatened species. Existing native vegetation modelling (NSW pre-1750 and extant SVTM data) suggests these scattered shrubs were once part of *PCT 26 - Weeping Myall open woodland of the Riverina and NSW South Western Slopes Bioregion*, as shown in Map 5. However, this is no longer the case. Given the absence of native vegetation, there were no native vegetation patches identified and therefore no BAM plots were undertaken. As such, if a BDAR was to be required then the BAM calculator would not be able to generate a list of threatened fauna or flora species that are predicted to utilise the proposal site.

Preliminary fauna assessments were undertaken during the site survey. Table 3 provides a summary of methodologies used if required. The observed fauna species were typical generalists commonly found in highly modified agricultural landscape habitats. Refer to Table 4 for the fauna survey results. Threatened species are unlikely to use the development area due to the lack of native vegetation and suitable habitat, except using the aerial space above when flying over, which would not be impacted by the on-ground development.

Table 2: Observed Flora Species – 8 November 2024 (* = exotic species)

Common name	Species		Common name	Species
Barley Grass*	*Hordeum leporinum*		Black Roly Poly	*Sclerolaena muricata*
Brome*	*Bromus* sp.		Perennial Rye Grass*	*Lolium perenne*
Buchan Weed*	*Hirschfeldia incana*		Scotch Thistle*	*Onopordum acanthium*
Creeping Saltbush	*Atriplex semibaccata*		Silver-leaved Nightshade*	*Solanum elaeagnifolium*
Curly Mitchell Grass	*Astrebla lappacea*		Skeleton Weed*	*Chondrilla juncea*
Curly Windmill Grass	*Enteropogon ramosus*		Spear Thistle*	*Cirsium vulgare*
New Holland Daisy*	*Vittadinia sp.*		Wallaby Grass	*Rytidosperma* sp.
Flatweed*	*Hypochaeris radicata*		Curled Dock*	*Rumex crispus*
Flea Bane*	*Conyza bonariensis*		Wild Oats*	*Avena fatua*
Goatsbeard*	*Trapopogon dubius*		Fennel *	*Foeniculum vulgare*
White Horehound*	*Marrubium vulgare*		Windmill Grass	*Chloris truncata*
Mallow*	*Malva* sp.		Hedge Mustard *	*Sisymbrium officinale*
Patterson's Curse*	*Echium plantagineum*		Native Millet	*Panicum decompositum*
Prickly Lettuce*	*Lactuca serriola*		Weeping Myall	*Acacia pendula*
Canary Island Date Palm	*Phoenix canariensis*			

Table 3: Fauna Assessment Methods employed and results.

Intended Target	Methodology	Results
Diurnal Birds	Area search, where the observer walked the length of the site twice in its entirety.	Conditions on 8 November 2024. The weather was mild (~26 degrees) with a westerly breeze.
	Point Count method, where observations were made from 2 points for 20 minutes each.	Trees effectively absent. No nesting activity observed.
Nocturnal Birds	Day habitat search. Search habitat for pellets, and likely hollows.	No likely habitat found.
	Stag-watching. Observing potential roost hollows for 30mins prior to sunset and 60mins following sunset.	Nothing observed. No trees present.
Flying Mammals	Spotlighting on foot	Habitat was observed during the day. Night assessment not warranted given lack of habitat and high disturbance levels.
	Stag-watching. Observing potential roost hollows for 30mins prior to sunset and 60mins following sunset.	No trees present.
Non-Flying Mammals	Search for scats and signs - 30 minutes searching relevant habitat, including trees for scratch marks.	None were found or collected.
Reptiles	Day habitat search.	None were found.

Table 3: Observed Fauna Species – 8 November 2024 (* = exotic species)

Common Name	Species Name
Australian Magpie	*Cracticus tibicen*
Australian Raven	*Corvus coronoides*
Common Bronzewing	*Phaps chalcoptera*
Common Blackbird*	*Turdus merula*
Common Starling*	*Sturnus vulgaris*
Crested Pigeon	*Ocyphaps lophotes*
Galah	*Eolophus roseicapillus*
Noisy Miner	*Manorina melanocephala*
Australian Pipit	*Anthus australis*
Red-rumped Parrot	*Psephotus haematonotus*
Reed Warbler	*Acrocephalus australis*
Australian Wood Duck	*Chenonetta jubata*

Map 4: NSW Draft Native Vegetation Regulation Map exported April 2025. Approximate development site location shown in red.

Map 5: NSW Extant State Vegetation Type Map showing Plant Community Types codes (PCT 0 = Not Native).

3.3 Threatened Species and Ecological Communities

3.3.1 Matters of National Environmental Significance

The purpose of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is to ensure that actions likely to cause a significant impact on 'matters of national environmental significance' (MNES) undergo an assessment and approval process. Under the EPBC Act, an action includes a project, a development, an undertaking, an activity or a series of activities, or an alteration of any of these things. An action that 'has, will have or is likely to have a significant impact on a matter of national environmental significance' is deemed to be a 'controlled action' and may not be undertaken without prior approval from the Australian Minister for the Environment. MNES relevant to this report include wetlands of international importance, threatened species and ecological communities and migratory species.

An EPBC Protected Matters Report was generated in April 2025 (10km buffer of the proposal site) to identify MNES that have the potential to occur within. This report is included in Appendix C and is summarised below in Table 4. Section 3.3.1 below considers their likelihood of occurring at the proposal site.

Table 4: Summary of Identified Matters of National Environmental Significance (MNES) report.

MNES	Result	Is there an implication for this assessment?
Wetlands of International Importance	4	No – not applicable as all wetlands are greater than 300km upstream
Listed Threatened Ecological Communities	4	No as site survey determined none of these communities occur in the development site due to no native patch vegetation being within the proposal site.
Listed Threatened Species	30	No/Unlikely - Likelihood of presence considered in Section 3.3.1 below.
Listed Migratory Species	8	No/Unlikely – Likelihood of presence considered in Section 3.3.1 below.
Listed Marine Species	16	No – not applicable as no marine habitat impacted by the proposal
EPBC Act Referrals	3	No – not applicable

3.4 Likelihood Assessment - Threatened Species and Ecological Communities

Lists of EPBC Act and BC Act (NSW) threatened species and ecological communities recorded or predicted to occur within 20 kilometres of the study area are provided in Table 5 (flora), Table 6 (fauna) and Table 7 (ecological communities) along with their likelihood assessment. Refer to Map 6 to 8. The nearest records for threatened fauna species were the Pied Honeyeater, Painted Honeyeater and Superb Parrot.

The likelihood of species occurrence is categorized based on recorded sightings in credible databases, habitat suitability, site features, field survey results, and professional judgement. Where entities have a likelihood ranking of 'potential', 'likely' or 'yes', they have been considered in more detail in this report. The five categories are:

'Yes'	The species/community was or has been observed on the development area.
'Likely'	A medium to high probability that a species uses the development area
'Potential'	A suitable habitat for a species occurs on the development area, but there is insufficient information to categorise the species as 'likely' or 'unlikely' to occur.
'Unlikely'	A very low to low probability that a species uses the development area.
'No'	Habitat on the development area and in the vicinity is unsuitable for the species.

The proposal site did not contain any threatened ecological communities or suitable habitats for threatened species; therefore, all species were excluded from further consideration. The development area is cleared of native vegetation, with no other important habitat features and little to no significant habitat features in the impact area for these or other threatened fauna, as a result of historical and ongoing disturbance. The already disturbed/cleared area ensures no direct loss and/or indirect impact to native vegetation or habitat. As such, the likelihood assessment concluded that the proposal will not adversely affect any EPBC Act and BC Act (NSW) threatened species or ecological communities.

Table 5: Threatened flora species (EPBC Act & BC Act) recorded and/or predicted to occur within 20 kilometres of the study area.

Scientific	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Grevillea ilicifolia subsp. *ilicifolia*	Holly-leaf Grevillea	Critically Endangered		Occurs in highly disjunct localities in central west and central south NSW. Recorded from shrubby mallee communities.	Unlikely. Nearest record is over 10 km north. Development area is disturbed with no mallee communities on site. Not detected during site visit.	BioNet
Austrostipa wakoolica	A spear grass	Endangered	Endangered	Floodplains of the Murray River tributaries, in open woodland on grey, silty clay or sandy loam soils; habitats include the edges of a lignum swamp with box and mallee; creek banks in grey, silty clay; mallee and lignum sandy-loam flats; open Cypress Pine Forest on low sandy ranges; and low, rocky rises.	Unlikely. Lack of suitable habitat, poor understorey condition, disturbance history, and absence of records in the broader local area, with the nearest being approximately 60km south. Not detected during site visit.	PMST
Lepidium monoplocoides	Winged Pepper-cress	Endangered	Endangered	An uncommon plant which prefers grasslands, wetlands and floodplains on fine soils, also persisting on bare areas on dry clay scolds. Occurs on seasonally moist to waterlogged sites, on heavy fertile soils, dominated by Buloke, Black Box or Poplar Box with a field layer of surrounding tussock grasses.	Unlikely. Sites are freely draining and lack waterlogging, no Buloke present. Nearest record ~ 75km south. A conspicuous species which was not detected during site visit.	PMST
Pomaderris cocoparrana	Cocoparra Pomaderris	Endangered	Endangered	Known from rocky sites.	Unlikely. Nearest record over 19 km from site. Site lacks suitable habitat. A conspicuous shrub species which was not detected during site visit.	BioNet/PMST
Austrostipa metatoris	A spear grass	Vulnerable	Vulnerable	Grows in sandy areas of the Murray Valley, on red-brown clay-loam to sandy-loam soils.	Unlikely. No local records, with nearest being ~50km north-east. Site lacks sandy soils that are preferred by this species. Not detected during site visit.	PMST

Scientific	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Brachyscome papillosa	Mossgiel Daisy	Vulnerable	Vulnerable	Dry woodland, shrubland and grassland habitats, clay soils with Bladder Saltbush and Bluebush (*Maireana* spp.), also with Grey Box and Cypress-pine.	Unlikely. No local records. Subject site is disturbed. No native daisies present and not detected during site visit.	PMST
Lepidium aschersonii	Spiny Peppercress	Vulnerable	Vulnerable	Prefers heavy clay soils often near salt lakes on volcanic plains. Seasonally wet sites such as gilgai formations, as well as the edge of wetlands, marshes and shallow lakes.	Unlikely. No local records, with nearest being a lone 1993 record ~30km south-east of site. Subject site is disturbed. Not detected during site visit.	PMST
Maireana cheelii	Chariot Wheels	Vulnerable	Vulnerable	Very rare plant which prefers seasonally wet, heavy red loam or clay soils. Usually found on heavier, grey clay soils with Atriplex vesicaria (Bladder Saltbush).	Unlikely. No local records, with nearest ~50km north-west. Species is unique and was not identified during field assessments.	PMST
Swainsona murrayana	Slender Darling-pea, Slender Swainson, Murray Swainson-pea	Vulnerable	Vulnerable	A rare plant that prefers seasonally inundated soils on flats around lakes in red to brown clay loams and clay soils that are usually seasonally waterlogged with little disturbance. Occurs often in native grassland, herbland, chenopod shrubland and open Black-box woodland.	Unlikely. Nearest record ~70km west. Site has been heavily disturbed and field assessments did not locate this disturbance sensitive and conspicuous species.	PMST
Swainsona plagiotropis	Red Darling-pea, Red Swainson-pea	Vulnerable	Vulnerable	Grows on flat grassland and in heavy red soil, often on roadsides and especially in table drains.	Unlikely. Nearest record ~90km south. Soils not suitable. Conspicuous species not seen during field assessment. Site does not contain heavy red soil. There are no records for the species in the broader vicinity.	PMST

Table 6: Threatened fauna species (EPBC Act & BC Act) recorded and/or predicted to occur within 20 kilometres of the study area.

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Aves	*Calidris ferruginea*	Curlew Sandpiper	Critically Endangered	Critically Endangered - Migratory	Occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets. Estuaries, mudflats, swamps, lakes and lagoons on the coast but also sometimes occurring inland.	No. No waterways, wetlands or marshes on site. Closest records >10 km from site near lakes.	BioNet/PMST
Aves	*Lathamus discolor*	Swift Parrot	Endangered	Critically Endangered	Occurs in a broad range of forest and woodland habitats dominated by winter flowering Eucalypts, and sometimes urban areas with abundant large trees.	Unlikely. Nearest record >5km north west of site. Site lacks winter flowering Eucalypts or large trees.	BioNet/PMST
Aves	*Pedionomus torquatus*	Plains-wanderer	Endangered	Critically Endangered	Inhabits sparse, treeless, lowland native grasslands. Increasingly rare species.	Unlikely. Nearest record approximately 30km south west of site. Site is heavily disturbed and species is more likely to occupy areas that are undergoing fox control programs. Site lacks ground cover and open pans preferred by species.	PMST
Fish	*Galaxias rostratus*	Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow		Critically Endangered	Still or slow-moving waters such as wetlands, billabongs, swamps, large creeks and any slow flowing waters.	No. No watercourses or wetlands on site.	PMST
Frog	*Crinia sloanei*	Sloane's Froglet	Endangered	Endangered	A cryptic species, commonly associated with waterways and periodically inundated areas in grasslands, woodlands and also occurs in moderately disturbed habitats within its known range.	Unlikely. Site lacks suitable habitat. No suitable wetland present. Sloanes in broader region are all associated with large waterways and higher quality sites.	PMST

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Frog	*Litoria raniformis*	Southern Bell Frog	Endangered	Vulnerable	Permanent or ephemeral Black Box/ Lignum/Nitre Goosefoot swamps, Lignum/ Typha swamps and River Red Gum swamps.	No. Local records scarce and all from the 1970s. Nearest BioNet record > 15km north east of site (1979). No suitable riparian habitat.	BioNet/PMST
Fish	*Bidyanus bidyanus*	Silver Perch, Bidyan		Endangered	Generally prefer fast flowing waters like rapids and cascades, and more open sections of water. Overbank flooding is an important part of the breeding cycle.	No. No waterways on site.	PMST
Fish	*Maccullochella macquariensis*	Trout Cod		Endangered	Prefer rapidly flowing waterways with rocky or gravel beds, containing deep pools and abundant in-stream woody debris such as logs and trees.	No. Site lacks waterway habitat.	PMST
Fish	*Macquaria australasica*	Macquarie Perch		Endangered	Clear, deeper permanent waterbodies with abundant in-stream cover such as aquatic vegetation, logs and trees, boulders and vegetation overhanging stream banks.	No. Site lacks waterway habitat.	PMST
Aves	*Botaurus poiciloptilus*	Australasian Bittern	Endangered	Endangered	Permanent freshwater wetlands and marshes with tall, dense, fringing vegetation. Favours permanent and seasonal freshwater habitats.	No. No waterways, wetlands or marshes on site. While there are numerous records within the vicinity, closest record is from 1993 along Mirrool Creek.	BioNet/PMST
Aves	*Burhinus grallarius*	Bush Stone-curlew	Endangered		Open forests and woodlands with a sparse grassy ground layer and fallen timber.	Unlikely. No suitable habitat, lacking in ground timber. Fox numbers are high. Closest records >8km north-west of the site.	BioNet

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Aves	*Climacteris affinis*	White-browed Treecreeper population in Carrathool local government area south of the Lachlan River and Griffith local government area	Endangered		Inhabits shrublands and woodlands or arid and semi-arid regions, mainly in low woodlands dominated by acacias (mulga, gidgee) and sheoaks (buloke, belah, Sauarina) and in woodlands dominated by Callitris.	Unlikely. Numerous records north east of site within forested areas (>14km away). Site lacks suitable habitat for species and is highly disturbed.	BioNet
Aves	*Ephippiorhynch-us asiaticus*	Black-necked Stork	Endangered		Occurs in the vicinity of freshwater. Less common in coastal areas and occasionally woodland or grassland. Roosts on the ground beside the water, sometimes in trees.	No. One historical record (1878) > 9km north west of site. No suitable habitat on site.	BioNet
Aves	*Leipoa ocellata*	Malleefowl	Endangered	Vulnerable	Semi-arid shrubland and Mallee environments with abundant ground cover and litter. Prefers Mallee woodlands with high diversity,	No. Site lacks spinifex grasses and Mallee species. One record >19 km north east of site in forested area, Cocoparra National Park.	BioNet/PMST
Aves	*Limosa limosa*	Black-tailed Godwit	Vulnerable	Endangered - migratory	More often in coastal and northern parts of Australia, but when inland it prefers muddy areas associated with wetlands and other riparian areas.	No. Site lacks suitable habitat. Closest records >12km north west of site near Lake Wyangan.	BioNet/PMST
Aves	*Lophochroa leadbeateri leadbeateri*	Pink Cockatoo	Vulnerable	Endangered	Found in a wide range of habitats but nearly always within proximity to water sources.	Unlikely. Species more likely to frequent riparian vegetation nearby. Closest records >2km north of site.	BioNet/PMST
Aves	*Melanodryas cucullata cucullata*	South-eastern Hooded Robin	Endangered	Endangered	Prefers lightly wooded, open landscapes, usually Eucalypt woodlands, Acacia scrub and mallee	Unlikely. Closest records >6km away. Site lacks suitable habitat.	BioNet/PMST

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Aves	*Rostratula australis*	Australian Painted Snipe	Endangered	Endangered	Fringes of swamps, lakes, dams, ponds, estuaries, waterlogged grasslands/pastures and marsh	Unlikely. Site lacks suitable habitat. Two historic records (1976) from >10 km north west of site.	BioNet/PMST
Aves	*Tringa nebularia*	Common Greenshank	Endangered	Endangered - migratory	Coastal and inland sheltered wetlands, mudflats, river estuaries, lagoons, saltmarshes and inundated pastures.	No. Site lacks suitable habitat. Records within 20km of the site are around a Lake in north-west.	BioNet/PMST
Mamm-alia	*Phascolarctos cinereus*	Koala	Endangered	Endangered	Eucalypt forests and woodlands that contain some of their ~70 preferred Eucalyptus species.	No. Site lacks suitable habitat for species. One record >17 km west of site.	BioNet/PMST
Reptile	*Hemiaspis damelii*	Grey Snake		Endangered	Prefers Brigalow woodlands and Gelah woodlands, often residing in heavy cracking clay soils near waterbodies, in areas containing small cracks, gullies and other undulations associated with gilgais.	Unlikely. The site does not contain gilgai soil formations, thus lacking the small gullies, cracks and crevices this species relies on. No local records.	PMST
Aves	*Anseranas semipalmata*	Magpie Goose	Vulnerable		Predominantly found in wet grasslands, swamps and other marshlands, sticking to coastal areas.	Unlikely. Multiple records from greater than 10km north-west and south of the site near lakes. Absence of suitable habitat in project footprint but may use nearby creek areas.	BioNet
Aves	*Aphelocephala leucopsis*	Southern Whiteface	Vulnerable	Vulnerable	Arid and semi-arid acacia and eucalypt woodland and shrubland. Prefers relatively undisturbed open woodland and shrubland with grassy and shrubby understorey	Unlikely. While numerous records north of the site (>6km), site lacks preferred open woodland and shrub habitat and is highly disturbed.	BioNet/PMST
Aves	*Arenaria interpres*	Ruddy Turnstone		Vulnerable - migratory	Saltwater lakes, coastal bays, inlets and shorelines, sometimes present in lakes and wetlands of the interior.	No. No suitable habitat.	PMST
Aves	*Artamus cyanopterus cyanopterus*	Dusky Woodswallow	Vulnerable		Dry, open eucalypt forests and woodlands. Open or sparse	Unlikely. While Mirrool Creek floodplain may be suitable habitat nearby, this species would be an	BioNet

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
					understorey. Often on interface of forests and farmland.	occasional visitor to subject site at best. Closest record is >6km north west of the site.	
Aves	*Calidris acuminata*	Sharp-tailed Sandpiper		Vulnerable - migratory	Shallow, grassy, vegetated fringes of inland freshwater wetlands and marshes. Also occurs on coasts on mudflats	No. No waterways, wetlands or marshes on site. Closest records >10 km from site near lakes.	BioNet/PMST
Aves	*Calyptorhynchus lathami lathami*	South-eastern Glossy Black-Cockatoo	Vulnerable	Vulnerable	Heavily dependent on She-oak species.	Unlikely. No She-oak species recorded in the study area. Records >13km north.	BioNet/PMST
Aves	*Certhionyx variegatus*	Pied Honeyeater	Vulnerable		Arid and semi-arid zones, preferring shrublands that are dominated by Eremophila and Grevillea species, as well as woodlands, sandhills, ranges and rocky outcrops.	Unlikely. Site does not contain preferred habitat. One of the closest records to the subject site is of this species (and Painted Honeyeater) along a vegetated roadside 750 metres east.	BioNet
Aves	*Chthonicola sagittata*	Speckled Warbler	Vulnerable		Eucalypt dominated communities, grassy understorey, native tussock grasses, sparse shrub layer, open canopy.	Unlikely. Numerous records north east of site within a forested area (>14km away). Site lacks suitable habitat for species and is highly disturbed.	BioNet
Aves	*Circus assimilis*	Spotted Harrier	Vulnerable		Prefers grassy open woodlands in Acacia and Mallee remnants, grasslands, and shrub steppe.	Unlikely. Nearest records are >8km from site. Site does not contain suitable habitat. May be an aerial visitor to site on occasion.	BioNet
Aves	*Climacteris picumnus victoriae*	Brown Treecreeper (eastern subspecies)	Vulnerable	Vulnerable	Prefers Eucalyptus woodlands and open forests, particularly those containing box species	Unlikely. Site lacks suitable habitat for species and is highly disturbed.	BioNet/PMST
Aves	*Daphoenositta chrysoptera*	Varied Sittella	Vulnerable		Forests and woodlands. Prefer rough-barked trees like stringybarks and ironbarks or mature trees with hollows or dead branches.	Unlikely. Numerous records north east of site within a forested area (>14km away). Site lacks suitable habitat (no rough barked trees or hollows) for species and is highly disturbed.	BioNet

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Aves	*Epthianura albifrons*	White-fronted Chat	Vulnerable		Open areas with low-growing vegetation, preferring wetlands, saltmarshes and coastal dunes.	Unlikely. Site lacks suitable habitat. No suitable wetland habitat present.	BioNet
Aves	*Falco hypoleucos*	Grey Falcon	Vulnerable	Vulnerable	Prefers shrubland, grassland and tree-lined watercourses of arid and semi-arid regions.	Unlikely. No recent records in the broader area. More likely to occur along nearby creek lines or in more arid areas. Possible infrequent aerial visitor to site.	BioNet/PMST
Aves	*Falco subniger*	Black Falcon	Vulnerable		Tree-lined watercourses and in isolated woodlands in arid and semi-arid areas.	Unlikely. More likely to occur along nearby creek lines or in more arid areas. Possible infrequent aerial visitor to site	BioNet
Aves	*Gallinago hardwickii*	Latham's Snipe	Vulnerable	Vulnerable - migratory	Inhabits freshwater wetlands on or near the coast, generally among dense cover. The edges of freshwater lakes, marshes and wetlands.	No. No watercourses or wetland on site.	BioNet/PMST
Aves	*Grantiella picta*	Painted Honeyeater	Vulnerable	Vulnerable	Prefers Boree/Weeping Myall, Brigalow and Box-Gum woodlands and Ironbark forests. Feeds on Mistletoe species (fruits) that grow on Eucalypts and Acacias.	Unlikely. Site does not contain preferred habitat, but weeping myall occurs on adjacent roadsides. One of the closest records to site is of this species and Pied Honeyeater along a vegetated roadside 750 metres east. At best, would be a very infrequent visitor to the scattered shrubs on the roadside which will be protected.	BioNet/PMST
Aves	*Grus rubicunda*	Brolga	Vulnerable		Wetlands, lakes, marshes and inundated paddocks.	No. No watercourses or wetland on site. One historical record >9km east of site.	BioNet
Aves	*Haliaeetus leucogaster*	White-bellied Sea-Eagle	Vulnerable		Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum	Unlikely. May be aerial visitor to site from nearby creek. No records nearby, closest >11 km	BioNet

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
					Woodlands. Found in a wide range of habitats but nearly always within proximity to water sources.	west/north west of site. Site lacks woodlands preferred by the species.	
Aves	*Hieraaetus morphnoides*	Little Eagle	Vulnerable		Wide habitat range including wooded farmlands and dry woodlands and open forests, nesting in mature trees on hillsides in open woodland and along tree-lined watercourses.	Unlikely. Site is cleared and lacks mature trees. More likely to frequent nearby watercourse. Closest records >6 km from site.	BioNet
Aves	*Hirundapus caudacutus*	White-throated Needletail	Vulnerable	Vulnerable - migratory	Species appears to primarily roost aerially, it has been recorded roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows. Feed, drink and rest on the wing in large groups. May rest at night in forested country.	Unlikely. No suitable habitat on site. May occupy the airspace above the study area on occasion. Closest records >14 km from site.	BioNet
Aves	*Hylacola cautus*	Shy Heathwren	Vulnerable		Inhabits mallee woodlands with relatively dense understorey of shrubs and heath. The central NSW population also occurs at low densities in rocky hilltop vegetation with a thick shrub layer. Feed on the ground for insects and rarely seeds, e.g. saltbush.	Unlikely. No preferred habitat on site. Nearest records occur in forested area >18km north east of site in Cocoparra National Park.	BioNet
Aves	*Neophema chrysostoma*	Blue-winged Parrot	Vulnerable	Vulnerable	Prefer grasslands and grassy woodlands with a particular preference for areas near wetlands. The species over-summers in Tasmania.	Unlikely. Closest records >12 km from site, occurring near wetlands and lakes. Site does not contain suitable habitat for species.	BioNet/PMST

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Aves	*Neophema pulchella*	Turquoise Parrot	Vulnerable		Outskirts of eucalypt woodlands adjoining timbered ridges, clearings and farmland creeks.	Unlikely. Closest records are from >13 km north west and north east of site near National Park and Lake. Site is cleared and lacks suitable habitat for species.	BioNet
Aves	*Ninox connivens*	Barking Owl	Vulnerable		Woodland and open forest, with large home ranges that includes fragmented remnants and partially cleared farmland. Tends to occupy larger core areas of higher quality bushland.	Unlikely. Site lacks suitable habitat being cleared and is disturbed. Closest site >6km from site.	BioNet
Aves	*Oxyura australis*	Blue-billed Duck	Vulnerable		Deep water, large permanent wetlands and swamps. Dense aquatic vegetation.	No. Site lacks aquatic habitat. All local records occur north west of site near Lakes.	BioNet
Aves	*Pachycephala inornata*	Gilbert's Whistler	Vulnerable		Semi-arid and arid shrubland and mallee country with dense thicket-like understorey vegetation.	Unlikely. Local records are from >16 km north east of site in and near National Park. Site contains no understorey vegetation preferred by the species.	BioNet
Aves	*Pandion cristatus*	Eastern Osprey	Vulnerable		Inhabits coastal areas including bays, inlets and estuaries.	No. One historic record (1985) from >12km south west of site. Site lacks suitable habitat.	BioNet
Aves	*Petroica phoenicea*	Flame Robin	Vulnerable		Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes.	Unlikely. Site lacks suitable vegetation for species. Nearest records are >7.5 km from site.	BioNet
Aves	*Polytelis swainsonii*	Superb Parrot	Vulnerable	Vulnerable	Mainly inhabits River Red-Gum forests and Box-gum woodlands. Occurs (nests) in large River Red-gum forests along the Murray River and its nearby major river tributaries, but main foraging habitat is Mallee woodland within 20 km of riverine nesting habitat.	Unlikely. Site lacks suitable habitat. Some local records approximately 1km from site on vegetated roadsides near riparian vegetation.	BioNet/PMST

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Aves	*Pomatostomus temporalis temporalis*	Grey-crowned Babbler (eastern subspecies)	Vulnerable		Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodland.	Unlikely. Site lacks suitable habitat.	BioNet
Aves	*Stagonopleura guttata*	Diamond Firetail	Vulnerable	Vulnerable	Forests, woodlands and grasslands. Grasslands and grassy woodlands including box-gum woodlands and Snow Gum (Eucalyptus pauciflora) woodlands.	Unlikely. Site lacks suitable habitat. Not recent records from region (most recent 2008).	BioNet/PMST
Aves	*Stictonetta naevosa*	Freckled Duck	Vulnerable		Prefer permanent freshwater wetlands, swamps and creeks with dense vegetation, ideally containing heavy growth of Cumbungi, Lignum or Tea-tree.	No. Site lacks open wetland or marsh habitat. Nearest records occur near Lakes	BioNet
Mamm-alia	*Chalinolobus picatus*	Little Pied Bat	Vulnerable		Dry open forests, open woodlands, preferring those with Mulga, Chenopod shrublands, Cypress Pine forests and Mallee woodlands.	Unlikely. No preferred habitat on site or roosting areas. No trees hollows on site. Closest records >14 km north west and north east of site.	BioNet
Mamm-alia	*Myotis macropus*	Southern Myotis	Vulnerable		Roost sites include tree hollows, caves, mine shafts, culverts and under bridges, sometimes in human made structures, preferring locations close to water.	Unlikely. Closest records >10 km from site. Site lacks suitable habitat for species.	BioNet
Mamm-alia	*Nyctophilus corbeni*	Corben's Long-eared Bat	Vulnerable	Vulnerable	Occurs in a range of habitats including Mallee, Buloke and Box-gum dominated woodlands, but seems to prefer Box-Ironbark and Cypress vegetation types.	Unlikely. Site lacks suitable habitat. Closest records occur on National >5km north-east of site. Site lacks preferred vegetation types and is predominantly cleared for vegetation.	BioNet/PMST
Mamm-alia	*Pteropus poliocephalus*	Grey-headed Flying-fox	Vulnerable	Vulnerable	Requires foraging resources and roosting sites. Has wide ranging habitat, tending to prefer dense vegetation on waterways for roosting.	No. Site does not have suitable habitat or resources. No records within 20km of site.	PMST

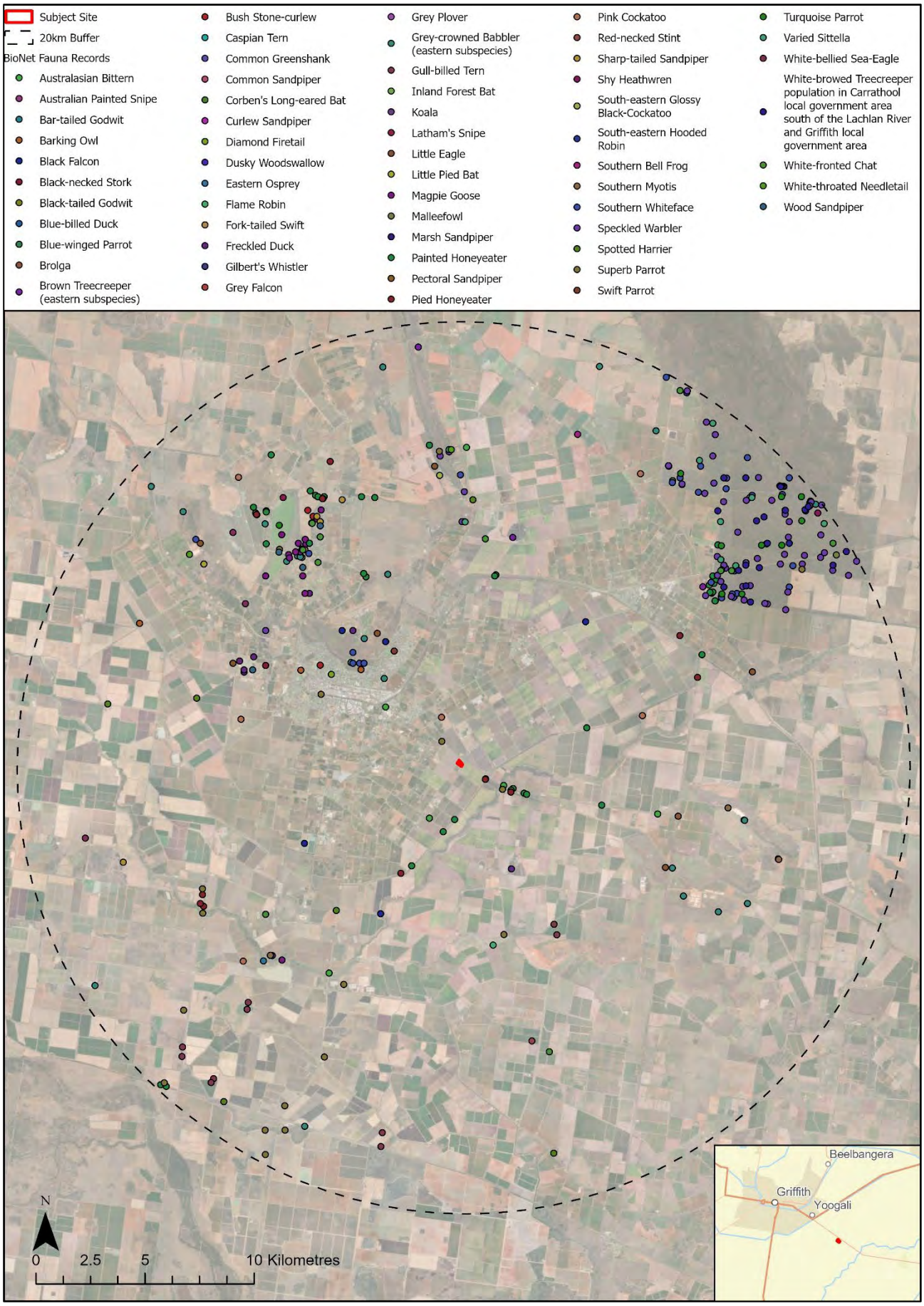
Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Mamm-alia	*Vespadelus baverstocki*	Inland Forest Bat	Vulnerable		Cave roosting species found in dry open forest and woodland, near cliffs or rocky overhangs.	No. Site lacks suitable habitat. One record from >15 km north west of site.	BioNet
Reptile	*Aprasia parapulchella*	Pink-tailed Worm-lizard, Pink-tailed Legless Lizard	Vulnerable	Vulnerable	Rocky areas and outcrops are an important habitat requirement, but species has been found from ant nests in shrubland without rocks (Hay Plains). Prefers sloping open woodland areas with a grassy ground layer and partially buried rocks.	Unlikely. Study area lacks rocky substrates. High levels of disturbance and limited preferred habitat for this species. No local records.	PMST
Aves	*Actitis hypoleucos*	Common Sandpiper		Migratory	Migrates to Australia over winter and prefers coastal and inland wetland habitats with mudflat margins, both saline and fresh.	No. One record 10 km north-west of the site from 1981. Site lacks preferred water habitats.	BioNet/PMST
Aves	*Apus pacificus*	Fork-tailed Swift		Migratory	Almost exclusively an airborne species, roosting on cliffs and rock walls. Arid areas, inland plains and coastal areas.	No. No suitable habitat. At best an occasional visitor to the airspace above the study area. One record >12 km north west of the site.	BioNet/PMST
Aves	*Calidris melanotos*	Pectoral Sandpiper		Migratory	Coastal lagoons, estuaries, bays, swamps, lakes and inundated grasslands.	No. No waterways, wetlands or marshes on site. Closest records >10 km from site.	BioNet/PMST
Aves	*Calidris ruficollis*	Red-necked Stint		Migratory	Coastal lagoons, estuaries, bays, swamps, lakes, and inundated grasslands.	No. No waterways, wetlands or marshes on site. Closest records >10 km from site.	BioNet/PMST
Aves	*Charadrius bicinctus*	Double-banded Plover		Migratory	Beaches, grassed edges of open wetlands and intertidal mudflats.	No. No suitable habitat on site.	PMST
Aves	*Gelochelidon nilotica*	Gull-billed Tern		Migratory	Freshwater swamps, wetlands, lakes, both salty and brackish, sewage farms, irrigated croplands and grasslands.	No. No watercourses or wetland on site.	BioNet
Aves	*Hydroprogne caspia*	Caspian Tern		Migratory	Sheltered coastal embayment's. Prefers sandy or muddy margins.	No. No watercourses or wetland on site.	BioNet

Class Name	Scientific Name	Common Name	NSW (BC Act) Status	Comm (EPBC Act) Status	Preferred Habitat	Likelihood	Source
Aves	*Limosa lapponica*	Bar-tailed Godwit		Migratory	Coastal lagoons, estuaries, bays, swamps, lakes, and inundated grasslands.	No Site lacks suitable habitat. Closest records >12km north west of site near Lake Wyangan.	BioNet
Aves	*Motacilla flava*	Yellow Wagtail		Migratory	Damp habitats with low vegetation, favouring wet meadows, marshland, grassy and muddy lakeshores. Occurs in fields and often near livestock during migration.	No. Site lacks suitable habitat. No records within 20km of site.	PMST
Aves	*Pluvialis squatarola*	Grey Plover		Migratory	When inland, it prefers wetlands, lagoons, lakeshores, marshes and ploughed fields.	No. Site lacks suitable aquatic habitat. One historic record > 10 km north west of site.	BioNet
Aves	*Tringa glareola*	Wood Sandpiper		Migratory	Uses well-vegetated, shallow, freshwater wetlands, inundated grasslands, irrigated crops and artificial wetlands. Typically associated with emergent, aquatic plants or grass	No. Site lacks suitable habitat. Records are historic from Lake, north-west of site.	BioNet/PMST
Aves	*Tringa stagnatilis*	Marsh Sandpiper		Migratory	Fresh and brackish shallow wetland habitats with open water, grassy or muddy lake edges, river valleys, flooded pastures and occasionally salt lakes.	No. Site lacks suitable habitat. Records are from Lakes.	BioNet/PMST

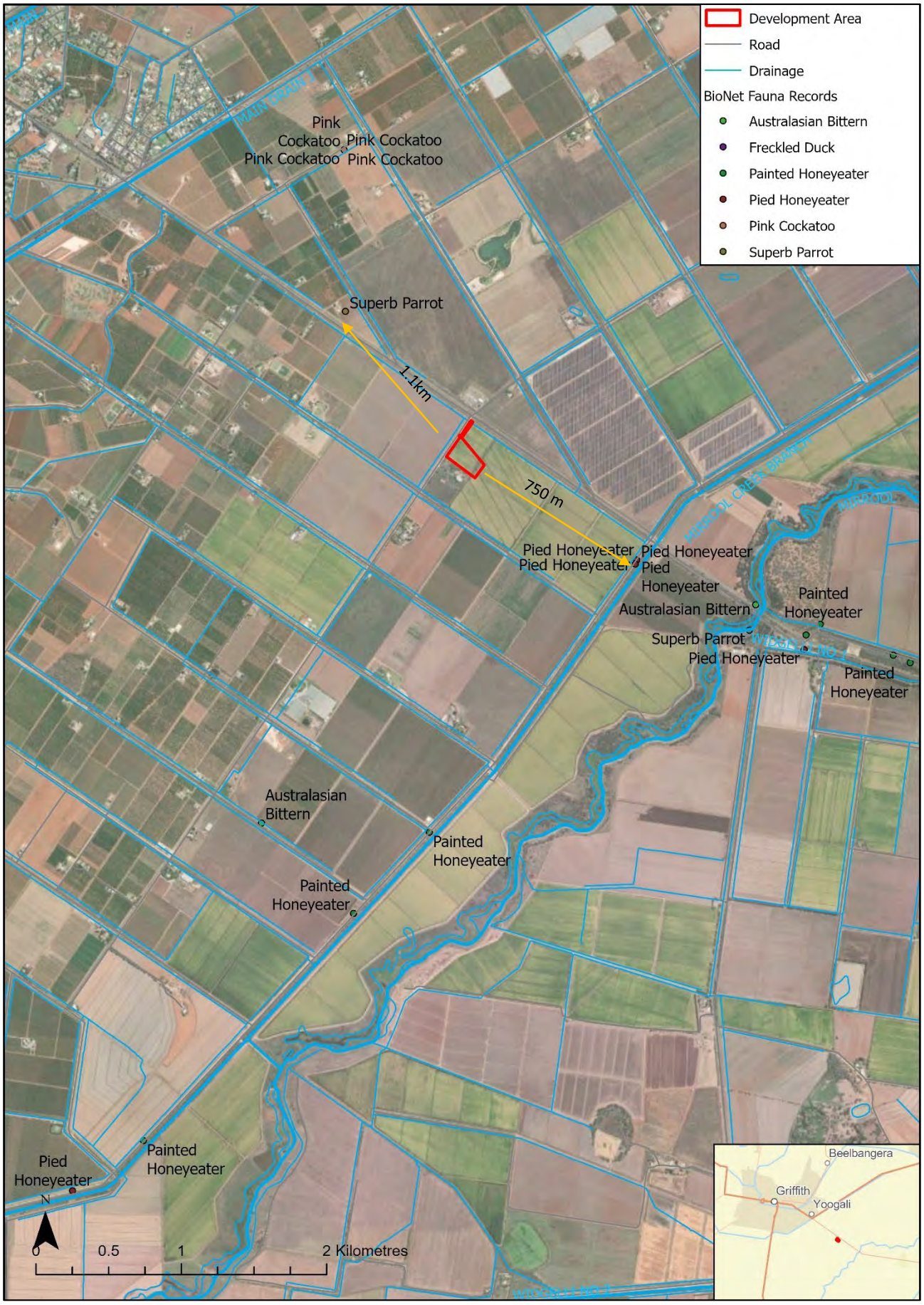
Table 7: of BC Act-listed and EPBC Act-listed threatened ecological communities within a 20-kilometre radius of the study area.

Community Name	BC Act status	EPBC Act status	Likelihood	Source
Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion	Critically Endangered		No. No indicator species present.	BioNet
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	Critically Endangered		No. No indicator species present.	BioNet
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland		Critically Endangered	No. No indicator species present.	BioNet/PMST
Acacia melvillei Shrubland in the Riverina and Murray-Darling Depression bioregions	Endangered		No. No indicator species present.	BioNet
Allocasuarina luehmannii Woodland in the Riverina and Murray-Darling Depression Bioregions	Endangered		No. No indicator species present.	BioNet
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	Endangered		No. No indicator species present.	BioNet
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions	Endangered		No. No indicator species present.	BioNet
Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions	Endangered		No. Some scattered Myall occurs in adjoining roadside areas, likely planted/ revegetated. However, these adjoining areas no longer retain the compositional structure or diversity to be considered part of this community.	BioNet
Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions	Endangered		No. No indicator species present.	BioNet
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions		Endangered	No. No indicator species present.	BioNet/PMST
Poplar Box Grassy Woodland on Alluvial Plains		Endangered	No. No indicator species present.	BioNet/PMST
Weeping Myall Woodlands		Endangered	No. Some scattered Myall occurs in adjoining roadside areas, likely planted/ revegetated. However, these adjoining areas no longer retain the compositional structure or diversity to be considered part of this community.	BioNet/PMST

Map 6: BioNET flora records within 20km of the development site (BioNET 2025).



Map 7: NSW BioNET fauna records within 20km of the development site (BioNET 2025).



Map 8: Closest NSW BioNET fauna records (BioNET 2025).

4 Conclusion

Site surveys confirmed that vegetation present at the time of the assessment does not align with any PCT. Vegetation consisted predominantly of exotic grasses and forbs with less than 2% native vegetation grasses and/or scattered widely spaced Myall shrubs in a flood-irrigated agricultural and transport easement context. The study area contains limited features of ecological value and habitat connectivity.

The site is highly modified as a result of previous and current disturbance. No threatened species, ecological communities or their habitats were recorded or considered likely to occur within the development site. The study area does not contain any aquatic habitats, hollow-bearing trees, native vegetation or man-made infrastructure suitable for providing roosting or foraging resources to threatened fauna. No impacts to aquatic habitats are likely to occur as a result of the proposal. The site contains limited features of ecological value that are unlikely to contribute to the movement of threatened fauna species to maintain their lifecycle.

Based on the above, the Griffith BESS proposal is considered highly unlikely to result in impacts either direct, indirect or prescribed to threatened flora and fauna species and or ecological communities. Specifically, the Griffith BESS:

- will not clear or remove native vegetation, other than planted native vegetation that is not consistent with a plant community type known to occur in the same Interim Biogeographic Regionalisation of Australia (IBRA) subregion, such as street trees, trees in a car park, or landscaping
- will have negligible adverse impact on threatened species and ecological communities, considering habitat suitability, abundance, habitat connectivity, movement of species, water sustainability, and non-natural features such as non-native vegetation and human-built structures
- will have negligible adverse impact on protected animals because of impacts on flight path integrity.

It is concluded that if the proposed development is to proceed as planned there will be no significant impacts to biodiversity/ecological values and as such a Biodiversity Development Assessment Report (BDAR) waiver should be requested in accordance with s.7.9(2) of the BC Act.

Information derived from this assessment should be considered to inform any requests for the Secretary's Environmental Assessment Requirements (SEARs) to support the preparation of application of BDAR waiver in accordance with the DPE's Fact Sheet: Biodiversity development assessment report waiver determinations for SSD and SSI applications (DPE 2018).

5 Appendices

Appendix A: Site Photos

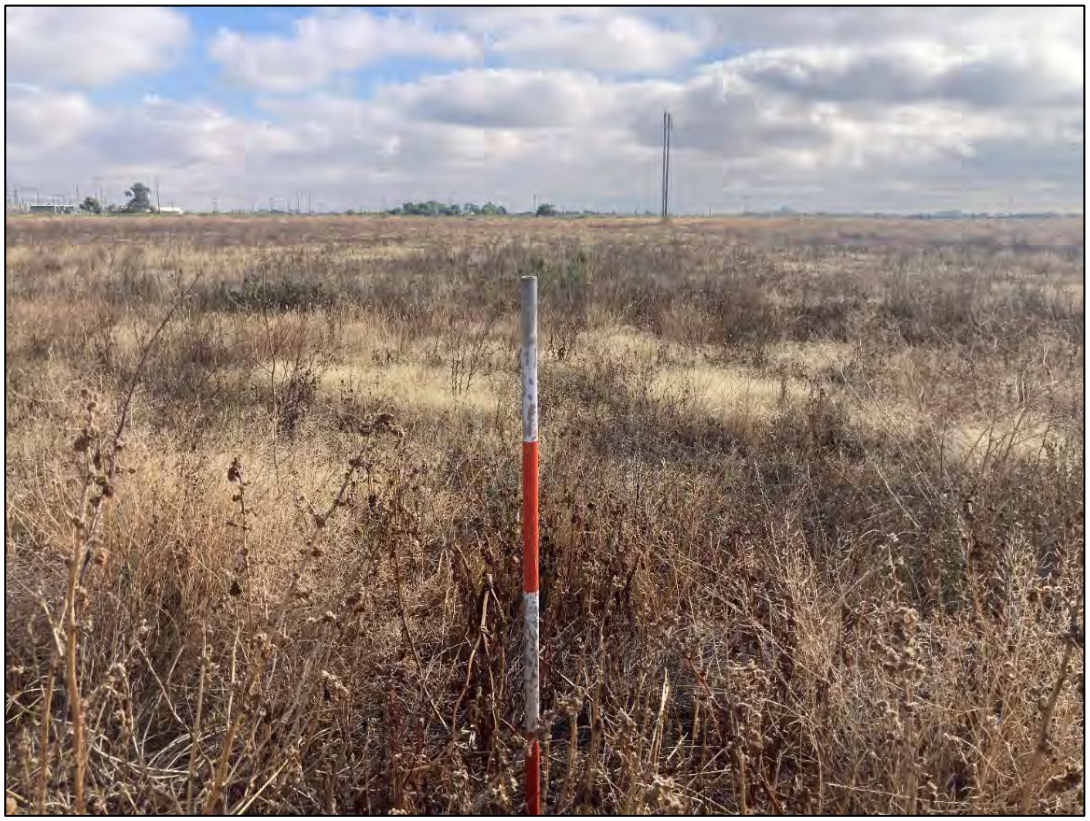


Photo 1: Site conditions of Griffith BESS at 15 Bob Irvin Road, north west orientation. Photo: D.Wall 2024.

Photo 2: Site conditions of Griffith BESS at 15 Bob Irvin Road, north east corner, facing north east. Photo: D.Wall 2024.

Photo 3: Site conditions of Griffith BESS at 15 Bob Irvin Road, centre of site, facing south west. Photo: D.Wall 2024.

Photo 4: Site conditions of Griffith BESS along Bob Irvin Road - western boundary with exotic Date Palms and understorey with scattered individual native Myall shrubs. Photo: D.Wall 2024

Photo 5: Site conditions of Griffith BESS from Irrigation Way facing south west. Photo: D.Wall, 2024.

Photo 7: Site conditions of Griffith BESS from Irrigation Way facing north over Griffith Substation with exotic trees. Photo: D.Wall 2024.

Photo 8: Site conditions of Griffith BESS from Irrigation Way facing north east with Griffith Substation. Photo: D.Wall 2024.

Photo 9: Scattered widely spaced occurrences of Weeping Myall Acacia pendula with exotic understorey and/or Date Palms along the eastern side of Bob Irvin Road that are proposed to be avoided. Photo: D.Wall 2024

Appendix B: Biodiversity Values Map and Threshold Report (April 2025)

NSW GOVERNMENT Department of Planning and Environment

Biodiversity Values Map and Threshold Report

This report is generated using the Biodiversity Values Map and Threshold (BMAT) tool. The BMAT tool is used by proponents to supply evidence to your local council to determine whether or not a Biodiversity Development Assessment Report (BDAR) is required under the Biodiversity Conservation Regulation 2017 (Cl. 7.2 & 7.3).

The report provides results for the proposed development footprint area identified by the user and displayed within the blue boundary on the map.

There are two pathways for determining whether a BDAR is required for the proposed development:

1. Is there Biodiversity Values Mapping?
2. Is the 'clearing of native vegetation area threshold' exceeded?

Biodiversity Values Map and Threshold Report

Date of Report Generation		29/04/2025 12:17 PM
1. Biodiversity Values (BV) Map - Results Summary (Biodiversity Conservation Regulation Section 7.3)		
1.1	**Does the development Footprint intersect with BV mapping?**	no
1.2	**Was ALL BV Mapping within the development footprinted added in the last 90 days?** (dark purple mapping only, no light purple mapping present)	no
1.3	**Date of expiry of dark purple 90 day mapping**	N/A
1.4	**Is the Biodiversity Values Map threshold exceeded?**	no
2. Area Clearing Threshold - Results Summary (Biodiversity Conservation Regulation Section 7.2)		
2.1	**Size of the development or clearing footprint**	61,584.6 sqm
2.2	**Native Vegetation Area Clearing Estimate (NVACE)** (within development/clearing footprint)	3,598.2 sqm
2.3	**Method for determining Minimum Lot Size**	LEP
2.4	**Minimum Lot Size** (10,000sqm = 1ha)	200,000 sqm
2.5	**Area Clearing Threshold** (10,000sqm = 1ha)	5,000 sqm
2.6	**Does the estimate exceed the Area Clearing Threshold?** (NVACE results are an estimate and can be reviewed using the Guidance)	no
REPORT RESULT: Is the Biodiversity Offset Scheme (BOS) Threshold exceeded for the proposed development footprint area? (Your local council will determine if a BDAR is required)		**no**

Page 1 of 4

Biodiversity Values Map

371.5 0 185.77 371.5 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

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.

Legend

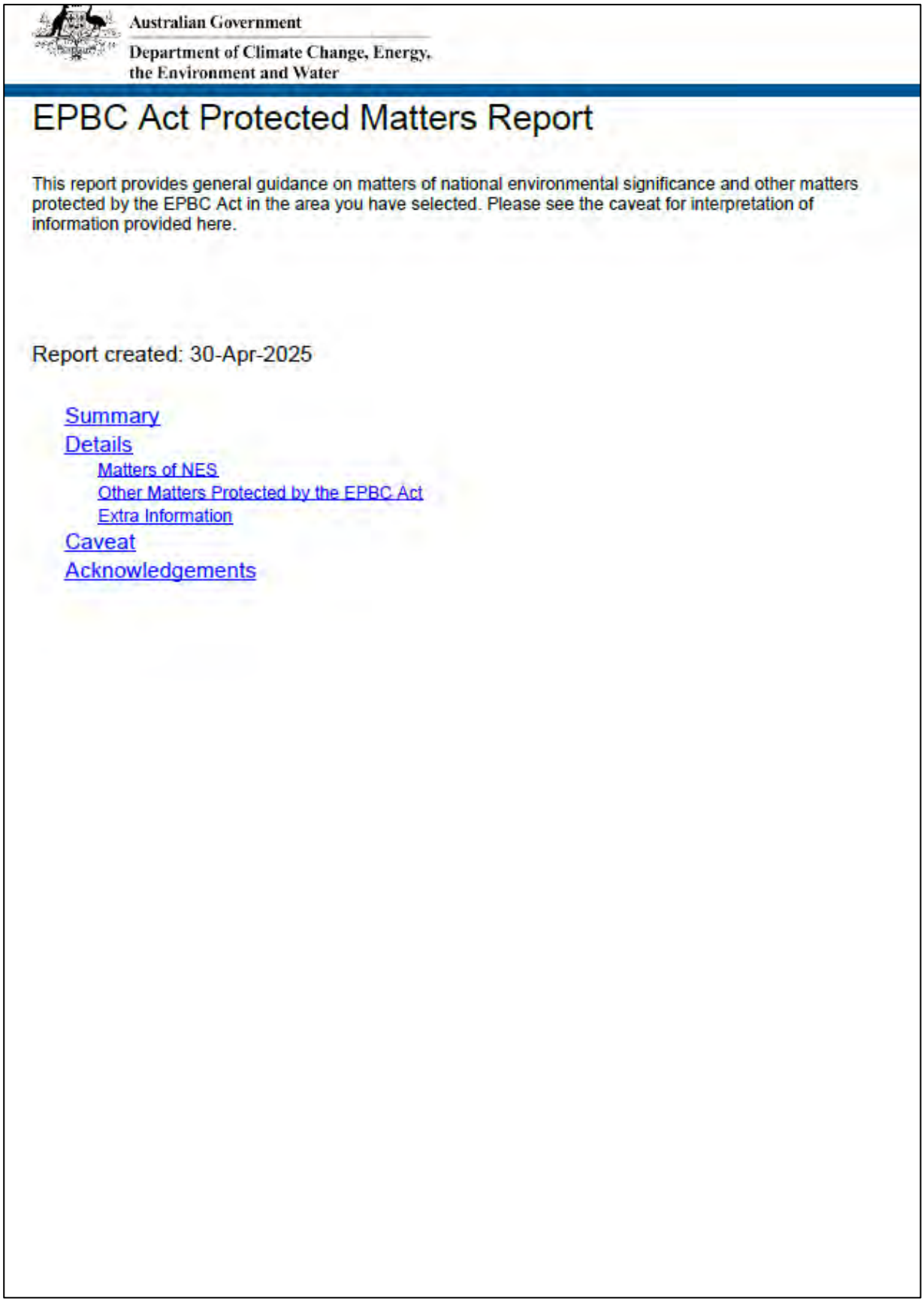
- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days
- Native Vegetation Area Clearing Estimate (NVACE)
- Development area selected by proponent

29/04/2025 12:17 PM

The results provided in this tool are generated using the best available mapping and knowledge of species habitat requirements.

This map is valid as at the date the report was generated. Checking the Biodiversity Values Map viewer for mapping updates is recommended.

Appendix C: Matters of National Environmental Significance (MNES) report (April 2025)



Australian Government

Department of Climate Change, Energy, the Environment and Water

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: 30-Apr-2025

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:	4
Listed Threatened Species:	30
Listed Migratory Species:	8

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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	16
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:	3
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
Banrock station wetland complex	500 - 600km upstream from Ramsar site
Hattah-kulkyne lakes	300 - 400km upstream from Ramsar site
Riverland	400 - 500km upstream from Ramsar site
The coorong, and lakes alexandrina and albert wetland	600 - 700km upstream from Ramsar site

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
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community may occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
Weeping Myall Woodlands	Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived	Critically Endangered	Community may occur within area

https://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=43

[Resource Information]

t and Extinct are not MNES under the EPBC Act.

Scientific Name	Threatened Category	Presence Text
BIRD		

Scientific Name	Threatened Category	Presence Text
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat may occur within area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Lophochroa leadbeateri leadbeateri Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo, Pink Cockatoo (eastern) [82926]	Endangered	Species or species habitat likely to occur within area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat likely to occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area
FISH		
Bidyanus bidyanus Silver Perch, Bidyan [76155]	Endangered	Species or species habitat likely to occur within area
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
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
FROG		

Scientific Name	Threatened Category	Presence Text
Crinia sloanei		
Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area
Litoria raniformis		
Southern Bell Frog, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area
MAMMAL		
Nyctophilus corbeni		
Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within 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 may occur within area
PLANT		
Lepidium monoplocoides		
Winged Pepper-cress [9190]	Endangered	Species or species habitat may occur within area
Maireana cheelii		
Chariot Wheels [8008]	Vulnerable	Species or species habitat may occur within area
Swainsona murrayana		
Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
Hemiaspis damelii		
Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		

Scientific Name	Threatened Category	Presence Text
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area overfly marine area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine 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
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed
Not controlled action (particular manner)			
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval

Appendix F Aboriginal Cultural Heritage Due Diligence Assessment

Aboriginal Cultural Heritage Due Diligence Assessment

Griffith Battery Energy Storage System

at

Yoogali, NSW

Prepared for

EDPR Australian &

Eku Energy Australia

Version 2

15/5/25

Red-Gum Environmental Consulting Pty Ltd
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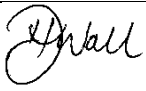
Citation	D. Wall, E. Mendham, M.Cronin & J. Durrant. 2025. Griffith Battery Energy Storage System, Yoogali NSW 2680. Aboriginal Cultural Heritage Due Diligence Advice. Report to EDPR and Eku Australia
Study Area Address	41 Bob Irvin Road, 1/-/DP1252779 and parts of Lot 2//DP1252779 at 15 Bob Irvin Road, Yoogali, NSW
Local Government Area	Griffith City Council
Revision / Version #	Version 2, revised 8/5/25
Primary Authors	Damian Wall
Red-Gum Sign-off	 Damian Wall Managing Director

Glossary and Acronyms

ACRONYM	DESCRIPTION
ACHDDA	Aboriginal Cultural Heritage Due Diligence Assessment
ACHMP	Aboriginal Cultural Heritage Management Plan
ACHCRP	Aboriginal Cultural Heritage Consultation Requirements for Proponents
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
BESS	Battery Energy Storage System
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
DPHI	NSW Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
GSV	Ground Surface Visibility
Heritage Act	*Heritage Act 1977* (NSW)
IBRA	Interim Biogeographic Regionalisation for Australia
LALC	Local Aboriginal Land Council
LGA	Local Government Area
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SHI	State Heritage Inventory
SHR	State Heritage Register
SSD	State Significant Development

EXECUTIVE SUMMARY

Red-Gum Environmental Consulting Pty Ltd (Red-Gum) was engaged by EDP Renewables on behalf of Eku Energy Australia Pty Ltd ("the proponent") to undertake an Aboriginal Cultural Heritage Due Diligence Assessment (ACHDDA) for a proposed Battery Energy Storage System (BESS) and associated infrastructure, known as the 'Griffith BESS', within an existing approved solar farm development (**Figure 1**) at Yoogali near Griffith, New South Wales.

The development is considered a State Significant Development (SSD), and this assessment is provided to inform a request for the Secretary's Environmental Assessment Requirements (SEARs) to start the SSD process and prepare an Environmental Impact Statement (EIS) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Griffith BESS would cover approximately 3.62 hectares and entails the construction and operation of a battery storage facility and associated infrastructure within the Griffith City Council local government area (LGA) in Yoogali, around 8 kilometres southeast of Griffith, New South Wales. The proposal site is within Lot 2/-/DP1252779 at 15 Bob Irvin Road, Yoogali, New South Wales. The entirety of the site is zoned RU1 – Primary Production within the Griffith Local Environmental Plain 2014.

The site's development footprint is already cleared of remnant vegetation. The majority of the development footprint consists of exotic pasture, with some areas of scattered native grasses. Some planted/revegetated trees occur along the adjacent roadsides. The project area does not contain any permanent waterbodies or landforms that have high archaeological probability. No (zero) Aboriginal cultural heritage places have been previously recorded within the site.

A survey of the site was undertaken on 8th of November 2024 by Damian Wall of Red-Gum. During the site survey, areas of previous disturbance were noted and recorded. Areas of ground surface exposure were targeted in order to identify any Aboriginal objects within the site. No previously unrecorded sites or objects were located during the survey.

The assessment considered the perceived impacts associated with the proposal and did not identify any areas of *high archaeological potential* that are likely to be harmed within the area assessed. The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010) provides a flowchart with the steps of the due diligence process outlined. This flowchart is provided in **Appendix B** in order to demonstrate that each step of the process has been addressed.

The majority of the study area typically exhibited limited visibility and exposure without revealing any apparent Aboriginal objects. No trees with cultural modifications were identified within the site. No Aboriginal cultural heritage objects were identified within the site. The survey did not identify any undisturbed areas of potential (PADs) within the site.

The purpose of the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010) is to provide a defence against prosecution if the process is followed. The due diligence code sets out penalties for impacting on Aboriginal objects, defining two types of offences as follows:

- An offence of harming or desecrating an object which a person knows is an Aboriginal object (a 'knowing offence'); and
- An offence of harming an object whether or not a person knows it is an Aboriginal object (a 'strict liability offence').

The maximum penalty for the knowing offence is $550,000 or $275,000 (depending on whether there are aggravating circumstances) and 1 or 2 years' jail for an individual. For a corporation the maximum penalty for the knowing offence is $1.1 million. The maximum penalty for the strict liability offence is $110,000 or $55,000 (depending whether there are aggravating circumstances) for an individual or $220,000 for a corporation.

As this assessment has not identified any areas of high archaeological sensitivity or Aboriginal objects within the assessed zone, it will provide a defence against prosecution if Aboriginal sites are impacted by the development assuming its recommendations are followed. The following contingencies are to be adhered to during the project implementation stage:

Contingency 1: Discovery of unanticipated Aboriginal objects within areas of low potential.

All Aboriginal objects and places are protected under the *National Parks and Wildlife Act 1974* (NPW Act). It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the NSW Department of Planning, Housing and Infrastructure (DPHI). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the DPHI and Aboriginal stakeholders.

Contingency 2: Discovery of Aboriginal ancestral remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains;
2. Notify the NSW Police and EPA Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by DPH.

Regards

Mr Damian Wall
BAppSc, MEnvMgt, MAACAI, Grad Cert CHM
Managing Director

8/5/25

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1 Introduction

Red-Gum Environmental Consulting Pty Ltd (Red-Gum) was engaged by EDP Renewables on behalf of Eku Energy Australia Pty Ltd ("the Proponent") to undertake an Aboriginal Cultural Heritage Due Diligence Assessment (ACHDDA) for a proposed Battery Energy Storage System (BESS) ("the Project"), known as the Griffith BESS, within an existing approved solar farm development at Yoogali, NSW (**Figure 1**). It is situated in the locality of Yoogali within the Griffith City Local Government Area (LGA), NSW. The study area is within the Griffith Local Aboriginal Land Council (Griffith LALC) area

The development is considered a State Significant Development (SSD), and this assessment is provided to inform a request for the Secretary's Environmental Assessment Requirements (SEARs) to start the SSD process and prepare an Environmental Impact Statement (EIS) under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The development site/footprint ("study area") and surrounding land is characterised by a highly modified agricultural landscape where clearing associated with historical agricultural practices (irrigation, cropping, horticulture and grazing) have resulted in the loss of native vegetation since European settlement. Most recently, the proposed BESS location has been irrigated and cultivated for wheat and rice on a land-formed and laser levelled paddock

This Due Diligence Assessment has been prepared to assess the proposed works. The advice and reporting provided here follows the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010a).

1.1 Report Contributors

Table 1: Details of staff qualifications and experience

Name	Position/Role	Relevant Qualifications	Relevant Experience
Damian Wall	Report author Field supervisor	Bachelor of Applied Science (Parks, Recreation & Heritage), CSU. Master Environmental Management & Restoration, CSU. Damian holds the relevant qualifications for undertaking formal archaeological assessment in New South Wales (as set out in the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. Full member of the Australian Association of Consulting Archaeologists Inc (AACAI). Currently completing a Masters of Archaeology & Cultural Heritage Management (Flinders University).	+25 years
Maggie Cronin	Archaeologist	Bachelor of Arts (Hons) Archeology	+6 years
Dr Jacqui Durrant	Contributing author	Bachelor of Applied Science (Cultural Resource Management) (Hons). PhD Cultural History, La Trobe (2005). Historian. Professional Historians' Association of Australia	+ 25 years
Dr Emily Mendham	Contributing author	Bachelor of Applied Science (Parks, Recreation and Heritage) (Hons). PhD Environmental Sociology and Human Geography, Charles Sturt University (2010)	+2 years

2 Background and Description of Works

Red-Gum was engaged by EDP Renewables on behalf of Eku Energy Australia Pty Ltd ("the proponent") to undertake an ACHDDA for a proposed BESS at Yoogali, NSW (**Figure 1, Map 1**). The development is known as the Griffith BESS. The study area is within the Griffith Local Aboriginal Land Council (Griffith LALC) area. The entirety of the subject land is zoned RU1 – Primary Production within the Griffith Local Environmental Plan 2014. It is approximately 8 km southeast from the Griffith town centre, 3 km southeast of the Yoogali suburban centre, and 500 m south of the Griffith Substation. The development is considered a SSD, and this assessment is provided to inform a request for the SEARs to start the State Significant Development process and prepare an EIS under Part 4 of the EP&A Act.

The Griffith BESS would cover approximately 3.62 hectares and involves the construction and operation of a battery storage facility and associated infrastructure. The project involves the construction, operation and decommissioning of a BESS with a nominal capacity of up to 100 MW / 800 MWh and a direct connection to the existing TransGrid managed 132 kV Griffith Substation. The development includes an underground 132kV transmission connection between the Project's onsite substation and the adjacent Griffith Substation, underneath Irrigation Way and the Yanco Griffith railway.

The project site is a realignment of the existing lot 1//DP1252779 (15 Bob Irvin Road) at 41 Bob Irvin Road Yoogali, subject to council approval. The development is predominantly located at 15 Bob Irvin Road, Yoogali 2680. The Project also includes small sections of Bob Irvin Road, Irrigation Way and Hamilton Road easements for access and transmission lines. The address for the development is as follows:

- The BESS site, which sits within the realigned lot at 41 Bob Irvin Road on cleared agricultural land. **41 Bob Irvin Road, 1/-/DP1252779**
- Site access from Bob Irvin Road to the BESS site via a new crossing. **41 Bob Irvin Road, 1/-/DP1252779**
- Underground 132kV transmission connection and associated easement to the Griffith Substation, underneath existing overground 132kV transmission lines, Irrigation Way, and the Yanco – Griffith railway line. **Parts of 11 Hamilton Road, 1/-/DP865611**

Surrounding the site at 15 Bob Irvin Road Yoogali (2//DP1252779) is the approved Yoogali Solar Farm, currently being developed in parallel, yet independent of this development, by EDP Renewables. A TransGrid overhead 132kV transmission line runs along the northern boundary of the BESS Site and southeast to northwest through the entire parcel of land, before turning north to connect to the Griffith Substation.

The development will be a typical BESS installation, consisting of lithium-ion batteries, a Battery Management System (BMS) for monitoring, inverters to convert DC to AC electricity, a cooling system, noise suppression systems and a control system. The Project would also involve a direct transmission connection to the adjacent 132kV/330kV Griffith Substation through an underground cable connection, perimeter fencing, vegetative screening planting, internal access tracks and road upgrade works.

The BESS has been configured within the broader landholding in a way to minimise the reduction in size of the co-located Yoogali Solar Farm, whilst also retaining proximity to the Griffith Substation and access via Bob Irvin Road. Access to the BESS will be facilitated via a new access point along Bob Irvin Road, independent to another similar proposed access for the Yoogali Solar Farm.

The proposal involves the following key features for the BESS, ancillary infrastructure and mitigative measures:

- The BESS of assembly containers containing lithium-ion batteries, a Battery Management System (BMS) for monitoring, a switching room, control building, inverters to convert DC to AC electricity, transformers, a cooling system, noise suppression systems and a control system within a control building.
- A 6-metre-wide access way and internal access track from Bob Irvin Road to the BESS site and onsite parking.
- A temporary construction laydown area, storage and maintenance areas.
- A direct transmission connection and associated easement to one of the bays at the nearby 132kV/330kV Griffith Substation through an underground cable connection underneath Irrigation Way and the Yanco Griffith railway.
- Perimeter security fencing and native vegetative screening planting, and onsite lighting.

Other energy infrastructure is planned or completed in proximity to the Project. The Griffith Solar Farm (operational) and Riverina Solar Farm (planning stage) are immediately north of the Project, closer to the Griffith Substation.

The site of the proposed BESS is a land-formed paddock that has been used for irrigated agriculture. The site consists almost entirely of exotic pastures, with no trees or understorey vegetation, with a few scattered native grass species. Some exotic trees (palms) have been planted along the adjacent roadside along Bob Irvin Road on the west of the site, and there has been some regeneration of, or planting with, native Myall species. The proposed development does not require the removal of any native vegetation.

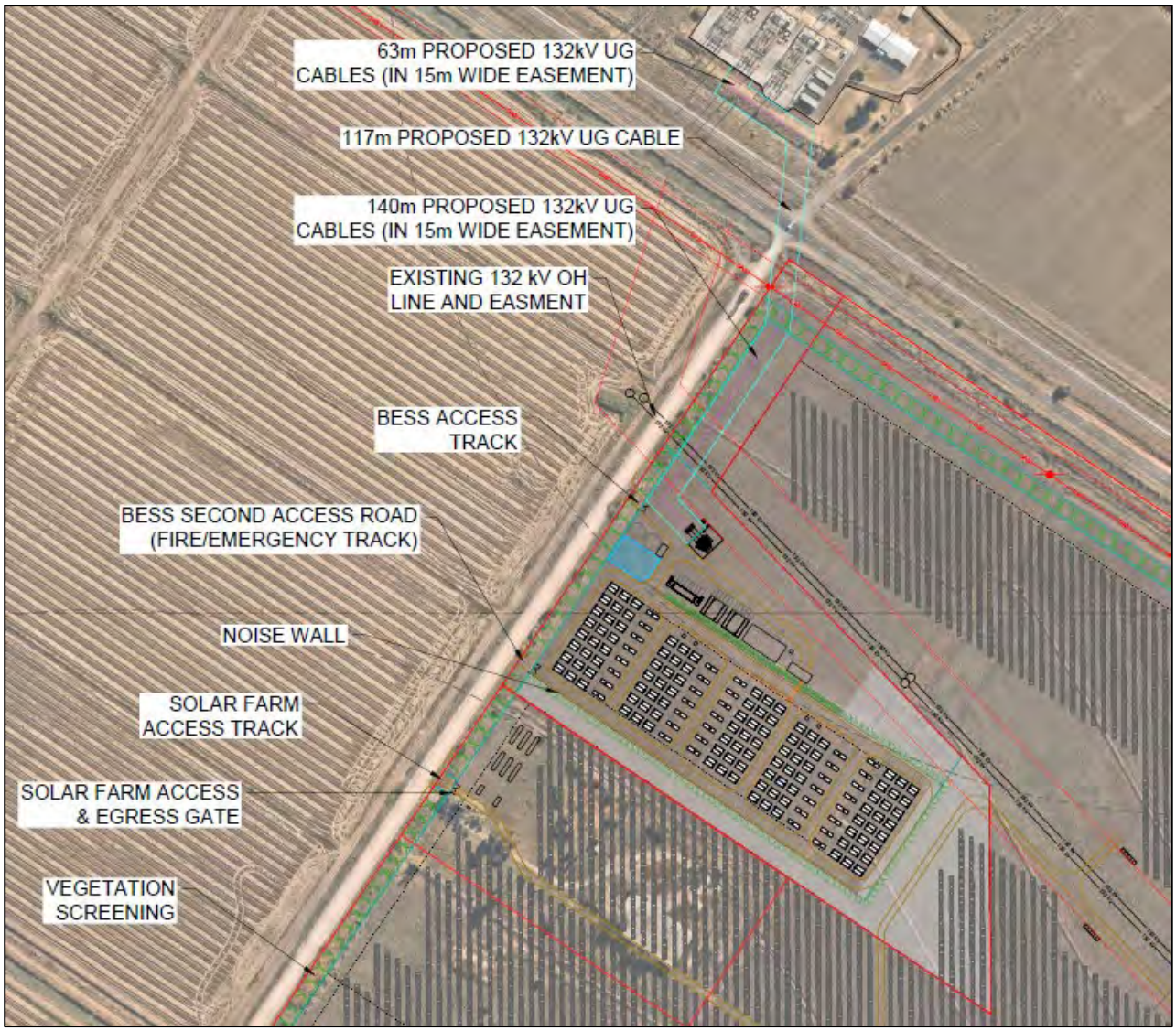


Figure 1: Indicative proposal layout for the Griffith BESS, Yoogali, NSW

Map 1: Study site – Griffith BESS, Yoogali, NSW.

3 Legislative Context

The purpose of this assessment is to inform the request for the (SEARs to start the SSD process which will guide the EIS for the project under Part 4 of the EP&A Act. Other relevant legislation and planning instruments that will inform the assessment are discussed below.

The Burra Charter (International Council On Monuments and Sites) outlines a set of principles and practices for the management of cultural heritage in Australia. It provides a nationally recognised best practice standard for the management of cultural heritage places.

3.1 Environment Planning and Assessment Act (1979) (EP&A Act) (NSW)

The EP&A Act establishes requirements related to land use and planning and provides the legislative basis for planning and environmental assessment in NSW. It protects Aboriginal heritage by requiring the consideration of potential impacts on Aboriginal objects and places in the planning and development approvals process.

A development is considered significant to the State if it is over a specific size, is in an environmentally sensitive area, or will exceed capital investment value. SSD are major projects which require approval from the Minister for Planning or the Independent Planning Commission due to their economic, environmental or social impact.

The proposed works will be assessed under Part 4, Division 4.7 of the EP&A Act, which establishes an assessment and approval regime for SSD. Part 4, Division 4.7 applies to development that is declared to be SSD by a State Environmental Planning Policy (SEPP). Pursuant to Part 4.41 (d) of the EP&A Act, if approved, an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act is not required for SSD. Instead, all management related to Aboriginal cultural heritage within the study area would be governed by the policies within an approved Aboriginal Cultural Heritage Management Plan (ACHMP).

3.2 National Parks and Wildlife Act (1974) (NPW Act) (NSW)

The NPW Act regulates the control and management of all national parks, historic sites, nature reserves, and Aboriginal areas (among others) in NSW, and provides statutory protection to all Aboriginal sites within NSW. The main aim of the NPW Act is to conserve the natural and cultural heritage of NSW. The NPW Act defines an Aboriginal 'object' and an Aboriginal 'place' as:

> ***Aboriginal object***: any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.
>
> ***Aboriginal place:*** any place declared to be an Aboriginal place under section 84 by the Minister.

Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared places. Under Part 6, it is an offence to harm an Aboriginal object or harm or desecrate an Aboriginal place without appropriate consent, or defence, or where an exemption applies (e.g., emergency fire fighting). Where works will disturb Aboriginal objects, an Aboriginal Heritage Impact Permit (AHIP) would normally be required, but as this development is a SSD, this does not apply in this instance. As this project is being assessed as a SSD, approval under Part 6 of the National Parks & Wildlife Act 1974 will not be required.

Under the NPW Act, harm is defined as:

> ***harm*** an object or place includes any act or omission that—
>
> (a) destroys, defaces or damages the object or place, or
>
> (b) in relation to an object—moves the object from the land on which it had been situated, or
>
> (c) is specified by the regulations, or
>
> (d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c),
>
> but does not include any act or omission that—
>
> (e) desecrates the object or place, or
>
> (f) is trivial or negligible, or
>
> (g) is excluded from this definition by the regulations.

Under Section 89A of the Act, it is a requirement to notify the Secretary of the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) of the location of an Aboriginal object. Identified Aboriginal items and sites are registered on Aboriginal Heritage Information Management System (AHIMS) that is administered by Heritage NSW. All Aboriginal objects and declared Aboriginal places (by the Minister) are protected under the NPW Act.

The development is SSD under Part 4 of Division 4.7 of the EP&A Act and permits under Section 90 NPW Act are not required. Section 90 of the NPW Act is turned off during the assessment of SSD projects. Instead, SEARs are issued. There are no gazetted Aboriginal places in the study area.

3.3 *Heritage Act* (1977) (Heritage Act) (NSW)

The Heritage Act protects the cultural and natural history of NSW with emphasis on historic (non-Aboriginal) heritage items, including places, buildings, works, relics, moveable objects, precincts, historic shipwrecks and archaeological sites of State or local significance. It contains mechanisms to protect and conserve NSW's heritage and provides for the identification and registration of heritage items of state significance. The Heritage Act establishes the State Heritage Register (SHR), which can protect Aboriginal cultural heritage items and places. Once an item of significance is listed on the SHR, major changes to it usually require the approval of the Heritage Council.

While the development is assessed as SSD and is therefore not subject to approvals under the Heritage Act, a search of the State Heritage Inventory on 30th April September 2025 showed there are no sites in the vicinity of the proposal area (NSW Government 2024).

3.4 State Environmental Planning Policy (Planning and Systems) 2021 (Planning and Systems SEPP) (NSW)

The State Environmental Planning Policy (Planning Systems) 2021 (Planning SEPP) identifies developments declared to be state significant.

The Griffith BESS is a SSD under the Planning and Systems SEPP.

3.5 *Native Title Act* (1993) (NT Act) (Commonwealth)

The NT Act provides a framework for the determination of native title claims within Australia, and for negotiations and decision making regarding the use and management of native title lands and waters.

The proposal would not affect land subject to a native title.

3.6 *Aboriginal Land Right* Act (1983) (ALR Act) (Commonwealth)

The ALR Act established Aboriginal Land Councils (at a State and Local Level). In relation to Aboriginal culture and heritage, these bodies have a statutory obligation under Section 52 of the ALR Act to:

a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and

b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

The Project Area is within the boundary of the Griffith Local Aboriginal Land Council (Griffith LALC).

3.7 Environment Protection and Biodiversity Conservation Act (1999) (EPBC Act) (Commonwealth)

The EPBC Act is designed as a means of protecting a defined set of 'protected matters', including cultural heritage where it is of national significance, through assessment and approvals processes. The EPBC Act focuses Australian Government interests on the protection of matters of national environmental significance. The EPBC Act establishes both a National Heritage List and Commonwealth Heritage List of protected places.

There are no Aboriginal heritage items listed on the National Heritage List or Commonwealth Heritage List relevant to the proposal area.

3.8 Aboriginal and Torres Strait Islander Heritage Protection Act (1984) (ATIHP Act) (Commonwealth)

The ATSIP Act's purpose is the protection from injury and desecration of places and objects that are of significance to Aboriginal Australians. It assists in the protection of places, areas and objects that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'. The ATSIHP Act is designed to deal with Aboriginal cultural property (intangible heritage), which are not currently protected under the NPW Act. This legislation has usually been invoked in emergency and conflicted situations and takes precedence over state heritage legislation.

While no formal database of Section 10 applications or declarations is publicly available, this information is registered in gazettal notices within the Federal Register of Legislation. A search of this register did not identify any Section 10 applications or declarations relevant to the Project Area.

3.9 Griffith LEP

Two (2) Aboriginal places of heritage significance are listed in the Griffith LEP.

Neither place are located near the proposal area.

4 Scope of the Assessment

The following is a summary of the major objectives of this assessment:

1. Conduct background research in order to recognise any identifiable trends in site distribution and location, including a search of the Aboriginal Heritage Information Management System (AHIMS).
2. Undertake archaeological survey as per requirement 5 of the code, with particular focus on landforms with high potential for heritage places within the study area, as identified through background research.
3. Record and assess sites identified during the survey in compliance with the guidelines endorsed by Heritage NSW.
4. Determine levels of archaeological and cultural significance of the study area.
5. Make recommendations to mitigate and manage any cultural heritage values identified within the study area.

5 The Due Diligence System

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* provides a step-wise process to help determine whether an activity is likely to cause 'harm' to 'Aboriginal objects' (both as defined in the NPW Act). If it is determined that the work may 'proceed with caution' and harm later occurs, the documentation of due diligence may provide a defence against prosecution.

The following report address the questions set out in the generic *due diligence system* (as shown in **Figure 2**) for consideration by the proponent when submitting a request for the Secretary's Environmental Assessment Requirements (SEARs) to start the SSD process and prepare an Environmental Impact Statement (EIS) under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

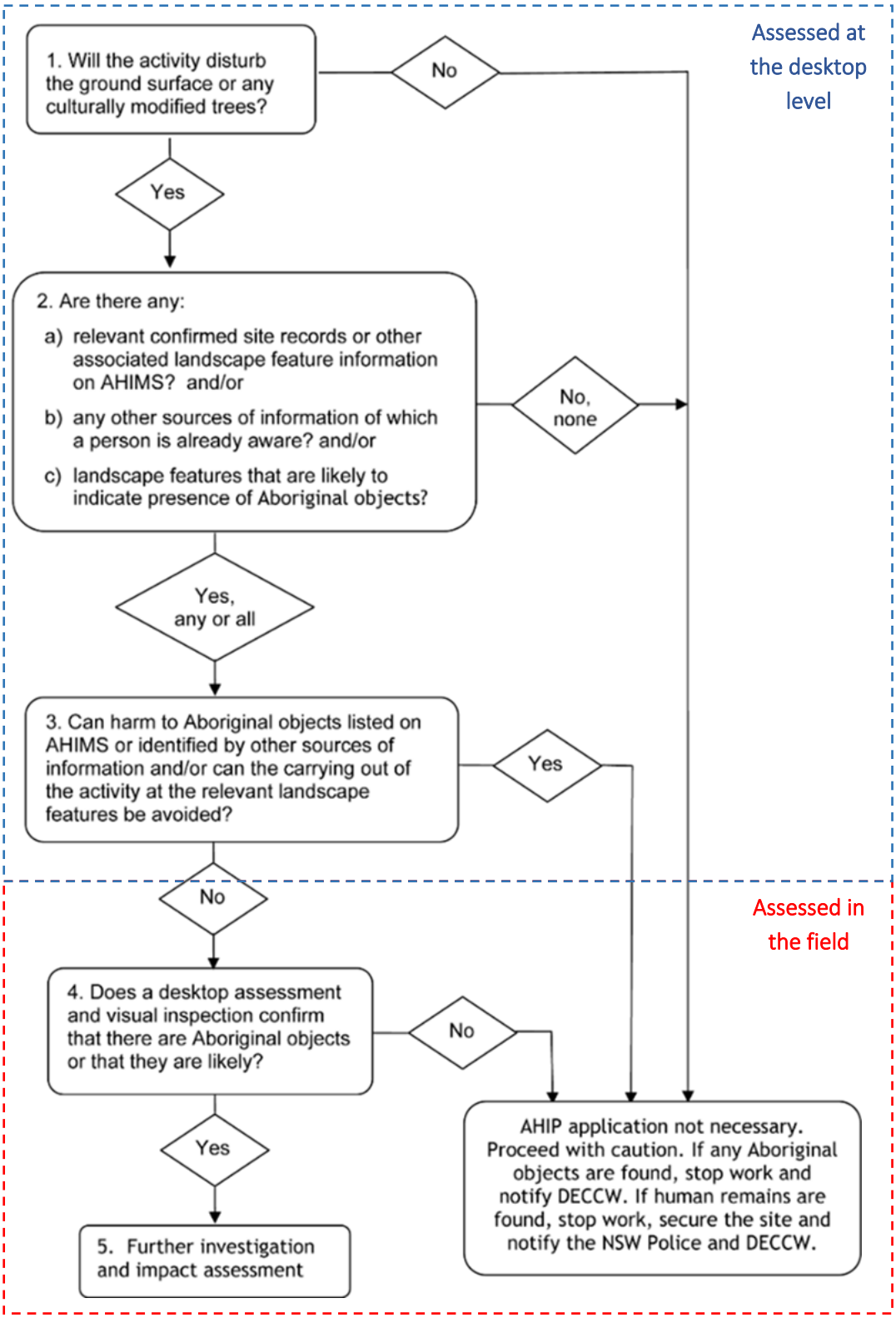


Figure 2: Generic Due Diligence process in NSW

6 Desktop Assessment

A desktop assessment has been undertaken to review existing archaeological studies for the study area and surrounding region. This information has been synthesised to develop some Aboriginal site predictive statements for the study area and identify known Aboriginal sites and/or places recorded in the study area. This desktop assessment has been prepared in accordance with requirements 1 to 4 of the code.

6.1 Soil and Geological Landscapes

6.1.1 Soils and Geology

The development area is situated on the western edge of the NSW South Western Slopes (NSS) Bioregion, very close to the Riverina Bioregion. The NSS comprises a large area of foothills and ranges from the western fall of the Great Dividing Range to the edge of the Riverina bioregion. Annual rainfall varies from 1200mm in the east to 400mm in the west.

The Riverina Bioregion's climate is dry and semi-arid, with hot summers and cool winters. In Griffith, rainfall is relatively evenly spread across the year, with rainfall generally highest in October (39.9mm) and lowest in February (28mm). July experiences the lowest mean (3.4 degrees Celsius) and January experiences the highest mean maximum temperature (33.4 degrees Celsius) (Bureau of Meterology 2025).

The site is located approximately 2 km west of Mirrool Creek, the largest permanent source of water in the local area. A probably remnant swamp, now a farm dam, is located one kilometre to the north of the area. These features would have supported a wide range of food, medicine and tool making resources in the area.

The study area is located within the broader Murrumbidgee River floodplain region and the soils and geology of the area consist of flood deposits. However, nearby Griffith has areas of conglomerate and sandstone with pebble content.

According to MinView (https://minview.geoscience.nsw.gov.au/), the geology of the area is characterised as Alluvium floodplain deposits (CZ_af) - silt, very fine - to medium-grained lithic to quartz-rich sand, clay, with nearby deposits of sandstone and conglomerate near Griffith (Jimberoo Formation (Dmdj) and Mailman Gap Member (Dmdrm)) (**Figure 2**). **Map 2** shows the Australian Soils Classification for the area, which is classified as vertosols or cracking clay (alluvium).

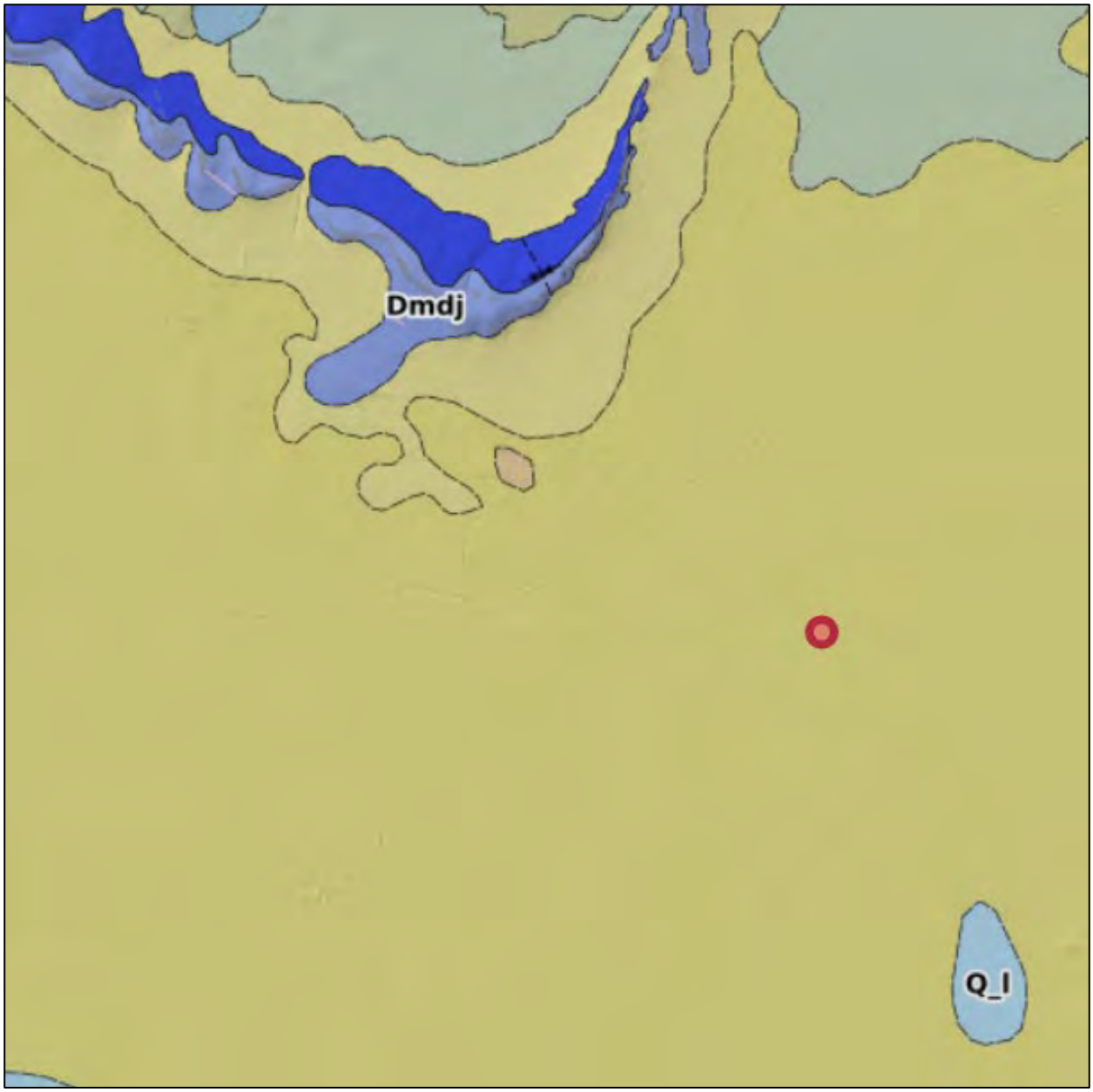
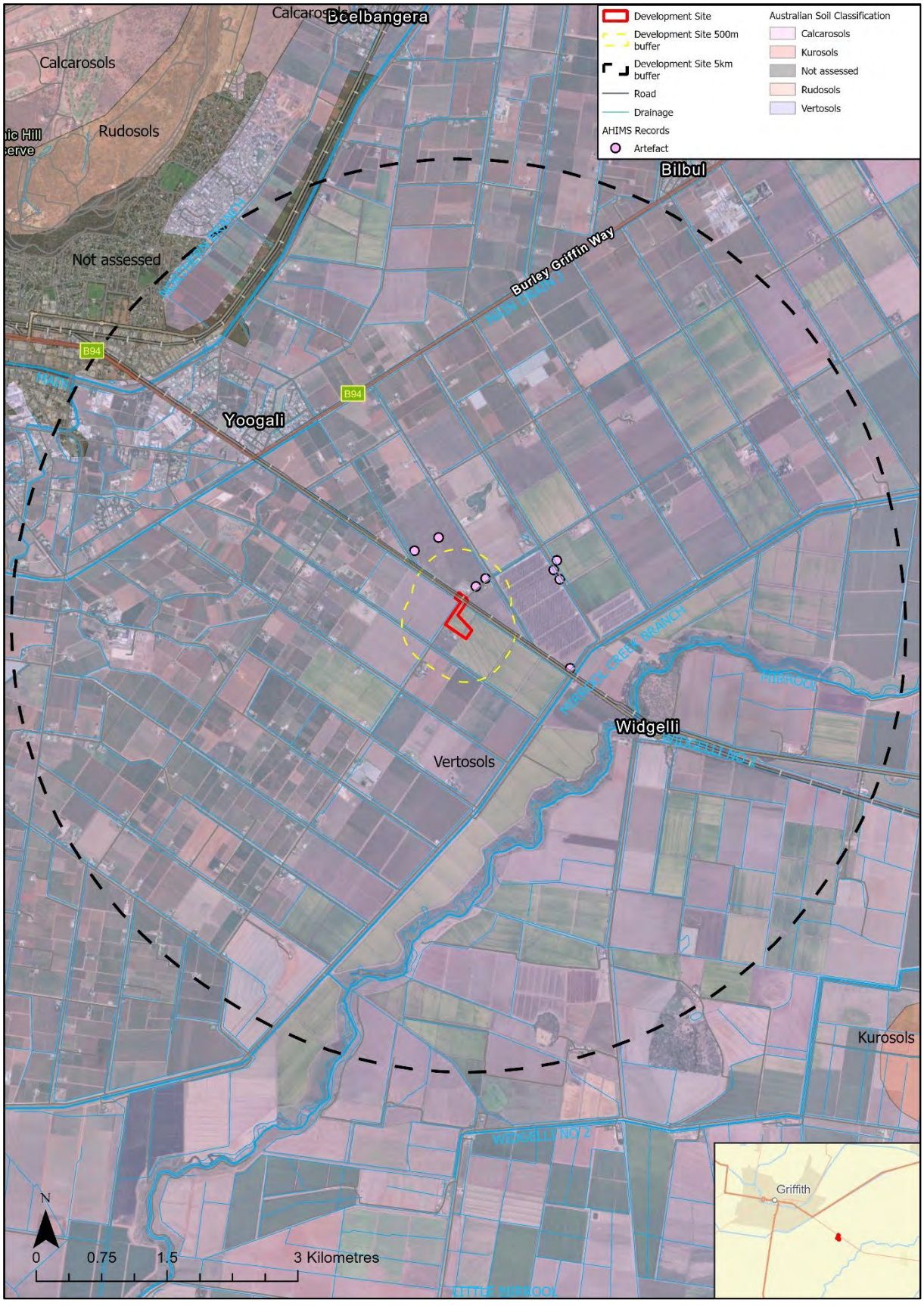


Figure 2: Geology of the proposed site. Location of site shown in red. Source: Minview



Map 2: Soil types in the vicinity of the study area: Australian Soils Classification (ASC). DPIE 2021. Scale 1:50,000.

6.2 Flora and Fauna

The wider region and area surrounding the Murrumbidgee River would have provided a number of resources used by Aboriginal inhabitants. Edible plant materials would have been available in close proximity to the study area and were more easily collected and could be used in a variety of ways. Roots could be dug all year. The rhizomes or long roots of the bracken fern could be chewed or beaten to a sticky starch (Kelly & Price 2004). Many native lilies, such as the Bulbine and Vanilla lily, had tuberous roots that were collected for food (Patterson n.d.).

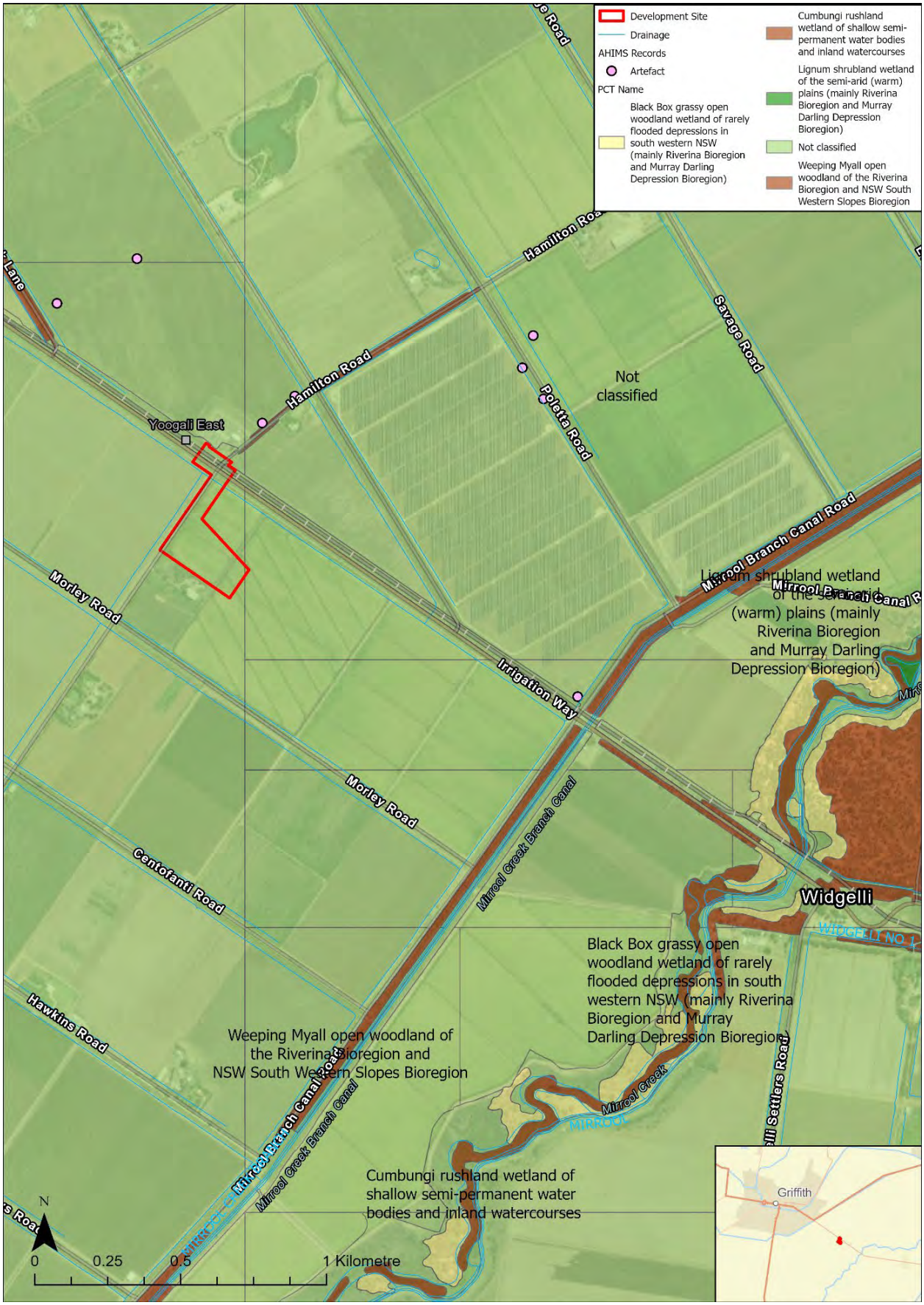
Along waterways, long leaf mat-rush was collected and its leaves used for weaving. Gum trees also housed witchetty grubs and the bark of many species was used in the provision of shelter; a large sheet of bark being propped against a stick to form a gunyah (Attenbrow 2002) and Mallee gums were used for food, their roots drained for water, and boomerangs were cut from their wood (Zola & Gott 1992). In addition, the local communities have used the bark from the surrounding trees to make canoes, coolamons and shields (Attenbrow, 2002). Evidence for the processing of food stuff and the working of wood can be found throughout the landscape in the form of lithic artefact scatters, mounds and hearths.

Animals including kangaroo, emu, and wallaby would also have provided abundant sources of food, with brush-tailed possums being highly prized for their fur, which were worn as cloaks over one shoulder. Kangaroo teeth were incorporated into decorative items, such as head bands (Attenbrow, 2002). As well as being important food sources, animal products were also used for tool making and fashioning a myriad of utilitarian and ceremonial items. For example, tail sinews are known to have been used to make fastening cord, while 'bone points', which would have functioned as awls or piercers, are often an abundant part of the archaeological record (Attenbrow, 2002).

Stone sources within the lower Murray and Murrumbidgee landscape were not common, with stone heavily reduced and tool production favouring specialised technological strategies, such as blade production, to conserve material (Pardoe, 1995 in Biosis 2019).

While the area is currently exotic and classified as 'PCT 0-Not Classified', NSW Vegetation mapping suggests that the study area would have consisted of *Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion*, as this currently exists on roadsides to the north of the area.

The site has been laser levelled for irrigation, and there is no remaining variation or landform evident across the site. The natural vegetation across the area has been completed cleared with no native tree species left within the proposal area and only few scattered native grasses amongst an exotic dominated pasture.



Map 3. Plant community types within the study area. Scale: 1:15,000.

6.3 European Land Use

6.3.1 Pastoralism, 1840s—

From the 1840s onwards, the study area was a part of the pastoral run named 'Kooba' (also spelled Cuba).[1] The earliest recorded leaseholder of Kooba, from the 1840s onwards, was the notable pastoral magnate John Peter. In 1848, the run was estimated to be a massive 153,600 acres including 7 miles (as the crow flies) of frontage to the Murrumbidgee River.[2] It had an estimated grazing capacity of 960 cattle,[3] although it was run predominantly as a sheep station.

The study area would have been considered to be within its 'back-blocks'. Peter retained a number of other pastoral holdings in the district, but he sold Kooba, which subsequently changed hands a number of times. By the late 1850s, it was in the hands of the Bay Pastoral Association.[4] During the 1860s, it was run by Waller and Gordon.[5] By the mid-1870s, it had been taken over by Stanbridge, McGaw & Co, and was running over 126,000 sheep.[6] Kooba remains as a pastoral and mixed farming property even today, although it is much reduced in size.

6.3.2 The Murrumbidgee Irrigation Scheme, 1912—

The Murrumbidgee Irrigation Area (MIA), in which the study area is located, was formally established in 1912, after the construction of canals west of Narrandera and the construction of Burrinjuck Dam. The scheme features a series of weirs, canals and holding ponds (fed by upstream rivers and dams), which supply irrigated water to an area of almost 379000 hectares.

The MIA was provided with two towns, Griffith and Leeton — both designed in 1914 by American architect and town planner Walter Burley Griffin (who also designed Canberra in 1912). The study area is located in Yoolgali East on the outskirts of Griffith. The MIA was subdivided with land 'set aside for irrigation farms', and each of the farms were given an identifying number. The allotments were made available for purchase over a staggered period. Land along Irrigation Way began to be sold as early as 1912,[7] which suggests that Irrigation Way was constructed at this time.

The allotment in which the bulk of the study is situated, Allotment 140, was one of four Allotments (numbered 140-143) purchased by Robert Irvin in May 1919. These combined allotments formed what was referred to as 'Farm 101, Griffith.'[8] **(Figure 3)**

[1] 'Map of New South Wales showing pastoral stations &c.' by H.E.C. Robinson Ltd, Canberra, MAP G8971.G46 [1923] (Roll), 1923, National Library of Australia.
[2] 'CLAIMS TO LEASES OF CROWN LANDS BEYOND THE SETTLED DISTRICTS. (From the Government Gazette.) LACHLAN DISTRICT.' *The Sydney Morning Herald*, Wednesday 4 October 1848 - Page 3.
[3] ibid.
[4] 'Quarter Sessions. WEDNESDAY, JANUARY 13, 1858. Before THOMAS CALLAGHAM, Esq., Chairman, and a Bench of Magistrates.' *The Goulburn Herald and County of Argyle Advertiser*, Saturday 16 January 1858 - Page 2.
[5] 'INTERCOLONIAL ITEMS.' *The Albury Banner and Wodonga Express*, Saturday 21 November 1868 - Page 2.
[6] 'WILCANNIA. April 6.' *Australian Town and Country Journal*, Saturday 22 April 1876 - Page 11.
[7] 'Parish of Jondaryan, County of Cooper: Land Districts of Yanco & Narrandera, Carrathool Shire, Central Division, N.S.W. / compiled, drawn and printed at the Department of Lands.'
MAP G8971.G46 svar (Copy 1), 1925, National Library of Australia.
[8] ibid.

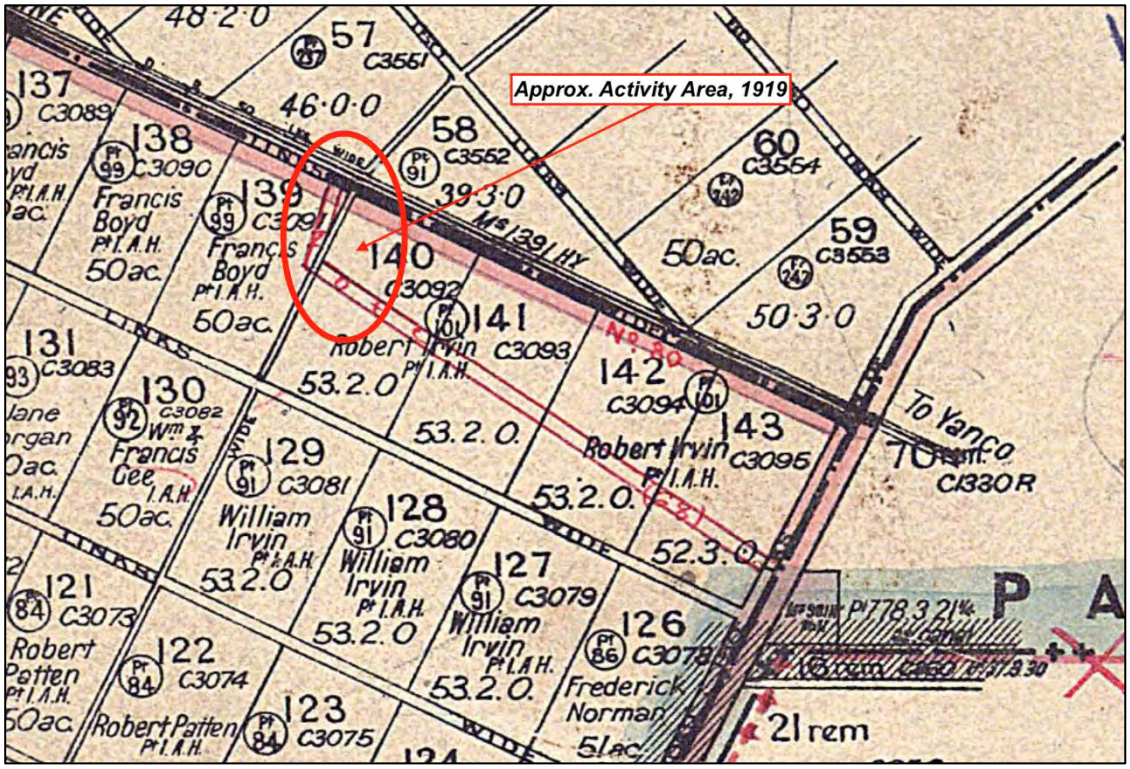


Figure 3: Excerpt from 'Parish of Jondaryan, County of Cooper', 1925, illustrating the cadastral boundaries of the study area as they were in 1919.

By 1920, Gustav Kubank, the son of Prussian migrants who had come to the MIA from South Australia, had settled on Farm 101, which was considered to be in the 'Mirrool Irrigation Area'. Kubank advocated for more scientific methods being applied to agricultural practices, particularly as he believed that due to the small area of each farm (i.e. his entire farm was only 211 acres), unless the land was carefully tended to in terms of crop rotation, fertilising and other management techniques, it would cease to produce viable crops within a few seasons.[9] Thus Kubank's Farm 101 became something of a show-piece for experimental methods of farming,[10] running various trials. The Griffith Agricultural Society even had the 'Kubank Cup Competition' for rice crops of an exceptionally high standard.[11]

The Griffith to Narrandera railway line runs on the opposite side of Irrigation Way, alongside Farm 101. This line was constructed in stages and opened in 1922,[12] and the Yoogali East railway siding was situated on the western corner of what is now the Griffith substation area. Yoogali East was a very short platform (possibly just an earthen embankment) with no building.[13]

[9] 'NEED FOR MORE SCIENTIFIC METHODS.' *The Murrumbidgee Irrigator*, Friday 26 May 1922 - Page 4.
[10] 'HAY GROWING ON MURRUMBIDGEF IRRIGATION AREAS. Results of Trials on Mr. Kubank's Farm.' *The Murrumbidgee Irrigator*, Friday 14 December 1923 - Page 3.
[11] 'GRIFFITH RICE. Kubank Cup Competition.' *The Farmer and Settler*, Friday 11 May 1928 - Page 10.
[12] New South Wales State Heritage Inventory, 'Leeton Railway Station and yard group', https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5012078, accessed 6 May 2025.
[13] NSWRail.net, 'Yoogali East platform', https://www.nswrail.net/locations/show.php?name=NSW:Yoogali+East&line=NSW:yanco_griffith:0, accessed 6 May 2025.

A short section of this railway line, as well as the level crossing for Hamilton Road, is included in the study area, but not the former Yoogali east platform. Irrigation Way was declared 'Main Road 254' on 5 December 1929, and redeclared Trunk Road 80 in 1932.[14]

In 1937, *The Land* published a photograph of Gustav Kubank's homestead on Farm 101 (this house has been demolished, but was on land adjoining the study area), stating that 'Mr. Kubank, one of the early settlers on the Irrigation Area, is a successful farmer of fruit, rice, and wheat. He is keenly interested in pasture improvement, and is conducting interesting experiments in sheep and fat lamb raising.'[15]

By this time, Kubank, who had been farming rice and other crops, was irrigating his land for fat stock raising, having 'achieved remarkable success with irrigated pastures on his farm.' The pasture was sown with a mixture including 'New Zealand certified red and white clovers, perennial rye, and cocks foot, and was sown with a bag of super, to the acre.'[16]

An aerial photograph of the farm taken in 1958 **(Figure 4)** shows it surrounded on three sides by irrigation channels. The homestead has an orchard and there appears to be a small separate orchard. The farm has been divided by a network of irrigation channels (with an irregular patten), and the farm has several dams to water livestock (although none within the study area). The study area spans parts of what were two separate paddocks in the farm's north-west corner.

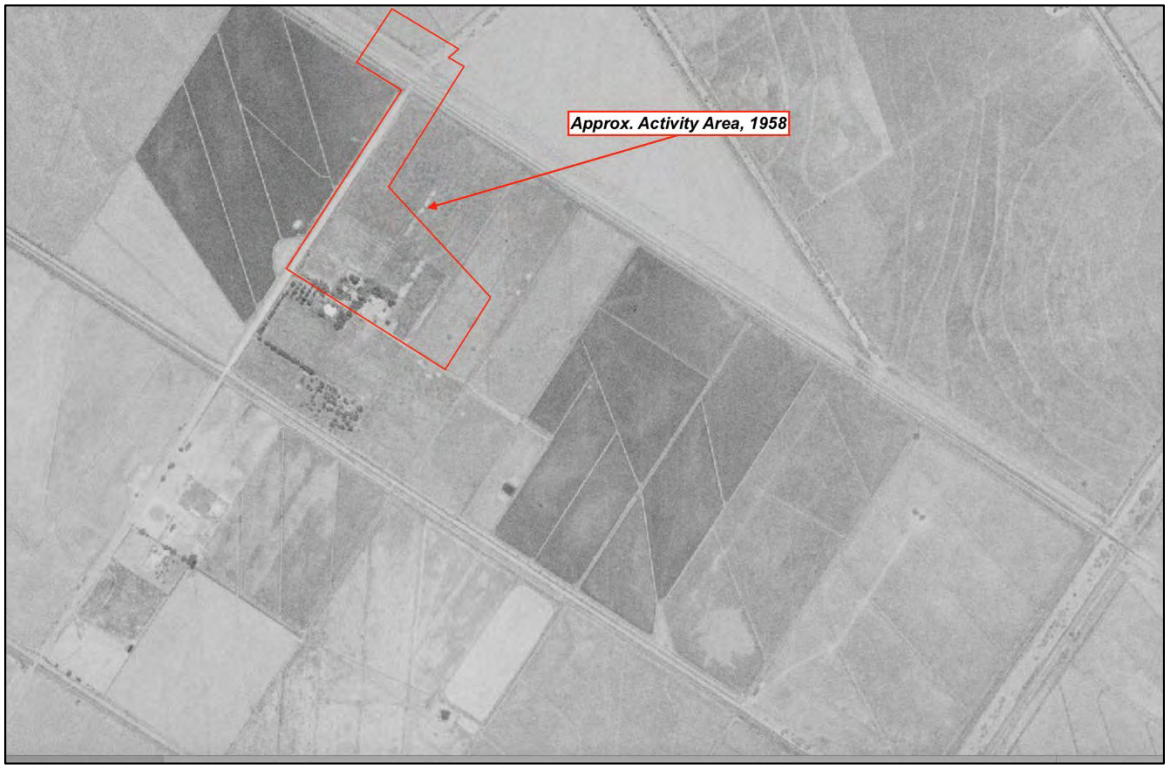


Figure 4: Excerpt from 'Griffith_8129' aerial photomap, 1958, NSW Land Registry Services, NSW Government.

[14] Wikipedia, 'Irrigation Way,' https://en.wikipedia.org/wiki/Irrigation_Way, accessed 6 May 2025.
[15] 'Farm & Station Homesteads.—Farm 101, Griffith', *The Land*, Friday 24 September 1937 - Page 13.
[16] 'Irrigated Pastures Have Big Future on M.I.A.' *The Land*, Friday 23 October 1936 - Page 9.

In 1958, the electrical substation (a small section of which is included in the study area) on the north-west corner of Irrigation Way and Hamilton Road was not yet constructed. It was built by 1965.[17] Another aerial photograph from 1965 **(Figure 5)**, shows that the homestead portion of the farm facing what is now Bob Irvin Road (where the study area is situated) was being intensively cropped (possibly for rice), with the balance of the land being used for pasture.[18]

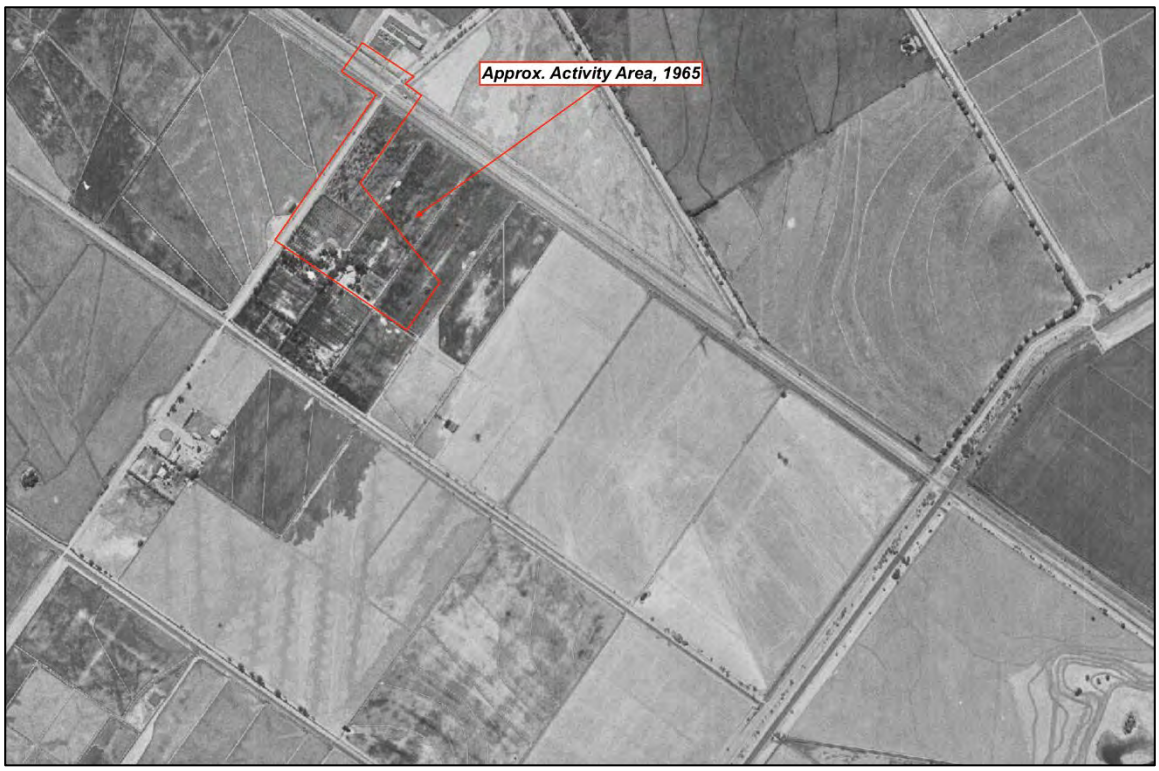


Figure 5: Excerpt from 'Griffith_8129 'aerial photomap, 1965, NSW Land Registry Services, NSW Government.

Kubank's second wife died on Farm 101 in 1961,[19] and he died in 1967. Presumably the farm changed hands after their deaths. Only a few major changes have occurred in this time. An aerial photograph of the farm taken in 1977 **(Figure 6)** shows the same division of paddocks, with the paddocks in which the study area is situated having been recently cropped, possibly with a grain crop. It also appears that Irrigation Way has been sealed with bitumen by this time.[20] By 1997, Farm 101 had been laser-graded, and the irrigation channels were completely realigned in a uniform pattern.[21] **(Figure 7)**

[17] 'Griffith_8129' aerial photomap, 1958, NSW Land Registry Services, NSW Government.
[18] Griffith_8129 'aerial photomap, 1965, NSW Land Registry Services, NSW Government.
[19] 'IN the matter of the estates of the undermentioned deceased Government Gazette Private Notices', *Government Gazette of the State of New South Wales,* Friday 17 November 1961 - Page 3721.
[20] Griffith_8129 'aerial photomap, 1977, NSW Land Registry Services, NSW Government.
[21] Griffith_8129 'aerial photomap, 1997, NSW Land Registry Services, NSW Government.

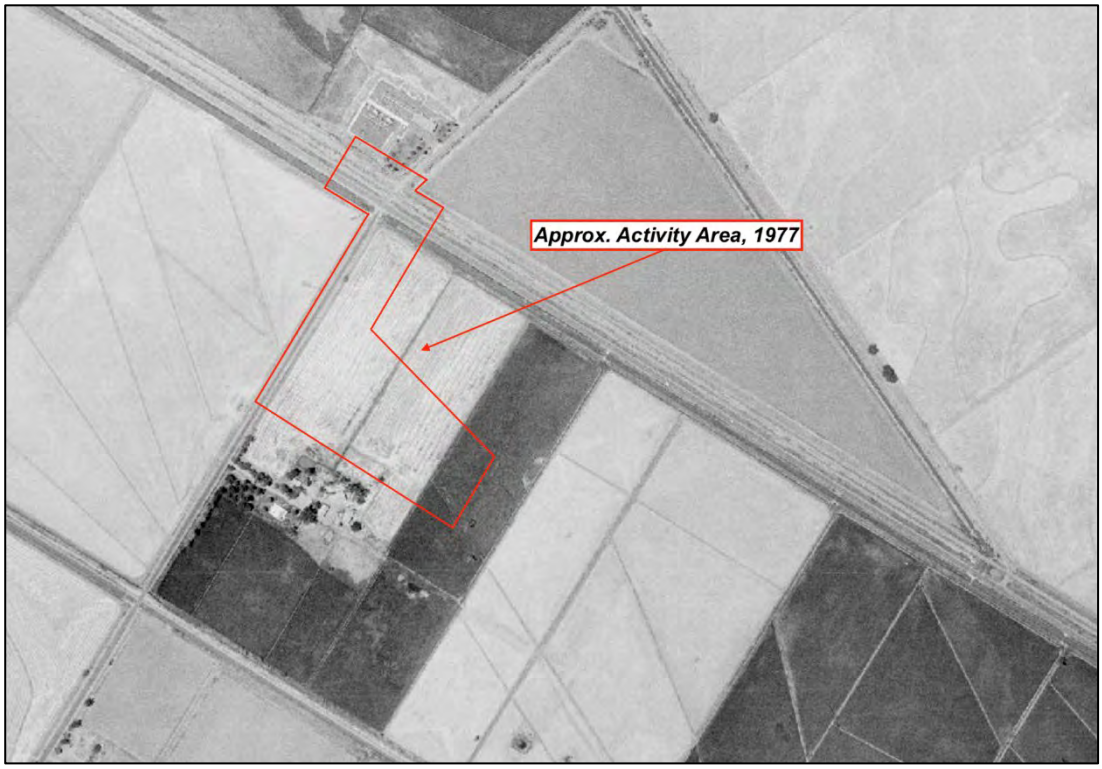


Figure 6: Excerpt from 'Griffith_8129' aerial photomap, 1977, NSW Land Registry Services, NSW Government.

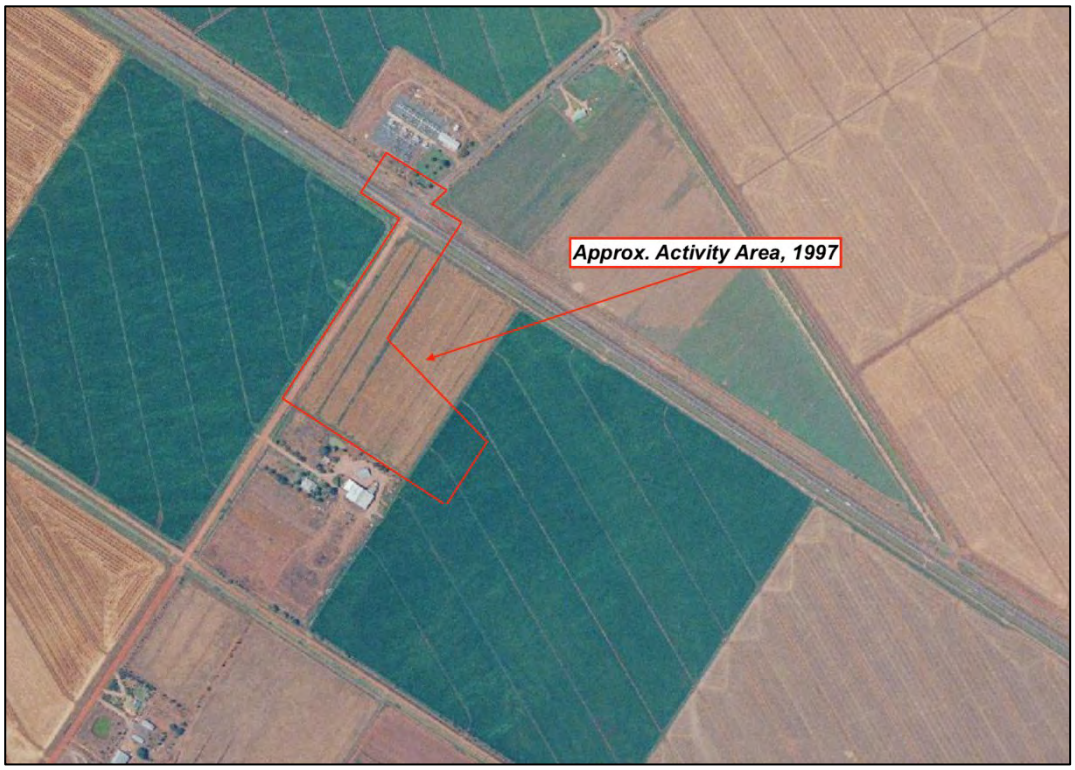


Figure 7: Excerpt from 'Griffith_8129' aerial photomap, 1997, NSW Land Registry Services, NSW Government.

In summary, the study area sustained pastoral grazing (mainly sheep) from the 1840s until the early 20th century. In 1919, the usage of the bulk of the study area switched to that of an irrigated farm. This portion of the study area has been set-up with irrigation infrastructure (channels, etc.), intensively cropped for rice and wheat, and has also likely been sewn with pasture and intensively grazed.

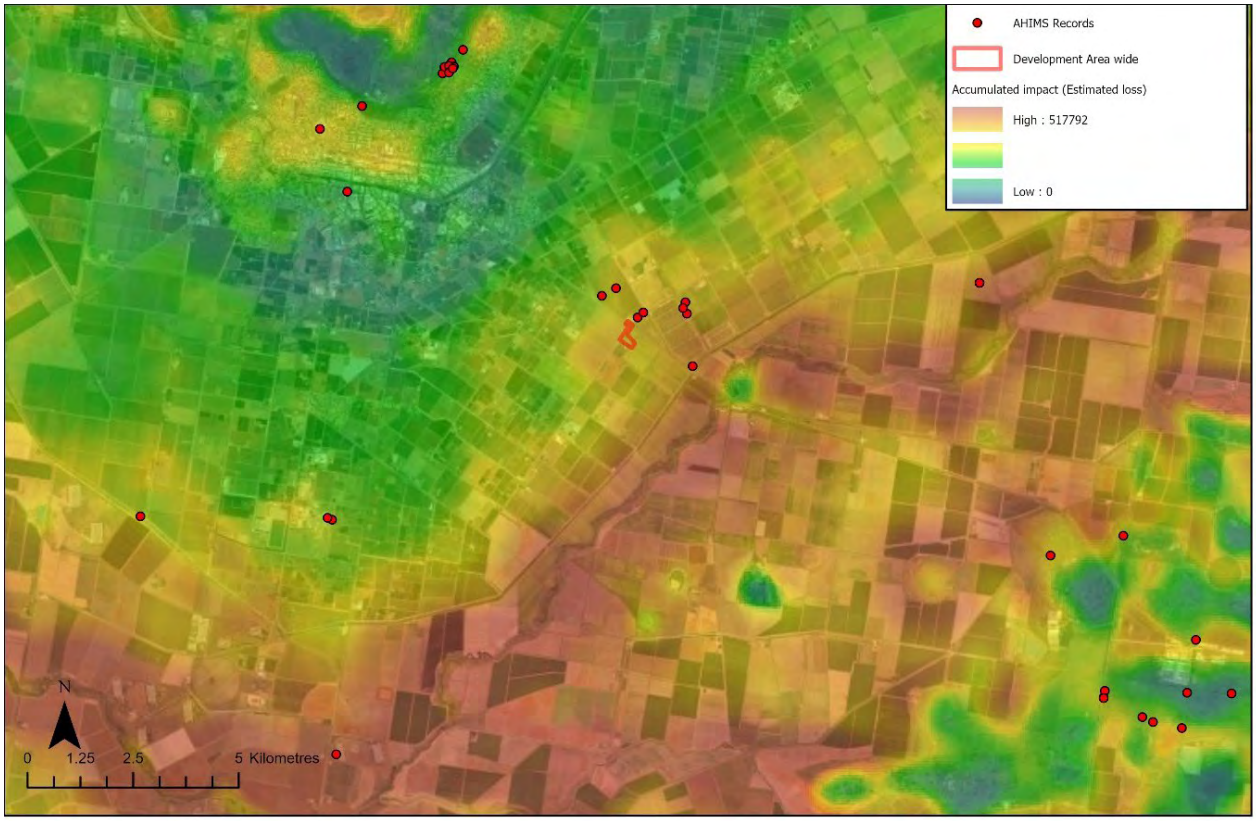
It also appears to have been laser-graded with the irrigation infrastructure realigned in the 1990s. Also included within the study area are sections of the major road Irrigation Way, and the Griffith to Narrandera railway line, which have been in operation since 1912 and 1922 respectively.

Their continued and sustained use has entailed maintenance and up-grades for over one hundred years. As a whole, the study area should be regarded as having been used intensively for around 100 years, which has created reasonably substantial disturbance to land surfaces.

6.3.3 Aboriginal Site Decision Support Tool (ASDST) – Accumulated Impacts

The accumulated impacts described herein are perhaps best reflected in the outputs from the Aboriginal Site Decision Support Tool (ASDST, current version 7.5) which was developed to support the conservation of Aboriginal site heritage and assessment of Aboriginal site issues at the landscape scale in NSW. It was first developed in 2012 by the Office of Environment and Heritage (NSW Government 2024).

*The tool predicts that the assessment area has been subject to 'High' historical disturbance (**Map 4**).*



Map 4: Accumulated impacts. Study are and AHIMS records show in red. Scale: 1:100,000 (ASDST, available from datasets.seed.nsw.gov.au).

6.4 Site Records

An AHIMS search was conducted on 17/01/25 returned zero (0) records within the site boundary or property and eight (8) records within a five (5) kilometre buffer of the site (**Map 5**). The closest Aboriginal cultural heritage site to the development area was recorded 170 metres north of the site (49-2-0153 "Yoogali Site 3, Artefact) (**Map 5**). There were 35 site types in the broader AHIMS rectangular search area of approximately 22km west-east and 13 km north-south (with Yoogali approximately central). The dominant site type was stone artefacts.

A search of AHIMS for the broader Yoogali region indicated that only a small number of assessments had been undertaken. It should be noted that the AHIMS database reflects Aboriginal sites that have been officially recorded and included on the list. Large areas of NSW have not been subject to systematic, archaeological survey; hence AHIMS listings may reflect previous survey patterns and should not be considered a complete list of Aboriginal sites within a given area.

Based on previous archaeological investigation in the region and knowledge of Aboriginal cultural practices and traditional activities, the proposal area has the potential to contain archaeological sites, especially given that Aboriginal people have lived in the region for tens of thousands of years. This would most likely be in the form of artefacts and modified trees where remnant vegetation of sufficient age remains.

Previous surveys in the local region demonstrate that there is a strong, complex and varied pattern of human use and movement throughout the landscape. This is apparent from the range of site types distributed and concentrated in specific landforms across the region. There appears to be a strong association between the presence of potential resources for Aboriginal use and the presence of archaeological sites. Areas directly associated with water and elevated ground appear to have the greatest potential for identification for Aboriginal cultural material.

Background research undertaken for this report, however, has indicated that there has been a lack of coordinated research into Aboriginal archaeology in the study area. As such, these results do not necessarily represent the full range of archaeological sites which may be identified within the study area.

Map 5: AHIMS recorded sites within 5km of the study area. Scale: 55,000. Source: AHIMS

6.5 Landscape Features

The Due Diligence Code (DECCW, 2010a) specifies a number of landscape features which are most associated with the likely presence of Aboriginal objects and which therefore require further assessment if present.

These are areas that are land: within 200m of waters; located within a sand dune system; located on a ridge top, ridge line or headland; located within 200m below or above a cliff face; within 20m of or in a cave, rock shelter, or a cave mouth. Of these, proximity to mapped waterways is the relevant factor for the study site. All areas were subject to archaeological survey regardless of the landform feature. The landform for the survey were determined to be one single survey unit, described as 'floodplain'.

6.6 Aboriginal People in the Region

Knowledge of Aboriginal people and their land-use patterns and lifestyles prior to non-Aboriginal contact is mainly reliant on documents written by non-Aboriginal people. The inherent bias of the class and cultures of these authors necessarily affect such documents. They were also often describing a culture that they did not fully understand – a culture that was in a heightened state of disruption given the arrival of settlers and disease. Early written records can, however, be used in conjunction with archaeological information and surviving oral histories from members of the Aboriginal community in order to gain a picture of Aboriginal life in the region.

In most contexts where reliable ethnographic descriptions were made anywhere in the Murray Darling basin, the high resource availability was reflected in relatively high population, and this is most likely to have been the case in the study area. Further, as Bowler et al. ((Bowler et al. 1976) notes, supported by Pardoe (Pardoe, 2003), regardless of the situation at 'contact', we should assume the presence of large numbers of Aboriginal people in the area throughout prehistory on environmental grounds alone.

Norman B. Tindale mapped the Yoolgali area as part of the country of the Wiradjuri (Wiradyuri) Nation, and this mapping is uncontroversial. Tindale wrote that 'Wiradjuri was one of the largest tribal groupings in Australia, with many hordes' ('hordes' being Tindale's terms for local area or 'clan' groups). Ethnographer Alfred Howitt wrote that he had 'some little knowledge' of the Wiradyuri groups between Hay and Yass — a geographical area with Yoogali almost at its centre. Howitt wrote that the people there were divided into a number of sections, which in this case were:

> *'hordes, descent being in the female line. The principal of these divisions [were] as follows: (1) Narrandera (prickly lizard) about Narrandera, (2) Kuta-mundra (river turtle) about Cootamundra, and (3) Murring-bulla (two bark canoes, about Murran-burra.' Howitt stated that 'it will be seen from the above that these divisions of the tribes have been perpetuated in their names of the places where these sections had their headquarters.'*

The extent of Narrandera (Narrungdera, Narin-jera) clan country is not known, and while it is it is possible that Yoolgali falls within this area, it is highly possible that what became the Kooba station area had its own clan. In 1865, the Wagga Wagga Express reported on a large gathering of Wiradyuri people in Wagga Wagga, described as a 'grand parliament'. This gathering included a number of headmen, one of who was 'The sage Mungiman, father of the reigning sovereign of Cooba'. 'Kitty of Cooba' was also present. At the meeting, Mungiman was said to have 'recently returned from a visit to either Narandera or Darlington, and … broke out into a native melody, accompanying himself in an elaborate and peculiar dance.

The attendant hounds joined in the chorus, the ladies commenced an instrumental performance on sticks… This article confirms the existence of a headman of the Kooba area. The name Kooba station was said to have been derived from 'the name given to a tree which is very plentiful on Riverina, and on this station in particular.' Wiradyuri used the wood and resin of Cooba or 'Guba' (Acacia salicina, Acacia stenophylla) to make and repair a range of tools. Cooba was also is used as a medicine and is known to be used as a body and mouth wash.

Another tree which would have originally been found at the study area was Weeping Myall (*Acacia pendula*, or Buuri in Wiradjuri). Its seeds are a valuable food source to Aboriginal people and provide a staple flour to make bread with. Tools and weapons such as boomerangs, digging sticks and clubs can be made out of its hard wood. Native Millet (*Panicum decompositum*) would have also grown in the area, and in a good season could also produce large amounts of seed which was harvested and ground into flour to make bread. Meanwhile, another plant in the area, Creeping Saltbush (*Atriplex semibaccata*), had small fruits produced mostly in the summer and autumn, which were used as a dye and for food.

Tindale wrote of the Wiradyuri that 'Maintenance of a cycle of ceremonies that moved in a ring around the whole tribal area tended to assist tribal coherence despite the large occupied area.' Accordingly, there is evidence of intermarriage between Wiradyuri people over a broad area. For example, women from the area of Tubbo Station (near Darlington point, approximately 45km south of the study area), married Wiradyuri men from the Corowa-Howlong area on the Murray River (approximate 200km away). Emily Davis, who was born c.1853-54 at Tubbo station, became the second wife of well-known Wiradyuri artist Tommy McCrae.

In the late 1870s, Reverend John Brown Gribble, a minster of religion from Jerilderie, had visited Darlington Point, which was by then 'a den of inequity on the Murrumbidgee. There was a traffic in blacks [sic] and the carnal interests of the white men would brook no interference.' At an address in Sydney, Gribble — arguing for the establishment of a mission at Darlington Point — explained that for the Wiradyuri people, their camp life was, 'miserable in the extreme, often verging on starvation. The women, utterly debased, are entirely without protection from the vilest outrage, and [were] often destitute of clothing and food. The children frequently ruined at a tender age…'

In 1880, the Reverend Gribble opened Warangesda Mission at Darlington Point (approximately 30km south of the study area), and local many Wiradyuri people became residents there until it closed in 1926. Even after Warangesda was well-established, Kooba Station continued to employ Wiradyuri men from Warangesda, and even after some of these individuals shifted to Brungle Mission near Tumut in the early 20th century, men like Ned Davis (d.1921) and John Williams (b.1866) continued to travel from Brungle to work on Kooba station — undoubtedly because Kooba was their country, and they wished to maintain a connection. Today, Yoogali area falls within the area of the Griffith Local Aboriginal Land Council.

6.7 Previous Archaeological Studies

The following reports have been drawn from the AHIMS database (reports conducted within the broader search area around the Yoogali site), as well as reports from the broader region. Additionally, Aboriginal Cultural Heritage Assessment Reports (ACHA) for SSD currently available for the Griffith City Council LGA have been included.

Gollan, K. (1982) conducted a peg-line survey to identify and locate surface archaeological material and to assess the significant of sites found along a proposed electricity line. They found a number of ring-barked trees (Chinese origin) and four (4) scar trees (River Red Gum, canoe, and perhaps bark hut) on the southern bank of the Murrumbidgee River, artefact scatters on eroded surfaces located near Mirrool Creek, and a

stone quarry on Whitton Road (considerably disturbed by modern quarrying) on an outcrop of 'pebbly sandstone' of Devonian age including quartz, quartzite, cherty fine grained siliceous rock, fine grained greenstone and basaltic materials. In undisturbed areas of the quarry, the surface was liberally covered with struck cores, flakes, hammerstones and quartz artefacts. It was suggested that this site was of substantial significance and likely represented a major source of stone for the middle reaches of the Murrumbidgee River country (Gollan 1982).

Palmer (1984) prepared a report outlining findings of an Aboriginal archaeological site survey undertaken to assess the impact of the proposed construction of an above ground water reservoir in Griffith, NSW. Prior to commencement of the survey, a number of Aboriginal stone objects were found by a NPWS Officer within close proximity to the proposed reservoir. The survey found further objects within the delineated new reservoir area, consisting of five (5) artefacts (horse-hoof core, ground edge axe, unifacial pebble implement, trapezoid core, oval pecked axe) (Palmer 1984).

Navin Officer Heritage Consultants (2008) prepared a Cultural Heritage Assessment (of Aboriginal and European heritage) for a proposed water supply augmentation project by Griffith City Council, comprising of the location of a new water reservoir and alignment of a water supply pipeline along Scenic Hill. Three (3) Aboriginal isolated find sites (SHR2, SHR4 and SHR5), two (2) artefact scatter sites (SHR1 and SHR6) and two (2) rock shelter sites (SHR3 and SHR6) were identified in the area, outlined below:

- Site SHR1 - artefact scatter comprising eleven (11) artefacts, situated adjacent to Scenic Drive on the crest of the Scenic Hill spurline on shallow red-brown fine gravelly loam, with low potential for subsurface artefacts.
- Site SHR2 - isolated find visible on a walking track which lies at the foot of the Scenic Hill Reserve escarpment. The track follows a general north-south alignment and is situated on moderately east sloping ground on fine brown loam with a high content of natural gravels. There was high potential for additional artefacts to be associated with the site, moderate potential for subsurface artefacts to occur, and low to moderate potential for *in situ* material to be present.
- Site SHR3 - rock overhang with potential occupation deposit and associated rock art of possible Aboriginal origin. The overhang is situated on the southeastern side of a small tor located at the foot of the Scenic Hill Reserve escarpment. The site is characterised by open, east-sloping ground with views over the riverine flats. There is moderate potential for the overhang to contain subsurface deposits, and moderate potential for *in situ* material to occur. No Aboriginal stone artefacts were identified within the vicinity of the shelter. Aboriginal rock art is present on the northeastern face of the boulder. The rock art consists of three motifs, a boomerang and two lizard-like figures in a white pigment.
- Site SHR4 - isolated find situated at the foot of the Scenic Hill Reserve escarpment in disturbed deposits along the easement consisting of brown gravely fine loam. The site is in poor condition from construction of the water supply pipeline. There is high potential for additional artefacts to be associated with the site and for the site to be larger than recorded. In addition, there is moderate potential for subsurface deposits and low potential for in situ material to be present at this location.
- Site SHR5 - isolated find situated on a walking track which runs along the top of the Scenic Hill Reserve escarpment, parallel to the edge of the cliff. There is high potential for additional artefacts to be associated with this site and for the site to be larger than recorded. There is low potential for subsurface deposits to occur at this location.
- Site SHR6 - artefact scatter comprising of three (3) artefacts situated on an exposure on Scenic Hill Reserve ridgeline in a disturbed, open flat area on shallow soils. There is moderate potential for

additional artefacts to be associated with this site and low potential for subsurface deposits to occur at this location.

- Site SHR7 - two (2) rock shelters in close proximity and associated occupation deposits, situated on the edge of the Scenic Hill Reserve escarpment. The rock shelters are found on the north eastern and southern sides of an accumulation of large boulders, with views down the escarpment and over the Griffith plains.
    - Shelter RS1 - characterised by excellent exposure and contains at least four (4) artefacts. Soils consist of a dark brown fine loam with some gravel material. There is high potential for additional artefacts to be found in associated with these artefacts and high potential for subsurface deposits to occur within the vicinity of the shelter.
    - Shelter RS2 - situated at ground level on the southern side of the collection of boulders. No aboriginal cultural material was identified on the surface of the shelter floor. There was however some European cultural material including a bone button and glass. There is moderate potential for subsurface deposits to occur at this location (Navin Officer Heritage Consultants Pty Ltd 2008).

Nelson (2015) prepared an Aboriginal Heritage Due Diligence Letter Report for the Riverina Solar Project, located 6km south-east of Griffith. This project is located immediately north-west of the current proposal site (Griffith BESS, this report). Both this project and the one for which this Due Diligence is being prepared both connect to the 132/33 kV TransGrid Yoogali substation. Four (4) new sites were identified within the Project Area:

- Site 1 - one silcrete core located atop B Horizon soils.
- Site 2 - one fragmented millstone located atop B Horizon clay soils.
- Site 3 - artefact scatter of two silcrete flakes located atop B Horizon clay soils.
- Site 4 - artefact scatter of one quartz vein pebble flake and one milky quartz flake located atop B Horizon clay soils (Nelson, 2015).

Barber (2016) prepared an Aboriginal Cultural Heritage Assessment for Griffith Solar Farm, located just north of the proposed BESS for which this report is being prepared (on the north side of Irrigation Way, to the east of the Riverina Solar Project, report by Nelson (2015), cited above). Pedestrian survey undertaken on foot was impeded by poor visibility due to recent cropping leaving a mat of cut stubble. Eleven (11) artefacts were found and recorded as three (3) separate site areas.

The results indicate that even within the flat, featureless plains of the district, artefact scatters can occur, and that they can occur even within highly developed farming areas. The authors state that it is difficult to relate the presence of the site to any pre-European natural features due to disturbance caused by the creation of channels and cultivation in the area. Results suggest that the presence of water was important. The location of the sites was almost equidistant between Mirrool Creek and a likely Black Box swamp (now farm dam). *The authors also state that the models of site location for the Griffith area must be amended to identify that sites can occur at least 600 metres from water sources, and that Aboriginal artefact scatters, or campsites, exist within the broader floodplain environments, despite intensive agricultural practices*.

The authors state there is negligible potential for the presence of intact subsurface deposits and the author strongly argue that there is no value in undertaking further investigations, including subsurface testing given the nature and the distribution of low density (0.005/m2). They stat that consideration must also be made of the level of disturbance of any such sites or artefacts, and that given the disturbance and land use in the area, there is negligible potential for the presence of intact subsurface deposits (Barber 2016).

Barber (2016) states that the site has little research value apart from what has already been gained from the current assessment and its contribution to the development of Aboriginal site modelling. The scientific significance of the artefacts was assessed as low. They state that the integrity of the site is already low and any additional disturbance is therefore unlikely to make a meaningful difference to the status of the site. However, the extent to which the loss of parts of the site would impact on the community is only something the Aboriginal community can articulate. (Barber 2016)

Tuovinen and Bentron (2011) prepared an Aboriginal Cultural Heritage Assessment for McWilliam's Wine's proposal to prepare the Hanwood site (located south-west of Yoogali) for growth in wine processing and the introduction of on-site wine bottling. Three (3) Aboriginal sites were recorded (two (2) isolated finds and one (1) open artefact scatter), all of which had been disturbed. These sites were assessed as having low scientific significance due to their high levels of prior disturbance but have significance to the local Aboriginal community. All sites were recommended to be collected and relocated (Tuovinen & Benton 2011).

Harrop (2021) prepared a report to review the Murrumbidgee Council's Draft Land Use Plan in the context of Aboriginal Heritage (south of Griffith City Council LGA). The report provides a desktop review, including a search of databases for known recordings of Aboriginal heritage within the vicinity of the study area, a review of previous archaeological work and literary sources, and taking into consideration landscape factors to assess archaeological sensitivity and existing disturbances to form a predictive model. The regional archaeological context indicates a strong association between evidence of Aboriginal occupation and reliable water sources. While this is typical of the archaeological record broadly, the authors that that there are some nuances in the Murrumbidgee region with recorded sites more likely near the junctions of major waterways with other waterways. They are also likely near ephemeral water courses, including relict water courses, drainage lines and depressions in the landscape (Harrop 2021).

Garbov (2021) prepared an Aboriginal Cultural Heritage Assessment Report for a redevelopment of the Griffith Base Hospital, which recommended further study as the site has potential to contain subsurface artefacts. Testing and salvage excavations are proposed as a mitigation measure, as avoidance of the potential deposits is not possible (Garbov 2021).

6.8 Site Types in the Geographic Region

The region has an Aboriginal archaeological record derived from Aboriginal occupation and land use that was concentrated on drainage lines but includes dispersed evidence throughout the landscape (Brown & Wall 2017). Regionally occurring sites such as human burials and faunal deposits are unlikely to occur in the study area as these are essentially confined to areas above the actively floodplain on larger rivers and/or their source bordering sandy deposits. No source bordering dune deposits existing on the terrace above the floodplain.

Cultural material is dominated by flaked stone tools (lithics) and lithic sites in NSW are listed by the features of either 'Artefact' or 'PAD' (potential archaeological deposit) in the AHIMS register. While not as significant as human burials, stone artefacts have variable distribution that can largely be correlated with different landform types. Many authors have stressed the importance of proximity to water as well as relatively common-sense amenity factors such as level, well-drained areas with useful views of resource use areas or a watercourse (Brown, 2008).

Stone artefacts may be found as occasional pieces (background scatter) or in concentrations typically described as 'Open Camp Sites' (even if not interpreted as having been a site where people camped). At these sites, the presence of large numbers of stone tools and the debitage from making and maintaining them provide evidence about the nature of the human use of the location.

Scarred trees are also found relatively commonly along the Murrumbidgee River and its major tributaries. Mature trees may bear evidence of the removal of bark for the making of implements such as coolamons (bowls), shields and sometimes pieces large enough to have potentially provided for a canoe (Brown 2008). Elsewhere, midden deposits and hearth sites can occasionally be found that contain valuable evidence about the types of resources used by Aboriginal people based on the identification of the bones and shells found within them.

While some rock art sites do occur regionally, suitable rock substrate does not occur in the study area. Hearth sites, other than vaguely fired patches of clay subsoil, are unlikely to occur due to the history of relatively intensive land use; while large mound cooking hearth are not locally known (these occur further north west in the Riverina (Balme & Beck, 1996).

There are no Aboriginal Places (locations nominated and listed as having special significance to the Aboriginal community) in or adjacent to the subject area.

6.9 Aboriginal Site Decision Support Tool

The Aboriginal Site Decision Support Tool (ASDST, current version 7.5) was developed to support the conservation of Aboriginal site heritage and assessment of Aboriginal site issues at the landscape scale in NSW. It was first developed in 2012 by the Office of Environment and Heritage (NSW Government 2024). The first suite was published in 2016 (Version 7) at 100m resolution (in Lamberts Conic Conformal Projection) (NSW Government 2024). At the time of writing this report, the current version is 7.5. This version was produced in 2020 at 50m resolution (in Geographic Coordinate System) (NSW Government 2024).

This tool extends the Aboriginal Heritage Information Management System (AHIMS) by illustrating the potential distribution of site features recorded in AHIMS. It complements AHIMS by providing broad-scale datasets to place Aboriginal site heritage within the context of regional conservation planning. The ASDST illustrates the potential distribution of site features recorded in the AHIMS database. It provides a regional overview, using site predictive modelling, correlating site information from AHIMS with landscape patterns such as proximity to water, vegetation, terrain, soils and the level of accumulated impacts (NSW Government 2024).

The ASDST is designed to be used at a scale of 1:100,000 and coarser. The models within ASDST are available in two forms: pre1750 (predicts likelihood of feature distribution prior to European colonisation of NSW); and current (predicts feature likelihood in the current landscape) (State Government of NSW & NSW Department of Climate Change 2021). Cell values range from 0 – 1000, where 0 indicates low likelihood and 1000 is high likelihood (State Government of NSW & NSW Department of Climate Change 2021). The scale is likelihood – a relative measure indicating the likelihood that a gird cell may contain the feature of interest *relative* to all other cells in the layer, and is not a measure of probability (State Government of NSW & NSW Department of Climate Change 2021).

The current models are modifications of the pre 1750 models. Data including tenure, extent of native vegetation, land use mapping and mining history have been used to place parameters on the likely survival rates of different features under different types of land use and condition (Ridges 2010). Parameters were derived through consultation and a series of expert workshops (Ridges 2010). Current models take into account the relative likelihood of a landscape feature surviving under different land-use conditions (for example, there will be different likelihoods for scarred trees and stone artefacts in a cleared landscape). The current models are designed to be used in conjunction with the pre1750 models when interpreting the relative likelihood of a feature being present today. The difference between the pre1750 model likelihood for a landscape feature and its current likelihood gives an indication of the total impact on the feature (Ridges 2010). Comparing the current model to the pre1750 model enables a visual assessment of the level of impact on that feature in that area of the landscape (Ridges 2010).

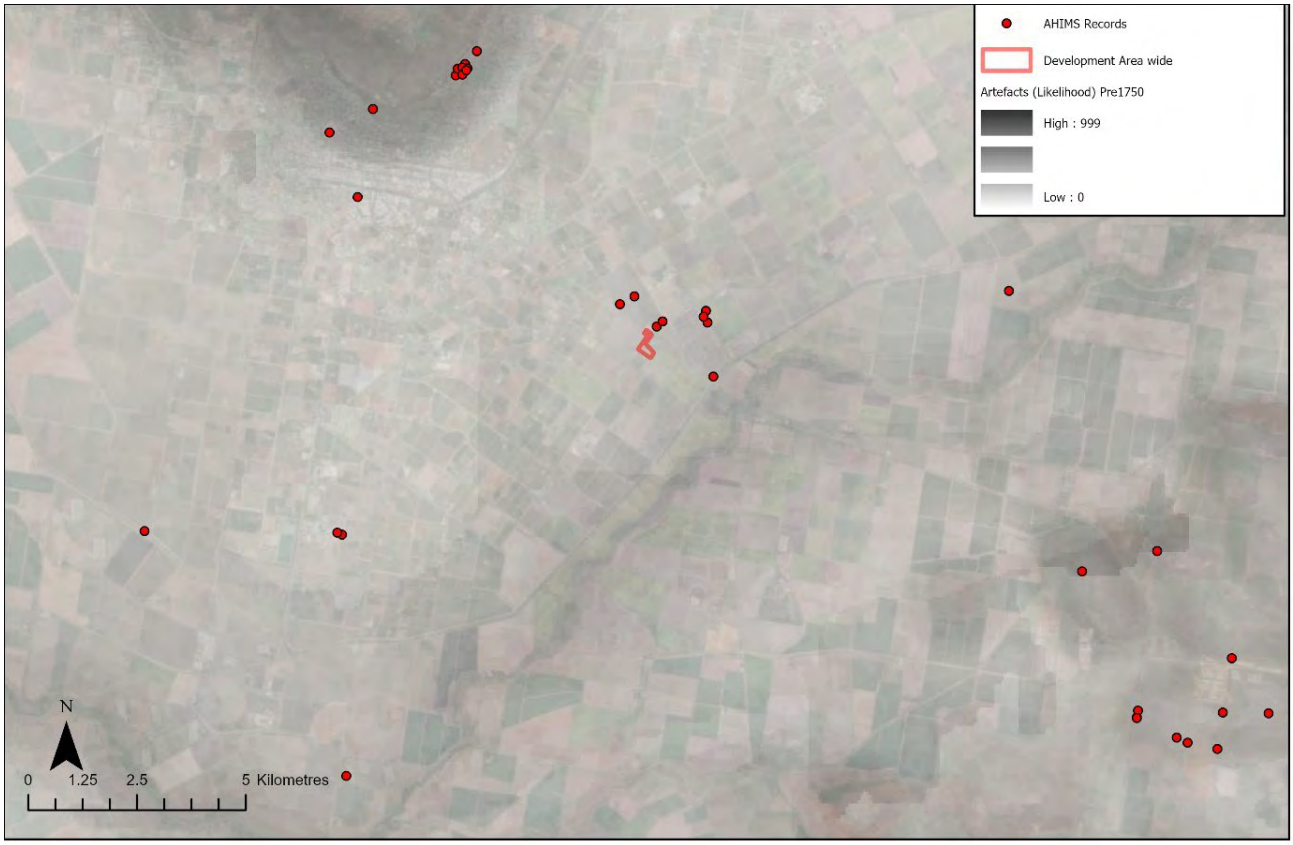
The models describe relative likelihood as it changes over the landscape across the entirety of NSW. The darkness (cells closer to 1000) is a relative quality – a black cell does not guarantee that that feature would have been located there, or would still be there today (Ridges 2010). Rather, it represents an area where the model predicts a high likelihood of that feature at that location relative to all other areas of the landscape. Similarly, white areas do not indicate an absence of that feature, but the lowest relative likelihood (Ridges 2010). The relative nature of likelihood is not directly comparable between site features. For example, an area might be modelled as high likelihood of stone quarries and artefacts, but they do not have an equal modelling probability of occurrence, as the probability of locating quarries is less as they are less frequently observed than stone artefacts (Ridges 2010). The tool also includes:

- A model of accumulated impacts: summing the difference between the pre1750 and current version of all feature models (cell values range from 0 – 1000, where 1000 is a high accumulated impact) (see **Section 6.3.3**).
- A model of the reliability of predictions based on an environmental distance algorithm that looks at recorded site density across the variables used in the models.
- A survey priority map, which considers model reliability (data gap), current likelihood and accumulated impact (cell values range from 0 – 1000 where 1000 indicates highest survey priority relative to the rest of the layer) (State Government of NSW & NSW Department of Climate Change 2021).

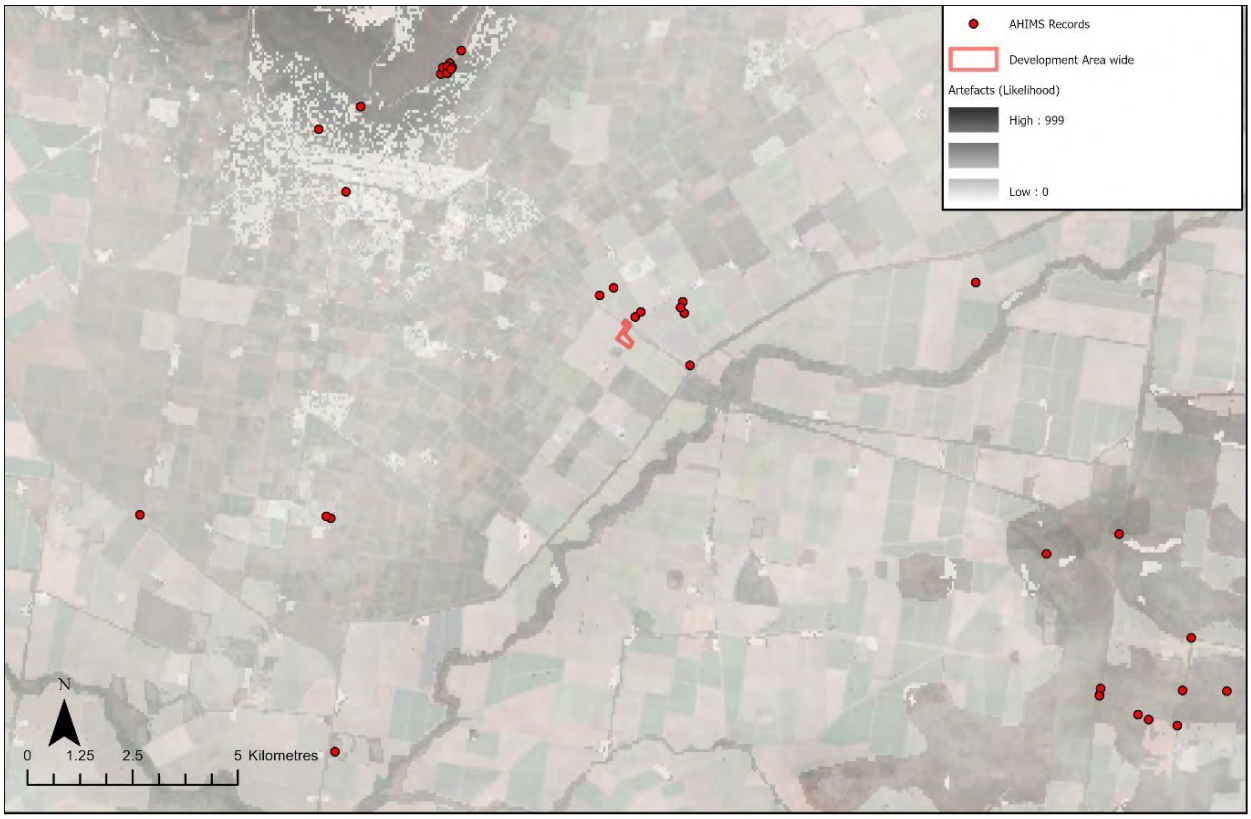
The accumulated impacts layer is derived from the difference between the pre1750 models and the current models for each feature type, which are then summed together (it reflects the combined impacts across all the nine features modelled) (Ridges 2010). Areas with high values in the layer reflect areas where the majority of feature types have been heavily impacted. Areas where the accumulated impact has been low may have a comparatively high chance of preserving features close to the relative likelihood indicated in the pre1750 models (Ridges 2010). Areas where the accumulated impacts are high have little chance of preserving Aboriginal site features, or they are likely to be in a highly degraded state (Ridges 2010). The accumulated impacts layer provides a landscape perspective and can be useful in assessing the conservation significance of a site (Ridges 2010).

The reliability layer indicates those parts of the landscape that have been investigated the least. Areas with high values are where the model predictions are based on the least amount of AHIMS data (Ridges 2010). Distribution of AHIMS sites spatially biased in recording density, with highest density around populated centres, roads and other infrastructure (Ridges 2010).

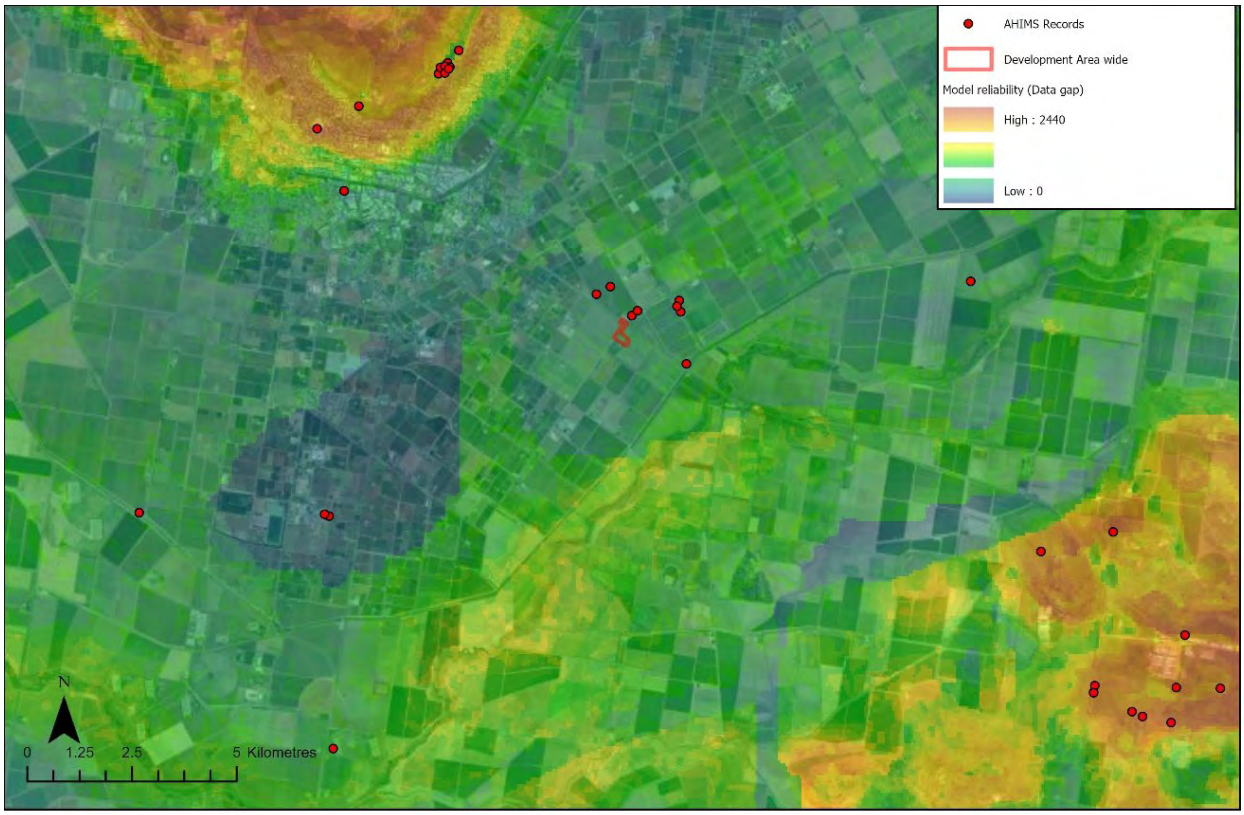
The ASDST has been used in site potential mapping, regional context setting, model testing, survey design and assessing conservation priority (Ridges 2010). The models were utilised in this report to gain a regional overview of the site feature most likely to be observed in the study area (artefacts). Pre1750 and current models were compared. The relative likelihood of finding artefacts is low. Accumulative impacts were high and model reliability was low, with greater survey effort required in this geographic area.



Map 6: Pre1750 model of artefacts. Study area and AHIMS records shown in red. (ASDST, available from datasets.seed.nsw.gov.au).



Map 7: Current model of artefacts. Study area and AHIMS records shown in red. Scale: 1:100,000 (ASDST, available from datasets.seed.nsw.gov.au).



Map 8: Model reliability (right): Scale: 1:100,000. Study area and AHIMS records shown in red. (ASDST, available from datasets.seed.nsw.gov.au).

6.10 Predictive statements

A series of statements have been formulated to broadly predict the type and character of Aboriginal cultural heritage sites likely to exist throughout the study area and where they are more likely to be located. This model is based on:

- Local and regional site distribution in relation to landform features identified within the study area.
- Consideration of site type, raw material types and site densities likely to be present within the study area.
- Findings of the ethnohistorical research on the potential for material traces to present within the study area.
- Potential Aboriginal use of natural resources present or once present within the study area.
- Consideration of the temporal and spatial relationships of sites within the study area and surrounding region.

Previous survey results within the region allow some predictions to be made about local site distribution:

- The study area was originally located within an accessible landscape with ample resources, therefore it would have been suitable for human occupation and daily activities.
- The study area has been cleared of all vegetation and natural resources, therefore the potential for scarred trees and other types of sites is low.
- The study area has been extensively altered through laser levelling and cultivation, therefore the potential for surface Aboriginal archaeological lithics and artefacts is low.
- Potential Archaeological Deposits (PADs) are not likely to be located within the study area as the land is completed disturbed (laser-levelled paddocks for irrigation bays).
- Quarry sites are located close to usable resource. There are no outcrops of stone in the study area.
- Scarred trees are concentrated along waterways, which are the areas with the highest focus of Aboriginal land use and where a number of suitable tree species are found. No trees remain in the study area.
- There is a tendency for concentrations of stone artefacts to be found within 200m of permanent and ephemeral water sources, particularly on raised areas such as sand hills by the river and elevations (commonly aeolian sand or red soil) adjacent to ephemerally flooded areas or billabongs. These sites may also contain burnt clay balls that were used as heat retainers for cooking.
- Lithic sites are, however, rarely recorded along the lower alluvial floodplains of the major river margins – in part because of the favoured use of raised areas by Aboriginal people, but also because these are dynamic depositional environments where potential sites are rarely preserved or exposed.
- Shell midden deposits dominated by freshwater mussel (*Velesunio* sp.) occur along river margins, typically also associated with flaked stone artefacts; these are rarely evident as surface deposits and are usually found as exposed sections in eroded river banks. These are unlikely to exist in the area with no natural features (creeks, rovers, waterways, swamps, billabongs) within the study area.
- Burial sites are most typically associated with prominent raised sand hills ('source bordering dunes') near the river. No features like this exist in the study area.
- Clay heat retainers, artefacts and faunal material are also found in association with raised earth mound sites where ephemeral water may have led to seasonal availability of cumbungi (*Typha* sp.); these earth mound sites are a distinctive archaeological feature of the Hay Plains and other parts of the Riverina, although many have been destroyed over the last century. None are recorded in the district.

7 Site Survey

A survey of the study area was undertaken on the 8th of November 2024 by Damian Wall of Red-Gum.

7.1 Survey Aims

The principle aims of the survey were to:

1. Undertake a systematic survey of the study area targeting areas with the potential for Aboriginal heritage.
2. Identify and record Aboriginal archaeological sites visible on the ground surface.
3. Identify and record areas of Aboriginal archaeological and cultural sensitivity.

7.2 Survey methods

The survey was conducted on foot. Recording during the survey followed the archaeological survey requirements of the code and industry best practice methodology. Information that recorded during the survey included:

- Aboriginal objects or sites present in the study area during the survey.
- Survey coverage.
- Any resources that may have potentially been exploited by Aboriginal people.
- Landform elements, distinguishable areas of land approximately 40 metres across or with a 20 metre radius.
- Photographs of the site indicating landform.
- Ground surface visibility (GSV) and areas of exposure.
- Observable past or present disturbances to the landscape from human or animal activities.
- Aboriginal artefacts, culturally modified trees or any other Aboriginal sites.

Where possible, the identification of natural soil deposits within the study area was undertaken and photographs of survey units, landform, vegetation coverage, GSV etc, were incorporated into the survey. If found, the location of Aboriginal cultural heritage and points marking the boundary of the landform elements were to be recorded using a hand-held Global Positioning System and the Map Grid of Australia (94) coordinate system.

In addition, a predictive assessment of the likelihood of the occurrence of undetected and/or subsurface Aboriginal cultural heritage material was conducted. This is an intuitive assessment using generalised contextual information rather than a geostatistical assessment using digitised (raster) map data of landforms and known locations of other sites.

Brown (2008) notes that although intuitive assessments are rarely afforded much written favour by archaeologists, they are in fact used by almost all. The term 'modelling' may be frequently inserted to infer statistical rigour that is usually not present nor for that matter. A *modelled predictive assessment* typically combines rule-based definitions of known site distribution factors with available mapped data that lacks the full range of detail that would affect human choices and behaviour - or the map data may quite simply be wrong (Brown O 2008).

7.2.1 Ground Surface Visibility

Archaeological visibility refers to the amount of ground surface that is clearly visible for inspection. The greater the ground surface visibility, the more effective the surface survey. Examples of high surface visibility are vehicular and pedestrian tracks, dune blow outs (100% per m²); and examples of poor visibility are areas of heavy vegetation cover (0-10% per m²) (Murphy & Thomson 2016).

Unfortunately, it is often the case that highly visible Aboriginal cultural heritage places are also often highly disturbed. High ground surface visibility (GSV) is therefore often related to the amount of disturbance that has occurred. This disturbance may be manmade (such as drainage lines, vehicle tracks), by stock (overgrazing, tracks), or due to natural processes (erosion by wind or water). The level of GSV is typically assessed as in **Table 2**.

Table 2: Ground Surface Visibility (GSV) ratings vs ranges

%	0%	0 – 10%	10 – 30%	30 – 50%	50 – 70%	70 – 90%	90 – 100%
Rating	No visible ground surface	Very poor	Poor	Fair	Good	Very good	Excellent

8 Results

8.1 Survey Coverage & Effectiveness

The purpose of compiling survey coverage data is to measure the limitations of site detectability at the time of the survey. For example, a survey transect across a heavily grassed paddock has little likelihood of finding lithic material on the surface regardless of the survey effort spent. The quantification of survey coverage data also usually relies on an assessment of the soil surface visibility in relation to other variables, principally the different landforms included in the survey and the amount of survey effort spent on each.

For the current investigation, the ground surface visibility was zero to very poor (0-10%) due to a dominance of exotic weeds and pastures.

8.2 Exposure

Exposure refers to the geomorphic conditions of the local landform being surveyed and attempts to describe the relationship between those conditions and the likelihood the prevailing conditions provide for the exposure of (buried) archaeological materials (**Photo 1**). Whilst also usually expressed as a percentage estimate, exposure is different to visibility in that it is in part a summation of geomorphic processes, rather than a simple observation of the ground surface (Burke & Smith 2004).

*The entirety of the study site was traversed on foot, although GSV was zero to very poor, making effective survey coverage about 5% (**Table 3**).*

Table 3: Effective survey coverage

	Survey unit area	GSV	Exposure	Effective Survey Coverage (survery unit x visibility x exposure)
Study site	61,363 m^2	10%	5%	5%, 307 m^2

Photo 1: Small area of exposure. Photo: D. Wall, 2024

8.3 Disturbance

Disturbance in the study area is associated with the existing and past land use. The study area is highly disturbed as a result of historic agricultural activities, laser levelling the entire site into irrigation bays and road and track building (**Photo 2**).

The site consists of mostly poor quality exotic pasture with sporadic native grass. Limited exposed ground surface was visible, however disturbance was evident throughout as a result of agricultural activity.

Photo 2: Example of disturbance, south edge of site, north orientation. Sealed tracks and laser-levelled surfaces. Photo: D. Wall, 2024

8.4 Landform Features

It was noted during the ground survey that the development of agricultural irrigation channels and the laser levelling of the area to create irrigation bays within and surrounding the study area has removed any evidence of a 'prior-stream' landscape. There are no notable landform features (i.e. raised terraces with good viewpoints over the region) present currently as the relatively flat nature of the site is only reinforced by its recent use as a cropped irrigation paddock. The study area is regarded as part of a single 'floodplain' landform zone.

The area does not possess scar age trees, nor any rock shelters, caves or other landscape features that are likely PADs. Culturally scarred trees are typically > 80cm DBH, as those trees in the wider Geographic region are typically the oldest. There were no such trees within the study area or surrounds. The only trees within the area are some replanted juvenile Myall Trees along the roadside where the access way will be installed.

9 Survey Outcomes

- The study area typically exhibited low visibility and exposure within a laser levelled and land formed irrigation bay complex with no natural surfaces. Despite the low visibility, the entire study site was traversed on foot and no (zero) Aboriginal objects, places or PADs were identified (**Photo 3**).
- No (zero) trees with cultural modifications were identified within the study area.
- No (zero) Aboriginal cultural heritage objects were identified within the study area.
- The survey did not identify any undisturbed areas of potential (PADs) within the study area.
- It is acknowledged that in the context of the ubiquitous 'background scatter' of artefacts that exists in almost any Australian landscape, undetected Aboriginal objects may be present in the fill and topsoil material that is to be returned to its original location post works.
- Mechanical disturbance at the site has completely and permanently altered the landscape to a point where no landscape features typically found in the geographic region (outside of intensive agriculture) exist.
- On the basis of desktop assessment (AHIMS records, previous work in the region and general regional site distribution patterns) and the survey, it considered that harm to Aboriginal objects as a result of the proposed work is highly unlikely at the assessed site.

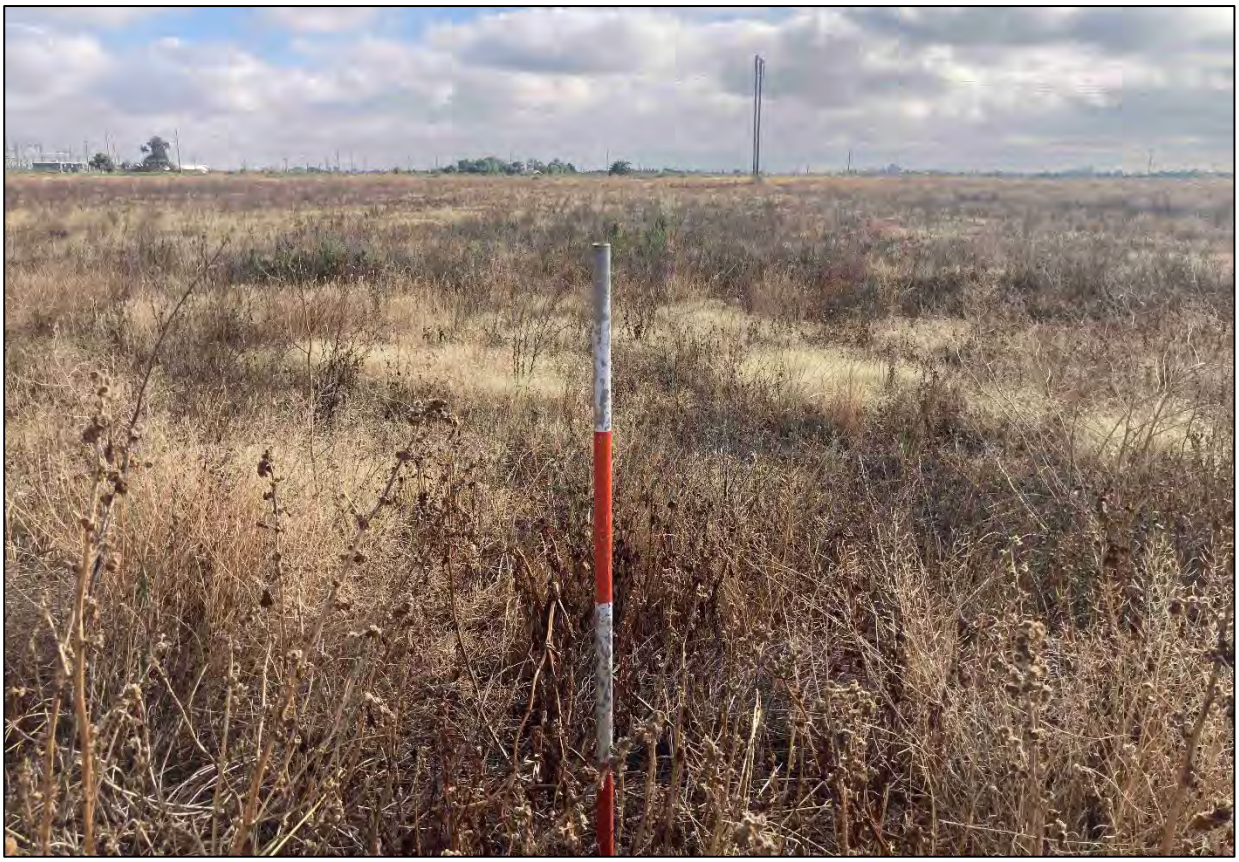


Photo 3: Mid site, north orientation. Laser-levelled irrigation bay. Photo: D.Wall, 2024

10 Recommendations & Contingencies

This report documents an assessment of the potential for the project to have an impact on Aboriginal objects or places. The assessment finds that there are no (zero) previously recorded Aboriginal objects within the study area and it is not predicted that *significant potential exists* for undiscovered Aboriginal sites to be impacted. However, the author acknowledges that the ubiquitous 'background scatter' of artefacts exists in almost any Australian landscape.

10.1 Recommendations

1. No further assessment is considered warranted if:
    - **a)** Works are contained entirely to the area assessed by this ACHDDA. Any works outside of the areas assessed in this ACHDDA will require further archaeological assessment.
    - **b)** Works maximise the use of significantly disturbed areas in the first instance – the irrigation bays, tracks and access ways.
    - **c)** Any topsoil that is disturbed during construction must remain onsite, i.e. ensure no topsoil (0-150mm) is removed from site. All soil must be used in rehabilitation within the bounds assessed by this ACHDDA. In the unlikely event of there being Aboriginal objects in the soil and, these objects will remain within the study area.
2. An **Aboriginal Cultural Heritage Management Plan (CHMP)** is recommended to be developed following development consent to address the potential for finding additional Aboriginal artefacts during the construction. The CHMP will outline an unexpected finds protocol to deal with construction activity and include induction policies for work crews (see below).
3. A **Cultural Awareness Induction** is considered appropriate at this site before any works commences. The induction is to be undertaken by employees who are supervising works during the activity in relation to earthmoving or ground disturbance works. All ground disturbance works must be supervised by a person who has undertaken the cultural awareness training. It is the responsibility of the client to:
    - **a)** Ensure that the training be undertaken prior to the commencement of works to familiarise employees and contractors with local Aboriginal traditions and culture;
    - **b)** Familiarise employees and contractors with Aboriginal places and objects (particularly stone artefacts) so that they may recognise Aboriginal cultural heritage that may be exposed during works. Information sheets to assist in the identification of Aboriginal cultural heritage should be provided during this training.
    - **c)** Promote a knowledge and understanding of and respect for Aboriginal tradition and culture; and
    - **d)** Assist with compliance with relevant Commonwealth and State cultural heritage legislation.
4. The information presented above meets the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. It should be retained as 'shelf documentation' for five years as it may be used to support a defence against prosecution in the event of unanticipated harm to Aboriginal objects.

10.2 Contingencies

Contingency 1: Discovery of unanticipated Aboriginal objects.

All Aboriginal objects and places are protected under the National Parks and Wildlife Act 1974 (NPW Act). It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by NSW DPHI. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the NSW DPHI and Aboriginal stakeholders.

Contingency 2: Discovery of Aboriginal ancestral remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains;
2. Notify the NSW Police and NSW EPA Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by NSW DPHI.

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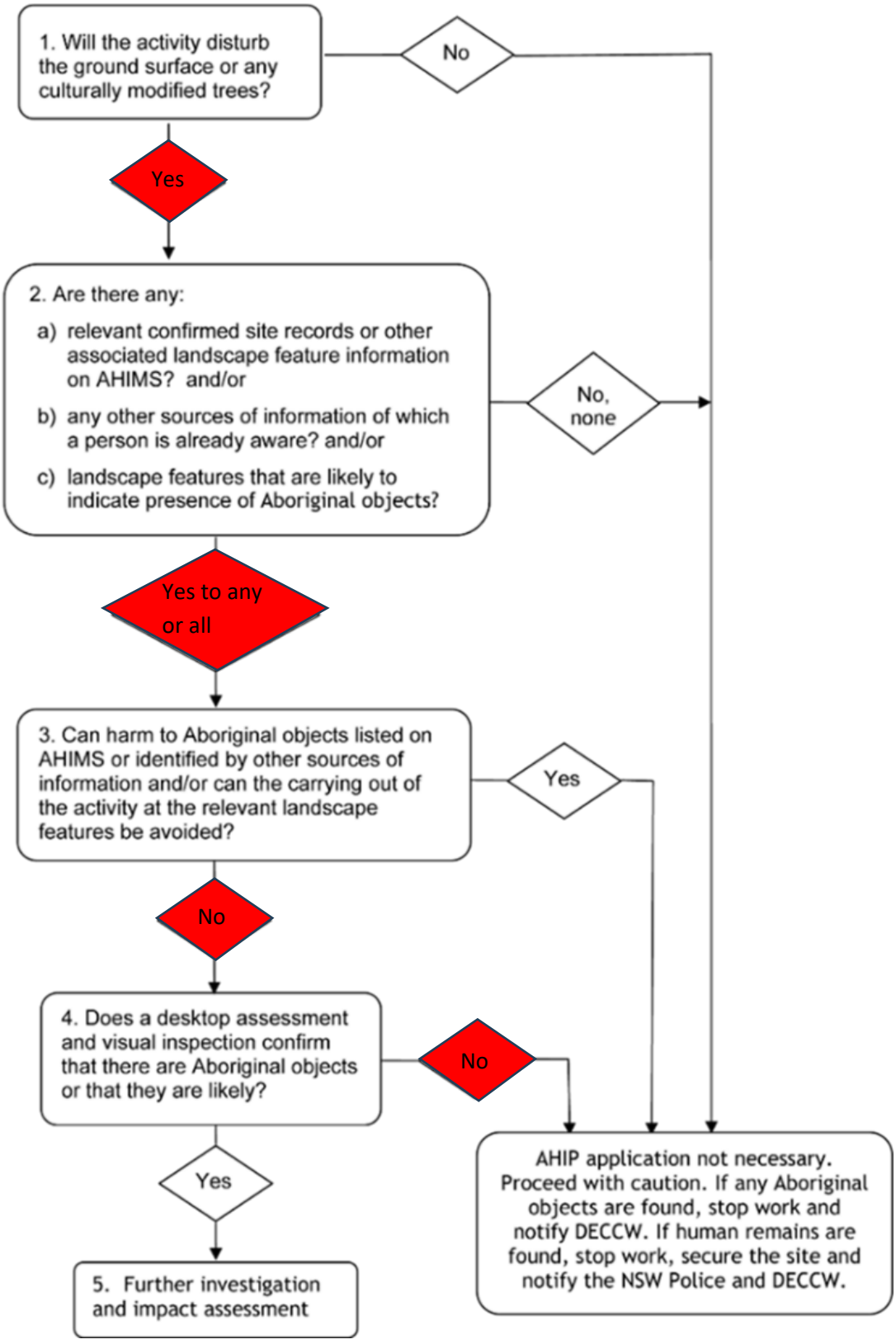
12 Appendix

Appendix A: Flow chart of the due diligence process for the project



Appendix B: AHIMS Search Results

The Appendix overpage is not to be made public

AHIMS Web Services (AWS)

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Site features
49-2-0178	GLIF004	GDA	55	429016	6195335	Open site	Valid	Artefact : -
49-2-0153	YOOGALI SITE 3	GDA	55	418211	6202539	Open site	Valid	Artefact : -
49-2-0108	Scenic Hill Reserve Site	GDA	55	414529	6207464	Open site	Valid	Artefact : 11
49-2-0127	McWilliams Isolated Fir	GDA	55	412269	6198552	Open site	Valid	Artefact : -
49-2-0129	McWilliams Open Site 1	GDA	55	408523	6198580	Open site	Valid	Artefact : -
49-2-0149	Griffith Solar Artefact S	GDA	55	419140	6202839	Open site	Destroyed	Artefact : -
49-2-0131	Wum-ST1	GDA	55	429879	6195323	Open site	Valid	Modified Tree (Ca
49-2-0177	GLIF005	GDA	55	428918	6194649	Open site	Valid	Artefact : -
49-2-0151	YOOGALI SITE 2	GDA	55	417782	6203103	Open site	Valid	Artefact : -
49-2-0109	Scenic Hill Reserve Site	GDA	55	414574	6207381	Open site	Valid	Artefact : 1
49-2-0112	Scenic Hill Reserve Site	GDA	55	414354	6207248	Open site	Valid	Artefact : 1
49-2-0156	Griffith Solar Relocated	GDA	55	419292	6201601	Open site	Valid	Artefact : -
49-2-0152	YOOGALI SITE 4	GDA	55	418323	6202631	Open site	Valid	Artefact : -
49-2-0173	GLIF002	GDA	55	428354	6194764	Open site	Valid	Artefact : -
49-2-0010	Griffith Quarry;	GDA	55	427744	6198374	Open site	Valid	Artefact : -, Stone
49-2-0019	Griffith Brick Works;	AGD	55	412400	6194000	Open site	Valid	Artefact : -
49-2-0113	Scenic Hill Reserve Site	GDA	55	414387	6207372	Open site	Valid	Artefact : 3
49-2-0114	Scenic Hill Reserve Site	GDA	55	414475	6207395	Closed site	Valid	Artefact : 4
49-2-0111	Scenic Hill Reserve Site	GDA	55	414476	6207266	Open site	Valid	Artefact : 1
49-2-0132	Wum-ST2	GDA	55	429176	6196364	Open site	Valid	Modified Tree (Ca
49-2-0172	GLIF003	GDA	55	427385	6195230	Open site	Valid	Artefact : -
49-2-0174	GLIF001	GDA	55	427403	6195360	Open site	Valid	Artefact : -
49-2-0014	Wambulgal Carrawatha	GDA	55	426324	6197979	Open site	Valid	Stone Quarry : -, A
49-2-0011	Mirrool 1;	AGD	55	424895	6203268	Open site	Valid	Artefact : -
49-2-0013	Griffith Scenic Hill Rese	AGD	55	412780	6206600	Open site	Valid	Artefact : -
49-2-0110	Scenic Hill Reserve Site	GDA	55	414554	6207349	Closed site	Valid	Art (Pigment or Er
49-2-0130	Hermits Cave Isolated A	GDA	55	414752	6207708	Open site	Valid	Artefact : -
49-2-0148	Griffith Solar Isolated Fi	GDA	55	419175	6202622	Open site	Destroyed	Artefact : -
49-2-0176	GLAFT001	GDA	55	427385	6195218	Open site	Valid	Artefact : -
49-2-0128	McWilliams Isolated Fir	GDA	55	412183	6198586	Open site	Valid	Artefact : -
49-2-0295	Griffith AMS Stone Axe	GDA	55	412506	6204929	Open site	Valid	Artefact : 2
49-2-0175	GLST001	GDA	55	428142	6194858	Open site	Valid	Modified Tree (Ca
49-2-0180	Griffith Base Hospital S	GDA	55	411965	6206147	Open site	Destroyed	Artefact : -
49-2-0154	YOOGALI SITE 1	GDA	55	417507	6202950	Open site	Valid	Artefact : -
49-2-0150	Griffith Solar Isolated Fi	GDA	55	419103	6202729	Open site	Destroyed	Artefact : -

Appendix G Preliminary Transport and Route Impact Assessment

MEMO

Griffith BESS

Preliminary Transport and Route Assessment

To	Robert Asquith	**Date**	13 May 2025
Company	Cogency Australia		
Copy To	Eku Energy		

onemile**grid** has been engaged by Eku Energy Australia to prepare a Preliminary Transport and Route Assessment to support the Scoping / Request for SEARS phase for the proposed Griffith BESS project.

This preliminary assessment summarises our findings following a desktop assessment of the site and surrounds, data collection, a review of available material for the Yoogali Solar Farm project, and a subsequent traffic analysis.

Traffic and Transport Assessment Criteria

The intent of our final report (following this preliminary assessment) is to undertake a detailed analysis of the likely traffic generated by the proposed development and assess the impact of that traffic on the nearby road network and provide recommendations to manage those impacts as required.

Due to the nature of the proposal, this assessment will need to ensure the impacts from a road safety and traffic impact point of view are managed during the following key stages:

- Typical Construction
- Peak Construction
- Operation

This preliminary assessment presents the existing conditions in the vicinity of the site and provides a recommended transport route for access to the site from the external road network.

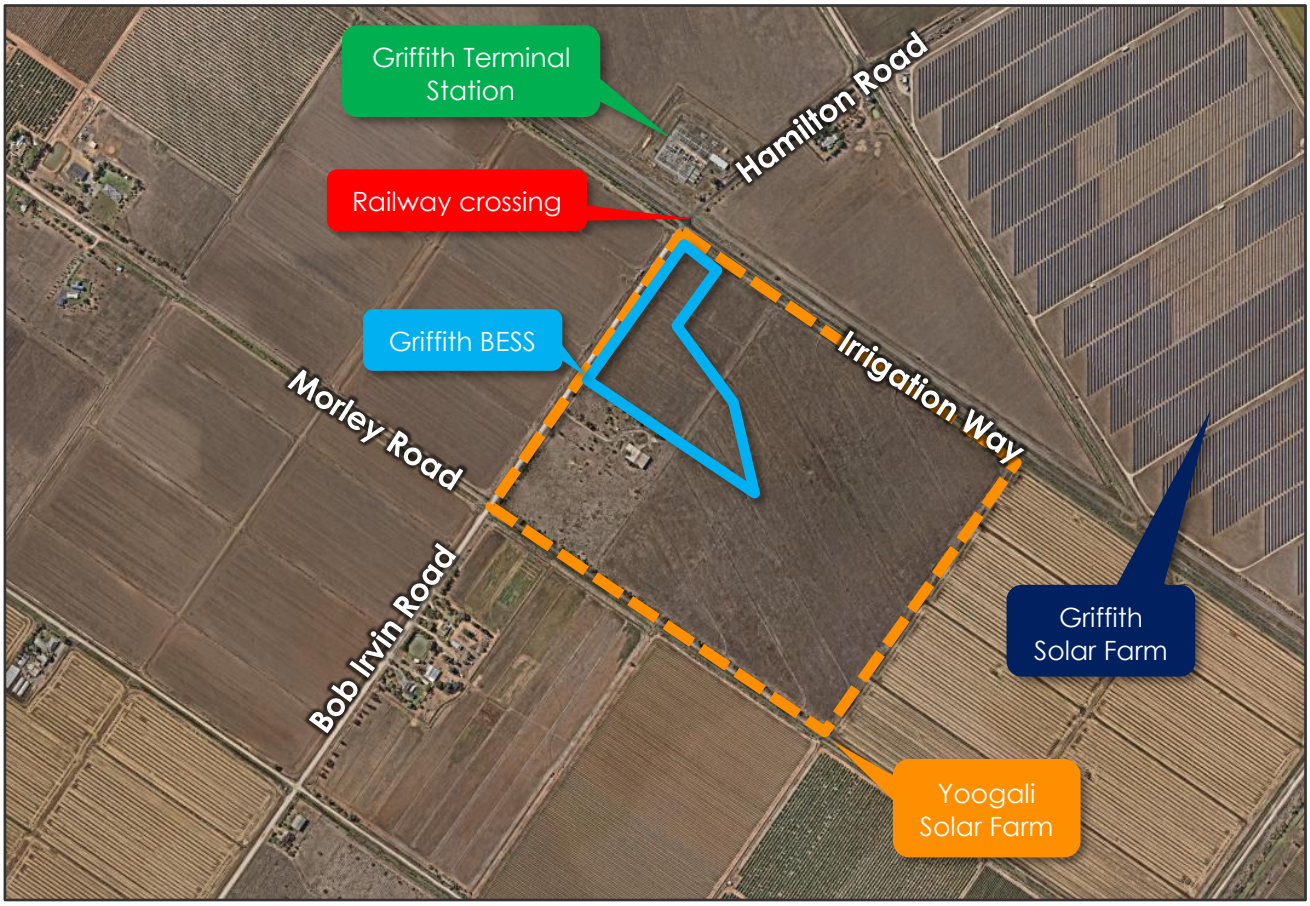
Our future more detailed work will include a detailed capacity analysis, a concept level route analysis for high risk OSOM to determine any aspects along the likely routes which could present accessibility challenges that require specific solutions, and recommended traffic management measures for implementation during the construction period.

Existing Conditions

The subject site is located on the south side of Irrigation Way, the east side of Bob Irvin Road, and the north side of Morley Road, and is located on the same land as the approved but yet to be constructed Yoogali Solar Farm project (DA: 291/2018). The overall site is made up of two lots titled as 41 Bob Irvin Road and 15 Bob Irvin Road, Yoogali.

An aerial view of the subject site is provided in Figure 1.

Figure 1 Site Context (22 March 2025)



Copyright Nearmap

The site largely accommodates rural farm land, with one dwelling located on the site.

The dwelling is provided with access via a concealed crossover and access track to Bob Irvin Road.

It is understood that the railway line accommodates four passenger trains per week operated by NSW TrainLink, with two trains in each direction. This does not include any freight trains which may use the railway line.

The site is located within the Murrumbidgee Irrigation Area (MIA), and therefore several supply and drainage channels traverse the vicinity of the site, with bridges and culverts provided at locations where channels intersect with roads.

Road Network

Irrigation Way is a state controlled arterial road running between Kidman Way in Griffith and Newell Highway in Narrandera.

Irrigation Way provides a single traffic lane in each direction adjacent to the site. A drainage channel runs parallel to the alignment of Irrigation Way, located between the subject site and the Irrigation Way carriageway.

The cross-section of Irrigation Way at the frontage of the site is shown in Figure 2.

In the vicinity of the site, Irrigation Way is an approved road as part of the NSW Oversize Overmass Load Carrying Vehicles Network.

Figure 2 Irrigation Way, looking east adjacent to the site

Copyright Google (Image date: January 2025)

Bob Irvin Road is a local road generally aligned north-south running between Irrigation Way in the north and Hanwood Avenue in the south. Bob Irvin Road is unsealed for the 2.5 km section from Irrigation Way to Wincey Road, including adjacent to the site. The section of Bob Irvin Road from Wincey Road to Hanwood Avenue is sealed with an approximately 5 m wide pavement.

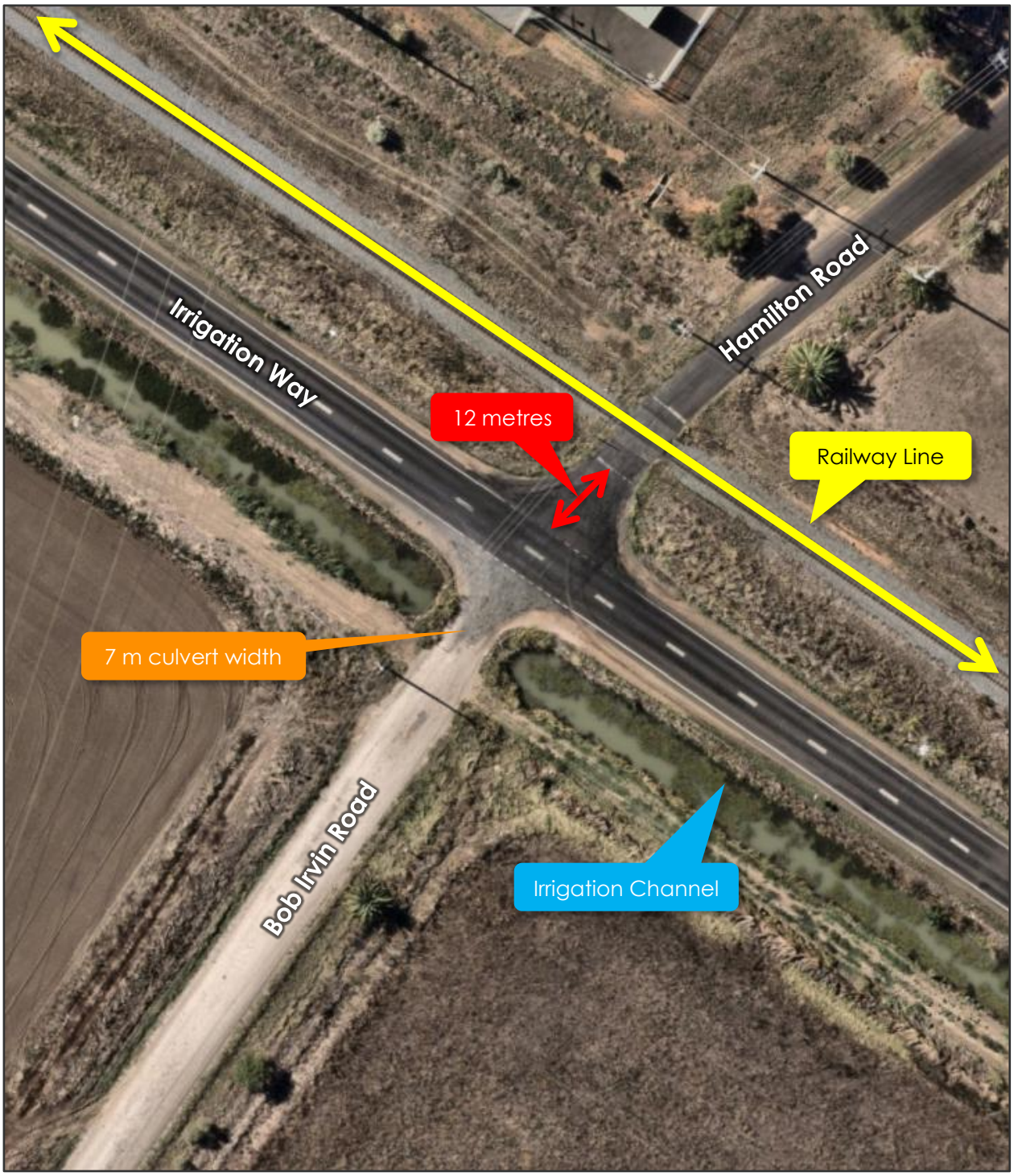
Figure 3 Bob Irvin Road, looking north adjacent to the site

Copyright Google (Image date: March 2010)

Hamilton Road is a local road running between Cain Road in the northeast and Irrigation Way in the southwest. Hamilton Road is provided with an approximately 6 m wide paved carriageway.

A view of the Irrigation Way / Bob Irvin Road / Hamilton Road intersection is shown below. It is shown that the edge of the Irrigation Way carriageway is offset from the level crossing stop line by approximately 12 metres. Additionally, the culvert passing over the channel is approximately 7 m wide.

Figure 4 Irrigation Way / Bob Irvin Road / Hamilton Road intersection



Copyright Nearmap

Traffic Volumes

Traffic volume information for Irrigation Way in the vicinity of the site was obtained via Transport for New South Wales Traffic Volume Viewer. The data indicates that Irrigation Way carried the following approximate traffic volumes, although the most recent data available is from 2010.

Table 1 Irrigation Way Historical Traffic Volumes (2010)

Direction	*Daily*
Eastbound	650
Westbound	671
Total	**1,321 vpd**

The above data is generally consistent with the traffic volumes undertaken for the Yoogali Solar Farm project.

As part of our detailed assessment, we will undertake updated traffic volume counts in the vicinity of the site. The collection of data will be influenced by the proposed access routes.

Yoogali Solar Farm

Overview

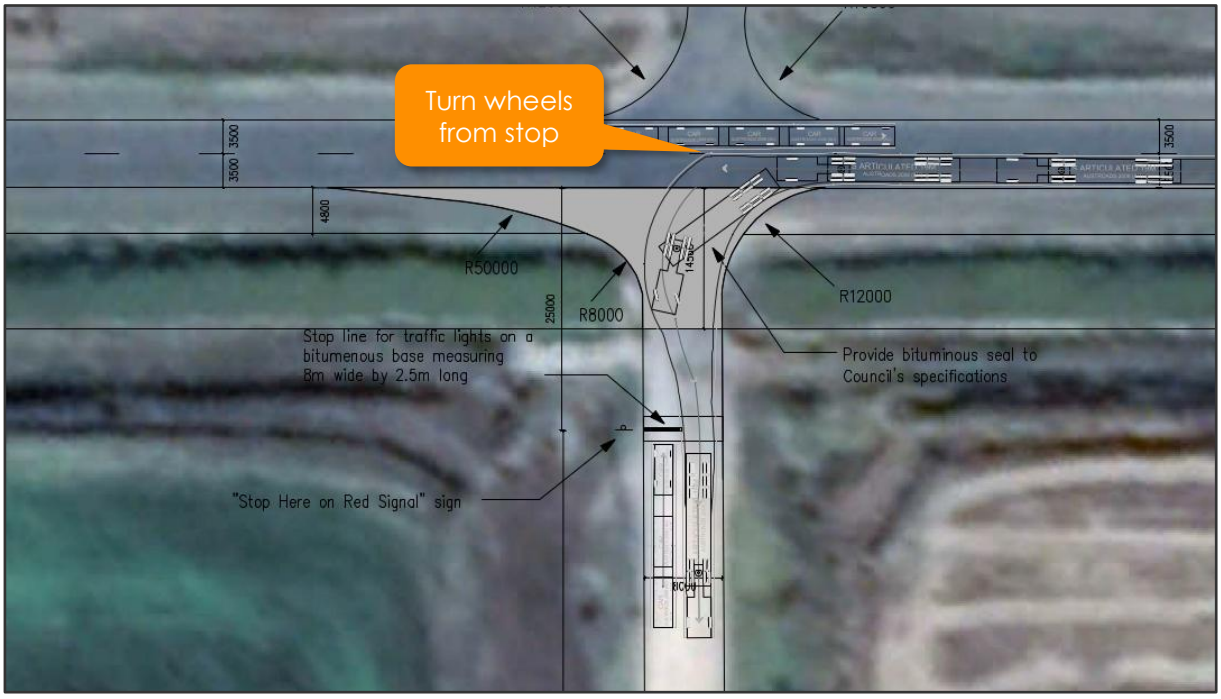
The Yoogali Solar Farm project is understood to have been approved in 2019, though construction has not yet commenced.

Application Material

onemile**grid** has reviewed relevant material prepared for the Yoogali Solar Farm, including the Traffic Impact Assessment and Construction Traffic Management Plan prepared by ML Traffic Engineers both dated October 2018. The following is noted: -

- Access was assumed to be provided via a crossover along Bob Irvin Road.
- The Traffic Impact Assessment includes commentary on the expected access routes to the site:
  - Primary vehicle access was expected via the north from Irrigation Way.
  - The secondary access route to the site was via Kidman Way, Mirrool Branch Canal Road, Old Willbriggie Road, Hanwood Avenue and Bob Irvin Road. This route includes traversing the approximately 2.5 km long section of Bob Irvin Road from Wincey Road to the site. Commentary is provided which indicates that this route is only suitable for vehicles up to cars and rigid trucks, with semi-trailers unexpected to use this route.
- Construction is noted to take place over a 10 month period.
- Approximately 50 staff on-site during construction.
- A swept path assessment was conducted for the Irrigation Way / Bob Irvin Road intersection using a 19 m semi-trailer, though the swept paths utilise a 'turn from stop' manoeuvre when turning into Bob Irvin Road from the east and the west on Irrigation Way. This is not considered appropriate in this context, and the swept paths will need to be reviewed as part of our assessment. An extract is provided below, showing the vehicle turning from stop when turning left into Bob Irvin Road from Irrigation Way, which is not an appropriate movement for vehicles exiting a major arterial road.

Figure 5 ML Traffic Engineers Swept Path Extract



- A total of 170 semi-trailer deliveries over the course of the construction period, with a maximum of 6 deliveries per day.
- A temporary traffic control plan was proposed, which involved stopping vehicles approaching Irrigation Way on Bob Irvin Road from the south via traffic signals.

Proposal

It is proposed to develop the site for the purposes of a 100MW / 800 MWh Battery Energy Storage System (BESS), including associated infrastructure including inverters, switch room, transformer control buildings and site office, and an underground transmission cable connection to the Grifith Substation. The proposed BESS will be co-located on the same land as the approved but yet to be constructed Yoogali Solar Farm.

The operator, Eku Energy, has provided the following information related to traffic generation during the typical construction period, the peak construction period and the operational phase of the project.

Table 2 Daily Traffic Generation

Period	*Total trips*	*Light vehicles*	*Heavy Vehicles*
Typical Construction	126	24	70
Peak Construction	186	40	90
Operations	6	2	2

Light vehicle movements are expected to be concentrated into the am and pm peak periods, while heavy vehicle movements are expected to be dispersed throughout the day.

Construction is anticipated to take place over an 18-month period, which includes a 6 month peak construction period.

The operator has outlined the bulk of heavy vehicle deliveries are expected to arrive via Port Botany in Sydney, however the transformers, which are transported on Oversize and/or Overmass (OSOM) vehicles, will originate and depart from Melbourne.

Cumulative Impacts

Given the proposed Griffith BESS will be co-located on the same land as the approved Yoogali Solar Farm project, it is necessary to coordinate design outcomes and transport routes between the two projects. For the purposes of analysis, this memo will consider the cumulative impacts of both projects. This includes staffing and heavy vehicle deliveries.

Transport Route Review

The majority of development traffic is expected to approach the site from the northeast on Burley Griffin Way, based on the location of the site in relation to Sydney and the arterial road network in the vicinity of the site.

onemile**grid** has undertaken a review of potential access route options and provides the following advice.

OSOM Routes

The NSW Oversize Overmass (OSOM) Load Carrying Vehicles Network map in the vicinity of the site is shown below.

Figure 6 NSW OSOM Network Map in the vicinity of the site

Vehicles operating under the Multi-State Class 1 Load Carrying Vehicle Mass Exemption Notice are eligible to travel on the NSW OSOM network. This includes vehicles up to 3.5 m wide, 4.6m high, 25.0 m long, 5.5m rear overhang and total mass of 49.5 tonnes, subject to meeting all other relevant eligibility requirements.

In the vicinity of the site Irrigation Way, Kurrajong Avenue, Kidman Way, Whitton Stock Route Road and Burley Griffin Way are all approved roads as part of the OSOM network.

It should be noted that Burley Griffin Way, between Binalong and Stockinbingal, is denoted as a limited access location, with additional travel conditions. It is understood that vehicles must contact Police before travel, and an eligible vehicle that exceeds a dimension limit must obtain a Class 1 permit before travel. Additionally, time travel restrictions are in place along Burley Griffin Way between Hume Highway west of Bowning and Irrigation Way at Yoogali, with vehicles wider than 2.5 m or longer than 22 m not permitted to travel in the daytime on weekends, or state-wide public holiday periods.

Irrigation Way / Bob Irvin Road intersection

As noted previously, the swept paths prepared by ML Traffic Engineers include turn wheels from stop manoeuvres for semi-trailers turning into Bob Irvin Road.

onemile**grid** has therefore prepared updated swept path diagrams for the Irrigation Way / Bob Irvin Road, based on a feature survey provided by the project team. The swept paths demonstrate that 19 metre semi-trailers can turn into and out of Bob Irvin Road using the existing road width. It is acknowledged that movements from Irrigation Way into Bob Irvin Road are particularly tight, with the 500 mm clearance envelope overhanging outside of the aisle and potentially impacting the landscaping and reflector poles, though the wheels do remain within the roadway.

The results of the swept path assessment are attached to this memo.

Based on the results of the swept path assessment undertaken by **one**mile**grid**, whilst the Bob Irvin Road / Irrigation Way is expected to accommodate the movements of 19 m semi-trailers, larger vehicles are unlikely to be able to use the intersection without widening of the existing culvert. Additionally, given how tight the swept paths are for inbound movements into Bob Irvin Road, and the close proximity to the irrigation channel, it may be considered necessary to restrict heavy vehicle movements to outbound only.

Bob Irvin Road (South)

As noted previously, Bob Irvin Road is unsealed for the approximately 2.5 km section from Wincey Road to Irrigation Way. This poses challenges for vehicle movements to the site.

Additionally, the sealed section of Bob Irvin Road is provided with a pavement of approximately 5 m width, which is not sufficient to accommodate two-way vehicle movements.

Hamilton Road

It is understood that both the Riverina Solar Farm and Griffith Solar Farm were granted approval to access the site from the north via Hamilton Road, Ross Road and Burley Griffin Way. As part of both projects Conditions of Consent, the following road upgrades were required to be implemented prior to construction beginning:

- Upgrade the intersection of Burley Griffin Way and Ross Road, including a basic right turn (BAR) and short auxiliary left turn (AUL(S));
- Upgrade Ross Road to allow two-way construction traffic, including paving and widening of the road to 8.4 metres.

The Burley Griffin Way and Ross Road intersection has been upgraded in accordance with the conditions, however Ross Road has not been sealed the full length of the road. Ross Road has currently only been sealed in the vicinity of the Burley Griffin Way and Hamilton Road intersections, with an approximately 2.4 km long section between the two intersections that is unsealed.

It should be noted that both the Riverina Solar Farm and Griffith Solar Farm projects are north of the railway line, and therefore would not require crossing over the railway line and Irrigation Way like the subject development.

It is understood that the Griffith Solar Farm project was originally granted approval to access the site from the south, via Irrigation Way and Hamilton Road, although upgrades were required to be implemented at this intersection such as an auxiliary left turn treatment. These upgrades were investigated by the applicant, Neoen Australia Pty Ltd, and Transport for New South Wales, and it was determined there was insufficient space available to achieve the required level of safety. In particular, it was noted that the proposed upgrades would only provide 15 metres of separation between the Hamilton Road rail level crossing stop line and the edge of the Irrigation Way carriageway, which would result in heavy vehicles approaching Hamilton Road from the south overhanging into Irrigation Way.

As shown in Figure 4, a heavy vehicle such as a 12.5 m heavy rigid vehicle (HRV) or 20 m articulated vehicle (AV) approaching from the north would not be able to prop fully within the storage area

and would overhang into the railway line. Similarly, vehicles leaving the site would overhang into the Irrigation Way carriageway when propped at the railway hold line.

It is our opinion that Hamilton Road is not a preferred route for private vehicles or heavy vehicles, as vehicles will be required to cross over both the railway line and Irrigation Way to access the site, without sufficient room to safely store vehicles between hold lines.

Recommended Routes

Heavy Vehicles

Based on the above, it is recommended that inbound heavy vehicles access the site from the south along Bob Irvin Road.

As shown in Figure 6 Burley Griffin Way and Kurrajong Avenue are both OSOM approved roads.

The recommended route from the northeast (via Burley Griffin Way), is to continue along Kurrajong Avenue, turn left at Old Willbriggie Road, continue along Old Willbriggie Road, turn left at Hanwood Avenue, continue along Hanwood Avenue, turn left at Bob Irvin Road and approach the site from the south. This route minimises the number of turning movements to access the site and the use of unsealed roads, with the only unsealed section of road being Bob Irvin Road from Wincey Road to Irrigation Way. Additionally, this route minimises the need for travelling over bridges and culverts to access the site. Vehicles travelling from Melbourne, such as the transformer deliveries, will approach from the south via Kidman Way and turn right onto Hanwood Avenue and continue on the same route as vehicles approaching from the north.

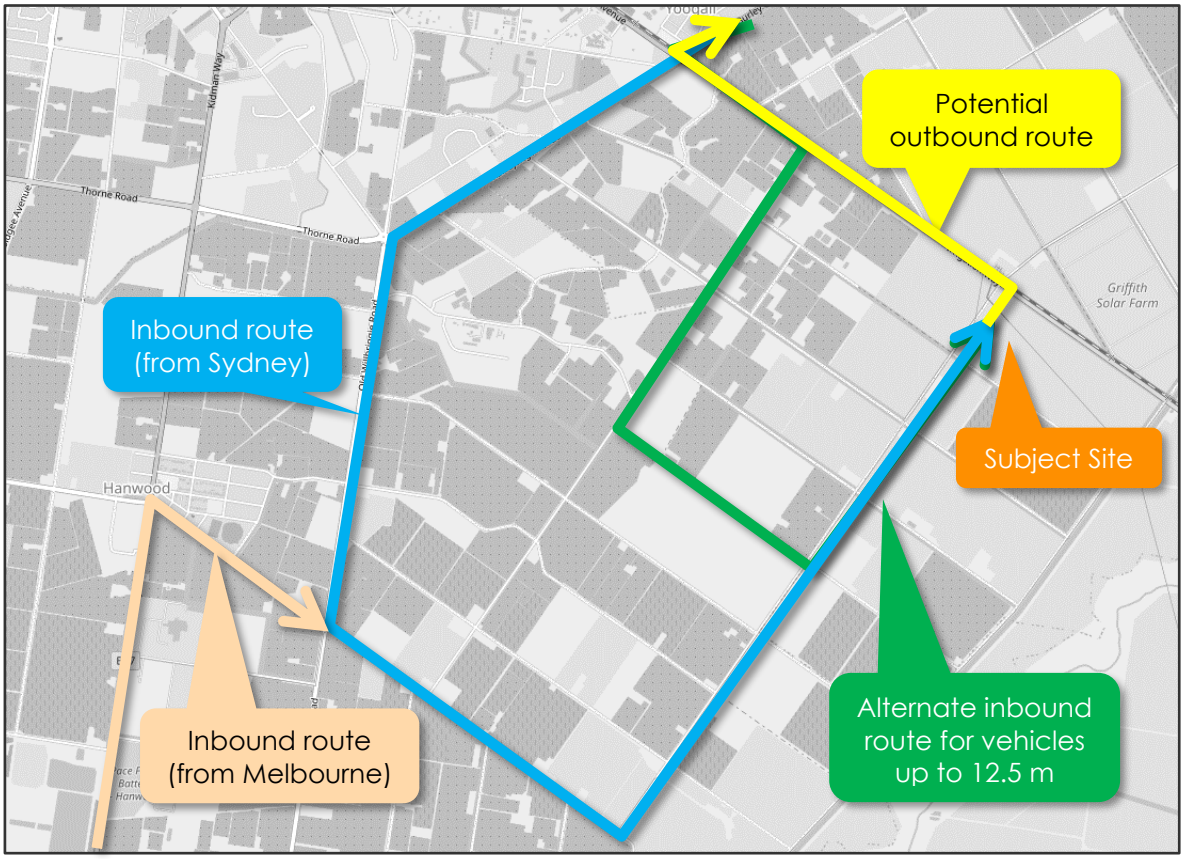
It should be noted that an alternate shorter route that may be suitable for smaller heavy vehicles (such as rigid 12.5 m trucks) could be available via the Murray Road / Irrigation Way intersection and Wincey Road. Murray Road is sealed, and is provided with an approximately 7.5 m wide culvert over the drainage channel. Wincey Road is chosen as the east-west road, due to it being sealed.

While the Bob Irvin Road /Irrigation Way intersection is not the preferred route for inbound truck movements, it may be appropriate to provide outbound truck movements. This would reduce the interaction and potential conflict between heavy vehicles on the local roads surrounding the site.

As shown in our swept paths attached, the Bob Irvin Road / Irrigation Way intersection is capable of accommodating outbound movements for 19 m semi-trailers.

The above routes are summarised below in Figure 7.

Figure 7 Heavy Vehicle Access Routes



Source: OpenStreetMap

Light Vehicles

Whilst the Irrigation Way / Bob Irvin Road intersection presents constraints for inbound heavy vehicle access, the existing intersection layout is anticipated to be appropriate to cater for light vehicles. As part of our detailed assessment, we will conduct swept paths to confirm the existing culvert width is appropriate to cater for concurrent inbound and outbound traffic movements.

Additionally, a similar traffic management plan proposed for the Yoogali Solar Farm project could be utilised, whereby a traffic light system stops northbound vehicles approaching Irrigation Way on Bob Irvin Road.

Miscellaneous Traffic Considerations

Other traffic engineering considerations relevant to the proposal are summarised below:

- Noting the proximity of the site to the centre of Griffith which includes a variety of land uses for staff, it would be beneficial to provide for communal transport between the site and the centre of town to reduce the level of traffic carried to / from the site and during other periods (lunchtime etc).
- Peak development related traffic to the Irrigation Way / Bob Irvin Road intersection is likely to trigger a requirement for channelised turn lanes. Noting the temporary nature of the peak traffic activity and commensurate with other similar facilities, a reduced treatment comprising of basic treatments is likely to be acceptable.
- Speed reductions along the roads to be used for the access route, such as Irrigation Way and Bob Irvin Road would benefit the movement of vehicles into and out of the site.

Please do not hesitate to contact Valentine Gnanakone should you wish to discuss the above.

Regards

Valentine Gnanakone

Director

onemilegrid

d: (03) 9982 9721
e: val.gnanakone@onemilegrid.com.au

att: Swept Path Diagrams

HAMILTON ROAD

IRRIGATION WAY

BOB IRVIN ROAD

N

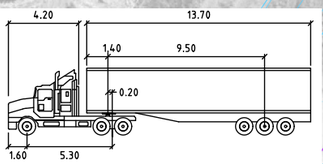
BODY IMPACT WITH ROAD FURNITURE

CLEARANCE OVERHANG ONLY
WHEELS AND BODY REMAIN
WITHIN ROADWAY

ROAD LEVEL OF SURVEY
SHOWN IN PURPLE

PM S 19M
AUSTROADS 2013 (AU)

SUBJECT SITE
41 BOB IRVIN ROAD



PM S 19M

	meters		meters
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

SWEPT PATH LEGEND

- — — — DESIGN VEHICLE SWEPT PATHS SHOWN DASHED
- - - - - - - - 500mm CLEARANCE ENVELOPE SHOWN DOTTED

CAD File: N:\Projects\2025\250170\Drawings\250170SPA100.dgn
Date Plotted: 13-05-2025 12:00:12

*onemilegrid operates from Wurundjeri Woiwurung Country of the Kulin nation.
We acknowledge and extend our appreciation to the Wurundjeri People, the Traditional Owners of the land.
We pay our respects to leaders and Elders past, present and emerging for they hold the memories,
the traditions, the culture, and the hopes of all Wurundjeri Peoples.*

Aerial Photography
Aerial photography provided by Nearmap

onemilegrid
Wurundjeri Woiwurung Country
56 Down Street, Collingwood, VIC 3066
Email:info@onemilegrid.com.au Web:www.onemilegrid.com.au
Phone (03) 9939 8250

Scale
1:400 @ A3
0 2 4 8

Drawing Title
GRIFFITH BESS
HEAVY VEHICLE SITE ACCESS
SWEPT PATH ANALYSIS

Designed	Approved	Melway Ref
DA	VG	NA

Project Number	Drawing Number	Revision
250170	SPA100	A

HAMILTON ROAD

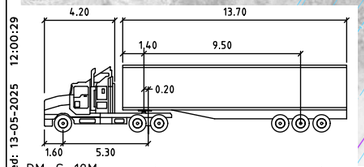
IRRIGATION WAY

BOB IRVIN ROAD

ROAD LEVEL OF SURVEY
SHOWN IN PURPLE

SUBJECT SITE
41 BOB IRVIN ROAD

N



PM S 19M	meters		meters
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

SWEPT PATH LEGEND

- — — — DESIGN VEHICLE SWEPT PATHS SHOWN DASHED
- - - - - - - - 500mm CLEARANCE ENVELOPE SHOWN DOTTED

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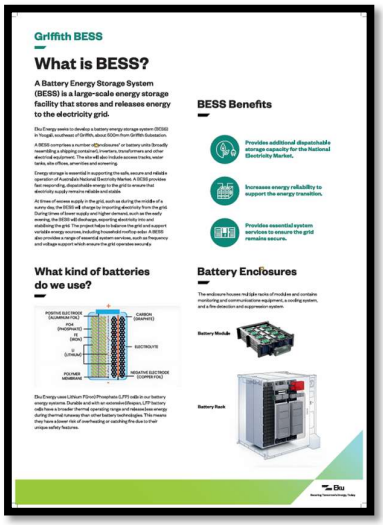
Drawing Title
GRIFFITH BESS
HEAVY VEHICLE SITE ACCESS
SWEPT PATH ANALYSIS

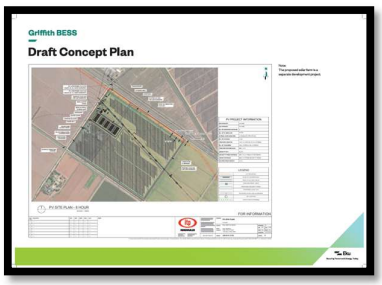
Designed	Approved	Melway Ref
DA	VG	NA

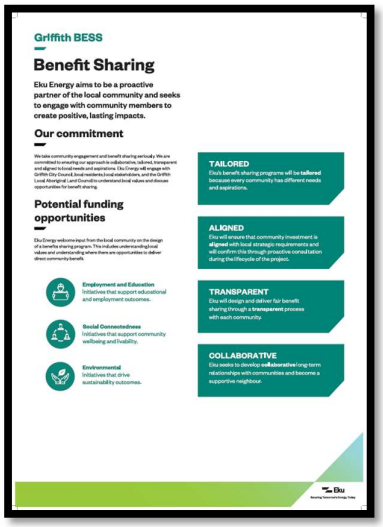
Project Number	Drawing Number	Revision
250170	SPA101	A

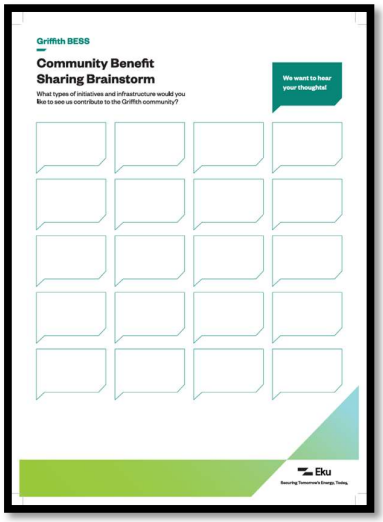
Appendix H Communication Material

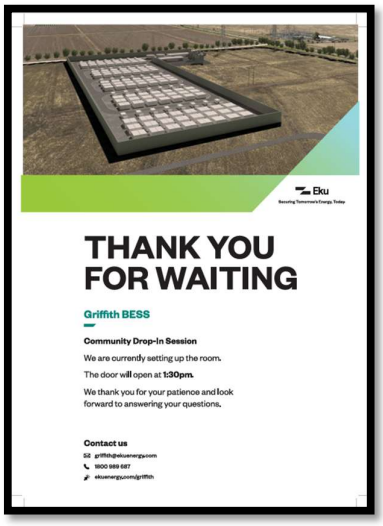
Appendix H Communication Material











Griffith BESS

Engagement form

Name:

Address:

Email:

Phone:

Feedback:

☐ I would like to receive quarterly email updates about the project.

We respect the privacy of the people we deal with and we uphold high standards of privacy practice and security. Whenever we handle personal information, we take steps to ensure that appropriate standards of privacy practice and security are applied. Further information on Eku Energy's Privacy Policy is available at: ekuenergy.com/privacy-and-terms/privacy

Eku
Securing Tomorrow's Energy, Today

Griffith BESS

Fact sheet

Eku
Securing Tomorrow's Energy, Today

Proposal

Eku Energy seeks to develop a battery energy storage system (BESS) on approximately 3–4 ha land, located close to the existing Griffith Substation on the corner of Irrigation Way and Bob Irvin Road.

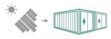
Battery storage is a critical enabler of the energy transition, designed to store and release energy and provide support to stabilise the electricity grid of NSW. The proposal includes a 100MW battery energy storage system, switch room, as well as associated connection infrastructure into the existing and adjacent Griffith Substation.

The site was identified due to its location next to existing electrical infrastructure. It is also strategically positioned away from significant public viewpoints and sensitive receptors. As part of the planning process, we are currently working on several assessments, including biodiversity, cultural heritage, visual amenity and noise, as well as a Fire Management Plan that will be written in collaboration with the NSW Rural Fire Service.

About Eku Energy

Eku Energy is deeply committed to our mission of accelerating the global energy transition by delivering safe, secure and reliable energy storage solutions that provide cost-effective clean energy to existing and future generations. With offices in Sydney, Melbourne, as well as London and Tokyo, we have global expertise paired with deep local knowledge. Find out more at Eku Energy - securing tomorrow's energy today.

Benefits

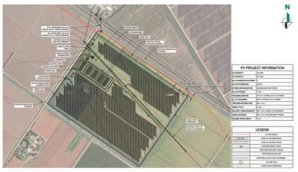


Providing energy storage to support renewable energy generation and system reliability

Contracting with local suppliers during construction and operation

Benefit sharing framework to support the local community

Eku Energy is a global battery storage business on a mission. We're working across the full price curve to develop, build, and manage energy storage assets with the aim of advancing the energy transition and facilitating the delivery of safe, secure, reliable clean energy.



Safety

Eku Energy's absolute priority is creating a safe working environment. We proactively manage our construction and operations to achieve zero harm to people, assets and the communities in which we operate.

Community benefits sharing

Eku Energy aims to be a proactive member of the local community and seeks to engage with community members to create positive, lasting impacts. We are committed to ensuring our benefit sharing approach is collaborative, tailored, transparent and aligned to local needs and aspirations. Eku Energy is engaging with the Griffith City Council, local residents, local stakeholders, and First Nations groups including the Griffith Local Aboriginal Land Council to discuss opportunities for benefit sharing that are best suited for Griffith.

Proposal overview

The proposed development site is located on Lot 141 DP 751709 in Yoogali, a suburb of Griffith LGA. The site sits approximately 500 metres south-east from Griffith Substation and is located adjacent to a proposed solar farm on Irrigation Way / Bob Irwin Road. The electricity grid is particularly congested at this part of the network, Griffith BESS will help support network stability and provide opportunities for more renewable energy to be delivered to the grid.

The site will house battery containers, medium voltage transformers, ring main unit, switching and control buildings, substation and high-voltage transformer. The next phase of design will be informed by proposed technology selection, project footprint and visual amenity aspects including noise walls or vegetation screening in line with planning requirements.

Contact us

griffith@ekuenergy.com
1800 989 687
ekuenergy.com/griffith

Eku
Securing Tomorrow's Energy, Today

Griffith BESS

Sign-in sheet

✓ = Please tick if you would like to receive quarterly Email updates about Griffith BESS

Name:	Phone:	Email:	✓

We respect the privacy of the people we deal with and we uphold high standards of privacy practice and security. Whenever we handle personal information, we take steps to ensure that appropriate standards of privacy practice and security are applied. Further information on Eku Energy's Privacy Policy is available at: ekuenergy.com/privacy-and-terms/privacy

Eku
Securing Tomorrow's Energy, Today

Dear resident,

We are writing to all Yoogali residents to provide information on a proposal to develop the 'Griffith BESS' – a 100MW battery energy storage system (BESS). The project will store and generate electricity into the NSW Region and will have a proposed operational life of 30 years.

About the project

The proposed Griffith BESS site 500 metres south-east from Griffith Substation and is located next to a proposed solar farm on Irrigation Way / Bob Irwin Road. The project is being developed by Eku Energy, an industry leading battery developer in Australia with currently two large-scale projects in operations and one in construction across Australia. Griffith BESS will deliver real and lasting social and economic benefits, including creating local job opportunities and providing reliable energy storage to support NSW's energy transition. An artist impression of the site area under investigation is included overleaf.

Invitation to Community Drop-in Session

Our project team seeks to speak to all interested neighbours, residents and other groups to share information about the Griffith BESS. We are therefore hosting a community drop-in session, which we cordially invite you to attend. Come by to learn more about the proposal and ask questions.

No RSVP required – drop by anytime. Light refreshments will be provided.

Thursday, 30 January 2025

1:30pm - 5:00pm

Senior Citizens' Centre,
47 Canal Street, Griffith,
NSW 2680

Benefits of Griffith BESS

Providing energy storage to support renewable energy generation and system reliability for Griffith and NSW

Contracting with local suppliers during construction and operation to support local jobs, workforce development and procure local content

Benefit sharing framework to support the local community and social initiatives

Eku
Securing Tomorrow's Energy, Today

We are looking forward to meeting you at our Community Drop-in Session at the **Senior Citizen's Centre between 1:30-5pm on Thursday, January 30.**

If you are unable to stop by, you are most welcome to reach out to us directly.

Eku Energy Australia Pty Ltd
griffith@ekuenergy.com
1800 989 687
ekuenergy.com/griffith

Aerial artist impression of Griffith BESS looking northwest towards Griffith.
This image is for illustration purposes only

Eku
Securing Tomorrow's Energy, Today

Eku

YOU'RE INVITED

Griffith BESS proposal

Community Drop-in session

Stop by to learn more and ask questions about Eku Energy's proposal for a 100MW battery energy storage system (BESS) in Yoogali, 500 metres from the Griffith Substation.

No RSVP required - drop in anytime. Light refreshments will be provided.

We look forward to meeting you.

Thursday, 30 January 2025

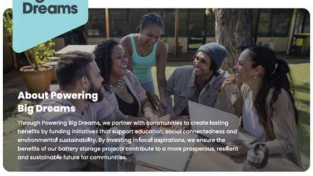
1:30pm - 5:00pm

Senior Citizens' Centre,
47 Canal Street, Griffith

Contact us
griffith@ekuenergy.com
1800 989 687
ekuenergy.com/griffith

Powering Big Dreams

Created by Eku



About Powering Big Dreams

Through Powering Big Dreams, we partner with communities to create lasting benefits by funding initiatives that support education, social connectedness and environmental sustainability. By investing in local aspirations, we ensure the benefits of our battery storage project contribute to a more prosperous, resilient and sustainable future for communities.

How does this program work

We are committed to working in partnership with the community to help identify and support initiatives with impact that can deliver long-term, broad-reaching benefits for residents and community members. We seek ideas from not-for-profit organisations to support initiatives that align with the following three principles:

1. **Employment and education:** Initiatives that support educational or employment outcomes, e.g. literacy, numeracy, science, technology, engineering and maths.
2. **Social connectedness:** Initiatives that support community connectedness, wellbeing and livability.
3. **Environment:** Initiatives that support or drive sustainability and environmental outcomes.

Powering Big Dreams is about co-creating programs that turn your big dreams into reality for your local community. Some ideas we'd love to support include:

- Solar panels for a community hub
- Projects that protect waterways or boost local biodiversity
- Support services like a food truck for people doing it tough
- Education programs for underrepresented groups
- Scholarships that help young people access new opportunities
- Infrastructure upgrades that support health, wellbeing and connection

What funding is provided by Griffith BESS

The project will share funding in two waves – first during the construction period which is likely to be from mid-2026 to late 2027, and second when Griffith BESS is operational from 2028.

Wave 1
During construction until late 2027

Griffith BESS is delivering real local benefits, aligned with our Powering Big Dreams principles:

1. Up to **$200,000** in community grants for impactful local projects
2. **$150,000** to boost local jobs and workforce skills
3. Hiring local workers, apprentices, and underrepresented groups for project delivery
4. Prioritising First Nations businesses in our construction supply chain.

Wave 2
During operations from 2028

Griffith BESS isn't just about energy storage—it's about delivering long-term value to the Riverina community:

1. Up to **$30,000** per year in community grants for 7 years – supporting grassroots projects
2. Up to **$100,000** invested in local innovation and supply chain development
3. Up to **$500,000** for First Nations training and workforce development – building skills for the future.

Let's do this together

Have a great idea for your community? We want to hear it.

Griffith BESS is committed to investing in the Griffith and wider Riverina region—and that starts with you.

Tell us how local funding could make a real difference.

Call us on 1800 989 687 / Email griffith@ekuenergy.com

Your suggestions will help shape our Benefit Sharing Program.

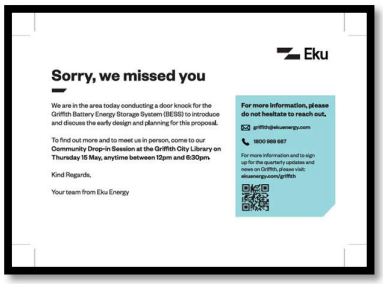
Funding applications open later this year - stay tuned!

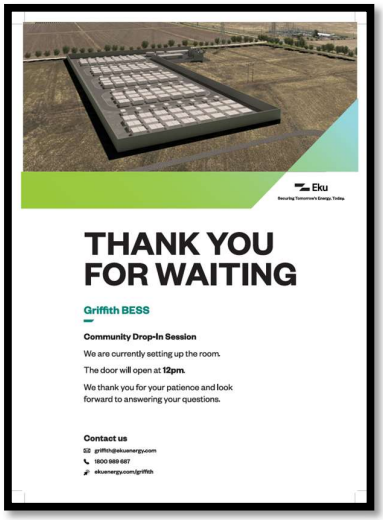
Powering Big Dreams
Eku


Griffith BESS
Project Overview
April 2025
Eku
Securing Tomorrow's Energy, Today
About the Project
Eku Energy seeks to develop Griffith (BESS), a 100MW/ 800MWh battery energy storage system (BESS) on approximately 3–4 ha of land, located close to the existing Griffith Substation on the corner of Irrigation Way and Bob Irwin Road, The project is anticipated to be operational in 2027.
With its extended 8-hour storage duration, Griffith BESS will play a critical role in strengthening energy reliability and security across the Riverina region.It is designed to store and dispatch electricity over long periods, helping to stabilise the grid and support supply during peak demand periods.
Community engagement
Eku Energy is committed to engaging openly and transparently with the local community throughout the development process, We understand the importance of providing clear information, listening to local feedback and ensuring community members have the opportunity to ask questions and share their views.
In addition to the formal public notification required as part of the Development Application - which includes notifying nearby landowners, placing site signage and publishing a newspaper notice - Eku Energy will also undertake proactive engagement activities, including:
Door knocking nearby landholders
Hosting local community drop-in information sessions
Offering face-to-face meetings with interested community members and stakeholders.
Details about upcoming community engagement sessions will be advertised in the local newspaper and published on the Eku Energy website.
Proposal overview
Griffith (BESS) is located approximately 500 metres south-west from the Griffith Substation, Adjacent to an approved solar farm on Irrigation Way / Bob Irwin Road, the site is strategically positioned away from significant public viewpoints, The electricity grid is particularly congested at this part of the network, Griffith (BESS) will enhance network resilience to changes in energy generation, increasing the region's ability to adapt to changes in the electricity system.
Griffith (BESS will incorporate grid-forming inverter technology and can therefore provide essential system services like voltage support and reactive power for improved network stability as NSW legacy coal-fired power stations retire at their end of life.
The BESS site will house battery containers, medium voltage transformers, a ring main unit, switching and control buildings, substation and high-voltage transformer.
As part of the planning process, we are currently working on several assessments, including biodiversity, cultural heritage, visual amenity and noise, as well as a Bush Fire Emergency Management and Evacuation Plan that will be created in collaboration with the NSW Rural Fire Service, We are also in communication with Griffith Fire and Rescue Station.
About Eku Energy
Eku Energy is deeply committed to our mission of accelerating the global energy transition by delivering safe, secure and reliable energy storage solutions that provide cost effective clean energy, With offices in Sydney, Melbourne as well as London and Tokyo, we have global expertise paired with deep local knowledge, Find out more at ekuenergy.com.


Safety
Eku Energy's absolute priority is creating a safe work environment, During construction and operations, we will have measures in place, including traffic management, environmental controls and continuous health and safety checks to minimise risks.
Community benefits sharing
Eku Energy aims to be a proactive member of the local Griffith and Yoogali community and seeks to engage with community members to create positive, lasting impacts, We are committed to ensuring our benefit sharing approach is collaborative, tailored, transparent, with alignment to local needs and aspirations, We are engaging with the Griffith City Council, local residents, local stakeholders, and First Nations groups including the Griffith Local Aboriginal Land Council to discuss opportunities for benefit sharing that are best suited.
If you would like to stay informed or have questions or feedback about the proposed development, we welcome you to contact us via the details below at any time.
griffith@ekuenergy.com
1800 989 687
For more information and to sign up for the quarterly updates and news on Griffith, please visit: ekuenergy.com/griffith
Benefits
Eku
Securing Tomorrow's Energy, Today


Eku
YOU'RE INVITED
Griffith BESS proposal
Community Drop-in session
Stop by to learn more and ask questions about Eku Energy's proposal for a 100 MW/800 MWh battery energy storage system (BESS) in Yoogali, 500 metres from the Griffith Substation.
No RSVP required - drop in anytime. Light refreshments will be provided.
We look forward to meeting you.
Thursday, 15 May 2025
12pm - 6:30pm
Griffith City Library
229 Banna Avenue, Griffith
Contact us
griffith@ekuenergy.com
1800 989 687
For more information and to sign up for the quarterly updates and news on Griffith BESS, please visit:
ekuenergy.com/griffith


Eku
Sorry, we missed you
We are in the area today conducting a door knock for the Griffith Battery Energy Storage System (BESS) to introduce and discuss the early design and planning for this proposal.
To find out more and to meet us in person, come to our Community Drop-in Session at the Griffith City Library on Thursday 15 May, anytime between 12pm and 6:30pm.
Kind Regards,
Your team from Eku Energy
For more information, please do not hesitate to reach out.
griffith@ekuenergy.com
1800 989 687
For more information and to sign up for the quarterly updates and news on Griffith, please visit:
ekuenergy.com/griffith


Eku
Securing Tomorrow's Energy, Today
THANK YOU FOR WAITING
Griffith BESS
Community Drop-In Session
We are currently setting up the room.
The door will open at 12pm.
We thank you for your patience and look forward to answering your questions.
Contact us
griffith@ekuenergy.com
1800 989 687
ekuenergy.com/griffith

Appendix I Community and Stakeholder Engagement Plan

Eku

Griffith BESS

Stakeholder and Community Engagement Plan

May 2025

Acknowledgement of Country

We acknowledge the Traditional Custodians of the Country on which we live and work including the Wiradjuri people as the traditional owners of the land on which the proposed project will store energy, and pay respect to Wiradjuri Elders past, present. We acknowledge and respect their culture, beliefs, contributions, and spiritual and historic connection with the land.

Abbreviations

AEMO	Australian Energy Market Operator
ATSIC	Aboriginal and Torres Strait Islander
BESS	Battery Energy Storage System
COD	Commercial Operations Date
DA	Development Approval
DPHI	Department of Planning, Housing & Infrastructure
LGA	Local Government Area
MW	Megawatt, unit of power
MWh	Megawatt-hour, unit of energy
NEM	National Electricity Market
SFV	Scheme Financial Vehicle

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Version control

Version	Date	Author	Reviewer	Approver
0.0 Internal Draft	01/05/2024	Senior Manager Policy and Regulation	Griffith BESS Business Development Manager	-
1.0 Final for engagement	26/06/2024	Senior Manager Policy and Regulation	Griffith BESS Business Development Manager	Chief Operating Officer
2.0 Final for Scoping Report	15/05/2025	Senior Manager Policy and Regulation	Griffith BESS Development Manager	Chief Operating Officer

1. Introduction

1.1 Purpose of this Plan

This Stakeholder Community Engagement Plan (SCEP) describes the development phase, pre-construction and construction phase stakeholder engagement activities associated with the development of the Griffith Battery Energy Storage System (BESS). The plan will evolve through each development and delivery phase to inform ongoing engagement activities and align with the diverse needs of stakeholders.

2. Project Overview

2.1 Project overview

Eku Energy, in partnership with EDP Renewables (EDPR), is developing the proposed Griffith BESS. The Griffith BESS is a utility-scale 100MW / 800MWh lithium-ion battery energy storage system. The BESS will have its own independent point of connection and is proposed to connect direct into the 132kV busbar at Griffith Substation operated by Transgrid, located approximately 500 meters away. Based on preliminary design, its nominal size at the inverter terminals will be 105.73MW / 845.86MWh, however may be oversized in energy capacity (MWh) to ensure 8-hour duration can be maintained. The project will generate electricity into the National Electricity Market (NEM) NSW/ACT Region with a proposed operational life of 20 years from its Commercial Operations Date (COD), with an option to extend.

The Griffith BESS will adopt virtual synchronous machine control mode, enabling it to provide essential system security services and support including voltage control, synthetic inertia and system strength. The project is located in a part of the network that hosts high levels of variable renewable energy resources (predominantly solar). Inverters with grid forming capability will support the stable operation of the system and connection of additional new variable renewable energy capacity.

2.2 Proposed location and design

The proposed development site is located on Lot 141 DP 751709 in Yoogali, a suburb of Griffith LGA in New South Wales (NSW) (Figure 1). The site sits approximately 500 metres south-east from Griffith Substation and is located adjacent to a proposed solar farm on Irrigation Way / Bob Irwin Road. Following European colonisation, much of the original vegetation was cleared for pastoral purposes and the site has recently been used for agricultural farming or rice and wheat.

The BESS site will house battery containers, medium voltage transformers, ring main unit, switching and control buildings, substation and high-voltage transformer. The next phase of design will be informed by proposed technology selection, project footprint and visual amenity aspects including noise walls or vegetation screening in line with planning requirements.

Figure 1 - Griffith BESS Indicative Project Layout (draft). For information purposes only.

2.3 Planning process and timeline

The Griffith BESS is being progressed under the State Significant Development (SSD) framework, pursuant to the Environmental Planning and Assessment Act 1979 (NSW). The SSD framework is governed in part by the State Environmental Planning Policy (Planning Systems) 2021, which outlines the policy settings and procedural requirements for the assessment of SSD projects across NSW. Under this framework, SSD applications are assessed by the Department of Planning, Housing and Infrastructure (DPHI), and approval is granted by the Minister for Planning and Public Spaces or the Independent Planning Commission (IPC).

Formally, the process begins with the submission of a Scoping Report to DPHI, which informs the preparation of the Secretary's Environmental Assessment Requirements (SEARs). These requirements guide the preparation of a comprehensive Environmental Impact Statement (EIS), which must assess all potential environmental, social, and economic impacts and propose appropriate mitigation strategies. The planning assessment is coordinated by DPHI, with final approval determined by the Minister. However, if Griffith City Council objects to the SSD application, or if more than 50 public objections are received during the public exhibition period, the application must be referred to the IPC for determination.

A Scoping Report is being submitted in May 2025, with receipt of SEARs expected in June 2025. Technical assessments for the EIS are underway, addressing noise, traffic, biodiversity, cultural heritage, visual impacts, bushfire risk, and other key issues. The EIS is expected to be lodged as part of the Development Application in August 2025, with public exhibition planned between September and November 2025, and determination anticipated in December 2026, subject to assessment timeframes and any IPC involvement. Community consultation is ongoing with neighbouring landowners and other local stakeholders over varied platforms and medias, including in-region engagement.

Subject to planning approval and network connection timing, construction is targeted to commence in 2026, with a construction program of approximately 18-22 months. Commercial operations are targeted for Q4 2027.

The following timeline reflects the anticipated key milestones for the project.

Milestone	Target Date
Scoping Report submitted	May 2025
SEARs issued	June 2025
Technical studies for EIS	May - August 2025
EIS lodgement	August 2025
Public exhibition and response	September - November 2025
Determination (Minister or IPC)	December 2026
Construction commencement	July 2026
Commercial operations	Q4 2027

2.4 Area profile

The proposed Griffith BESS is located within the suburb of Yoogali within the Griffith Local Government Area (LGA). An overview of the demographics for the suburbs of Griffith and Yoogali is provided in Table 1, utilising data from the Australian Bureau of Statistics 2021 census.[1] Each area is represented in Figure 2 and the Griffith LGA is represented in Figure 3.

Table 1 – Griffith and Yoogali overview

Area	Population	Median age	Indigenous status	Languages spoken (at home, other than English)	Labour force	Occupation (top responses)	Industry (top responses)
Griffith	19,499	36	Aboriginal and/or Torres Strait Islander (6%), Non-Indigenous (88.2%) Indigenous status not stated (5.9%)	Italian (5%) Gujarati (4.8%) Punjabi (4.6%) Samoan (1.5%) Mandarin (1.2%)	In the labour force (64.1%) Not in the labour force (28.2%) Not stated (7.6%)	Labourers (21.4%) Professionals (14.2%) Technicians and Trades (13.1%) Managers (12.4%) Clerical (10.6%)	Poultry processing (9.2%) Wine (5.0%) Hospital (3.7%) Grocery stores (3.2%) Primary education (2.4%)

[1] Refer ABS. https://www.abs.gov.au/census/find-census-data/quickstats/2021/SAL11788 and https://www.abs.gov.au/census/find-census-data/quickstats/2021/SAL14534

Yoogali	1,334	41	Aboriginal and/or Torres Strait Islander (2.8%), Non-Indigenous (88.2%) Indigenous status not stated (8.3%)	Italian (7.8%) Punjabi (0.9%) Tagalog (0.8%) Pashto (0.4%) Fijian (0.4%)	In the labour force (67.4%) Not in the labour force (23.3%) Not stated (9.4%)	Managers (20.7%) Technicians and Trades (14.8%) Clerical (13.9%) Labourers (11.7%) Professionals (11.0%)	Wine (7.5%) Grocery stores (3.2%) Poultry processing (3.1%) Citrus fruit growing (2.9%) Hospital (2.6%)

Figure 2 – Map visualisation of Yoogali and Griffith suburb areas

Figure 3 Griffith Local Government Area boundary[2]

2.5 Context

2.5.1 Role of renewable generation and storage in Griffith LGA

Long-duration battery storage is primarily used for the purposes of daily 'generation shifting', i.e. storing renewable energy during one part of the day and discharging for extended periods at another. This is particularly the case for solar farms, which can store energy during the day for use overnight.

On a system level, the main driver behind long-duration storage is its ability to firm variable renewable energy generation, allowing fossil fuel-based generation to exit the market and support system reliability.

Presently, there is a high amount of solar generation capacity connected to the Griffith, Darlington Point, and Yanco substations, with additional solar generation proposed. Qualitative analysis of the impacts and benefits of a BESS connection at the Griffith Substation shows that there would be a benefit to conductor loading by installing the BESS at Griffith. The operation of the BESS would follow an inverted solar generation profile, charging during the day when solar output is high and discharging that energy in the evenings when more energy is required across NSW.

2.5.2 NSW Energy Roadmap

In November 2020, the NSW Government released the NSW Electricity Infrastructure Roadmap (the Roadmap), enabled by the *Electricity Infrastructure Investment Act 2020*.[3] The Roadmap is the State's 20 year plan to transform the electricity system by supporting investment in new renewable electricity generation and storage infrastructure. Specifically, the Roadmap will incentivise at least 12 gigawatts (GW) of new renewable electricity generation and 2 GW of long-duration storage by 2030.

The Roadmap expects to facilitate more than $32 billion of private sector investment into the NSW economy by 2030, helping local industries and workforces transition and revitalise. Through the award of Long-term Energy Services Agreements (LTESA), projects will support local manufacturing in NSW and create jobs for NSW workers in the construction

[2] Source: https://www.openstreetmap.org/relation/6149251#map=10/-34.4046/146.2225
[3] NSW Climate and Energy Action: https://www.energy.nsw.gov.au/nsw-plans-and-progress/major-state-projects/electricity-infrastructure-roadmap

and operation of electricity infrastructure, helping maximise opportunities and minimise the adverse impacts for regions, communities and workers.

2.5.3 Context of the site

The Griffith BESS is proposed to be co-located on the site previously approved for the Yoogali Solar Farm, which received development consent (DA) through a local planning process administered by Griffith City Council. While the solar farm's planning remains under the scope of the council, the proposed battery development is being progressed under the State Significant Development (SSD) Framework, as described in section 2.3.

In the DA application for the Site previously approved for the Yoogali Solar Farm, the Statement of Environmental Effects assessed the full suite of planning, environment and cultural heritage interests associated with the development of the site for renewable energy infrastructure.[4] The assessment considered a range of factors, some of which are summarised below:

- Siting considerations confirming the appropriateness of the existing land use (flat land of existing land use being cropping or laying fallow); proximity to transmission network infrastructure (less than 500m to minimise connection infrastructure); proximity of existing high voltage energy infrastructure (adjacent substation, existing 36MW solar farm)
- Visual amenity factors which include provisions for setback from the adjacent roads and proposals for landscaping using plants endemic to the Griffith area and visual screening.
- Biodiversity assessment that recognised that given that the site has been fully cleared and used for the cultivation of crops for any years it is not likely that any endangered, vulnerable or threatened species occur on the site.
- Aboriginal cultural heritage assessment identifying that there are no Aboriginal sites recorded in or near the selected location, and there are no Aboriginal places that have been declared in or near the selected location.

While these assessments remain relevant and have informed the Project to date, applications assessed under the SSD framework are required to undertake a more comprehensive assessment. As part of its EIS, Griffith BESS will expand on the existing knowledge of the Site by undertaking additional and updated studies to reflect the scope and potential impacts of the development with information that is contemporary at the time of submission. These will include detailed assessments of noise and vibration, traffic and transport, bushfire risk, landscape and visual impact, cumulative impacts, and socio-economic factors. The EIS will also consider the cumulative effects of co-locating a BESS with existing and proposed energy infrastructure on the immediate vicinity.

These studies will be supported by dedicated stakeholder engagement activities to ensure that local community, council, and agency feedback is appropriately gathered and addressed during the planning and assessment process.

The site's proximity to existing infrastructure and its prior approval for renewable energy use provide a strong contextual foundation for the proposed SSD. However, the Griffith BESS will be assessed as a distinct project under the SSD framework and must demonstrate consistency with relevant state and local planning instruments.

2.5.4 Renewable energy projects in the area

The Riverina is host to a range of existing electrical infrastructure and energy projects, including renewable energy projects. Figure 1 and shows some of the planned, under construction and operational energy projects in the area.

[4] Statement of Enviroimentl Yoogali Solar Farm, available at: https://www.planningportal.nsw.gov.au/planning-panel/electricity-generating-works-15mw-solar-farm

Figure 4 Announced, under construction and operational energy projects in the Riverina Region.[5]

Project	Owner	Type	Capacity	Status
Hillston Solar Farm	Amp	Solar	120 MW	Operational
Griffith Solar Farm	Neoen	Solar	30 MW	Operational
Riverina Solar Farm		Solar	27 MW	Operational
Riverina and Darlington Point BESS	Edify Energy	BESS	150 MW	Operational
Darlington Point Solar Farm	Octopus Investments	Solar	275 MW	Operational
Yanco Solar Farm	Origin Energy	Solar	60 MW	Planning
Darlington Downs Solar Farm	APA Group	Solar	110 MW	Operational
Coleambally	Neoen	Solar	150 MW	Operational
Yarabee Solar Farm	Origin Energy	Solar	450 MW	Planning

[5] AEMO, 2024, NSW Generation Map. Available at: https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/network-connections/nem-generation-maps

3. Engagement approach

3.1 Engagement objectives

This Plan aims to fulfil the following engagement objectives:

- Build strong connections with the host landowner, neighbours, Traditional Owners, local industry and the wider community to gather support for the Project during the planning process.
- Promote the Project's benefits by establishing clear and consistent messaging to manage misinformation about the Project, ensuring people can access information, provide feedback and stay informed.
- Develop a thorough understanding of the local aspirations and concerns which relate to the Project and work with them to achieve mutually beneficial outcomes.
- Deliver a robust engagement program that informs and consults stakeholders (as appropriate) throughout the Project's lifecycle, and sets clear expectations, to build trust in the processes and understanding of the technology.
- Keep an up-to-date record providing evidence of all engagement activities undertaken throughout the process and to establish a comprehensive database of stakeholders for the life of the Project.

3.2 Guiding principles

Effective stakeholder engagement and consultation achieves the following three functions:

Facilitates deeper understanding of issues and decisions surrounding a project.

Improves the quality of any decisions made.

Allows stakeholders to be involved in decisions that will impact their lives.

The Griffith BESS project's stakeholder engagement process is intended to enable an accessible, flexible and receptive platform for communication with the community, stakeholders and First Nations peoples. It will provide a platform to consider issues raised by all stakeholders during the process and, accordingly, address and respond to the enquiries or issues. The consultation principles of this Stakeholder Engagement Plan were developed in accordance with the International Association for Public Participation's (IAP2) Core Values and give rise to the following principles.[6]

Openness	Having a transparent approach eliminates assumptions and misinformation, ensuring there are no 'surprises' for the local community.
Inclusiveness	Encourage and facilitate feedback which is diverse and broadly representative so that all stakeholders can be heard.

[6] IAP2 Core Values 2019, International Association for Public Participation

Responsiveness	Listen and respond to stakeholder concerns in a timely and clear manner, and we will keep you informed about progress.
Accountability	Treat all feedback as an opportunity for continuous improvement. Ensure goals are achieved by making sure our process is monitored and evaluated at all stages.
Accessibility	Feedback can be provided verbally over the phone, in person, or in writing by letter, email or online form, supporting accessible communication preferences of different stakeholders.
Stakeholder strategy	Provide clarity on what is being undertaken – inform, consult, and collaborate with stakeholders.
Earlier rather than later	Engaging stakeholders early maximises engagement opportunities.

3.3 Engagement commitments

Stakeholder and community engagement is at the core of our development and delivery process.

A successful engagement plan responds to and integrates key project development milestones, project design and steps in the planning and environmental assessment process. Bringing together core work streams allows projects to identify genuine opportunities to influence projects at a number of stages.

- We will engage with stakeholders early on things that they can influence based on policy and the project.
- We communicate decisions that may affect stakeholders as early as possible, in the clearest possible fashion, through accessible channels.
- We listen to feedback and are clear with stakeholders about where they can influence outcomes / co-create / participate in the decision-making process, or where they are being advised / informed.
- We incorporate stakeholder feedback wherever it is possible and follow through with commitments.
- We build and maintain constructive relationships with the community and stakeholders in the region.
- We give confidence to regulators, governments, decision makers and other stakeholder representatives by demonstrating our stakeholder engagement approach.

3.4 Engagement frameworks and requirements

Government legislation and policies, and industry best practice frameworks provide guidance on the value and need for effective community engagement to deliver projects and build social licence. Relevant frameworks that have informed the development of this Stakeholder and Community Engagement Plan, and will inform its continuous evolution, include:

- **NSW Electricity Infrastructure Roadmap** (the Roadmap): Engagement with communities, stakeholders and First Nations communities shall occur in line with the communication expectations established within the NSW Government Roadmap, including the First Nations Guidelines.
- **IAP2 Core Values and Public Participation Spectrum**: The International Association for Public Participation (IAP2) defines public participation as the involvement of those affected by a decision in the decision-making process.

- **Clean Energy Council**: A guide to Benefit Sharing Options for Renewable Energy Projects: Includes strategies and case studies on different forms of benefit sharing.
- **Australian Energy Infrastructure Commissioner's Observations and Recommendations (updated 2023)**: Includes a number of observations and recommendations for consideration in relation to community engagement.
- **Benefit-Sharing Guideline (NSW Department of Planning, Housing and Infrastructure, November 2024):** Model for how benefit-sharing can be incorporated the delivery of large-scale renewable energy developments in NSW.
- **Leading Practice Principles: First Nations and Renewable Energy Projects (Clean Energy Council, 2024):** National Guide on First Nations engagement, participation and benefit-sharing for renewable energy projects.
- **NSW Renewable Energy Sector Board's Plan (NSW Government, 2022):** Guiding principles informing commitments under the Long-duration Storage LTESA contract with the Scheme Financial Vehicle.

3.5 IAP2 spectrum alignment

The International Association for Public Participation (IAP2) is recognised as the international standard for Public Participation practice.

IAP2's core values of public participation include promoting sustainable decisions by recognising the interests of all decision-makers, actively facilitating the involvement of those potentially affected by or interested in a decision, providing participants the information they need to participate in a meaningful way, and communicating to participants how their input affected the decision (Source: IAP2 Federation).

The IAP2 Spectrum is a best practice and internationally recognised tool for planning public participation. It includes different levels of public participation, ranging from:

- **Inform** – to provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.
- **Consult** – to obtain public feedback on analysis, alternatives and/or decisions.
- **Involve** – to work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.
- **Collaborate** – to partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.
- **Empower** – to place final decision making in the heads of the public.

Consultation will involve informing people about the proposed project and consulting or involving communities and stakeholders in decisions about key aspects of the project and the mitigation or management of potential impacts. Eku Energy will collaborate with relevant agencies, councils and other government departments which are directly involved in the project as assessment and approval decision-makers.

3.6 How feedback will be used

Feedback is any communication received from stakeholders and the community. A broad definition ensures that matters of concern to stakeholders are highlighted and brought to the attention of team members. Types of feedback include:

- **Comments** which can be either positive or negative but do not require further action.
- **Enquiries** that are neither positive nor negative but require further action.

- **Complaints** that are negative and typically require a response or resolution.

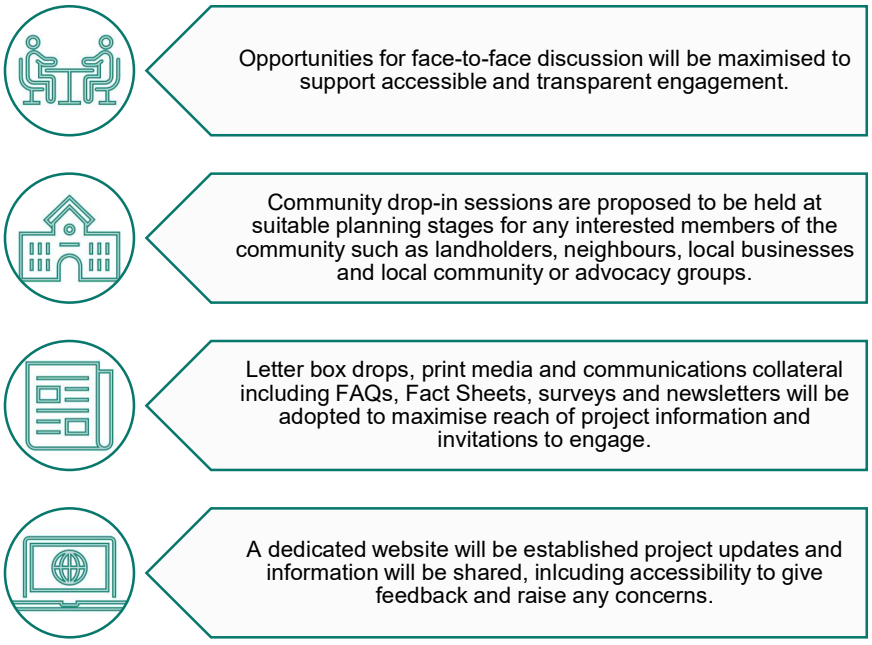
Feedback gathered during the feasibility and development stage will be used to identify potential site constraints, and social and environmental sensitivities. The feedback will also be used to inform management plans through construction and operations.

Feedback gathered throughout the planning and approvals to construction and commissioning stages will be used to inform negotiable elements of project design and benefit sharing opportunities.

Feedback will be captured and stored in a consultation database.

3.7 Engagement tools

A variety of engagement modes and supporting tools will be adopted to identify, engage and meet with stakeholders and community members in support of maximum accessibility.[7]



3.8 Maximising access and participation

Effective community and stakeholder engagement is targeted, genuine and accessible to all. The following factors will be considered when planning and designing engagement tools.

- **First Nations engagement:** Proactively identifying First Nations organisations and partners who may have an interest in the project and providing information in an accessible manner to support collaboration and benefits sharing, in line with Eku Energy's Reflect RAP
- **Culturally and Linguistically Diverse Communities (CALD)**: Griffith LGA, where the project is located, has a very high English-speaking proficiency and a very small CALD community.

[7] Example dedicated website platform: https://www.ekuenergy.com/what-we-do/projects/williamsdale-battery-energy-storage-system

- **Literacy**: With varied levels of education within the municipality, literacy levels should be considered by the project. The project team should ensure, that alongside technical reports, written materials are produced in Plain English to translate complex project information and use visual tools such as videos, graphics and iconography.
- **Other vulnerabilities**: Internet access from home, and proficiency of digital technologies may be a barrier to some in the community.

4. Community and stakeholder analysis

Eku Energy, in partnership with our specialist planning and engagement partner Cogency, will carry out the community and stakeholder engagement activities supporting the project's development and construction phase. This SCEP identifies key stakeholder groups, community groups and individuals and provides tailored engagement strategies to suit each stakeholder. Stakeholder groups will have varying levels of interaction with the project and be impacted differently, and to varying degrees, so engagement must be adapted to accommodate, consider and address each group's areas of interest, issues, or challenges.

4.1 Griffith Local Aboriginal Lands Council

Griffith is located in the heart of the Wiradjuri Nation – the largest nation of Aboriginal and Torres Strait Islander (ATSIC) people in Australia. Many members of the community are Wiradjuri people, originating from surrounding areas such as Narrandera and Darlington Point while also including people descended from other language groups such as Yota Yota people, Ngiyampaa people and Paakantji people.[8]

The Griffith Local Aboriginal Lands Council is the recognised ATSIC representative forum for the Griffith ATSIC community. Eku Energy recognise its role in identifying and preserving the Aboriginal heritage and culture of this area and advocating for the interest of the community and negotiating improvement in service delivery and coordination on behalf of the community.

Eku Energy maintains strong commitments to engagement, consultation and benefits sharing with First Nations people. In line with the delivery of our 'Reflect' Reconciliation Action Plan,[9] these initiatives include:

- Meaningfully engaging and consulting with the Griffith Aboriginal Community in line with the cultural protocols of the area, including those described in the Griffith City Council Aboriginal Cultural Protocols (2017).[10]
- Commitments to identifying and establishing partnership opportunities for the supply of services or goods in support of the proposed project.
- Delivering a benefits sharing scheme (Section 55) that provide long-lasting and positive impacts for the Aboriginal community.

4.2 Stakeholder identification catchment map

For the purposes of targeted stakeholder identification and engagement planning, a proposed catchment area of 2km from the approximate centre of the development footprint has been defined and determined to be reasonable based on the proposed development. The catchment map The project is located in a largely agricultural and remote area, adjacent to the Griffith Substation and Griffith Solar Farm, with no immediate residential neighbours.

The number of dwellings identified are shown in the following table.

Area	Number of dwellings	Context
Within 500m	1 dwelling	Residential, Farming, Infrastructure
Within 1km	3 dwellings	Residential, Industrial, Farming, Infrastructure
Within 2 km	49 dwellings	Residential, Industrial, Farming

[8] Griffith City Council: https://www.griffith.nsw.gov.au/aboriginal-community
[9] Eku Energy Reflect Reconciliation Action Plan. Available at: https://www.ekuenergy.com/news/eku-energy-embarks-on-rap-journey
[10] Aboriginal Cultural Protocols (2017): https://www.griffith.nsw.gov.au/page.asp?f=RES-VCF-66-51-22

Figure 5) provides a visual representation of the catchment area and location of potential stakeholders, including the location of residences, proposed for inclusion in the engagement process. The project is located in a largely agricultural and remote area, adjacent to the Griffith Substation and Griffith Solar Farm, with no immediate residential neighbours.

The number of dwellings identified are shown in the following table.

Area	Number of dwellings	Context
Within 500m	1 dwelling	Residential, Farming, Infrastructure
Within 1km	3 dwellings	Residential, Industrial, Farming, Infrastructure
Within 2 km	49 dwellings	Residential, Industrial, Farming

Figure 5 – Stakeholder identification catchment map showing 2km / 5km radius.

4.3 Project milestones and community engagement toolkit

Eku Energy has identified the following high level milestone events which are intended to be recognised as the development activities progress. These provide stakeholders and the community with opportunities to stay informed and connected with the project and an additional avenue, beyond targeted engagement, to provide their feedback or enquire on the project.

The below community engagement toolkit will guide engagement in line with development milestones and will be updated to align and complement the State Significant Development (SSD) process.

1	Feasibility	· Communicate DA publication and invite enquiries and feedback from community and stakeholders · Engage with neighbours andFirst Nations representatives · Establish stakeholder engagement register · Establish website and communication channels · Make information available via accessible collateral streams · Participate in Government briefings
2	Pre-Exhibition	· Scoping report preparation SSD application for the BESS, alongside a boundary realignment request to Council and a modification of the DA for the solar farm ·
3	Exhibition	·
	Post-Exhibition	·
	Pre-construction and construction	· Provide ongoing proactive project updates. · Arrange community information sessions with opportunity for feedback · Update stakeholders via website and briefings · Manage and respond to enquiries, complaints or feedback
	Testing	· Organise commissioning event and project updates into operations · Maintain project website and direct communication channels · Enable site visits and tours as appropriate

	Energising and operations	· Ongoing monitoring of system performance in line with design and approvals · Continuously review community engagement plan and needs
	Decommissioning	· Site review and evaluation communication

5. Approach to Shared Benefits, Employment and Local Procurement

5.1 Objectives

Australia's Clean Energy Council (CEC) defines community benefit sharing as "sharing the rewards of renewable energy development with local communities. It aims to integrate a development in the local community by contributing to the future vitality and success of the region. It is based on a desire to establish and maintain positive long-term connections to the area and to be a good neighbour" [11]

Furthermore, Eku Energy recognise the NSW Government's Renewable Energy Sector Board's Plan (September 2022) outlining a vision to ensure local workers, communities and industries reap the economic benefits of the clean energy transition.[12]

5.2 Commitment to Shared Benefits and Industry Participation

Eku Energy is committed to, and recognises, the broader value of sharing benefits of renewable energy developments with local communities and has integrated this into the proposed program delivery.

In line with the NSW Renewable Energy Sector Board's Plan (NSW Government, 2022), in delivering the Griffith BESS, Eku Energy is making a number of industry participation, community and benefits sharing commitments. Many of these commitments form part of the project's contractual agreement with the Scheme Financial Vehicle under the Long-duration Storage LTESA contract which has been entered into with the SFV.

Commitment	Description	Phase
First Nations owned-business or organisation cultural awareness training and services	Cultural awareness training to be delivered by	Deployed during construction phase *(~mid 2026 – end 2027)*
Benefits Sharing Program	$200,000 Community Grant Program	Available during construction phase *(~mid 2026 – end 2027)*
Benefits Sharing Program	$30,000 per year Community Grant Program	Available during operations phase for 7 years *(2028 – 2034 inclusive)*
Employment and Workforce Development support	$150,000 to boost local jobs and workforce skills	Deployed during construction phase *(~mid 2026 – end 2027)*
First Nations Subcontracting commitments	First Nations businesses, suppliers and workers will be engaged to drive delivery of the project.	During construction phase *(~mid 2026 – end 2027)*

[11] CEC: www.cleanenergycouncil.org.au/advocacy-initiatives/community-engagement/benefit-sharing-for-renewable-energy-projects
[12] NSW Government Energy and Climate Change, NSW Renewable Energy Sector Board's Plan: https://www.energy.nsw.gov.au/sites/default/files/2022-09/nsw-renewable-energy-sector-board-plan.pdf

Local Supply Chain Innovation and Investment	$100,000 invested in local innovation and supply chains	During operations phase *(2028 onwards)*
First Nations Training and Workforce Development	$500,000 invested in initiatives to support First Nations training and workforce development	During operations phase *(2028 onwards)*

5.2.1 Benefits Sharing Fund

To share benefits of the proposed Griffith BESS, Eku Energy intends to establish a Benefits Sharing Fund for local communities and First Nations communities. The fund's indicative financial commitment is $440,000, comprising:

- Construction phase benefits sharing program and fund deploying up to $200,000 during the construction phase
- Operations phase benefits sharing program and fund deploying $30,000 per year for a period of up to 8 years from the commencement of commercial operations

The timing and deployment of the program reflects the different phases of activity associated with the project and is design to support the diverse values and needs within the community. It reflects Eku Energy's genuine commitment to delivering enhanced social and economic outcomes in the Griffith LGA.

Benefit sharing commitments are being informed through broad community engagement that will continue through the next stage of development, including dedicated engagement with First Nations representatives and the Griffith Local Aboriginal Lands Council. Through the original DA consultation process, initial engagement with stakeholders was undertaken to understand the local values of stakeholders. The next stage of fund design will involve stakeholder co-design to ensure stakeholders and community members' input and feedback informs the design and deployment of funding areas. Dedicated engagement activities will:

- Identify broad stakeholder groups that may be interested in, or impacted by, the proposed development.
- Invite interested groups to co-design and suggest community initiatives and programs.
- Understand opportunities and aspirations for the area.
- Identified existing local initiatives that could be supported through benefit sharing activities and gaps that currently exist.

A Statement of Scope, with a strong local lens, will be developed to guide the direction of benefit sharing such that the fund remain flexible to meet evolving and changing needs. This will consider alignment with Eku Energy's investment principles which support benefits sharing in the areas of:

A. **Employment and education**: Initiatives that support educational or employment outcomes (e.g. literacy; numeracy; Science, Technology, Engineering & Maths).

B. **Social connectedness**: Initiatives that support community connectedness, wellbeing and livability.

C. **Environmental**: Initiatives that support or drive sustainability and environmental outcomes.

Understanding that engagement is an ongoing process and community needs change over time, Eku Energy will continue to explore other opportunities with the local community as the project progresses; supporting the most valued local community needs that will deliver broad, legacy benefits where they are needed most.

Informed by industry best practice and CEC guidelines, Eku Energy's approach to benefit sharing is being guided by the following principles.

- **Authentic:** We are committed to sharing benefits fairly with the community and will be proportionate to the size and scale of individual projects.
- **Strategic:** We want to actively contribute to improving long term liveability in the areas we operate and identify opportunities that provide the best value.
- **Transparent:** We will be open about our approach to benefit sharing so communities know what to expect.
- **Consistent:** Our baseline benefit sharing approach will be the same for every project.
- **Tailored:** We will strive to create ongoing and lasting value for communities based on what matters most to them.
- **Long-term:** We are committed to sharing benefits across the full project lifecycle.
- **Efficient:** We will create clear and simple processes.

5.2.2 Commitment to Employment and local procurement

Local goods and service procurement opportunities can contribute to many aspects of project development, including:

- Labour and groundworks
- Transport services
- Accommodation
- Fencing, vegetation and screening
- Community engagement/liaison
- Venue hire goods and services

Industry participation programs will seek to provide opportunities to partner with local businesses, through engagement with local recruitment organisations, transparent procurement processes and through new relationships in the Griffith LGA.

Eku Energy are committed to employing local people and purchasing goods and services where possible from local businesses. Procurement conditions within the OEM and BOP Requests for Proposals and contracts will be focused on Indigenous and Local community engagement in relation to employment. Eku Energy seek business partners with a similar vision and values as outlined in our RAP and who will meet their expectations for Indigenous and Local Community Engagement.

This includes but is not limited to businesses who:

- Employ local workers, Apprentices, underrepresented workers and commit to upskilling employees
- Buy from local businesses.
- Include First Nations People in its supply chain.
- Have a business model that has provision to leverage opportunities and manage risks in relation to Indigenous and Local employment.

Local Business Directories can provide a comprehensive database of goods and services available within the area. These will be utilised as a source for identifying opportunities for local people and businesses to participate in the proposed project.

The expansion of new energy projects within the Griffith LGA presents the opportunity for increased job opportunities for locals. Through the community benefit sharing approaches outlined above, Eku Energy are committed to exploring ways in which sections of the community can be upskilled so as to put their best foot forward for these employment opportunities.

The project will identify and connect with groups and organisations that may be interested to partner on the project through sub-contracting and workforce participation.

6. Stakeholder Groups and Engagement Methods

6.1 Key stakeholders

A number of stakeholder groups have been identified for inclusion in the engagement process of the project (Table 2), based on desktop analysis, engagement with Griffith City Council and the catchment map in

Figure 5. These include host and nearby landholders/land users, First Nations representatives, government agencies, community and advocacy groups, and local business groups. Table 2 also describes the engagement strategies that are proposed to be implemented and the timeline of those strategies. Contact details of relevant stakeholders are captured in the Stakeholder Communications Matrix.

Table 2 – Stakeholder identification and indicative engagement strategies

Groups	Stakeholders	Characteristics	Consultation	Timeline
1. **Government Bodies, Regulators**	Including but not limited to: - Scheme Financial Vehicle (SFV) - Griffith City Council - NSW Climate and Energy Action - Department of Planning, Housing & Infrastructure (DPHI) - Department of Climate Change, Energy, the Environment and Water (DCCEEW) - Minister for Planning & Public Spaces	Counterparty to the LDS LTESA Government bodies with a relevance to, or interest in, the project.	- Briefings and updates - Provision of project material in line with the LDS LTESA and PDA - One-on-one meetings - Discussions on legislative and regulatory requirements	**DA-phase** - Engage as necessary as planning progresses and milestones are achieved. **Pre-Construction to Construction** - Hold periodic meetings and provide ongoing updates as necessary.

Groups	Stakeholders	Characteristics	Consultation	Timeline
2. Relevant NSW Members	- Federal Member for Farrer, Hon Susan Ley MP (LNP) - State Member for Murray. Helen Dalton MP (IND)	Government members with a relevance or interest in the project.	- Briefings and meetings - Engagement via email	**DA-phase** - Update on project progress **Pre-Construction to Construction** Provide periodic updates and arrange meetings, as required.
3. Regulators and Authorities	- Environment Protection Authority (EPA) - NSW Rural Fire Service - Transgrid - Australian Energy Market Operator (AEMO) - EnergyCo - Transport for NSW - Regional Development Australia Riverina	Utility/other authorities with a relevance to the project.	- Update and requests via email or meetings when required	**DA-phase** - Updates on project progress and responding to development requirements **Pre-Construction to Construction** Provide periodic email updates and arrange meetings, as required.
4. Traditional owners, Indigenous communities, Heritage representatives	- Griffith Local Aboriginal Lands Council - NSW Environment and Heritage	Engage with stakeholders to gain an understanding of any project-related indigenous heritage values on site that may be culturally significant or sensitive.	- Consultations with Griffith Local Aboriginal Lands Council and relevant indigenous bodies. - Conduct cultural heritage assessment, including obtain reports and information from specialist heritage/cultural assessments to gain further understanding of the history of the site.	**DA-phase** - Correspond by email, phone and face-to-face. **Pre-Construction to Construction** Provide updates, as required.
5. Near neighbours (affected localities)	- Near receptors of the project site - Residents of Yoogali and Widgelli region - Residents of broader Griffith region	The potential impacts of the project on local residents may include noise (construction and electrical hum), visual (interruption to natural landscape) and traffic disruptions (during construction phase). Utility and energy providers in proximity to the site will be consulted.	- Community group meetings/phone calls with residents - Letter box drops - Briefings and updates - Opportunity for direct feedback - Feedback must be documented	**DA-phase** - Commence informing near neighbours of proposed project via consultation methods listed. **Post-DA to Construction** Provide ongoing updates, as appropriate.

Groups	Stakeholders	Characteristics	Consultation	Timeline
6. Local business / industry groups	Potential construction or industry companies based in local or nearby communities. - Wamara (construction)	Companies who could provide materials or services for the project where reasonable. Companies who may be impacted by construction of or operation of the project.	- Briefings and updates - Community discussions to help identify any opportunities for local procurement	**All phases** Inform local community groups of proposed project and provide ongoing updates, as appropriate.
7. Community/ interest groups	Local community groups based near to the project location, or with a general interest in the project.	Local organisations or groups whose focus is the interest of their communities and their wellbeing.	- Briefings and updates - One-on-one meetings - Community information sessions - Community events and educational open days	**All phases** - Inform local community groups via consultation methods and provide ongoing updates, as appropriate.
8. Local media	The Riverine Grazier RegionRiverina The Daily Advertiser ABC Riverina Southern Riverina News The Area News Southern Cross Austereo WIN TV		-	

6.2 Risk and issues analysis

Risk and opportunity management planning is essential to any engagement program to ensure risks are appropriately identified, classified and mitigated. Risk and issues analysis involves reflection on the likelihood and impact of a risk, considering controls already in place, and the project team's influence to mitigate the risk.

Table 3 shows the risk classification system that will be used to assess potential risks in the context of the Griffith BESS.

Table 3 Engagement risk classification framework

		IMPACT				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	Almost Certain	Medium	High	High	Extreme	Extreme
	Likely	Medium	Medium	High	Extreme	Extreme
	Possible	Medium	Medium	High	High	Extreme
	Unlikely	Low	Medium	Medium	High	High
	Rare	Low	Low	Medium	High	High

Table 4 lists the potential community and engagement related risks and issues along with proposed approaches to managing them.

The risks and issues that have the potential to relate to project outcomes, transparency, perceptions of fairness, community reactions, accountability and willingness to participate have influenced the tailored engagement approach as outlined in the Engagement Action Plan (EAP).

Table 4 Potential Griffith BESS engagement risks and issues analysis

Risk of issue	Stakeholder	Risk Rating	Mitigation	Residual Risk Rating
Concerns about BESS fires and associated fire risk Medium	▪ Armidale community ▪ Nearby neighbours ▪ Community action group	High	▪ Engage with the local SES, RFS, Dumaresq Fire Station and Armidale Fire Stations regarding fire and bushfire safety and mitigation measures ▪ Offer BESS specific training to volunteer and professional fire fighters.	Medium

			▪ Design the Project in accordance with NSW Rural Fire Service and Fire Rescue NSW requirements. ▪ Clearly show fire and bushfire mitigation measures, such as fire buffers in the concept plan and reports on the website. ▪ Be responsive to community concerns. ▪ BESS supplier safety standards.	
Lack of understanding of BESS technology and its visual and noise impacts leads to community opposition	▪ Griffith and Yoogali community ▪ Nearby neighbours ▪ Neighbouring communities	Medium	▪ Ensure all collateral and website messaging clearly explains how the BESS works to build awareness and demystify the technology and connect the science to people's lives. ▪ Develop engaging and accessible opportunities for the community to find out more about the Project and directly engage with the Project team. ▪ Design the Project in accordance with the relevant noise standards ▪ Highlight the issues the decision maker (DPHI) will consider in its assessments.	Low
Noise, dust, fire and other amenity impacts lead to health and wellbeing concerns among local residents	▪ Griffith and Yoogali community ▪ Nearby neighbours	Medium	▪ Provide neighbours with targeted information about potential construction impacts. ▪ Provide clear messaging about how these impacts will be managed. ▪ Undertake site responsive design. ▪ Carryout technical assessments of key issues to ensure compliance. ▪ Work to all requirements in a Construction Environmental Management Plan.	Low
Increased traffic during construction leading to safety or access concerns among local residents	▪ Griffith community ▪ Nearby neighbours	Medium	▪ Undertake a Traffic & Transport Impact Assessment and Route Assessment as part of the SSD application process ▪ Provide the community with clear and accurate information about how construction will impact traffic on site ▪ Use feedback to continuously improve site works operations while working to all recommendations in the Impact Assessment.	Low

Concerns about local job / local business opportunity on the Project	▪ Local businesses and industry	Medium	▪ Enable local businesses to register their interest to support the Project through a goods and services register. ▪ Provide regular updates on local businesses benefitting from the Project through communications channels.	Low
Negative community view of the Project and anti-renewables sentiment in the electorate	▪ Griffith community ▪ Riverina community ▪ Community opposition groups	Medium	▪ Ensure key messaging differs from controversial BESS projects and highlights the suitability of the site and the site selection process. ▪ Provide one source of truth for any queries from the community through the Project website. ▪ Ensure clear documentation and visuals highlighting mitigation measures against risks. ▪ Promote regular and accessible project team member communications to build rapport. ▪ Develop internal resources on the nuclear vs renewable energy debate	Low

6.3 Key messages for the project

Key messages are captured in the project Frequently Asked Questions document.

7. Consultation Outcomes

As part of early project due diligence, particular aspects of stakeholder engagement for the project have already commenced, at time of writing. This section will be updated as engagement activities continue and feedback is collected.

7.1 Stakeholder meetings

The stakeholders met/engaged with to date are:

Groups	Date	Discussion and Outcome	Next steps
Griffith City Council	July 2019	Original DA submission, facilitated DA consultation and provided DA approval.	Discussion of requirements for DA modification underway, easements over road.
Transgrid	May 2024	Submission of Connection Enquiry; receipt of successful connection enquiry response.	Detailed grid analysis and studies in preparation of grid application.
Industry partners	September 2024	Online introductory meetings to introduce the proposed project with potential industry partners (Western Riverina Community College; Griffith TAFE)	Arrange F2F meetings.
Griffith LALC	December 2024	Met CEO (Steven Young). Offered introduction Wamara (local FN owned construction business) and other FN owned trade services in the area. Also able to provide cultural heritage assessment services.	Request introduction to Wamara for BOP sub-contracting.
Industry partners	December 2024	Griffith TAFE – introduced project. Limited study areas at this TAFE that are aligned with employment opportunities Western Riverina Community College -	Also engage with Leeton TAFE to explore benefits sharing opportunities.
Griffith City Council (Community & Economic Development)	December 2024	Introduced project and identified engagement channels including Council Café (informal Councillors & Community meeting). Council's Investment Prospectus specifically identifies energy infrastructure investment as a priority. Suggested (1) industry partnerships to support nearby intermodal freight hub; (2) Grow Our Own for employment pathways.	Investigate opportunity to rail freight BESS / equipment to site. Contact Grow Our Own (employment)
Griffith Community	30 January 2025	Community Drop-in Session (Senior Citizens Centre). Refer 7.2.	Plan community engagement sessions to support next stages of planning.
Griffith City Council (GCC) Councillors	5 February 2025	Special General Meeting help with GCC Councillors to introduce the proposed project, share information about BESS technology and gain feedback on community and stakeholder engagement opportunities.	Engage with Community and Economic Development Team to maximise local industry participation and Benefits Sharing Design. Invite to future drop-in sessions. Engage in DA modification.

7.2 Community information sessions

The outcomes of any information sessions held will be recorded here.

Session 1: 30 January 2025 Griffith Senior Citizens Hall

2 attendees enquiring about the proposed project, proposed technology, location selection, benefits to the electricity grid, employment opportunities and general FAQ's about end-of-life rehabilitation and fire risks.

7.3 Management of enquiries and complaints

Eku Energy has a Complaints Management Procedure that is used across all development projects and operational projects.

The policy aims to establish an open and transparent complaint handling process and ensure complaints and queries are handled fairly and objectively.

The Complaints Management Procedure is underpinned by the following principles:

- People can make a complaint and multiple channels are available
- Complaints are assessed and explored impartially by staff
- Action is taken to resolve the complaint where reasonable
- Responses to complaints are returned within established timeframes
- Complaints are reviewed to understand issues and improve where applicable
- Complainant information is managed in accordance with privacy laws
- The procedure applies to all project staff.

Stakeholder and community enquiries or complaints will be recorded in a project consultation database.

8. Conclusion and next steps

As at May 2025 the key next engagement activities are:

- Implement engagement activities to support information sharing ahead of Scoping Report (CDIS, Benefits Sharing Workshop)
- Update Griffith City Council and other key stakeholders regarding the project status of receiving the LDS LTESA
- Update Griffith City Council and other key stakeholders regarding the benefits sharing workshop and Community drop in session
- Continually update stakeholder map

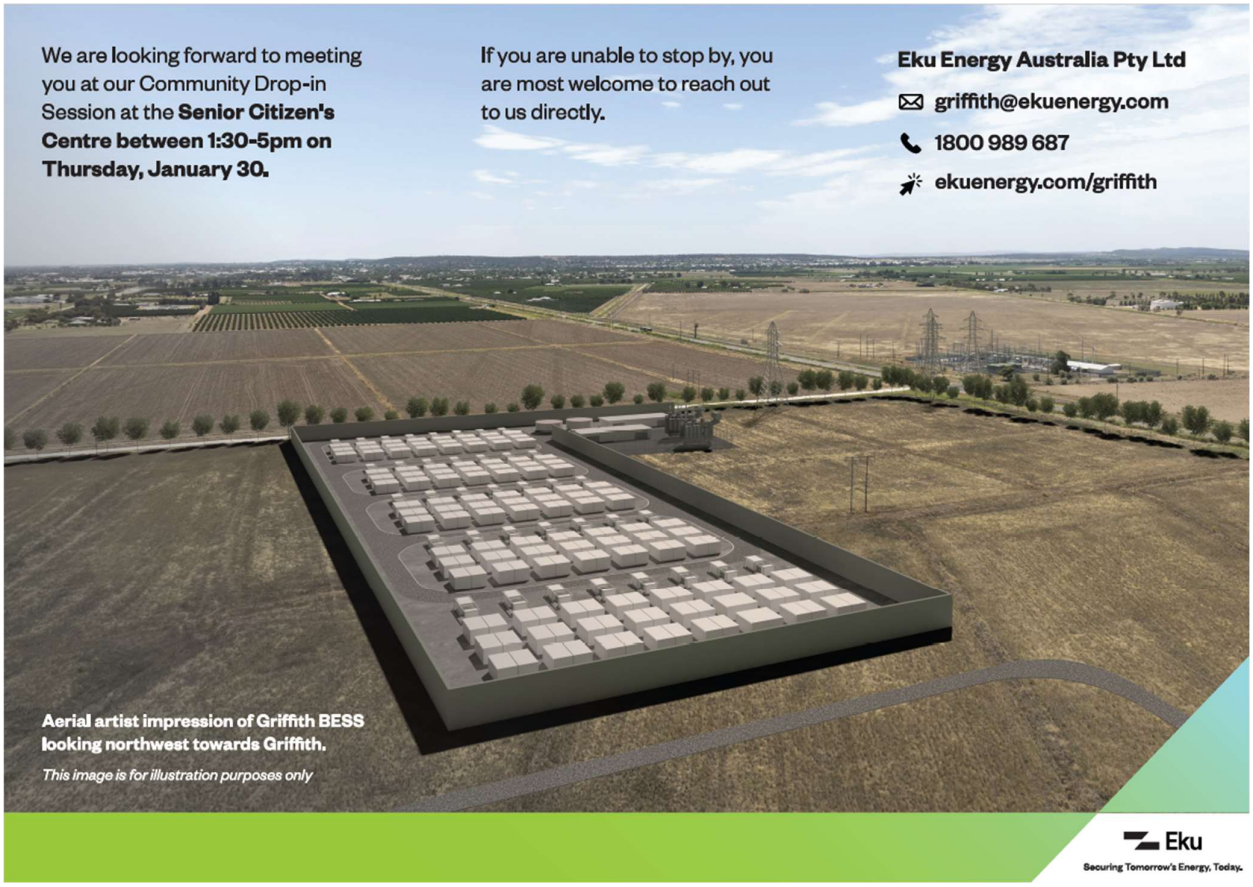
9. Appendix

9.1 Advertising

January 17 and January 24 – print ad in Local Area News to invite the community to our first drop-in session

9.2 Letter to the community

We had arranged a letterbox drop in the week of January 20 to the local community in Yoogali with special focus on near neighbours in anticipated of the first drop-in session.



Appendix J Proposed BDAR Waiver Application Methodology

Appendix J Proposed BDAR Waiver Methodology

A BDAR Waiver will be applied for in accordance with Section 7.9 of the *Biodiversity Conservation Act 2016*. The BDAR Waiver will take the form of the following methodology.

Table 1 – Biodiversity Development Assessment Report waiver request information requirements	
Administration	▪ Proponent name and contact details. ▪ Project ID (information to identify which state significant development or state significant infrastructure project the request relates to and where the project is up to in the assessment process). ▪ Name and ecological qualifications of person completing Table 2.
Site details	▪ Street address, lot and DP, local government area. ▪ Description of existing development site – that is, the area of land that is subject to the proposed development application. If any part of the land is considered category 1 – exempt land, information must be provided to demonstrate how the land meets the criteria that apply to category 1 – exempt land. ▪ Location map showing the development site in the context of surrounding areas and landscape features. Satellite image of site in context of adjoining sites. ▪ Site map (to scale, ideally as a spatial shapefile).
Proposed development	▪ Project description providing enough information to enable an understanding of the nature and scale of the proposed development and any associated activities, including construction. ▪ Proposed site plan.
Impacts on biodiversity values	▪ Complete Table 2 below on biodiversity values. ▪ For each biodiversity value, the proponent must either: ▪ explain why the value is not relevant to the proposed development ▪ where a biodiversity value may be relevant, provide an explanation of how impacts have been avoided and identify the likelihood and extent of any remaining impacts of the proposed development, including impacts prescribed under clause 6.1 of the Biodiversity Conservation Regulation. ▪ A biodiversity value is not relevant to a proposed development if the value is not present on the development site and there is no potential for direct or indirect impacts on the biodiversity value if it occurs off-site. ▪ Where one or more biodiversity values may be relevant to the proposed development, Table 2 is to be completed by a suitably qualified person with tertiary qualifications in natural sciences, including subjects that relate to the observation and description of terrestrial biodiversity and landforms, and at least 3 years of work experience in environmental assessment, including field identification of plant and animal species and habitats. The person does not need to be an accredited person under the Biodiversity Conservation Act; however, relevant qualifications should be attached to the report. ▪ Attach additional information where biodiversity values are relevant to the site – for example, a vegetation map (indicating plant community types), ecology reports, water quality data, BioNet Atlas, Directory of Important Wetlands, migratory bird flyway information or microbat surveys of built structures.

Table 2 – Impacts of the proposed development on biodiversity values		
Biodiversity value	**Meaning**	**Explain and document potential impacts, including additional impacts prescribed under the Biodiversity Conservation Regulation**
Vegetation abundance – 1.4(b) Biodiversity Conservation Regulation	Occurrence and extent or coverage of vegetation at a particular site	Where vegetation is present on the development site, provide a map on digital aerial photography or the best available imagery of the development site showing: ▪ native vegetation (including grasslands and other non-woody vegetation types) and non-native vegetation ▪ the area of land that is directly impacted by the proposed development, including related infrastructure such as roads, pipelines, access tracks, temporary material stockpiles, asset protection zones and powerlines, if applicable. Describe how the proposed development avoids impacts on native vegetation and identify the likelihood and extent of any remaining impacts, including removal of isolated or cultivated native plants.
Vegetation integrity 1.5(2)(a) Biodiversity Conservation Act	Degree to which the habitat needs of threatened species are present at a particular site	Identify any threatened species or ecological communities or their habitat on the development site. Describe how the proposed development avoids impacts on habitat suitability and identify the likelihood and extent of any remaining impacts, including the impacts of development on the following habitat of threatened species or ecological communities: 1. karst, caves, crevices, cliffs and other geological features of significance 2. rocks 3. human-made structures 4. non-native vegetation (prescribed under clause 6.1(1)(a) of the Biodiversity Conservation Regulation). Impacts may include the removal or modification (for example, noise, light and so on) of the habitat of threatened species or ecological communities.
Habitat suitability 1.5(2)(b) Biodiversity Conservation Act	Degree to which the habitat needs of threatened species are present at a particular site	Identify any threatened species or ecological communities or their habitat on the development site. Describe how the proposed development avoids impacts on habitat suitability and identify the likelihood and extent of any remaining impacts including the impacts of development on the following habitat of threatened species or ecological communities: 1. karst, caves, crevices, cliffs and other geological features of significance 2. rocks 3. human-made structures 4. non-native vegetation (prescribed under clause 6.1(1)(a) of the BC Regulation). Impacts may include the removal or modification (e.g. noise, light, etc.) of the habitat of threatened species or ecological communities.
Threatened species abundance 1.4(a) Biodiversity Conservation Regulation	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	Describe how the proposed development avoids impacts on threatened species abundance and identify the likelihood and extent of any remaining impacts.
Habitat connectivity 1.4(c) Biodiversity Conservation Regulation	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	Identify whether the development site contributes to habitat connectivity. Describe how the proposed development avoids impacts on habitat connectivity and identify the likelihood and extent of any remaining impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range (prescribed under clause 6.1(1)(b) of the Biodiversity Conservation Regulation).

Threatened species movement **1.4(d) Biodiversity Conservation Regulation**	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	Describe how the proposed development avoids impacts on threatened species movement and identify the likelihood and extent of any remaining impacts of development on movement of threatened species that maintains their lifecycle (prescribed under clause 6.1(1)(c) Biodiversity Conservation Regulation).
Flight path integrity **1.4(e) Biodiversity Conservation Regulation**	Degree to which the flight paths of protected animals over a particular site are free from interference	Identify whether flight paths of protected animals occur over the development site. Protected animals are animals of a species listed or referred to in Schedule 5 of the Biodiversity Conservation Act. They include any species of birds, mammals, amphibians or reptiles that are native to Australia or that periodically or occasionally migrate to Australia. Describe how the proposed development avoids impacts on flight path integrity and identify the likelihood and extent of any remaining impacts.
Water sustainability **1.4(f) Biodiversity Conservation Regulation**	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site	Describe how the proposed development avoids impacts on water sustainability and identify the likelihood and extent of any remaining impacts of development on water quality, water bodies (natural or derived) and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development) (prescribed under clause 6.1(1)(d) of the Biodiversity Conservation Regulation).