Sandy Creek BESS Scoping Report

Muswellbrook, NSW

Request for Secretary's Environmental Assessment Requirements (SEARs)

April 2025

Table of Contents

Figures

Tables

Abbreviations

ACHA	Aboriginal Cultural Heritage Assessment
AEMO	Australian Energy Market Operator
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
AOBV	Areas of Outstanding Biodiversity Value
ARTC	Australian Rail Track Corporation
ASC	Australian Soil Classification
ASL	Above Sea Level
LALC	Local Aboriginal Land Council
BAM-C	Biodiversity Assessment Method Calculator
BC Act	*NSW Biodiversity Conservation Act 2016*
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BSAL	Biophysical Strategic Agricultural Land
BSR	Biodiversity Scoping Report
CBF	Community Benefit Fund
CCEP	Community Consultation and Engagement Plan
CEEC	Critically Endangered Ecological Community
CEMP	Construction and Environmental Management Plan
CER	Clean Energy Regulator
CHMP	Cultural Heritage Management Plan
CICs	Critical Industry Clusters
CLM Act	*NSW Crown Land Management Act 2016*
CMA	Catchment Management Authority
DA	Development Application
DIRN	Defined Interstate Rail Network
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DNSP	Distribution Network Service Provider
DPE	NSW Department of Planning and Environment
DPHI	Department of Planning Housing and Infrastructure
DRG	NSW Department of Resource & Geoscience
DISR	NSW Department of Industry, Science and Resources
EDC	Estimated Development Cost
EEC	Endangered Ecological Community
EMP	Environmental Management Plan
EII Act	*Electricity Infrastructure Investment Act*
EIS	Environmental Impact Statement
EMF	Electric and Magnetic Field
EMS	Environmental Management System
EP&A Act	*NSW Environmental Planning and Assessment Act 1979*
EP&A Reg	*Environmental Planning and Assessment Regulation 2021*
EPA	NSW Environment Protection Authority
EPBC Act	*Commonwealth Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental Planning Instrument
EPL	Environment Protection Licence
ETL	Electricity Transmission Line
FAQs	Frequently Asked Questions
FTE	Full Time Equivalent
GDE	Groundwater Dependent Ecosystem
GW	Gigawatt
Ha	Hectare
ICNG	Interim Construction Noise Guideline
IPC	Independent Planning Commission
km	Kilometre
LALC	Local Aboriginal Land Council

LCVIA	Landscape Character and Visual Impact Assessment
LEP	Local Environmental Plan
LGA	Local Government Area
LGC	Large-Scale Generation Certificate
LLS	Local Land Services
LRET	Large-scale Renewable Energy Target
LSC	Land and Soil Capability
LSPS	Local Strategic Planning Statement
LCVIA	Landscape Character and Visual Impact Assessment
MNES	Matters of National Environmental Significance
MW	Megawatt
MVA	Megavolts
MWh	Megawatt Hour
MSD	Mine Subsidence District
NEM	National Electricity Market
NSW	New South Wales
O&M	Operations and Management
OEH	NSW Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
PAC	Planning Assessment Commission
PCT	Preliminary plant community type
PHA	Preliminary Hazard Analysis
POEO Act	NSW *Protection of the Environment Operations Act 1997*
PV	Photovoltaic
QLD	Queensland
RAP	Registered Aboriginal Party
REAP[1]	Renewable Energy Action Plan
REAP[2]	Registered Environmental Assessment Practitioner
RET	Renewable Energy Target
REZ	Renewable Energy Zone
RF Act	*NSW Rural Fires Act 1997*
RFS	Rural Fire Service
RMS	NSW Roads and Maritime Service
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SIA	Social Impact Assessment
SPIC	State Power Investment Corporation
SSD	State Significant Development
TEC	Threatened Ecological Community
TfNSW	Transport for NSW
TNSP	Transmission Network Service Provider
TIA	Traffic Impact Assessment
TMP	Traffic Management Plan
TSR	Travelling Stock Reserve
VPA	*Voluntary Planning Agreement*
WM Act	*NSW Water Management Act 2000*

Definitions

Applicant	**Edify Energy Pty Ltd**
Project	The development to which the application applies
Project Area	The entire lot(s) or part of a Lot that Edify Energy has access to and an agreement to develop with the landowner(s)
Impact Area	The specific area within the Project Area that Edify Energy proposes to develop and that will be directly impacted by the construction and/or operation of the Project.
Study Area	The Study Area encompasses the Project Area, roadside survey areas, and the easement area, used for the for the purposes of the Biodiversity Scoping Report assessment.
Associated landowner	A residence on privately-owned land where the landowner has reached or is in the process of reaching an agreement with the applicant regarding the Project and its impact management.
Non-associated landowner	A residence on privately-owned land where the landowner/s are not in a legal agreement with the applicant regarding the Project. The non-associated land does not form a part of the Project Area

Sandy Creek BESS

Scoping Report

Version	Date	Prepared By	Reviewed By	Comments
1	22 July 2024	A. Smith	P. Dale	Draft
2	19 March 2025	E. Levi	A. Smith	For Issue to DPHI
3	29 April 2025	E. Levi	A. Smith	For Final Issue to DPHI

Approved for issue by

Adam Smith

Adam Smith

Edify Energy

29 April 2025

1 Introduction

1.1 Project Overview

Edify Energy Pty Ltd (herein referred to as Edify) proposes to develop, operate maintain and decommission a Battery Energy Storage System (BESS) in the Muswellbrook region of New South Wales (NSW), to be known as the Sandy Creek BESS (referred to as the Project). The Project is located in the Muswellbrook Local Government Area (LGA) in the suburb of McCully's Gap, approximately 7 kilometres (km) northeast of Muswellbrook and 40km northwest of Singleton. The Project location in the regional setting is shown in **Figure 1**.

The Project Area extends across a total area of approximately 13.7 hectares (ha), over two freehold land parcels as described in **Table 1**. Site access is proposed to be via an existing access off Sandy Creek Road. The Project Area is illustrated in **Figure 2**.

The Project includes infrastructure such as:

- BESS with a capacity of up to 750 megawatts (MW) / 1,500 megawatts hour (MWh)
- Electrical reticulation network
- Substation
- Site office and maintenance building
- Site access, access tracks, road and crossings
- Perimeter security fencing
- Temporary facilities such as laydown and storage areas

The Project proposes to connect to existing TransGrid Muswellbrook 330 kilovolts (kV) substation, located on Lot 1621 and DP 852356 (refer **Figure 2**).

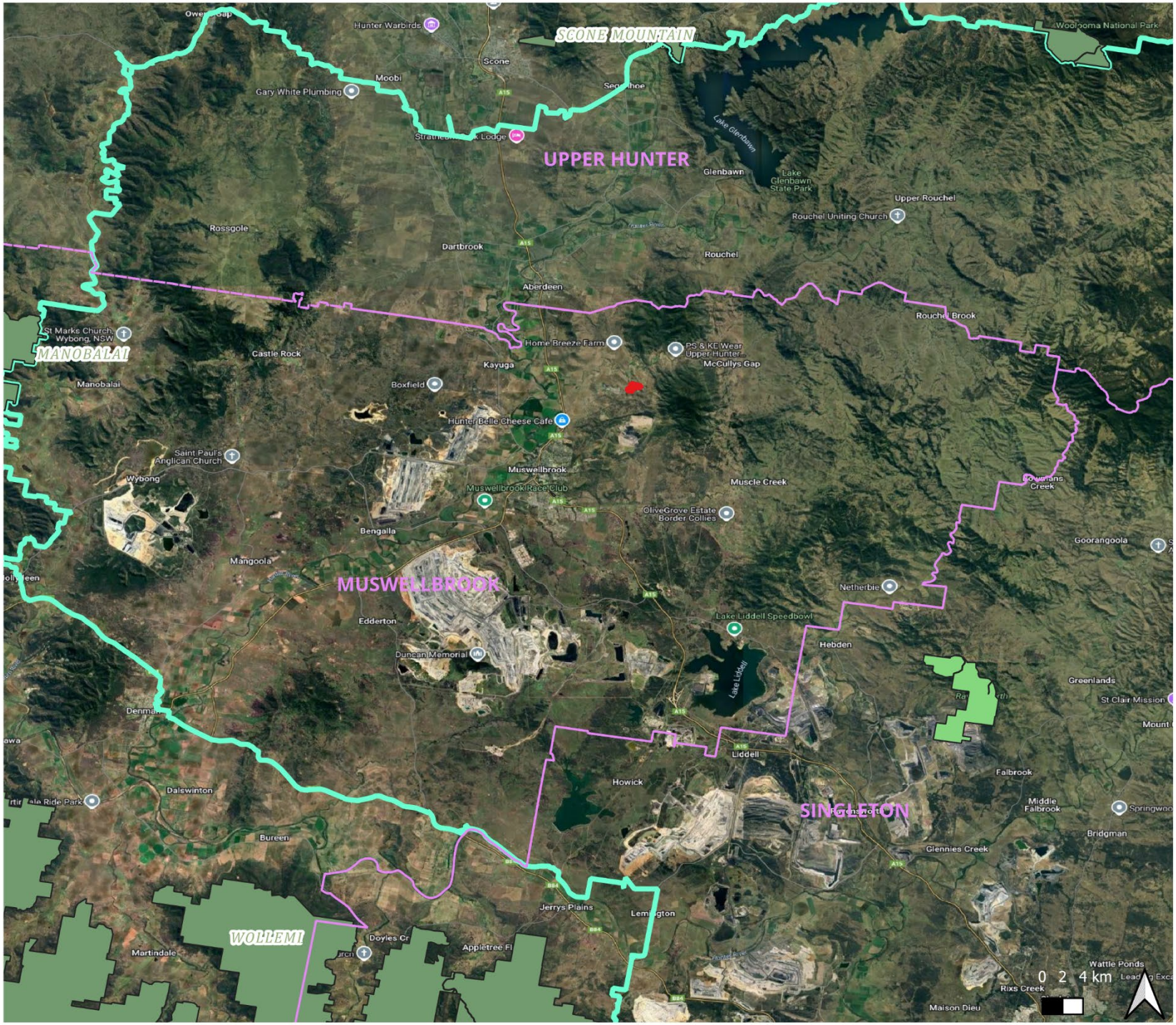
The objective of the Project is to generate new and dispatchable carbon-free electricity supply for NSW. Subject to necessary approvals, Edify anticipates construction to commence in FY 2027/28.

Table 1: Site Details

Project Aspect	Description
LGA	Muswellbrook
Address	388 and 408 Sandy Creek Road McCully's Gap NSW
Lots	163 / DP597065 (Project) 1622 / DP852356 (Project) 1621 / DP 852356 (TransGrid)
Project Area	13.7 ha (Lot 1622 and part of Lots 163 and 1621)
Grid Reference	Lat: 32° 13' 25.6331" S Lon: 150° 55' 49.7347" E

Table 2: The Applicant

Applicant details	Description
Applicant	Edify Energy Pty Ltd
ABN	85 606 684 995
Address	Level 4, 22 Darley Rd, Manly NSW 2095
Contact	02 8790 4048
Email	hello@edifyenergy.com Sandycreek@edifyenergy.com



Legend

- Project Area
- Local Government Area
- National Park and Reserve
- State Forest
- Hunter Central Coast REZ

Baselayers

Google Hybrid Satellite

Figure 1: Project in Regional Setting

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

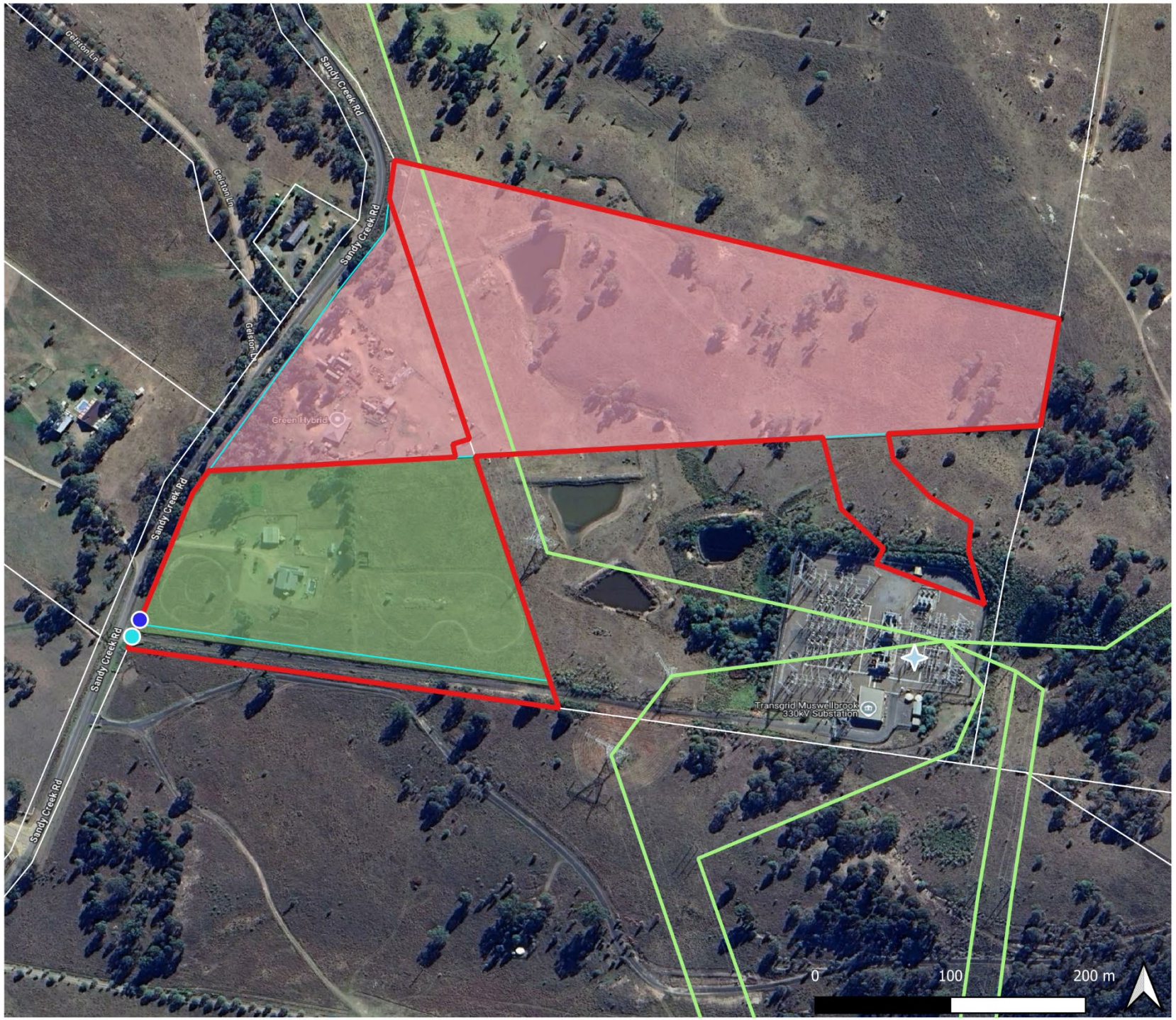


Figure 2: Proposed Project Area

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

1.2 Edify Energy Overview

Edify Energy is a proudly 100% Australian owned renewable energy and storage company, leading the industry in the deployment and operation of new energy generation, storage and grid infrastructure to support Australia's energy transition. Edify's details are provided in **Table 2**.

Delivering more than $2 billion of investment in Australia, Edify has successfully developed and financed over 1 GW of utility-scale solar farms and battery energy storage systems and, in addition to projects currently in construction, is managing the operations of 6 solar farms and 4 battery energy storage systems that it has developed, financed and constructed. Collectively, its utility-scale solar farms produce enough electricity to power over 281,000 Australian homes and its battery storage systems provide system strength to the grid and are capable of powering 680,000 homes for up to 2 hours.

Figure 3: Edify's Key Focus Areas

The Edify business model supports the full lifecycle of renewable energy and storage project development and operation, including greenfield development, project structuring and financing, construction management and a full operational asset management offering.

Edify has a strong pipeline of renewable energy projects, including solar, storage, hybrid and hydrogen projects across the National Electricity Market (NEM) states in various stages of development that the successful candidate will have a key role in developing.

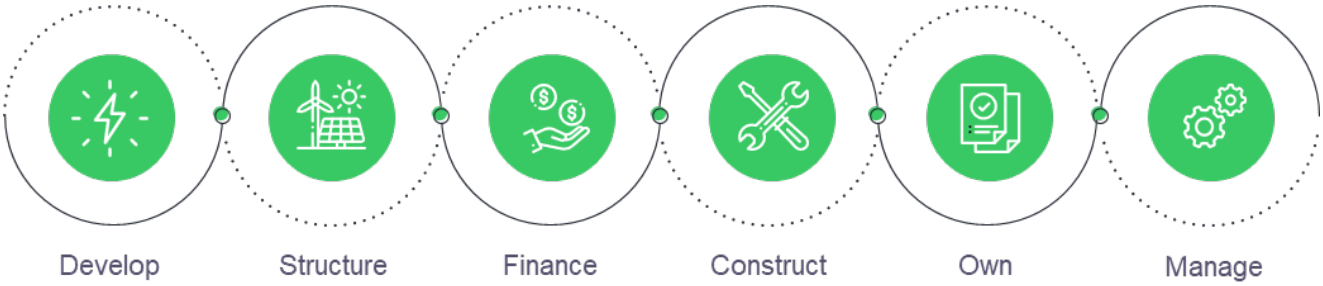


Figure 4: Edify's End-to-End Capabilities

1.3 Key Strategies to Avoid, Minimise or Offset Impacts

The Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) and the NSW Government State Significant Development Guidelines (Appendices A and B), detail the requirement for developments to follow an impact mitigation hierarchy. The hierarchy is mainly viewed as the following three step process:

1. Avoid
2. Minimise and/or mitigate
3. Offset

This Scoping Report illustrates findings of preliminary social and environmental investigations, such as the Biodiversity Scoping Report (**Appendix B**) and Potential impacts identified from this Scoping Report and supporting technical studies allows Edify to begin to address the first step in this hierarchy by avoiding potential impact areas/matters. Detailed studies undertaken as part of the EIS will further refine Edify's understanding of the Impact Area and continue to inform our application of the hierarchy.

1.4 Project Justification

The Project represents Edify's continued investment in renewable energy projects throughout regional NSW. similar to Edify's prior undertakings in the State, the development will be consistent with relevant guidelines, policies and plans and is expected to deliver several benefits including:

- The creation of direct and indirect local employment opportunities, including approximately 150 full-time equivalent (FTE) direct jobs during the peak construction period
- Approximately three permanent jobs during the operation of the Project (>30 years)
- Direct local investment via a Community Benefit Fund (CBF)
- Increased electricity storage capacity and grid support, which will assist in addressing the increasing energy demand in NSW and the expected shortfalls as coal-fired power stations retire
- Increased dispatchable electricity, firming, and system strength services, via the battery energy storage system

- A Voluntary Planning Agreement (VPA) contribution to be negotiated with the Murrumbidgee Council

The Project will have an Estimated Development Cost (EDC) of greater than $30 million and therefore is considered a State Significant Development (SSD) under Section 4.7 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). Edify will prepare a Development Application (DA) for the Project that is supported by an Environmental Impact Statement (EIS). This will be submitted in accordance with Part 4, Division 4.1 of the EP&A Act. The NSW Minister for Planning or the Minister's delegate is the consent authority.

1.5 Purpose

The Scoping Report has been prepared in accordance with State Significant Development Guidelines – Preparing A Scoping Report (DPIE, 2022) to support a request to the Department of Planning, Housing, and Infrastructure (DPHI) for the Secretary's Environmental Assessment Requirements (SEARs). The SEARs would guide the preparation of an EIS for the Project under Part 4 of the EP&A Act. It identifies the main issues and information requirements for the assessment, considering the values of the site, the nature and extent of potential impacts, planning and regulatory requirements and the results of early consultation. This allows the assessment to efficiently focus on the most important issues.

This Scoping Report intends to:

- Justify the development in relation to policy and market frameworks (**Section 2**)
- Describe the Project and the site (**Section 3** and **Section 6**)
- Identify statutory approval requirements (**Section 4**)
- Provide a summary of consultation undertaken to date and proposed further engagement (**Section 5**)
- Identify key potential environmental issues associated with the Project (**Section 6**)
- Conclude with remarks and identification of key issues raised in preparation of the Scoping Report (**Section 6**)

2 Strategic Context

2.1 Strategic Justification

Electricity generation is the largest individual contributor of greenhouse gas emissions in Australia, accounting for 45.3 % of emissions in the 2022-23 reporting year (Australian Government Clean Energy Regulator, 2024). This proposal supports the decarbonization of this emissions-intensive sector by providing a firmed and dispatchable supply of renewable energy—critical for replacing aging thermal power generators nearing the end of their operational lifespan.

This Project contributes to the decarbonisation of this emissions intensive sector, by storing surplus renewable electricity and discharging it when needed, reducing reliance on traditional thermal power generation. By improving grid stability and ensuring a consistent supply of renewable energy, the Project plays a crucial role in the transition to a low-emissions electricity system.

Table 3 provides an overview of key relevant policies, plans, and strategies, along with the Project's alignment with each.

Table 3: Project's Alignment with Key Strategic Plans and Policy Framework

Plans, Policies	Description	Project's alignment
The Paris Agreement	The Paris Agreement is a legally binding international treaty on climate change, adopted at the 2015 United Nations Climate Change Conference (COP21) in Paris. It aims to limit global warming to well below 2°C, preferably 1.5°C, compared to pre-industrial levels. Australia is a signatory and has committed to net zero emissions by 2050.	The Project plays a critical role in integrating renewable energy into the grid by storing excess generation and providing firming capacity to ensure reliable power supply. By stabilizing the grid and reducing reliance on fossil-fuel-based firming solutions, the Project helps Australia meet its emissions reduction targets, including a 50% cut in emissions by 2030 and net zero by 2050, in line with Australia's commitments under the Paris Agreement.
Commonwealth Climate Change Act 2022	The Climate Change Act refers to legislation enacted by governments to establish legal frameworks for reducing greenhouse gas emissions and addressing climate change. In Australia, the Climate Change Act 2022 sets binding emissions reduction targets including 43% reduction in greenhouse gas emissions by 2030 (from 2005 levels) and net zero emissions by 2050.	The Project reduces reliance on fossil fuels, supports coal plant retirements, and ensures a reliable, low-emission energy supply, aligning with the Act's decarbonization goals.
Renewable Energy Target (RET)	The Clean Energy Regulator (CER) introduced the Renewable Energy Target (RET) in 2001, an Australian Government scheme designed to reduce emissions of	The Project enhances the reliability of renewable generation by reducing curtailment, supporting grid stability, and enabling firmed supply. This

Plans, Policies	Description	Project's alignment
	greenhouse gases in the electricity sector and encourage the additional generation of electricity from sustainable and renewable sources. The initial target was 44,000GWh later revised to 33,000GWh of renewable energy generation by 2020. Under the RET, large-scale renewable energy generators earn Large-Scale Generation Certificates (LGCs) for every MWh of electricity produced. Electricity retailers purchase these certificates to meet their legal obligations, submitting them to the CER to comply with the scheme.	strengthens the overall effectiveness of the Large-scale Renewable Energy Target (LRET) by ensuring that renewable energy is consistently and efficiently stored and dispatched to the grid when needed.
Integrated System Plan 2024 (ISP)	The 2024 ISP developed by the Australian Energy Market Operator (AEMO) is a 20-year roadmap for Australia's energy transition. It outlines the optimal development path for generation, storage, and transmission to achieve net zero by 2050, ensuring reliability and affordability. The plan highlights the urgent need for new infrastructure, including renewables and storage (BESS), to maintain energy security.	Located within the Hunter Central Coast REZ, the Project contributes to the optimal development path outlined in the ISP by enhancing grid stability, reducing transmission congestion, and supporting energy security. Additionally, it aligns with the ISP's goal of accelerating investment in low-emission technologies to meet Australia's net zero by 2050 target.
NSW Climate Change Act 2023	The Climate Change Act 2023 is legislation enacted by the NSW Government to establish a legal framework for reducing greenhouse gas emissions and enhancing climate resilience. Passed with multi-party support on 30 November 2023, the Act sets ambitious emissions reduction targets for NSW including 50% reduction from 2005 levels by 2030, 70% reduction from 2005 levels by 2035 and net zero emissions by 2050. Additionally, the Act outlines guiding principles for climate action, emphasizing the importance of considering impacts, opportunities, and the necessity for timely intervention in NSW.	The Project supports the NSW Climate Change Act by enhancing renewable energy reliability through energy storage and dispatch, reducing reliance on fossil fuels, and contributing to NSW's emissions reduction targets of 50% by 2030, 70% by 2035, and net zero by 2050.
NSW Government Net Zero Plan Stage 1: 2020– 2030 (the Plan)	The Plan is a commitment to taking decisive and responsible action on climate change (DPIE, 2020). The Plan has the goal of reducing the State's emissions by 35% by 2030, compared to 2005 levels, whilst supporting regional investments that total $7 billion and create approximately	The Project supports these objectives by enhancing grid reliability, enabling greater renewable energy integration, and reducing reliance on fossil fuel-based firming capacity while supporting economic

Plans, Policies	Description	Project's alignment
	1,700 regional employment opportunities (NSW Government, 2020).	growth and job creation in the renewable sector.
NSW Electricity Strategy 2019	The NSW Electricity Strategy (2019) provides a framework for ensuring a reliable, affordable, and sustainable electricity supply as the state transitions away from coal-fired power. It focuses on improving energy reliability through a reserve target, attracting private investment in renewables, firming capacity such as BESS, and upgrading transmission infrastructure. The strategy also aims to lower electricity costs by increasing competition and efficiency while supporting Renewable Energy Zones (REZs) to drive emissions reduction.	By facilitating energy storage and firming capacity, the Project aligns with this strategy by enhancing grid stability, integrating renewable energy, and contributing to NSW's long-term energy security and emissions reduction goals.
NSW Electricity Infrastructure Investment Roadmap 2020	The NSW Electricity Infrastructure Investment Roadmap (2020) outlines the state's strategy for transitioning to a cleaner, more reliable, and affordable energy system by replacing retiring coal-fired power stations with renewable energy. It focuses on developing Renewable Energy Zones (REZs), expanding firming capacity such as Battery Energy Storage Systems (BESS), upgrading transmission infrastructure, and attracting private investment to accelerate the transition.	Located in the Hunter Central Coast REZ, as shown in **Figure 1**, the Project supports coal plant retirements by leveraging existing infrastructure, renewable resources, and a skilled workforce.
Hunter Central Coast REZ	The Hunter-Central Coast Renewable Energy Zone (HCC REZ) is a strategic initiative by the New South Wales (NSW) Government to enhance renewable energy capacity in the Hunter and Central Coast regions. Officially declared in 2022, the HCC REZ aims to add 1 gigawatt (GW) of renewable energy to the grid by 2028, supporting the state's transition to sustainable energy.	Situated within the boundaries of the proposed REZ, the Project is designed to integrate seamlessly with the existing infrastructure and development plans. The Project aligns with the objectives of the REZ by contributing to the region's renewable energy capacity.
Hunter Regional Plan 2041	The Hunter Regional Plan 2041 is the NSW Government's strategic framework for guiding sustainable growth and economic development in the Hunter region. It focuses on diversifying the economy, supporting clean energy industries, improving infrastructure, and enhancing environmental resilience. The	The Project aligns with the Hunter Regional Plan by supporting the region's clean energy transition, enhancing grid reliability, and contributing to economic diversification through investment in renewable energy infrastructure.

Plans, Policies	Description	Project's alignment
	plan aims to transition the region from traditional coal-based industries to a renewable energy hub, leveraging its skilled workforce, existing infrastructure, and emerging technologies.	
Muswellbrook Local Environmental Plan 2009 (Muswellbrook LEP)	The Project is within land zoned RU1, Primary Production under the Muswellbrook LEP. The objective of this RU1 zone is to. • 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 protect the agricultural potential of rural land not identified for alternative land use, and to minimise the cost to the community of providing, extending and maintaining public amenities and services. • To maintain the rural landscape character of the land in the long term.	The Project supports sustainable agriculture by promoting clean energy and offering alternative income to landowners and local community through job generation. It minimizes land fragmentation by preserving productive agricultural areas. The Project encourages economic diversity, reduces land use conflicts, and helps maintain the region's rural character with low-impact infrastructure, ensuring a balance between energy production and farming.
Muswellbrook Shire Council Local Strategic Planning Statement 2020–2040 (Muswellbrook LSPS)	The Muswellbrook LSPS outlines the vision for sustainable growth, economic diversification, and environmental resilience in the Muswellbrook region. It focuses on transitioning from coal-based industries to renewable energy, attracting investment, supporting job creation, and protecting natural resources. The LSPS outlines 19 planning priorities that identify the main issues to be addressed to deliver the Vision and Themes. Relevant to the Project are:	The Project aligns with this strategy by contributing to the region's clean energy transition, enhancing energy security, and supporting economic diversification through investment in BESS and renewable infrastructure. The Project will introduce advanced energy storage solutions that enhance grid stability and support the increasing share of renewables. Additionally, it will facilitate a low-carbon energy transition, reducing reliance on fossil fuels, and improving energy security.

Plans, Policies	Description	Project's alignment
	Planning Priority 1: 'Our Shire embraces technology and innovation' includes the planning principles, Planning Principle 18: 'We adapt to climate change and build climate and hazard resilience.' Includes the planning principles,	
Muswellbrook Shire 2022–2032 Community Strategic Plan	The Muswellbrook Shire 2022–2032 Community Strategic Plan outlines the community's long-term vision for a sustainable, resilient, and diversified local economy. It focuses on transitioning to renewable energy, supporting job creation, protecting the environment, and enhancing infrastructure to improve community well-being.	The Project aligns with this plan by contributing to the clean energy transition, strengthening energy reliability, and generating jobs through investment in renewable energy infrastructure within the region.

2.2 Project Justification

2.2.1 Contributions to the National Electricity Market

The Project will utilise proven battery technologies, which would aid in storing and managing energy flows to the grid during times of grid constraints (e.g. charging from renewable electricity created in daylight hours such as solar energy) and peak electricity demand (discharging). This dispatchable capability allows the Project to de-couple its output from typical, weather dependent generation profiles, by allowing the Project to service periods of high demand when it is most needed, independent of weather conditions, particularly during evening hours.

The NEM is undergoing significant change, with several major energy generators scheduled to reach the end of their lifespan and are likely to be retired. The first of such large generators to retire occurred recently at the 1,260 MW Liddell coal-fired Power Station which was decommissioned earlier in 2023. This closure will likely be followed by 2,880 MW Eraring Power Station, 1,320 MW Vales Point Power Station, 2,715 MW Bayswater Power Station and 1,400 MW Mount Piper Power Station. There is a risk that without new investment in sufficient generation capacity, these retirements have the potential to lead to interruptions in energy security. The Project will support the grid by providing up to 750 MW / 1,500 MWh of battery storage, ensuring reliable energy supply and enhancing the integration of renewable generation into the NEM.

While grid capacity constraints can pose challenges for utility-scale renewable energy projects in NSW, the Project benefits from strong connection options within the Project Area. The transmission network has sufficient capacity and system strength to support power export to the regional NSW grid, enhancing reliability and stability.

2.2.2 Contributions to Electricity Prices

In Q4 2023, the Australian Energy Market Operator (AEMO) reported a significant decline in wholesale electricity prices across the NEM, averaging $48 per megawatt-hour, which represents a 48% reduction from

the same period in 2022. This price drop was largely attributed to an increasing share of renewables in the grid. However, the growing share of renewable energy has also led to a rise in negative price occurrences, highlighting the volatility in the market. Rystad Energy identified Australia's NEM as the most volatile power market globally, citing extreme price fluctuations within single hours. To mitigate these challenges, increased energy storage is crucial.

Batteries will play a key role in stabilizing the grid by storing excess renewable energy during periods of oversupply and releasing it when demand peaks. This will help smooth out price fluctuations, improve grid reliability, and ensure that the benefits of low-cost renewable energy reach consumers more consistently, potentially driving retail prices even lower.

2.2.3 Socio-economic Benefits

The development of the Project in Muswellbrook, a key mining region in NSW, presents significant economic opportunities for the local community. With several coal-fired power stations closing, the Project will play a crucial role in job transition and economic diversification.

One of the most immediate benefits is job creation. Many skilled workers, such as engineers, electricians, plant operators, and maintenance personnel, face potential unemployment due to coal plant closures. The Project is expected to generate up to 150 FTE jobs during peak construction in regional NSW, along with indirect employment opportunities across the supply chain. During operation, the Project will create approximately 3 FTE jobs, plus additional indirect employment opportunities over its expected 30-year lifespan. It also provides a pathway for retraining and reemployment, helping workers transition into roles in battery storage, renewable energy operations, and electrical grid management. By offering local employment, the Project helps retain skilled workers in Muswellbrook and strengthens the regional economy. Partnerships with TAFEs, universities, and training providers will further support upskilling programs, ensuring workers have the necessary skills for careers in the clean energy sector.

The Project will also boost local businesses and supply chains by increasing demand for construction services, electrical suppliers, mechanical services, and transport providers. Many businesses that currently support the coal industry can pivot to servicing BESS infrastructure, ensuring continued economic participation. Additionally, increased economic activity will benefit local restaurants, hotels, and retail stores, as both construction and operational workers spend within the community. Local contractors and service providers will also have opportunities to secure long-term maintenance contracts.

Beyond direct economic benefits, the Project will contribute to the CBF, which can be invested in local infrastructure and services, such as education, healthcare, and road improvements. These financial contributions will support long-term regional development and improve public services.

The Project also promotes land use diversification, offering farmers an additional income stream alongside traditional agriculture. Given the region’s vulnerability to droughts and climate variability, leasing land for energy storage provides financial stability, reducing reliance on seasonal agricultural yields. By supporting renewable energy projects, the Project strengthens regional resilience and ensures sustainable land use.

2.2.4 Site Suitability

The Project Area comprises of relatively flat and cleared terrain, previously used for agricultural activities, making it a suitable location for a utility-scale battery project. The Project Area is comprised of two associated landholders’ properties selected based on proximity to the existing TransGrid’s Muswellbrook Substation. The preferred Project connection point is direct to the Muswellbrook Substation adjacent of the Project. Proximity to existing substations is considered a beneficial component of any electricity generator, to

ensure energy produced is exported into the NSW transmission network with the least number of electrical losses and network augmentation.

Key considerations for site selection are detailed within the NSW Solar Energy Guideline. The key site constraints with justification as to why the site is suitable is detailed in **Table 4** below:

Table 4: Key Site Constraints with Justification

Areas of constraint	Site justification
Alternative area of involved property: Where a Project is located on a portion of a substantially sized property, options analysis of site suitability, in particular constructability and environmental planning factors are assessed across the entire property.	The Project area was selected based on the following key factors: • Generally flat topography • Little to no clearing of native vegetation • Minimal number of sensitive receptors within 1km of the Project Area • Accessibility for construction • Outside of mapped hazard areas such as flood and bushfire
Visibility and topography: Sites with high visibility, such as those on prominent or high ground positions, or sites which are in a valley with residences with elevated views looking towards the site. This is particularly important in the context of significant scenic, historic, or cultural landscapes.	The Project Area and surrounds encompasses relatively flat terrain. The nearest non-associated residential receiver (R4) is located approximately 75 m west of the Project Area west of the Project Area across Sandy Creek Road. This distance can be further increased or mitigated as design continues, to allow for reduced potential impacts to these receivers. Early and continued engagement with the surrounding community will form part of the in-depth assessment into the potential amenity impacts. Edify have completed a Preliminary Landscape and Visual Impact Assessment, including viewshed analyses (**Appendix G**) to guide early discussions with stakeholders and identify viewpoints requiring further detailed assessment. Edify will prepare a detailed Landscape Character and Visual Impact Assessment (LCVIA) as a part of the EIS to illustrate the potential viewpoints of the Project from private and public viewpoints. Mitigation measures recommended by the LCVIA report to reduce any potential visual impact, such as planting vegetation screening, will be discussed with affected landholders.
Biodiversity: Areas of native vegetation or habitat of threatened species or ecological communities within and adjacent to the site, including native forests, rainforests,	Edify have prepared a preliminary Biodiversity assessment to identify initial constraints and guide the Scoping Report, Edify will prepare a Biodiversity Development Assessment Report (BDAR) as part of the

Areas of constraint	Site justification
woodlands, wetlands, heathlands, shrublands, grasslands and geological features.	EIS process to inform micro-siting of infrastructure. The Project will consider the small area streamlined assessment module as the Project is likely to have minimal vegetation clearance, considering the land has been previously cleaned.
Agriculture: Important agricultural lands, including Biophysical Strategic Agricultural Land (BSAL), irrigated cropping land, and land and soil capability classes 1, 2 and 3. Consideration should also be given to critical industry clusters (CICs), which are concentrations of highly productive industries within a region that are related to each other, contribute to the identity of that region, and provide significant employment opportunities. Two critical industry clusters – for the equine and viticulture industries – have been identified in the Upper Hunter region.	BSAL is not mapped in the Project Impact Area. The closest mapped BSAL is approx. 600 m north of the Project Area and follows Sandy Creek (refer **Figure 5**). There is no Class 1, 2, 3 or 4 land withing the Project Area. The Project Area has been mapped[1] to be on land classed as Land and Soil Capability class (LSC) 5 and 6 (severe and very severe limitations) with Australian Soil Classification (ASC) being Kurosols (natric). No CICs were mapped within the Project Area, the closes identified was equine industries located across Sandy Creek Road.
Natural Hazards: Areas subject to natural hazards, such as flooding and land instability.	The Project Area has not been identified as flood prone in the Muswellbrook Council's LEP. The Project Area is mapped as bushfire prone[2] (Vegetation Category 3). Edify will engage with Rural Fire Service and NSW Fire & Rescue when preparing the Bushfire Assessment to ensure the Project's design and water supply infrastructure is located and installed in accordance with fire authority requirements.
Resources: Prospective resources developments, including areas covered by exploration licences and mining and petroleum production leases. Renewable development applicants should seek advice from the Department of Planning, Division of Resources and Geoscience (GSNSW) about the coverage of resources related licences.	The Project Area is not covered by any exploration or mining leases. Muswellbrook Coal has a claim 790 m south of the Project Area. This has no impact on the Project. The Project Area is underlain by the Hunter Coalfields which spans approx. 17,000 km^2
Crown Lands: If any part of the Project or associated transmission or distribution infrastructure will cross Crown Lands, it may be subject to legislative requirements that restrict access to the land.	No Crown Lands parcels are located near the Project Area. Edify will engage with Crown Lands following the SEARs to ensure suitable stakeholder engagement is undertaken.

[1] eSPADE v2.2 (nsw.gov.au)

[2] Geocortex Viewer for HTML5 (nsw.gov.au) NSW Bush Fire Prone Lands

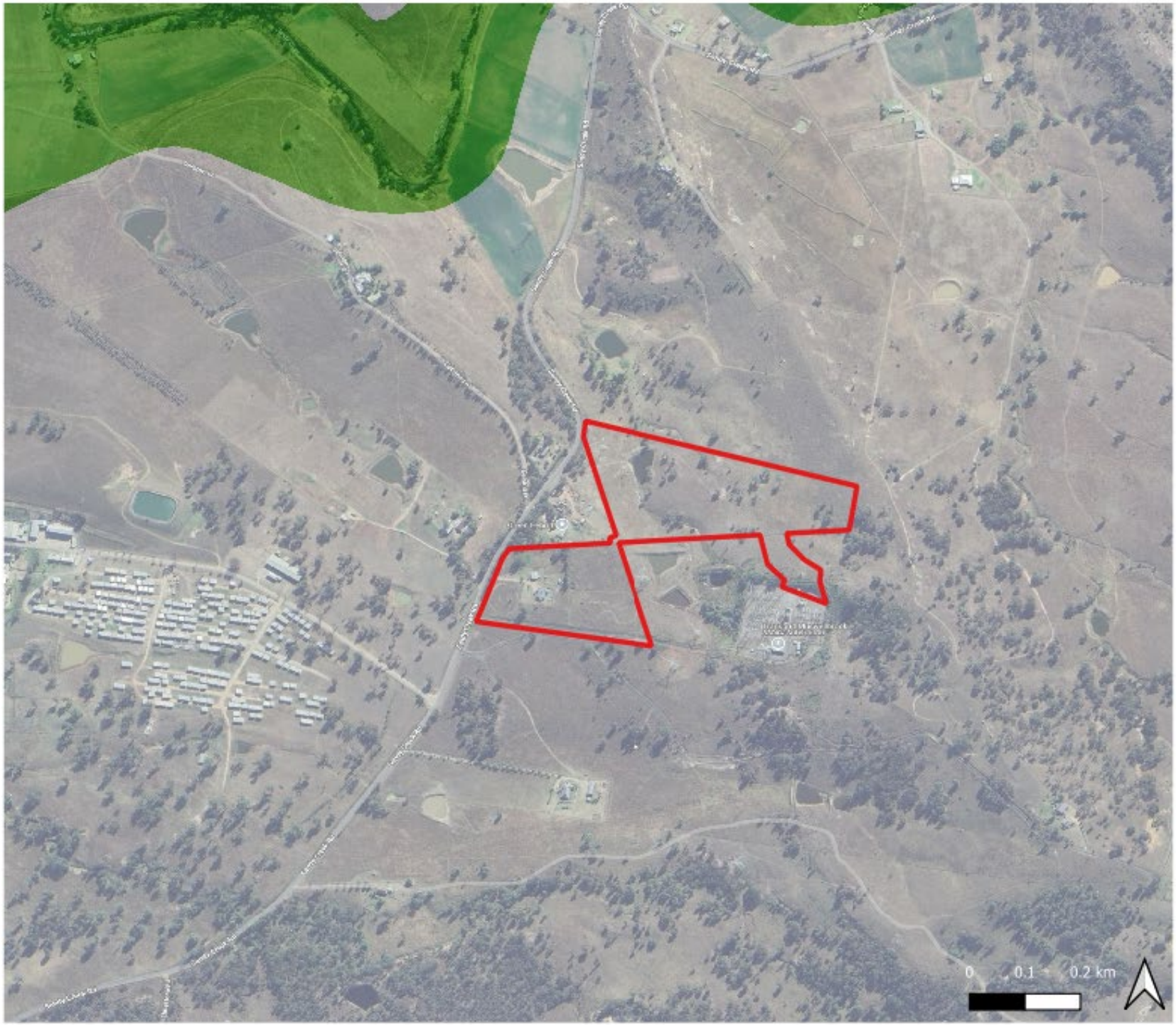


Figure 5: BSAL Mapping

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

2.3 Site Features and Surrounding Land Use

2.3.1 Regional Community

The Project Area is located within the Muswellbrook LGA, at approximately 185 km northwest of Sydney and 110 km northwest of Newcastle (**Figure 1**). Its eastern boundary lies approx. 3.2 km east of the New England Highway, a key transport route connecting Yarraman in Queensland (QLD) to Newcastle in NSW via Muswellbrook and Singleton.

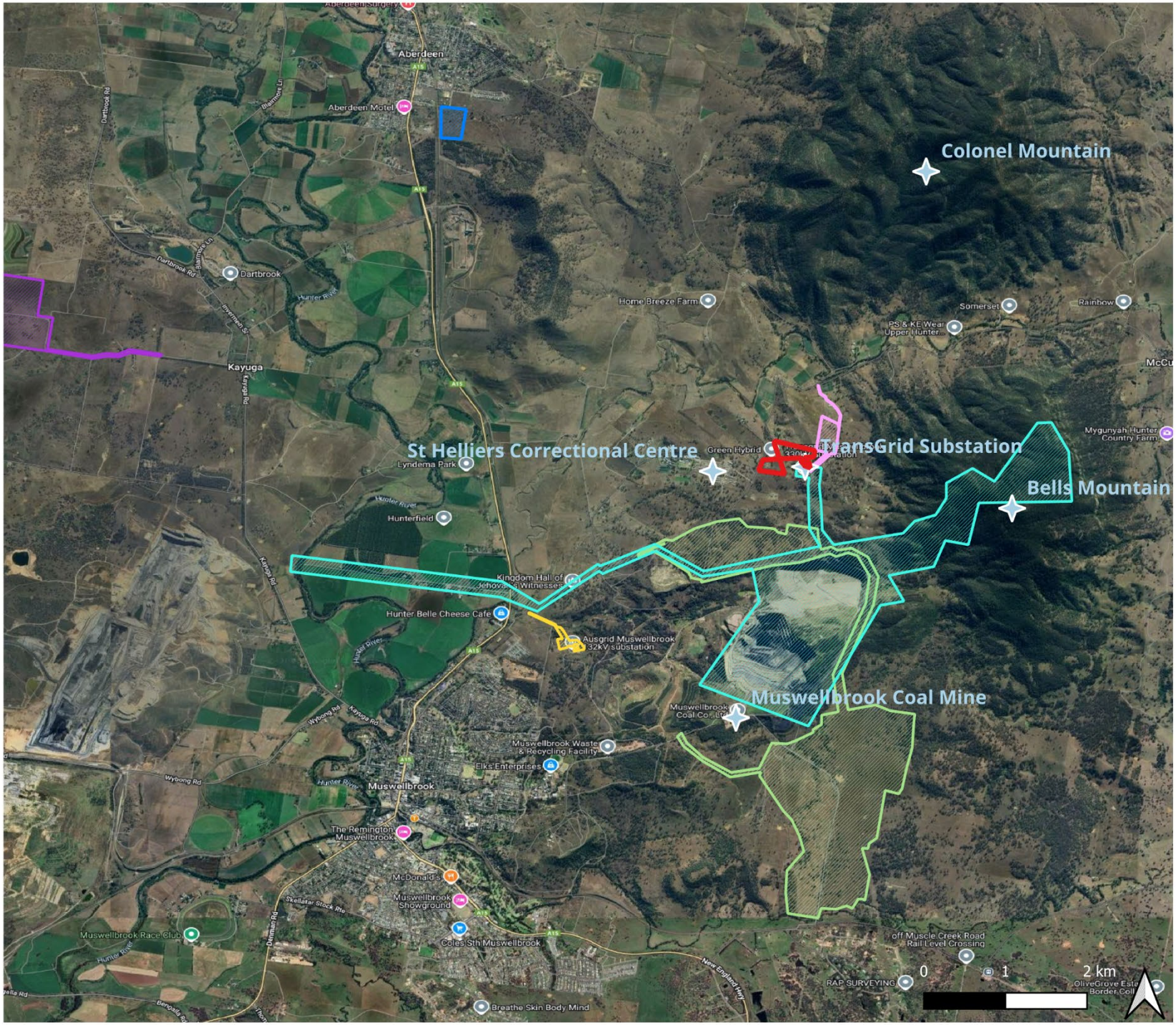
Covering approximately 3,405 km², the Muswellbrook LGA is part of NSW's Upper Hunter region and has played a significant role in Australia's industrial history. It remains a major hub for energy generation and coal mining, home to the Liddell and Bayswater Power Stations within the broader Hunter Valley. The region also features an extensive high-voltage electricity network, supporting both existing power infrastructure and future renewable energy developments. The Muswellbrook LGA, covers 3,405km² with a population of 16,357, the township of McCully's Gap consists of a population of 262 as at the 2021 Census (ABS, 2021). The LGA features diverse landscapes, including fertile agricultural lands, rolling hills, vineyards, and bushland. The Hunter River runs through the region, contributing to its agricultural viability.

2.3.2 Local Community

The Project is in McCully's Gap suburb which is a rural community in the Hunter Region of New South Wales, Australia, approx. 250km northwest of Syndey. McCully's Gap is situated within the Muswellbrook Shire, part of the Upper Hunter region. The area is known for its agriculture, including cattle and sheep farming, as well as some crop production, and mining.

The Project is approximately 7 km northeast of Muswellbrook (**Figure 1**), a town with a population of 10,901 (ABS, 2021). Singleton, situated 40 km southeast of the Project, has a population of 14,229 (ABS, 2021). Both towns offer a range of social infrastructure, including medical facilities, public spaces, educational institutions, aged care, sports and recreation areas, and accommodation options. These major towns near McCully's Gap contribute to the region's economic and social vitality, offering a diverse range of amenities, attractions, and services to residents and tourists alike. They also reflect the rich agricultural heritage and cultural diversity of the Hunter region.

Smaller townships near the Project include Muscle Creek, 8 km southeast, with a population of 313, and McCullys Gap, 4.5 km northeast, with a population of 262 (ABS, 2021).



Legend

- Project Area
- Local Context

Nearby SSDs

- McCullys Gap BESS
- Muswellbrook BESS
- Muswellbrook Pumped Hydro Energy Storage Project
- Muswellbrook Solar Farm
- Upper Hunter BESS
- Kayuga Solar Farm

Baselayers

Google Hybrid Satellite

Figure 6: Project Locality within Muswellbrook LGA

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

2.3.3 Land Use

The Project is located within the Interim Biogeographic Regionalisation for Australia (IBRA) subregions of Hunter and Ellerston and is part of the NSW North Coast IBRA bioregion, which stretches from north of Batemans Bay to Nelson Bay on the Central Coast, encompassing towns such as Muswellbrook, Wollongong, Nowra, Newcastle, and Cessnock. The Project is near Bells Mountain and Colonel Mountain. The nearest national parks are Scone Mountain National Park (20 km north) and Wollemi National Park (32 km south). Other nearby natural reserves include Acacia Drive Reserve (8 km south), Lake Glenbawn State Park (13 km northeast), and Manobalai Nature Reserve (30 km west).

The Project Area covers approximately 13.7 ha and has historically been used for agriculture and is currently supporting grazing activities, including small ephemeral waterways and farm dam. Surrounding land uses include agricultural activities as well as non-agricultural sites such as:

- TransGrid substation situated adjacent to the Project Area (380 Sandy Creek Road, McCully's Gap)
- St Helliers Correctional Centre, approx. 800m southwest of the Project (70 St Heliers Road, Muswellbrook)
- Muswellbrook Coal Mine, about 1.53km south of the Project (Coal Road, Muswellbrook)
- Main Northern Rail Line, also known as the Great Northern Railway, about 3.2 km west of the Project, running parallel to the western boundary of the Project Area.

The Project in the local context is shown in **Figure 6**.

2.4 Community Benefits

2.4.1 Voluntary Planning Agreement

The Applicant has begun early consultation with Muswellbrook Council, Edify has acknowledged the need for a Voluntary Planning Agreement (VPA) for the Project, and will progress these discussions during the EIS phase of the Project.

2.4.2 Community Benefit Fund

A CBF will be established by Edify and will align with the NSW Benefit-Sharing Guideline (DPHI, 2024).

3 Project Description

3.1 Project Area

The Project Area is entirely within the Muswellbrook LGA in the suburb of McCully's Gap, about 7 km northeast of Muswellbrook town centre, and 40km northwest of Singleton. Site access is proposed to be via an existing access off Sandy Creek Road, which intersects with the New England Highway to the southwest of the Project Area.

The Project Area covers approximately 13.7 ha and includes the following land parcels:

- Lot 163 of DP 597065 and Lot 1622 of DP 852356, both privately owned freehold land zoned RU1-Primary Production under the Muswellbrook LEP
- Lot 1621 and DP 852356 owned by TransGrid
- Local Government Authority road easement along Sandy Creek road

The extent of the Project Area is shown in **Figure 8**.

3.1.1 Impact Area

The Impact Area incorporates areas affected by construction and operation of the Project, as identified at the scoping stage. It covers the entire Project Area and includes Project infrastructure such as the BESS, substation, site office, maintenance building, site access, and access tracks. The Impact Area consists of agricultural land with flat paddocks, largely cleared of vegetation, except for some sections of remaining vegetation. During the EIS phase, the Impact Area will be further refined to avoid environmentally constrained areas identified through detailed technical assessments.

The access location and easement will be further evaluated during the BDAR, Traffic Impact Assessment (TIA), and other technical studies as part of the EIS, which will assess potential environmental and planning impacts and provide construction recommendations. The final development footprint and Impact Area will be refined during the EIS phase, considering the conclusions of these technical studies and feedback from the SEARs.

3.1.2 Project Nearby Receivers

The Project Area is owned by two landholders who reside on the properties to the northwest and southwest of the Project Area, identified as 'LO1' and 'LO2' in **Figure 9**, respectively. Property 'LO1' is excluded from the Impact Area and has appropriate buffers in place. The Landowner propose to continue utilising the site for agricultural purposes once the Project enters operations. Property 'LO2' is currently mapped in the

project impact area as the proponent's option covers the entire lot. Refinement of this impact area will occur in the EIS phase.

There are 17 non-associated residential receivers within 1 km of the Project Area, 15 non-associated residential receivers between 1-2 km and 81 non-associated residential receivers between 2-4 km (refer **Figure 9** and **Table 5**). The closest sensitive receiver (R4) is located approximately 76.1 m west of the Project Area.

Table 5: Project Neighbouring Receivers

Receiver ID	Distance to Project boundary (m)	Receiver ID	Distance to Project boundary (m)
R1	324	R46	3470
R2.1	102	R47	3508
R2.2	297	R48	2505
R3	607	R49	3393
R4	76	R50	3545
R5.1	502	R51	3654
R5.2	1194	R52	3762
R6	558	R53	3946
R7	584	R54	3663
R8	906	R55	3677
R9	845	R56	3697
R10	1487	R57	3710
R11	2003	R58	3720
R12	833	R59	3739
R13.1	794	R60	3754
R13.2	761	R61	3823
R13.3	681	R62	3873
R14	1369	R63	3905
R15	1519	R64	3922
R16	808	R65	3942
R17	902	R66	3970

Receiver ID	Distance to Project boundary (m)	Receiver ID	Distance to Project boundary (m)
R18	1701	R71	3994
R19	3436	R72	4019
R20.1	1043	R73	4037
R20.2	1580	R74	4053
R20.3	1494	R75	3978
R20.4	1403	R76	3853
R20.5	1106	R77	3859
R20.6	1995	R78	3854
R20.7	1664	R79	3853
R20.8	321	R80	3850
R21	1473	R81	3854
R22	2364	R82	3851
R23	2507	R83	3848
R24	3166	R84	3844
R25	2530	R85	3841
R26	2862	R86	3845
R27	3304	R87	3873
R28	3391	R88	3904
R29	3384	R89	3910
R30	2390	R90	3910
R31	2210	R91	3912
R32	2438	R92	3909
R33	2290	R93	3911
R34	2462	R94	3931
R35	1690	R95	3952
R36	2033	R96	3946

Receiver ID	Distance to Project boundary (m)	Receiver ID	Distance to Project boundary (m)
R37	2227	R97	3946
R38	2276	R98	3970
R39	2456	R99	3965
R40	2700	R100	3989
R41	3029	R102	3998
R42	3438	R103	3995
R43	1801	R104	3979
R44	2848	R115	3998
R45	3323	R117	3950

3.2 Conceptual Project Layout

The Project involves the construction of a battery storage system and associated infrastructure. The Project proposes to connect into the existing TransGrid Muswellbrook 330 kV substation, located adjacent to the Project.

The Project design is flexible and would be designed to avoid impacts where feasible and minimise and mitigate environmental impacts if avoidance is not possible. The design will consider the results of the Scoping Report, requirements of SEARs and consultation with relevant stakeholders and the technical studies prepared as part of the EIS. The EIS will outline how these studies have informed the final design.

The conceptual Project layout is shown in **Figure 8**. This includes all land likely to be directly impacted by the construction, operation and decommissioning of the Project, including auxiliary construction facilities (site compound, laydown, stockpiling, etc.) and all considered options. It is noteworthy that the proposed footprint is indicative only and will be refined as part of the EIS process (considering environmental constraints and engineering studies), with Project infrastructure layout to be detailed in the EIS.

3.2.1 Battery Energy Storage System

The BESS would typically consist of modules that provide a direct medium voltage AC interface and includes Medium Voltage (MV) switchgear, MV transformer, inverter, batteries, thermal management and controls. The modules would be either placed on a filled pad or elevated platform.

The BESS will be located within the Impact Area and adjacent to the substation. The Project will utilise hermetically sealed, lithium-ion batteries housed in a secure, climate-controlled BESS. Subject to economic and technical considerations, the Project would include an approximate of up to 750 MW / 1500 MWh rated capacity battery storage system, with an enclosure design similar to **Figure 7**.

The size and configuration of the BESS will be determined through an economic and technical assessment conducted during the Project's EIS and Connection Application phase with TransGrid and the Australian

Energy Market Operator (AEMO). Edify has established commercial relationships with Tier 1 battery suppliers with a proven track record in Australian energy storage applications.

Figure 7: Indicative BESS Project layout

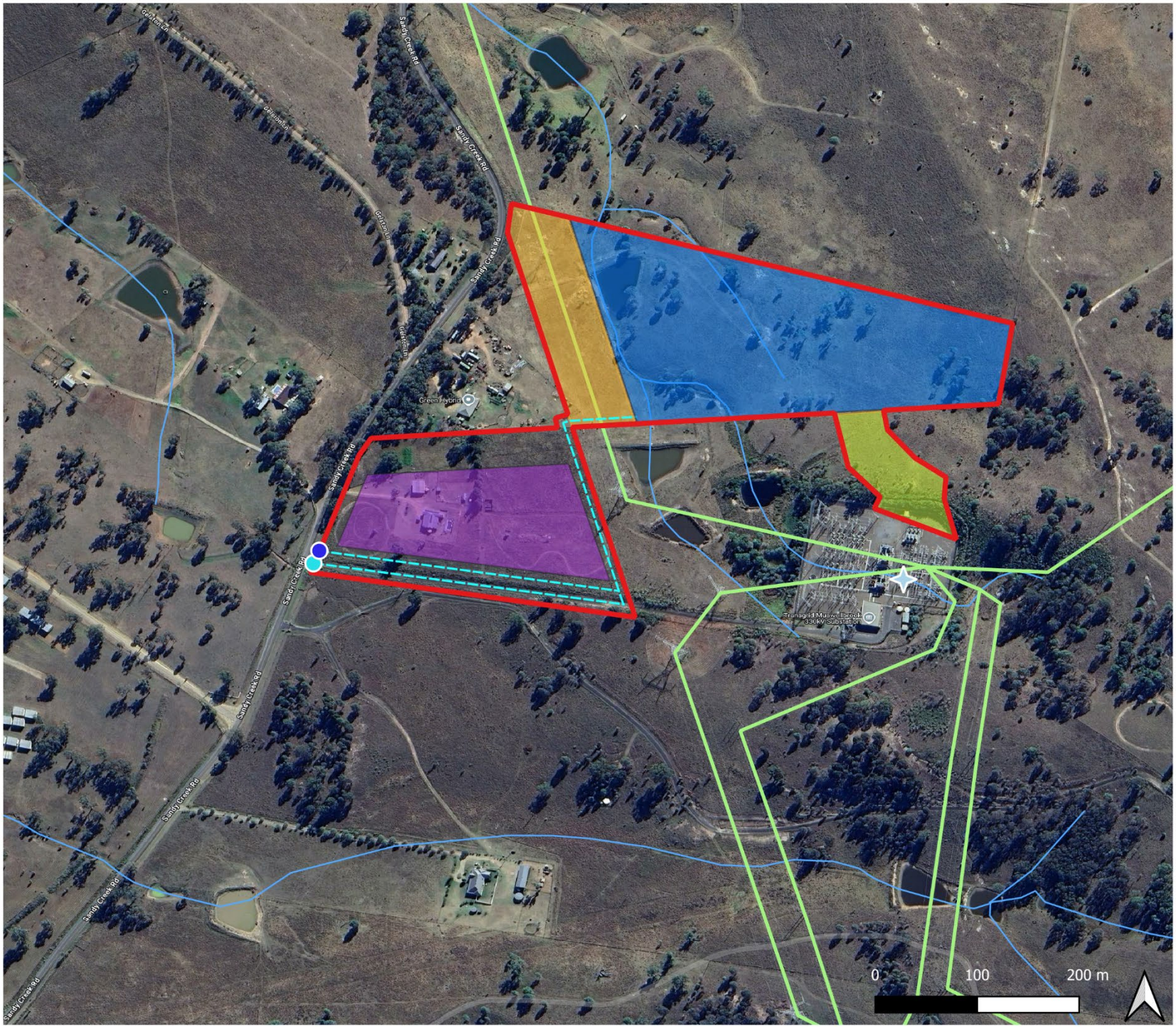


Figure 8: Conceptual Project Layout

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

3.2.2 Electrical Reticulation Network

Each inverter will be connected to the central 33kV switchboard by underground medium voltage cable reticulation. The cables will be installed in trenches not below 1m in depth and typically 1m in width. The excavation will comply with the Soil and Erosion Sediment Control Report and Regulations for construction within New South Wales. The medium voltage switchboard will be connected through a step-up transformer and connect to the overhead 330kV distribution line, owned and operated by TransGrid.

Temporary disturbances to vegetation from the underground installation of the cables will rehabilitate naturally.

3.2.3 Substation

An on-site high voltage substation may be required to connect the BESS to the national transmission network. Under this option, the on-site substation footprint will be approximately 80m x 50m. The substation will provide switching and protection of the electrical network and will be fenced separately from the BESS for safety and access reasons.

Alternatively, the BESS may connect directly to the existing Muswellbrook Substation, subject to approval and augmentation of TransGrid's landholding and substation infrastructure. The direct connection to the existing substation will be owned and operated by the Network Operator, TransGrid. This will form part of the NEM.

3.2.4 Associated Infrastructure

The Project will include various supporting infrastructure essential for its operation and maintenance. This will encompass an Operations and Maintenance (O&M) building housing a site office, kitchenette, toilet, first aid area, meeting room, and reception area facilities, as well as and internal tracks connecting the BESS and other associated infrastructure. Additionally, perimeter fencing will be installed to ensure site security and safety.

During the construction phase, temporary facilities will be required to support site activities. These will include designated laydown areas for equipment storage, material stockpiling zones, and other necessary temporary infrastructure.

3.2.5 Ancillary Activities

Several ancillary activities will be undertaken to prepare the Project Area. These activities may include:

- Site clearance, earthworks, and land leveling
- Construction and/or upgrades of access roads
- Implementation of drainage and erosion control measures
- Installation of utility and service and sourcing of water (may include offsite or onsite water sourcing)
- Set up of designated waste management and recycling areas
- Implementation of environmental and safety controls, such as dust suppression, visual and noise mitigation, and traffic management measures.

3.3 Project Timing

Subject to approval, the Project's planning and approval process is anticipated to be completed by 2026. This process includes the preparation of a Scoping Report, an EIS and a Submissions Report.

Construction is expected to take place over a 12-month period, commencing in 2027/28FY, with operations anticipated to start in 2028/29FY. The most significant impacts are expected to occur during the construction phase, including potential disruptions related to site preparation, infrastructure installation, and associated activities.

3.3.1 Construction

The construction phase of the Project is expected to take approximately 12 months. During the peak construction period, a workforce of up to approximately 150 personnel will be required onsite.

Minor earthworks would be required for the preparation of the site, including minimal site levelling, laying of access track and site drainage works. Due to the relatively flat terrain of the Project Area, minimal site preparation and civil works are anticipated prior to construction. The site office components will largely be built off-site and transported to the site in modulated sections. Construction on-site will be limited to the unloading and joining together of the modulated sections and trenching of electrical and control cabling to the electricity grid and control room. Construction activities are planned to occur during standard construction hours.

3.3.2 Operation

The Project is expected to operate for a minimum of 30 years. During the operational phase of the Project, approximately 3 FTE roles will support the Project's operation will be required.

The primary activities conducted on site will include day-to-day routine operations, maintenance of infrastructure, and general site maintenance and security. Operation of the BESS will also likely be supported by local contractors for tasks such as repairs, minor works, weed/vegetation management, fencing, and cleaning.

The operational lifespan of the facility is expected to be 30 to 50 years, depending on the nature of battery technology and energy markets.

3.3.3 End of Life

After the initial operating period, a decision will be made to either decommission or re-power the facility, subject to approval requirements.

If the Project is to be decommissioned, all infrastructure shall be removed from site, including buried (cable) infrastructure) and the site will be rehabilitated to return to its existing land capability. The disposal and recycling of project infrastructure will be completed in accordance with contemporary waste management legislation and practices at the time of decommissioning. As far as possible, efforts will be made to reduce wastes disposed to landfill, in line with best practice sustainability principles.

Alternatively, the Project may be upgraded with new Battery technology. If upgrading the Project is agreed, an appropriate stakeholder consultation process will be undertaken, and all necessary approvals will be sought and aligned with relevant legislation at such time.

3.4 Estimated Development Cost

The Project would have an estimated capital investment more than $30 million, identifying the Project as a State Significant Development under Part 4 of the EP&A Act.

A quantity surveyor's report would be prepared during the EIS process as part of the Project, which would confirm the Estimated Development Cost (EDC).

3.5 Subdivision

Engagements with TransGrid will be undertaken with respect to how the switchyard infrastructure is to be owned and operated. The area of land to be subdivided at the switchyard site is yet to be finalised; however initial plans contemplate a location on the southeastern boundary (Lot 163 on Deposit Plan 597065).

The land is zoned RU1 Primary Production with a minimum lot size of 80 ha therefore any proposed subdivision will require the approval of the Minster for Planning under the provisions of section 4.38 of the EP&A Act.

When land is leased from a landowner and the lease affects part of a lot or lots in a current plan, a subdivision under s.7A *Conveyancing Act 1919* (formerly s.327AA *Local Government Act 1919*, which is now repealed) is required when the total of the original term of the lease, together with any option for renewal, is more than five years. When the lease affects the whole lot in a current plan, the body of the lease identifies the area by lot and DP number with a subdivision not required.

As the Project will be executed via an option to purchase arrangement, subdivision for the purpose of the internal substation and battery facility may be required. An easement may be created by means of an appropriate dealing registered in the NSW Land Registry Service or by the inclusion in a Section 88B instrument lodged with a new deposited plan.

3.6 Alternatives to the Project

3.6.1 Alternative Sites

The chosen Project Area is highly suitable for a BESS due to its proximity to existing infrastructure, including road and transmission networks, the suitability of the land when environmental factors such as native vegetation, water courses and topography are considered.

After considering the above and other alternatives that offer viable capacity and available access to the transmission network, it was concluded that the proposed Project Area remains most suitable.

Edify has also reviewed the solar generation potential of many areas in NSW using a combination of computer modelling and analysis, on the ground surveying and observation, and experience of Edify in successfully developing projects in NSW and across Australia. The site was selected because it provides the optimal combination of:

- Low environmental constraints: the Project Area has been previously cleared of vegetation and is predominantly used for grazing and cropping, minimizing environmental impacts
- Favourable topography: the level terrain ensures cost-effective construction and ease of infrastructure development
- Suitable planning context: the Project Area aligns with local and state planning requirements, facilitating approvals and compliance

- Strategic road access: the Project Area is conveniently located near existing road networks, ensuring efficient transport and logistics
- Proximity to the transmission network: the Project Area has direct access to the grid, reducing costs and impacts associated with transmission connections
- Available grid capacity: the Project Area has been assessed to have sufficient capacity to support the Project.

The site is of a scale that allows for flexibility in design, allowing Edify to avoid ecological and other constraints that may be identified during the EIS process. Additional refinements to the Project layout will be assessed in the EIS process to further mitigate any potential constraints.

3.6.2 Alternative Technologies

Battery technology was selected over mechanical, thermal, or physical storage methods because it enables modular installation without major infrastructure or specialised landform features. Batteries also generally have lower weight and physical volume, and better scalability compared to other technologies.

3.6.3 The 'Do Nothing' Option

Not proceeding with the Project would forgo the benefits of the Project, resulting in:

- The loss of an energy storage solution that would enhance grid reliability and stability
- The loss of a system that supports renewable energy integration and further assists the Australian and NSW Governments in reaching their targets
- The loss of additional electricity supply support for the grid, reducing pressure on existing infrastructure mainly at peak time
- The loss of social and economic benefits, including direct and indirect employment opportunities.

While the 'do nothing' option would avoid any potential impact, the likelihood of significant negative consequences is considered low. The benefits of the Project are deemed to outweigh any potential impacts while contributing to ecologically sustainable development. Additionally, the Project would bring broader community advantages, including improving the efficiency of the electricity supply and transmission network. It also has the potential to reduce costs for consumers, align with national and state energy goals, and foster increased competition in the electricity market. Moreover, it would contribute to reducing greenhouse gas emissions by supporting the transition away from fossil fuel-based power generation.

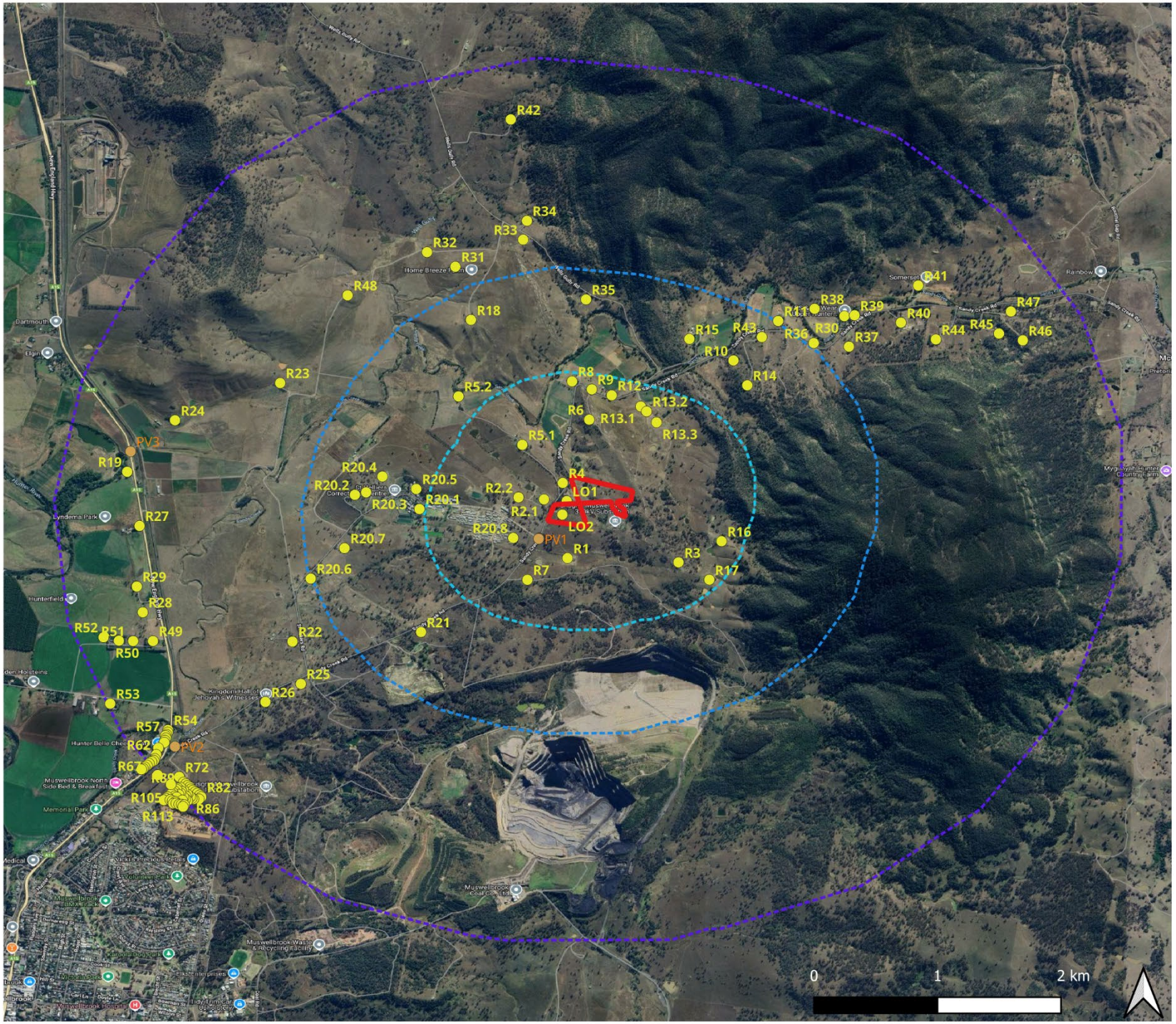


Figure 9: Project Area in Relation to Nearby Receivers

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

4 Statutory Context

The relevant statutory requirements for the Project are summarised in **Table 6**. This table has been set out in accordance with the *State Significant Development Guidelines - Preparing a Scoping Report (Appendix A)* and *State Significant Development - preparing an environmental impact statement (Appendix B)* to the state significant development guidelines (DPIE, 2022) (EIS Guidelines). The following matters are considered:

- Power to grant consent (i.e., approval pathway)
- Permissibility
- Other approvals consistent with the Project
- Commonwealth approvals
- Approvals not required (pursuant to Section 4.41 of the EP&A Act), and
- Mandatory matters for consideration.

Table 6: Statutory Requirements

Approval	Requirement
Power to grant consent	
EP&A Act State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP)	The EP&A Act is the key environmental legislation in NSW that governs the planning approval process for developments. Under Section 4.15 of the Act, when assessing SSD, consent authorities must consider factors outlined in the relevant environmental planning instruments (EPIs), such as State Environmental Planning Policies (SEPPs) and LEPs. The authority must take these into account to determine whether the development should proceed. Section 4.36(2) of the EP&A Act states that: • "A State environmental planning policy may declare any development, or any class or description of development, to be State significant development." Under Clause 20 of Schedule 1 of the Planning Systems SEPP, development for electricity generating works or co-generation, including projects using gas, coal, biofuel, waste, hydro, wave, solar, or wind power, qualifies as SSD if: • "has an estimated development cost of more than $30 million" Given that the Project is an electricity storage facility with an estimated EDC of more than $30 million, it meets the criteria outlined in Clause 20 of the Planning Systems SEPP. As such, the Project is classified as SSD under Section 4.7 of the EP&A Act. This classification triggers the relevant assessment and approval processes for SSD, ensuring that the Project undergoes a thorough evaluation, including environmental assessments and public consultation. Section 4.5(a) of the EP&A Act outlines the consent authority for SSDs. For SSD, the Independent Planning Commission (IPC) is the consent authority, unless the development is of a type that is specifically assigned to the

Approval	Requirement
	Minister. The IPC becomes the consent authority when certain conditions are met, as outlined in Clause 2.7 of the Planning Systems SEPP. These conditions include: • The local council objects to the development in accordance with the mandatory community participation requirements in Schedule 1 of the Act • At least 50 submissions (excluding those from the council) object to the development as per the community participation rules • The development application involves a person who has disclosed a reportable political donation under Section 10.4 of the Act If none of these criteria are triggered, the DPE would determine the SSD application on behalf of the Minister.
Permissibility	
State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) Muswellbrook LEP	The permissibility of the Project is determined by the T&I SEPP. Under Clause 2.36(1) of the T&I SEPP, electricity generating works can be carried out with development consent on land within prescribed rural, industrial, or special use zones. The Project Area is zoned RU1 - Primary Production under the Muswellbrook LEP, which is a prescribed rural zone, making the Project permissible with consent as per Clause 2.36(1) of the T&I SEPP. Additionally, Clause 2.35 of the T&I SEPP defines the Project as 'electricity generating works', which includes both electricity generation and electricity storage. Since the Project falls within the criteria of Clause 2.36(1)(b), it is permissible with consent on land within the RU1 zone, as it is classified as a prescribed rural zone under the SEPP.
Other State and Environmental Planning Policies that may be relevant	
SEPP (Resilience and Hazards) 2021 (Resilience and Hazards SEPP)	Chapter 3 of the Resilience and Hazards SEPP regulates hazardous and offensive developments. Its key objective is to ensure that consent authorities have sufficient information to assess whether a proposed development is hazardous or offensive and to impose conditions that mitigate potential adverse impacts. A preliminary risk screening assessment will be conducted in accordance with the *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* (Department of Planning, 2011). If this screening identifies the Project as potentially hazardous, a Preliminary Hazard Analysis (PHA) will be prepared in line with relevant Hazardous Industry Planning Advisory Papers to further evaluate risks and necessary mitigation measures.
Electricity Infrastructure Investment Act (2020) (EII Act)	The Project Area is within the Hunter Central Coast REZ. The Hunter-Central Coast REZ was formally declared by the Minister for Energy under Section 19(1) of the NSW *EII Act* on 9 December 2022. The Project aligns with the NSW and Commonwealth Government's objective for energy security and reliability and emissions reductions and

Approval	Requirement
	will contribute to the continued growth of renewable energy generation and storage capacity in the Hunter-Central Coast REZ.
Other approvals consistent with the Project	
Overview	Sections 4.41 and 4.42 of the EP&A Act outlines that the approvals listed below cannot be refused if necessary for carrying out an approved SSD and are to be consistent with the terms of the development consent for the SSD.
Fisheries Management Act 1994	A permit under the *Fisheries Management Act 1994* to block fish passage or dredge or carry out reclamation work on water land will not be required pursuant to Section 4.41 of the EP&A Act.
Heritage Act 1977	An approval under Part 4, or an excavation permit under Section 139, of the *Heritage Act 1977* will not be required pursuant to Section 4.41 of the EP&A Act. There are no listed heritage items within the Project Area.
National Parks and Wildlife Act 1979	An Aboriginal heritage impact permit under Section 90 of the *National Parks and Wildlife Act 1974* will not be required pursuant to Section 4.41 of the EP&A Act. There is potential for Aboriginal sites to occur within the Project Area. Any Aboriginal heritage sites identified within the Project Area will be avoided as far as practicable through the design process.
Rural Fires Act 1997	A bushfire safety authority under Section 100B of the *Rural Fires Act 1997* will not be required pursuant to Section 4.41 of the EP&A Act. However, a bushfire assessment in accordance with NSW Rural Fire Service *Planning for Bushfire Protection 2019* will be carried out to inform the EIS.
Water Management Act 2000	A water use approval under Section 89, a water management work approval under Section 90 or an activity approval (other than an aquifer interference approval) under Section 91 of the *Water Management Act 2000* pursuant to Section 4.41 of the EP&A Act, or an aquaculture permit under Section 144 pursuant to Section 4.42 of the EP&A Act. Any works near or within the watercourse on the northern boundary of the Impact Area will be carried out in accordance with DPIE's various guidelines for controlled activities.
Coal Mine Subsidence Compensation Act 2017	Approval under section 22 for undertaking development within a Mine Subsidence District (MSD) pursuant to Section 4.42 of the EP&A Act. The Project sits within the Muswellbrook Mine Subsidence District. Section 21 of the Act provides for certain development in an MSD to require approval (under section 22). Therefore, under Part 3 of the *Mine Subsidence Compensation Act 2017* the Project will require approval.

Approval	Requirement
Protection of the Environment Operations Act 1997	Section 48 of the *Protection of the Environment Operations Act 1997* requires an environment protection licence (EPL) to undertake scheduled activities at any premises. Scheduled activities are defined in Schedule 1 of the *Protection of the Environment Operations Act 1997* and include the following premise-based activities that apply to the Project: "17 Electricity generation (1) ...general electricity works, meaning the generation of electricity by means of electricity plant that, wherever situated, is based on, or uses, any energy source other than wind power or solar power. (2) Each activity referred to in Column 1 of the Table to this clause is declared to be a scheduled activity if it meets the criteria set out in Column 2 of that Table." The table referred to in Schedule 1, Clause 17 specifies 'general electricity works' with capacity to generate more than 30 megawatts of electrical power'. The Project will have a capacity that is greater than 30 MW and will therefore require an EPL.
Roads Act 1993	Under Section 138 or Part 9, Division 3 of the *Roads Act 1993*, a person must not undertake any works that impact on a road, including connecting a road (whether public or private) to a classified road, without approval of the relevant authority, being either Transport for NSW or local council, depending upon the classification of the road. The interaction of the Project with the local and regional road network will be addressed in the EIS.
Pipelines Act 1967	The *Pipeline Act 1967* regulates the construction, operation, and licensing of pipelines in NSW. As the Project does not involve the construction or operation of water pipelines, no licensing will be required.
Commonwealth approvals	
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	The EPBC Act aims to protect matters of national environmental significance (MNES). If an action will, or is likely to, have a significant impact on any MNES, it is deemed to be a 'controlled action' and requires approval from the Commonwealth Environment Minister or the Minister's delegate. A search of the Commonwealth Protected Matters Search Tool indicates: • World Heritage properties – Not identified within the vicinity of the Project Area • National Heritage places – Not identified within the vicinity of the Project Area • Wetlands of international importance (listed under the Ramsar Convention) – Not identified within the vicinity of the Project Area • Listed threatened species and ecological communities – Not identified within the vicinity of the Project Area

Approval	Requirement
	• Migratory species protected under international agreements – There are migratory species listed under the EPBC Act which are known or predicted to occur within the vicinity of the Project Area. • Nuclear actions (including uranium mines) - The Project would not constitute a nuclear action • Commonwealth marine areas – The Project would not affect any Commonwealth marine areas • The Great Barrier Reef Marine Park – The Project would not affect the Great Barrier Reef Marine Park • A water resource, in relation to coal seam gas development and large coal mining development – The Project would not constitute these types of developments.
Native Title Act 1993	The Commonwealth *Native Title Act 1993* recognises and protects native title rights in Australia. It allows a native title determination application (native title claim) to be made for land or waters where native title has not been validly extinguished, for example, extinguished by the grant of freehold title to land. Claimants whose native title claims have been registered have the right to negotiate about some future acts, including mining and granting of a mining lease over the land covered by their native title claim. Where a native title claim is not registered, a development can proceed through mediation and determination processes, though claimants will not be able to participate in future act negotiations. A search of the National Native Title Tribunal website (NNTT, 2018) indicates no native title claims, land use agreements, applications, or determinations within the Project Area.
Other NSW approvals	
Water Management Act 2000	A water access licence under section 56 may be required for extraction of water required for the Project, this will be assessed in the EIS phase.
Conveyancing Act 1919	Section 23G of the Conveyancing Act may also apply if subdivision for the purpose of construction, operation, and maintenance of a substation is required. An easement established under section 88B is likely to be required for the connection to the TransGrid substation.
Mandatory considerations - Considerations under other legislations	
Environmental Planning and Assessment Regulation 2021 (EP&A Reg)	Section 190 of the EP&A Reg provides the requirements for an EIS. These requirements will be considered in the EIS phase of the Project.

Approval	Requirement
Section 1.3 of the EP&A Act	Relevant objectives of the EP&A Act are: (a) to promote the social and economic welfare of the community and a better environment by the proper management, development, and conservation of the State's natural and other resources, (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental, and social considerations in decision-making about environmental planning and assessment, (c) to promote the orderly and economic use and development of land, (d) to promote the delivery and maintenance of affordable housing, (e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities, and their habitats, (f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage), (g) to promote good design and amenity of the built environment, (h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants, (i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, (j) to provide increased opportunity for community participation in environmental planning and assessment. The above will all be considered in the EIS.
Section 4.15 of the EP&A Act	Pursuant to Section 4.15 of the EP&A Act the consent authority must consider the following relevant matters for consideration: • Environmental planning instruments for the Project including: – Planning Systems SEPP – T&I SEPP – Muswellbrook LEP – Other SEPPs as relevant to the Project • Relevant development control plans for the Project including: – Muswellbrook Development Control Plan (DCP) 2009[3]

[3] Development Control Plan : Muswellbrook Shire Council (nsw.gov.au)

Approval	Requirement
	• Likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality • The suitability of the site for the development • Planning agreements and statutory regulations • Any submissions made in accordance with the EP&A Act or the regulations • Public interest. The above will all be considered in the EIS.

5 Community Engagement

Edify is a long-term owner and operator of renewable energy projects. This makes an important difference in the community engagement approach since Edify is establishing relationships with communities during the development phase that will endure for the lifetime of the projects.

Community and stakeholder consultation will be integral to the Project. Edify has begun consultation with a wide range of relevant Local Government and State government agencies, neighbours, community groups and other interested parties.

In accordance with the NSW DPE Social Impact Assessment (SIA) Guidelines (DPE, 2023), Edify has conducted the first phase of the SIA. This involved SIA scoping and initial assessment, as well as refining and planning for further engagements with local stakeholders. The SIA Worksheet is provided in **Appendix B**.

5.1 Community Engagement Plan

Edify has prepared a Community Consultation and Engagement Plan (CCEP) during early phases of the Project to provide a framework to further engage with the community and stakeholders about the Project and ensure opportunities to provide input into the assessment and development process are understood. The CCEP is aligned with the SIA Guidelines and the Undertaking Engagement Guidelines for State Significant Projects Stakeholders (DPHI, 2024) and is provided in **Appendix D**.

The primary objectives of the CCEP include:

- Transparent communication: providing clear, timely information about the Project, ensuring transparency in decision-making, and keeping stakeholders informed.
- Stakeholder engagement: actively consulting with communities, indigenous groups, and agencies to capture concerns and diverse perspectives.
- Managing social impacts: identifying potential social impacts on infrastructure, housing, and employment while incorporating community feedback into mitigation strategies.
- Inclusivity and accessibility: ensuring engagement is culturally appropriate and accessible to all.
- Building trust: maintaining long-term relationships with communities through continuous engagement, feedback mechanisms, and demonstrating responsiveness to concerns.
- Regulatory compliance: meeting NSW planning requirements by documenting engagement efforts and ensuring alignment with guidelines.

The CCEP identified stakeholders as those potentially being impacted by the Project or having an interest in the Project itself. The CCEP will set out the Project's community engagement approach and minimum requirements with interested parties including representative bodies. The key stakeholders identified or anticipated to be affected by the Project include:

- Landowners (associated and non-associated)
- Local community and community groups
- Local businesses
- Aboriginal community and agencies
- Infrastructure owners
- Muswellbrook Council
- Government agencies

As the CCEP is implemented, the following activities will occur:

- Keep the residents and broader community informed in all stages of the Project through media avenues including advertisements in local radio and newspaper.
- Face to face meetings with adjacent landholders, stakeholders and residents as required.
- A Project website that will be updated at each Project milestone and email address to inform the broader community.
- Preparation and dissemination of a feedback form to better understand the community's sentiment toward battery storage and the development of the Project. This will be made available at meetings and on Edify's Project website.
- Hold an information session during the development stages providing access to technical studies and Project information.
- Develop and implement a benefit sharing scheme in consultation with the community and stakeholders.
- Establishment of a register to record contact with stakeholders including potentially affected landholders.

Measures to reduce adverse impacts and promote positive impacts would be identified in the EIS and appropriate management plans developed for the Project. Agency consultation would also take place in accordance with any requirements of the SEARs.

5.2 Aboriginal Community Consultation

Edify Energy acknowledges the Project area incorporates the land of the Wonnarua People as the traditional owners of the lands encompassing Sandy Creek Project Area and the broader vicinity where the Project is situated, and as such will be inviting the Wonnarua people to participate in and be an integral part of the Aboriginal Cultural Heritage Assessment (ACHA) for the Project.

The NSW DPHI acknowledges that Aboriginal people are the primary determinants of the significance of their heritage. It is acknowledged that Aboriginal people should be involved in the Aboriginal heritage planning process and are the primary source of information about the value of their heritage. This includes the best management and conservation measures for Aboriginal heritage and the way in which their cultural information (particularly sensitive information) is used (OEH, 2011:2). Edify considers that proactive engagement and consultation with the local Aboriginal community is regarded as an integral part of the process of investigating and assessing Aboriginal cultural heritage.

As the Project's SEARs are being requested to inform the forthcoming EIS process, consultation with the Aboriginal community will be commenced under the due legislative process and accordingly undertaken as part of EIS studies. Aboriginal community consultation undertaken for this project will follow the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010) (Consultation Requirements). The Consultation Requirements outline a four stage Aboriginal consultation process and mandate specific timeframes for each stage.

5.3 Consultation to date

5.3.1 Landowners

Adjacent landowners and those located within 2km of the Project were initially contacted on 20 March 2025 via registered mail. The mail included Project specific materials such as an introductory letter, concept site map and FAQ's, to inform them about the Project and offer them the possibility to meet Edify's Project team. Edify has initially provided a Q&A sheet to community inquiries by drawing from our extensive experience in previous projects, focusing on key discussion points such as:

- Visual amenity changes to the site
- Fragmentation and isolation of agricultural land
- Site access roads and their usage
- Insurances and neighbouring landholders
- Alternative sites and other potential projects occurring in the area.

On 22 April 2025, additional follow-up emails were sent to directly adjacent landowners, including R1 and R20 (St Heliers Correctional Centre), introducing the Project Manager and offering to discuss the Project, as well as any questions or concerns they may have. Following this, ongoing engagement is being undertaken through follow-up phone calls and emails with neighbouring landholders.

Edify has set up a dedicated email Sandycreek@edifyenergy.com for the Project and will set up a Project website where all public documents will be available.

Edify's Project Development Manager plans to conduct site visits starting in H2 2025 and continuing throughout the Project's proposed timeline into 2026. During these visits, the Edify will aim to meet with most of the stakeholders and any additional individuals who are available for consultation.

During the EIS phase, Edify plans to meet with all neighbours within 4km of the Project and will maintain regular emails, calls, and letters with these stakeholders. Furthermore, Edify will identify and maintain regular contact with any non-associated receiver or community group that wishes to be updated on a regular basis. All stakeholders will be encouraged to visit Edify's dedicated project website, to receive regular updates once the website is established during the EIS phase.

Refer to **Appendix D** stakeholders consultation plan and records.

5.3.2 Wanaruah Local Aboriginal Land Council (LALC) and other representative Aboriginal parties

In advance of the submission of this Scoping Report, Edify Energy have consulted with the Wanaruah LALC and provided information on the proposed Project.

An initial email was sent on 20 March 2025 to introduce the Edify Development Manager and the Project, Edify will follow up with regular Project updates. Details of engagement are provided in **Appendix D**.

5.3.3 Infrastructure Owners

5.3.3.1 TransGrid

Edify will liaise with TransGrid once connection studies commence.

5.3.3.2 Australian Rail Track Corporation (ARTC)

Edify will liaise with ARTC once SEARs are received, most notable for the required railway level crossing on Sandy Creek Road

5.3.4 Muswellbrook Council

Edify have initially reached out to Muswellbrook Council (email 3rd July 2024) to begin consultation for the Project. As the project progresses, meetings will be established with Council representatives as required, to provide Council with an update on the Project, and gather feedback on the initial planning efforts that support this Scoping Report. Edify will continue to share correspondence with Council as the planning process matures.

On 12 December 2024, Edify met with Muswellbrook Council representatives, including the Director of Planning and the Environmental Planning Officer, to discuss Edify's proposed project and gather initial feedback. Key discussion points include:

- Council provided a copy of its Benefit Sharing Guidelines and encouraged Edify to explore opportunities tailored to local community needs.
- Limited accommodation is currently available in the region, which may impact construction workforce planning.
- A known safety issue with a right-hand turn off Sandy Creek Road was highlighted, previously raised in relation to the Muswellbrook Solar Farm.
- Council recommended proactive and transparent engagement with the local community.
- The area has a high proportion of shift-working mine employees; engagement strategies should consider timing and accessibility to ensure meaningful participation.

Edify will continue discussions with Councils SSD committee members as the project progresses.

5.3.5 State and Federal Members

In conjunction with community member engagements, a letter of information was sent on to the office of the Federal Member for the Hunter Electorate (Dan Repacholi) as well as the Member of Parliament of NSW for the Hunter electorate (Mr (Dave) David Robert Layzll)) on 20 March 2025 via registered mail (see **Appendix D**).

5.4 Future Engagement

Future engagement for the Project will be guided by the principles outlined in the SIA Guidelines and Undertaking Engagement Guidelines for State Significant Projects and it will be consistent with the International Association of Public Participation (IAP2) guidelines, ensuring that community input is considered throughout the Project's development. The primary objective of this engagement is to ensure transparent communication, address community concerns, and involve stakeholders throughout the Project's lifecycle. All engagement activities will be recorded at Edify's Community Engagement Register.

The key engagement actions to be undertaken for the Project include:

- FAQs: A comprehensive Frequently Asked Questions (FAQs) will be developed and made available on the Project website and during in-person events. The FAQs will provide clear, consistent answers to common queries about the Project, its potential impacts, and its benefits. This will help ensure that the community has access to important information and can easily find answers to their questions without having to wait for a personal response.

- Project website: A dedicated website will be established to provide up-to-date information on the Project, including key milestones, expected impacts, and community resources. Regular updates will be posted to ensure the community remains informed.

- Meetings: One-on-one consultations with landholders directly affected by the Project will be conducted to identify concerns, using phone calls, emails, and in-person meetings. Meetings will also be held with government agencies, utilities, industry groups, and Aboriginal stakeholders to ensure collaborative input on environmental and cultural heritage assessments.

- Letterbox drop: A key part of ongoing community engagement will involve letterbox drops to nearby stakeholders. These will ensure that community members, especially those without regular access to online information, are kept informed of the Project's progress, upcoming milestones, and any

significant developments. Letterbox drops will occur at critical points during the Project to share updates, invite people to events (such as information sessions), and provide information on how the community can participate in the engagement process.

- Media: Media releases will be issued to inform the public about key developments and milestones in the Project. These may include local newspapers, radio stations, and other media outlets and will be designed to provide updates on the Project's progress, outline important upcoming activities, and address any community concerns or questions.
- Drop in and community information sessions: These sessions will be held to engage local community, landholders, and interest groups. These will provide details on the Project, particularly anticipated impacts of the Project based on technical assessments and construction phase.
- Fieldwork: Consultation with Registered Aboriginal Parties (RAPs) and on-site surveys will be undertaken to gather information on Aboriginal cultural values, ensuring that these values are incorporated into the Project planning. This collaborative approach will help ensure that Aboriginal heritage is respected and preserved throughout the process.
- Feedback Mechanisms: Opportunities will be provided for the community to submit feedback with clear processes for how this feedback will influence the Project. Mechanisms may include email, phone calls, online platforms, meetings and sessions.

Table 7 summarises Edify's proposed engagement actions for the different phases of the Project.

Table 7: Consultation and Community Engagement Guide

Phase	Actions/Tools
Pre-lodgement and development of EIS	FAQ's Project Website Meetings – one on one Presentations Project email address Letterbox drops Media Fieldwork Feedback collation and mitigation options
EIS public exhibition and determination	FAQ's Drop-in session(s) Letters Letterbox drop status update Community Information Sessions
Post approval (assuming approval granted)	Letters Letterbox drop status update Local Contractor Presentation and EOI Register
Construction and commissioning	Local consultation with landowners and neighbours Local Contractor Presentation and EOI Register Local Council Presentations FAQ's Drop-in session(s)

Phase	Actions/Tools
	Letters Letterbox drop status update Support to landowner team

The effectiveness of the engagement activities will be regularly monitored and adjusted based on community feedback. The engagement process will be reviewed to ensure that concerns are being addressed and that stakeholders remain involved in decision-making. This will include evaluating participation rates, the quality of feedback, and the impact of consultations on the Project's design.

This ongoing and adaptive engagement process will ensure that the community and stakeholders are well-informed, involved, and their concerns are reflected in the development of the Project.

6 Preliminary Environmental Assessment

A preliminary environmental assessment has been conducted in accordance with Scoping Report Guidelines (DPIE, 2021) and Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2022) to assist in the identification of key environmental matters that would require detailed assessment within the EIS. Risks were identified for both the construction and operation phase of the Project and analysed in relation to their possible consequence and likelihood of occurrence. From this analysis, some environmental matters were deemed to be key issues on the basis that they had the potential, without suitable mitigation, to have a significant impact on the environment.

The assessment is based on a desktop review to identify potential high-level constraints and major risks to the Project. A preliminary constraints map is provided in Figure 11.

This will be used to guide further detailed investigations and ultimately the site infrastructure layout. Constraints mapping will also be refined based on these investigations prior to submission of the EIS.

A summary of the key environmental, social and economic impacts is provided in following Sections. The intent of the discussion is to demonstrate an understanding of the issues that require further environmental assessment and likely mitigation measures for these key issues.

Table 8 summarizes each matter and its proposed level of assessment. Detailed assessments will include environmental aspects that present a potential higher level of sensitivity to the development, and other aspects which require detailed assessment, but are not considered to pose a higher level of sensitivity.

Table 8: Consultation and Community Engagement Guide

EIS proposed level of assessment	Environmental, social and economic matters
Detailed	Biodiversity
	Aboriginal Heritage
	Traffic and Transport
	Visual and Landscape
	Noise and Vibration
	Hazards and Risks
	Social
Standard	Historic Heritage
	Agriculture, Land and Soils
	Air Quality
	Waste Management

6.1 Biodiversity

6.1.1 Existing Environment

A Biodiversity Scoping Report (BSR) was undertaken by RPS AAP Consulting Pty Ltd (RPS) for the Project to inform this report and is provided in **Appendix B**. The BSR provides an overview of the vegetation and biodiversity values recorded within the Study Area, and an assessment of those impacts.

For the purposes of the BSR assessment the Study Area consists of the Project Area, the roadside survey areas and the easement area, covering a total area of 16.47 ha as shown in **Figure 11**. Where the roadside survey area consists of land within the existing road easement where potential vegetation trimming/clearing may occur, and the easement area is an indicative area for future transmission.

6.1.1.1 Landscape Context

Table 9 provides a summary of the landscape context for the Project. Key environmental considerations include the presence of regulated native vegetation, groundwater-dependent ecosystems, and mapped biodiversity values in nearby areas.

Table 9: Landscape Context of the Project Area

Aspect	Findings
IBRA Region/Subregion	Located on the boundary of the Hunter and Ellerston subregion of the NSW North Coast IBRA bioregion (*~5,924,130 ha*).
Mitchell Landscapes	Central Hunter Foothills Mitchell Landscape – undulating lowlands, steep hills, and rock outcrops. Elevation: 40–300m. Soil types: red-brown/yellow brown harsh texture-contrast soils. Vegetation: woodlands/open forest with species like Spotted gum, Forest red gum, Narrow-leaved ironbark, Red ironbark, White box, Slaty gum, Rough-barked apple.
Soil Landscapes	Roxburgh: Undulating hills, podzolic and lithosol soils, woodland vegetation, moderate sheet erosion. Dartbrook: Smooth undulating rises, brown clays, black earths, woodland extensively cleared for grazing.
Geological Features	Elevation of approximately 200 m above sea level (ASL), rising to 220 m ASL in the northeast. Located in the New England Fold Belt, no cliffs or caves present. Potential cliff habitat is about 1.3 km east in McCully's Gap.
Connectivity	Limited connected habitat within Project Area. Bells Mountain (east) & Colonel Mountain (northeast) provide connected woodland. Scattered paddock trees enable bird/glider movement, but limited connectivity for frogs/small reptiles due to past agriculture and infrastructure development.
Hydrology & Wetlands	Unnamed tributary of Sandy Creek flows north to Hunter River. No mapped wetlands within the Project Area. Closest wetland: Lake Liddell (14.5 km southwest). No Key Fish Habitat (KFH) but Central Rivers KFH about 580 m downstream.

Aspect	Findings
Groundwater Dependent Ecosystems (GDEs)	Low potential for Terrestrial Groundwater Dependent Ecosystems.
Biodiversity Values	Project Area not mapped under NSW Biodiversity Values (BV) Map, but Sandy Creek (about 580 m to the northwest) has BV due to threatened species/habitats.
Areas of Outstanding Biodiversity Value (AOBV)	No registered AOBVs within the Project Area. No expected impacts to NSW's four AOBVs (*Gould's Petrel, Little Penguin, Mitchell's Rainforest Snail, Wollemi Pine*).
State Environmental Planning Policy (SEPP) 2021	Muswellbrook LGA falls under Chapter 3: Koala Habitat Protection 2020. Koala-use trees found in Project Area: Eucalyptus crebra, Eucalyptus moluccana, Angophora floribunda.
Native Vegetation Regulatory Map	Project Area includes Category 1 (Exempt land - applies to land cleared before 1990) and Category 2 (Regulated land - remains partially cleared but retains native vegetation), as shown in **Figure 10.** Clearing is restricted in Category 2 areas unless proven otherwise. No further vegetation clearing since 1990.

Figure 10: Draft Native Vegetation Regulatory Mapping

6.1.1.2 Plant Community Types

The BSR identified one Plant Community Type (PCT) within the Study Area present in two conditions states:

- 3.16 ha of PCT 3431: Central Hunter Ironbark Grassy Woodland with a vegetation integrity of 41.3:
  - 0.44 ha (BC Act Listed) - Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions Endangered Ecological Community (EEC) - Zone 1 – Moderate condition which is present along the roadside survey area and contains all stratum
  - 2.72 ha (EPBC Act Listed) - Central Hunter Valley eucalypt forest and woodland Critically Endangered Ecological Community (CEEC) - Zone 2 – Poor condition which is present in the subject lots typified by groups of paddock trees and lacking midstory vegetation.

The remaining 19.53 ha of the Study Area was cleared of vegetation presenting a vegetation integrity of 14 and does not contain any identifiable PCTs.

6.1.1.3 Threatened Ecological Communities

Two Threatened Ecological Communities (TECs) were identified to be associated with the PCT 3431 within the Study Area:

- 3.16 ha (BC Act listed) - Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions – Endangered Ecological Community (EEC)
- 1.77 ha (EPBC Act listed) - Central Hunter Valley eucalypt forest and woodland – Critically Endangered Ecological Community (CEEC).

6.1.1.4 Flora and Fauna

Field surveys were conducted within the Study Area on 5th February 2025 by RPS, recording:

- Flora:
  - 47 species identified, including 16 exotic or naturalised species
  - No threatened flora species were opportunistically identified
- Fauna:
  - 20 species recorded, predominantly bird species, including 1 introduced species
  - No threatened fauna species were opportunistically identified.

A full list of fauna and flora species identified is provided in Appendix B of the BSR (refer **Appendix B)**.

6.1.1.5 Threatened Species

Database searches identified 90 threatened and/or migratory species with potential occurrence within a 10 km radius of the Study Area. Of these:

- 40 fauna species and 6 flora species were assessed as having a moderate or greater likelihood of occurrence (refer to Section 4.5 of **Appendix B**)
- No threatened flora or fauna species were recorded during opportunistic surveys. Key Habitat Features for Threatened Species includes hollow-bearing trees (suitable for hollow-dwelling bird species), flowering/seed-bearing trees (winter-flowering eucalyptus for foraging birds), rocky outcrops (sheltering habitat for reptile species), 1st and 2nd order streams (potential aquatic/microchiropteran bat habitat), decorticating bark (shelter for microchiropteran bats) and koala feed trees

Most of the Study Area has been recently grazed, providing degraded habitat for cryptic threatened flora species. However, the roadside survey area remains largely intact and offers high suitability for threatened flora species.

The Biodiversity Assessment Method (BAM) Calculator (NSW DCCEEW, 2024) identified:

- 29 ecosystem credit species associated with PCT 3431, including:
  - 21 bird species
  - 8 mammal species
- 23 species credit species associated with PCT 3431, including:
  - 4 threatened flora species
  - 19 threatened fauna species.

Additional threatened species records exist within the locality, and targeted surveys will be required (as per BAM) to confirm presence/absence within the Study Area.

6.1.1.6 Matters of National Environmental Significance

Table 11 summarises the Matters of National Environmental Significance (MNES) relevant to the Project.

Table 10: Matters of National Environmental Significance

MNES	Relevance to Project
World Heritage Properties	Not within proximity to a World Heritage Area.
National Heritage Places	Not within proximity to a National Heritage Place.
Wetlands of International Importance (Declared Ramsar Wetlands)	Not within proximity to a Declared Ramsar Wetland. The closest wetland is Hunter Estuary Wetlands, over 50 km from the Project Area.
The Great Barrier Reef Marine Park	Does not occur within or adjacent to the Project Area.
Commonwealth Marine Area	Not within proximity to a Commonwealth Marine Area.
Listed Threatened Ecological Communities (TEC)	One EPBC Act-listed TEC is associated with the PCT of the Project Area: - *Central Hunter Valley Eucalypt Forest and Woodland* (Critically Endangered Ecological Community - CEEC) (refer **Section 6.1.1.3**)
Listed Threatened and Migratory Species	11 EPBC Act-listed threatened & migratory species have habitats that *may occur* within the locality (refer Appendix A of BCR). Species with a moderate or greater likelihood of occurrence are present within the Study Area.

Legend

Study Area

Plant Community Types

PCT 0 - Cleared/ Disturbed

PCT 3431 - Central Hunter Ironbark Grassy Woodland (Zone 2 - Poor)

PCT 3431 - Central Hunter Ironbark Grassy Woodland (Zone 1 - Moderate)

Baselayers

Google Hybrid Satellite

Figure 11: Project Plant Community Types

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

6.1.2 Potential Impacts and Further Assessment

Direct impacts to biodiversity within the Study Area will be assessed within a BDAR during the EIS phase. The proposed vegetation clearing for the Project has the potential to affect 40 threatened fauna species and 6 threatened flora species, which have a moderate or higher likelihood of occurring in the Study Area.

The Project may also cause a range of indirect impacts to local ecological communities and species, including:

- Inadvertent impacts to adjacent habitat or vegetation
- Reduced viability of adjacent habitat due to edge effects
- Increased risk of starvation or exposure and loss of shade or shelter
- Loss of breeding habitat
- Removal and disturbance of rocks, including bush rock
- Erosion and sedimentation
- Air quality/dust emissions
- Weeds and pathogens and pest species.

Currently, the Project does not meet the criteria for a streamlined assessment under the BAM, and the full assessment will be required. If the total area of vegetation clearing is kept below 3 ha, the small area streamlined assessment module of the BAM would apply.

A formal biodiversity impact assessment, documented within a BDAR and adhering to the BAM 2020, will need to be completed for all impacted areas. This will include the necessary targeted field surveys to assess the full extent of the impact and identify mitigation strategies.

6.2 Aboriginal Heritage

6.2.1 Existing Environment

The Project area is within the traditional country of the Wonnarua people. The Wonnarua people (also spelled Wanaruah) are the traditional custodians of a vast region in New South Wales, covering the Upper Hunter Valley and surrounding areas. Their land extends from the Maitland area in the southeast to the Liverpool Ranges in the north, and westward towards the Great Dividing Range. The name *Wonnarua* is believed to mean “people of the hills and plains”, reflecting their deep connection to the diverse landscapes of the region.

For thousands of years, the Wonnarua people have maintained a strong spiritual and cultural connection to their land, which is rich in sacred sites, Dreaming stories, and traditional knowledge. Important natural landmarks, such as the Hunter River and the surrounding mountain ranges, hold deep spiritual significance and are linked to creation stories. One of the most significant Dreaming stories of the Wonnarua people is that of the Baime (Baiame), the Sky Father. Baiame is considered the creator of the land, animals, and laws of life. He is said to have formed sacred landscapes and given the Wonnarua their lores (laws), customs, and spiritual beliefs. Baiame’s resting place is believed to be the Baiame Cave, located near Milbrodale, which features ancient rock art depicting Baiame with outstretched arms (Wonnarua Nation Aboriginal Corporation, 2025).

The Wonnarua were skilled in firestick farming, which helped manage the land and encourage the growth of native plants and animals essential for survival. They also used bush medicine and traditional knowledge of flora and fauna for food, healing, and ceremonial purposes.

A search of the Aboriginal Heritage Information Management System (AHIMS) on 20 February 2025 identified 6 Aboriginal sites recorded in or near the Project Area (1km buffer). No Aboriginal places were declared in the Project Area.

Refer to AHIMs search results in **Appendix E**.

6.2.2 Aboriginal consultation

Edify has initially engaged with Wanaruah LALC and provided information on the proposed Project and introduced the Edify Project Manager and the Sandy Creek BESS site (refer **Appendix D**).

During the EIS phase, additional consultation with Aboriginal stakeholders would be undertaken in accordance with clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents provided by OEH/NSW Heritage. A summary of the consultation process includes:

1. Registration and initial consultation and registration of Aboriginal community members.
2. Review of survey methodology by Registered Aboriginal Parties (RAPs).
3. Completion of field work and reporting.
4. Review of report by RAPs.
5. Report finalisation.

6.2.3 Potential Impacts and Further Assessment

Landforms, vegetation, and soils over much of the Project site have been heavily disturbed by paddock levelling, grazing, and clearing for agriculture. This is likely to reduce the potential for Aboriginal heritage places of significance in the affected areas. It is noted that field assessment is required to confirm this and that any Aboriginal heritage sites, items, artefacts identified would be a moderate to high constraint, requiring impact mitigation.

Construction has the potential to disturb unknown sites of Aboriginal cultural heritage significance. Impacts during operation and decommissioning are expected to be minimal.

An Aboriginal cultural heritage assessment report (ACHAR) and associated stakeholder consultation will be completed as part of the EIS. This would include further consultation with the Wiradjuri people as well as any other relevant stakeholders in accordance with the *Aboriginal Cultural Heritage Requirements for Proponents* (DECC 2010). Should any Aboriginal heritage sites be identified that may be potentially affected by the Project, mitigation measures will be determined in accordance with the *Guide to Investigating, assessing, and reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011).

The required mitigation measures will be implemented during construction activities through a specific Cultural Heritage Management Plan (CHMP) as part of the Construction and Environmental Management Plan (CEMP) that would be prepared for the Project. Similarly, any ongoing management and mitigation measures would be implemented through an Operational Environmental Management Plan (OEMP).

6.3 Access, Traffic and Transport

6.3.1 Existing Environment

The Project will be accessed via the New England Highway, a State Road forming part of the inland Sydney-to-Brisbane road link. From there, vehicles will enter the site via Sandy Creek Road, a local municipal road extending northeast from the highway. Sandy Creek Road is undivided and unmarked, accommodating two-way traffic with speed limits transitioning from 60 km/h to 80 km/h and then 100 km/h near the Project Area.

Approximately 3.8 km southwest of the Project area, Sandy Creek Road crosses the Main Northern Rail Line via an active, signalised level crossing. This crossing is managed by the Australian Rail Track Corporation (ARTC) as the Rail Infrastructure Manager (RIM) on behalf of Transport for NSW (TfNSW).

As part of the EIS, technical studies will assess the suitability of Sandy Creek Road for site access, including the transport of equipment from key ports. These studies will help develop management measures to minimise environmental and traffic-related impacts. It is anticipated that large Project components, including BESS elements, will be delivered from the Port of Newcastle and transported by road to the Project Area.

6.3.2 Potential Impacts and Further Assessment

During construction there will be a temporary increase in traffic along Sandy Creek Road and New England Highway and surrounds as components are brought to site and construction workers travel to/from the site. This will indirectly lead to some increase in localised noise levels during the main construction period. Traffic management during construction will also need to consider activities during key agricultural activities such as harvesting periods, peak tourism seasons and the associated vehicle movements and their timing. In addition, site access will require the establishment of a new access track to accommodate the delivery of materials to site.

Traffic impacts during operations will be minimal, with approximately 3 full-time staff. Traffic is predicted to be limited to employee vehicle movements for full-time staff, plus a small number of vehicle movements associated with ongoing maintenance and associated activities performed by local contractors/consultants.

During the decommissioning phase, a temporary increase in construction traffic would be expected as infrastructure is removed.

A detailed TIA will be prepared as part of the EIS, implementing the SEARs requirements provided by DPHI, Muswellbrook Council and Transport for NSW. The TIA will identify the impacts and assess the significance of any impacts on the road network and community during construction, operation, and decommissioning phases. The TIA will also consider the requirement for road upgrades, including turn treatments for main access off Sandy Creek. The required mitigation measures would be implemented during construction and operational activities through implementation of a Traffic Management Plan (TMP) that would be prepared for the Project for each relevant phase.

6.4 Visual Amenity and Landscape Character

6.4.1 Existing Environment

The Project Area is located at an elevation of between around 191m Australian Height Datum (AHD) and 213m AHD, with a gradient sloping towards the northwest of the Project Area.

The Project is located near Bells Mountain and Colonel Mountain within the Muswellbrook LGA. Bells Mountain is approximately 1 km east of the Project, with a peak elevation of 690 m, while Colonel Mountain is about 1.9 km north, reaching 671 m at its peak. The Muswellbrook Coal Co. is situated approximately 1.4 km south of the Project. The TransGrid Muswellbrook 330 kV substation lies adjacent to the Project to the southeast, with a transmission line crossing the Project Area. St Helliers Correctional Centre is approx. 800m southwest of the Project and the Main Northern Rail Line is approx. 3.2 km west of the Project (refer **Figure 6)**.

There are 17 potentially sensitive receivers within 1 km of the Project Area, 15 potentially sensitive receivers between 1-2 km and 81 potentially sensitive receivers between 2-4 km (refer **Figure 9** and **Table 5**). The closest sensitive receiver (R4) is located approximately 76 m west of the Project Area.

6.4.1.1 Preliminary Assessment

The preliminary visual assessment stage is used to identify viewpoints that require a detailed assessment in stage 2. While there are no specific guidelines for BESS, the Preliminary Assessment Tools provided in the Technical Supplement – Landscape and Visual Impact Assessment, Large-Scale Solar Energy Guideline (NSW Department of Planning and Environment, 2022) were adopted for this assessment. This approach was selected to ensure that the visual impact of the Project was considered at a preliminary stage. The tools are designed to identify where community and landholder consultation should be focused, and to eliminate the need to assess viewpoints that are likely to experience very low impacts. The tools rely on quantitative data collected during the desktop assessment, including.

The methodology for the preliminary visual assessment, as outlined in the Technical Supplement, is as follows:

- Identify all viewpoints from public roads and rail lines within 2.5 km of the proposed development.
- Identify other public and private viewpoints within 4 km of the proposed development.
- Calculate the distance of each of these viewpoints from the nearest point of the proposed development.
- Determine the ‘relative height difference’ between the proposed development and each viewpoint.
- Plot each viewpoint on the Preliminary Assessment Tool
- Vertical Field of View (within Technical Supplement) to determine the indicative vertical field of view (as either 1,2,3 or 4+ degrees)
- Measure the worst-case horizontal field of view of the project from each viewpoint (not considering topography or vegetation)
- Compare the vertical and horizontal fields of view using the matrix in Table 1 of Technical Supplement, to determine whether detailed visual assessment of each viewpoint is required.

Edify conducted an initial evaluation of the visual impact of the Project, the outcome of this initial assessment is shown in Appendix G

6.4.1.2 Results of Preliminary Assessment

The Preliminary Assessment Tool – Vertical Field of View was utilized to determine non-associated dwellings and public viewpoints requiring detailed evaluation in the EIS while excluding those expected to experience minimal impact. This assessment assumed the Project Area as the maximum potential horizontal field of view from each viewpoint, disregarding topography and vegetation. Key factors influencing

the assessment included the distance between the Project and the viewpoint, variations in elevation, and the overall width of the Project.

Table 11 describes the outcomes of the preliminary visual assessment undertaken for all public and private (sensitive receivers) viewpoints within 4km of the Project Area, as outlined in Section 3.1 of the NSW Technical Supplement - Landscape and Visual Impact Assessment. Public Viewpoints (PV) PV1, PV2 and PV3 were selected at representative locations on public roads within the vicinity of the Project Area. Private viewpoints (R) are based on known residential locations. Based on topography alone, 8 non-associated receivers and 1 public viewpoint would theoretically have new views to any part of the Project and would require detailed assessment in the EIS phase.

Table 11: Preliminary Assessment of Public or Private Viewpoints

Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements	Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements
PV1	**1°**	**3°**	**Assessment required**	R36	0°	1°	No assessment required
PV2	0°	2°	No assessment required	R37	0°	1°	No assessment required
PV3	0°	2°	No assessment required	R38	0°	1°	No assessment required
R1	**0°**	**3°**	**Assessment required**	R39	0°	1°	No assessment required
R2.1	**0°**	**3°**	**Assessment required**	R40	0°	1°	No assessment required
R2.2	0°	1°	No assessment required	R41	0°	0°	No assessment required
R3	**0°**	**2°**	**Assessment required for all viewpoints except road/rail**	R42	0°	0°	No assessment required
R4	**0°**	**2°**	**Assessment required**	R43	0°	1°	No assessment required
R5.1	**0°**	**2°**	**Assessment required for all viewpoints except road/rail**	R44	0°	0°	No assessment required
R5.2	0°	1°	No assessment required	R45	0°	1°	No assessment required
R6	**0°**	**2°**	**Assessment required for all viewpoints except road/rail**	R46	0°	1°	No assessment required
R8	0°	1°	No assessment required	R47	0°	1°	No assessment required

Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements	Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements
R7	0°	1°	No assessment required	R48	0°	1°	No assessment required
R9	0°	2°	No assessment required	R49	0°	1°	No assessment required
R10	0°	2°	No assessment required	R50	0°	1°	No assessment required
R11	0°	3°	No assessment required	R51	0°	1°	No assessment required
R12	**0°**	**3°**	**Assessment required for all viewpoints except road/rail**	R52	0°	1°	No assessment required
R13.1	0°	1°	No assessment required	R53	0°	1°	No assessment required
R13.2	0°	1°	No assessment required	R54	0°	1°	No assessment required
R13.3	**0°**	**2°**	**Assessment required for all viewpoints except road/rail**	R55	0°	1°	No assessment required
R14	0°	2°	No assessment required	R56	0°	1°	No assessment required
R15	0°	1°	No assessment required	R57	0°	1°	No assessment required
R16	0°	1°	No assessment required	R58	0°	1°	No assessment required
R17	0°	1°	No assessment required	R59	0°	1°	No assessment required
R18	0°	1°	No assessment required	R60	0°	1°	No assessment required
R19	0°	1°	No assessment required	R61	0°	1°	No assessment required
R20.1	0°	1°	No assessment required	R62	0°	1°	No assessment required
R20.2	0°	1°	No assessment required	R63	0°	1°	No assessment required
R20.3	0°	1°	No assessment required	R64	0°	1°	No assessment required

Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements	Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements
R20.4	0°	1°	No assessment required	R65	0°	1°	No assessment required
R20.5	0°	2°	No assessment required	R66	0°	1°	No assessment required
R20.6	0°	1°	No assessment required	R71	0°	1°	No assessment required
R20.7	0°	1°	No assessment required	R72	0°	1°	No assessment required
R20.8	0°	1°	No assessment required	R73	0°	0°	No assessment required
R21	0°	1°	No assessment required	R74	0°	0°	No assessment required
R22	0°	1°	No assessment required	R75	0°	0°	No assessment required
R23	0°	1°	No assessment required	R76	0°	0°	No assessment required
R24	0°	1°	No assessment required	R77	0°	0°	No assessment required
R25	0°	1°	No assessment required	R78	0°	0°	No assessment required
R26	0°	0°	No assessment required	R79	0°	0°	No assessment required
R27	0°	0°	No assessment required	R80	0°	0°	No assessment required
R28	0°	1°	No assessment required	R81	0°	0°	No assessment required
R29	0°	1°	No assessment required	R82	0°	0°	No assessment required
R30	0°	1°	No assessment required	R83	0°	0°	No assessment required
R31	0°	0°	No assessment required	R84	0°	0°	No assessment required
R32	0°	1°	No assessment required	R85	0°	0°	No assessment required
R33	0°	1°	No assessment required	R86	0°	1°	No assessment required

Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements	Receiver	Horizontal Field of View	Vertical Field of View	Assessment Requirements
R34	0°	1°	No assessment required	R87	0°	1°	No assessment required
R35	0°	1°	No assessment required	R88	0°	0°	No assessment required

6.4.2 Potential Impacts and Further Assessment

The topography of the area and patches of vegetation would likely provide visual screening of the Project Area from most sensitive receivers and road users. The Project would be consistent with the existing substation and transmission line electrical infrastructure located in close proximity of the Project Area, which helps maintain the visual character of the area, ensuring that views are not significantly altered.

An assessment of the level of visual disturbance would be undertaken as part of the EIS. The EIS would also consider the potential for the BESS to affect local landscape character. Additional consultation with specific affected residences would be undertaken to identify the nature and significance of impacts and the need for mitigation measures.

A landscape and visual impact assessment, including photomontages and community consultation, would be prepared as part of the EIS to investigate visual impacts and mitigation options.

6.5 Noise

6.5.1 Existing Environment

Existing background noise levels within and surrounding the Project Area are likely to be low and typical of the rural setting. Sources of background noise would include vehicle use along Sandy Creek Road, in addition to equipment used on adjacent rural landholdings.

6.5.2 Potential Impacts and Further Assessment

There are 17 potentially sensitive receivers within 1 km of the Project Area, 15 potentially sensitive receivers between 1-2 km and 81 potentially sensitive receivers between 2-4 km (refer **Figure 9** and **Table 5**). The closest sensitive receiver (R4) is located approximately 76 m west of the Project Area.

Noise impacts, for the most part, only occur during construction (generated by construction vehicles and machinery), with minimal noise likely to be generated during operation. Edify and the construction contractor will adopt best practice mitigation measures during construction such as standard work hours and regular vehicle and machinery maintenance to reduce the risk of adverse noise impacts.

During the operation of the Project, low level noise would be potentially produced by the substation and switchgear, battery (HVAC), and any maintenance works undertaken at the site.

A construction and operational noise assessment would be undertaken as part of the EIS to assess potential noise impacts. The assessment would be undertaken in accordance with the *Interim Construction Noise Guideline* (DECC, 2009) and *NSW Noise Policy for Industry* (NSW EPA, 2017).

6.6 Agriculture, Land and Soils

6.6.1 Existing Environment

6.6.1.1 Land and Soil Capability

A Land and Soil Capability (LSC) assessment scheme[4] is a system used to evaluate the inherent physical capacity of land to sustain various uses and management practices without causing degradation to soil, land, air, and water resources. This scheme is particularly important for sustainable land management and planning. The LSC assessment scheme considers several biophysical features of the land and soil, such as landform position, slope gradient, drainage, climate, soil type and characteristics.

These features are used to derive detailed rating tables for a range of land and soil hazards, including water erosion, wind erosion, soil structure decline, soil acidification, salinity, waterlogging, shallow soils, and rockiness. Each hazard is rated on a scale from 1 (best, highest capability land) to 8 (worst, lowest capability land). The final LSC Class of the land is determine by the most limiting hazard.

The soil within the Project Area is expected to be highly disturbed due to its historical use for livestock grazing. Land and Soil Capability (LSC) mapping from the NSW Department of Planning and Environment's (DPE) eSPADE database indicates that the Project Area is predominantly classified as:

- Class 5: Land with severe limitations for high impact uses such as cropping, generally more suitable for grazing. These soil limitations need to be carefully managed to prevent long-term degradation (refer **Figure 12**).
- Class 6 (northeast portion): Land with very severe limitations for a wide range of uses, including cultivation, with few management practices available to overcome these constraints.
- No Class 1, 2, 3, or 4 land is present within the Project Area.
- Additionally, there are no mapped saline soils or acid sulphate soils within the Project Area.

The LSC classification of the Project Area and surroundings is illustrated in **Figure 13**.

Figure 12: Example Class 5 (left) and Class 6 (right) Land[5] (not proposed Project Area).

6.6.1.2 Australian Soil Classification

A search of the Australian Soil Classification (ASC) Soil Type Map of NSW (DCCEEW, 2017) reveals that the Project Area is dominated by Kurosols (natric) soils, as shown in **Figure 14**. Generally, Kurosols (natric)

[4] https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Land-and-soil/land-soil-capability-assessment-scheme-120394.pdf

[5] Land and soil capability assessment scheme (nsw.gov.au)

are characterized by dense, clay-rich subsoils that are compacted, limiting water infiltration and root growth. The surface often develops a hard crust, which can impede water movement, though cracks may form when dry. Chemically, these soils are sodic and alkaline, with high sodium levels that impair soil structure and reduce nutrient availability for plants. These conditions make Kurosols unsuitable for most intensive agricultural practices, though they can support scrubland, grassland, and salt-tolerant species, such as eucalypts and grasses.

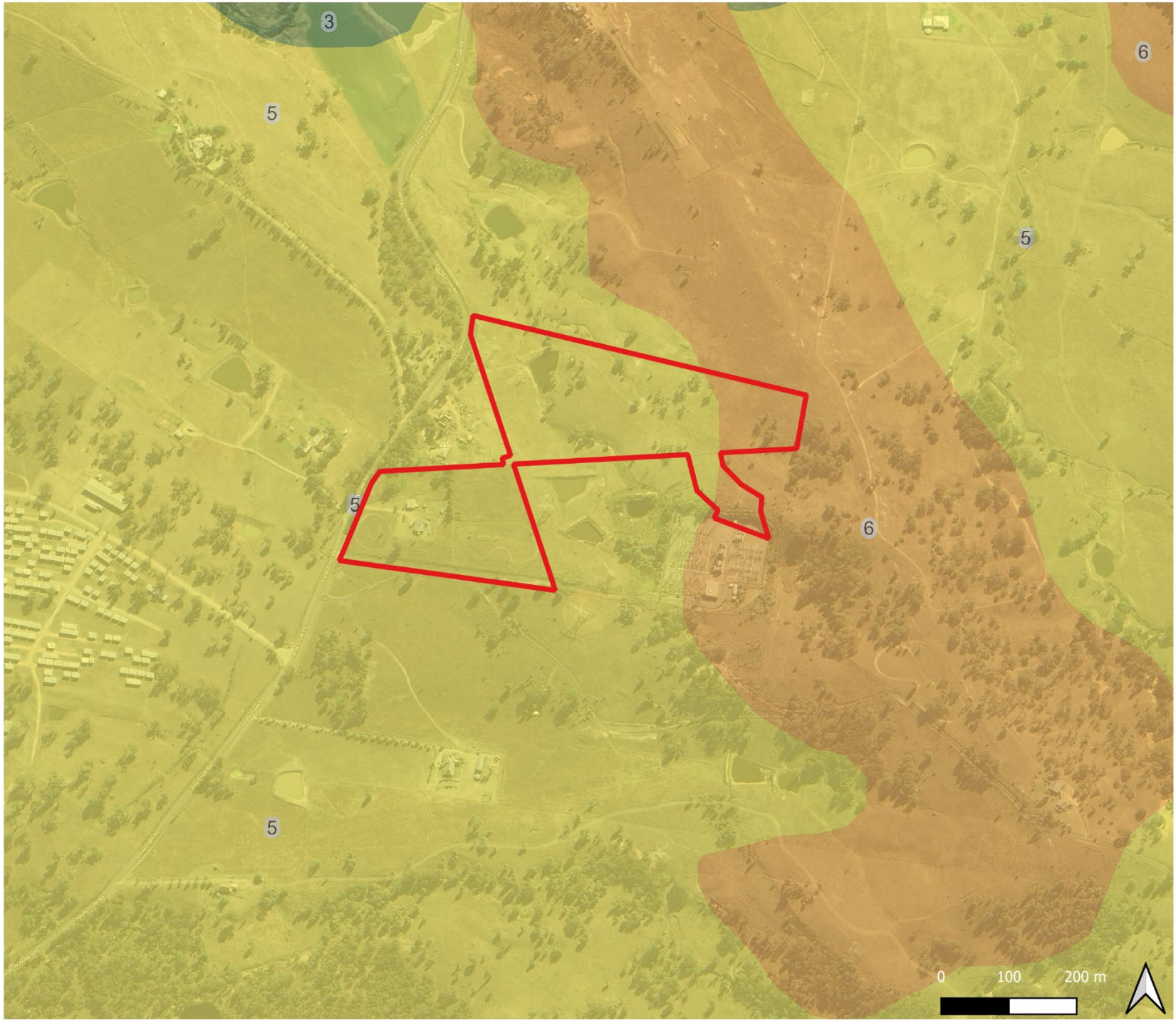
In terms of land use, grazing is feasible, but these soils require careful management because of their low fertility and drainage issues. Additionally, the physical properties of Kurosols, coupled with the potential for surface crusting, make them more susceptible to erosion during heavy rainfall events.

6.6.2 Potential Impacts and Further Assessment

Construction of the Project might involve vegetation removal and earthworks, exposing the natural ground surface and subsurface, which may increase the risk of soil erosion. Additionally, all agricultural activities within the Impact Area will be temporarily discontinued during this phase. Erosion hazard can be minimised to an acceptable level via adoption of appropriate drainage, erosion and sediment control practices, management measures for which will be incorporated in the construction environmental management plan (CEMP) for the Project.

At the end of its operational life, the Project will be decommissioned, with all above and below-ground infrastructure removed. The land is expected to be restored to its previous agricultural use, as battery projects typically do not cause significant permanent impacts to soil or landform. Consequently, the adverse impacts on land use and resource availability are expected to be low and limited to the operational period.

The impact on agricultural production in the locality and region is expected to be low, temporary, and confined to the Impact Area. The EIS will further assess the Project's effects on agricultural resources, land productivity, and surrounding areas.



Legend

Project Area

Land and Soil Capability

Most Limiting LSC

1 - Very slight to negligible limitations
2 - Slight but significant limitations
3 - Moderate limitations
4 - Moderate to severe limitations
5 - Severe limitations
6 - Very severe limitations
7 - Extremely severe limitations
8 - Extreme limitations
Not assessed (98)
Water (99)

Baselayers

Google Hybrid Satellite

Figure 13: Land and Soil Capability of the Project Area

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

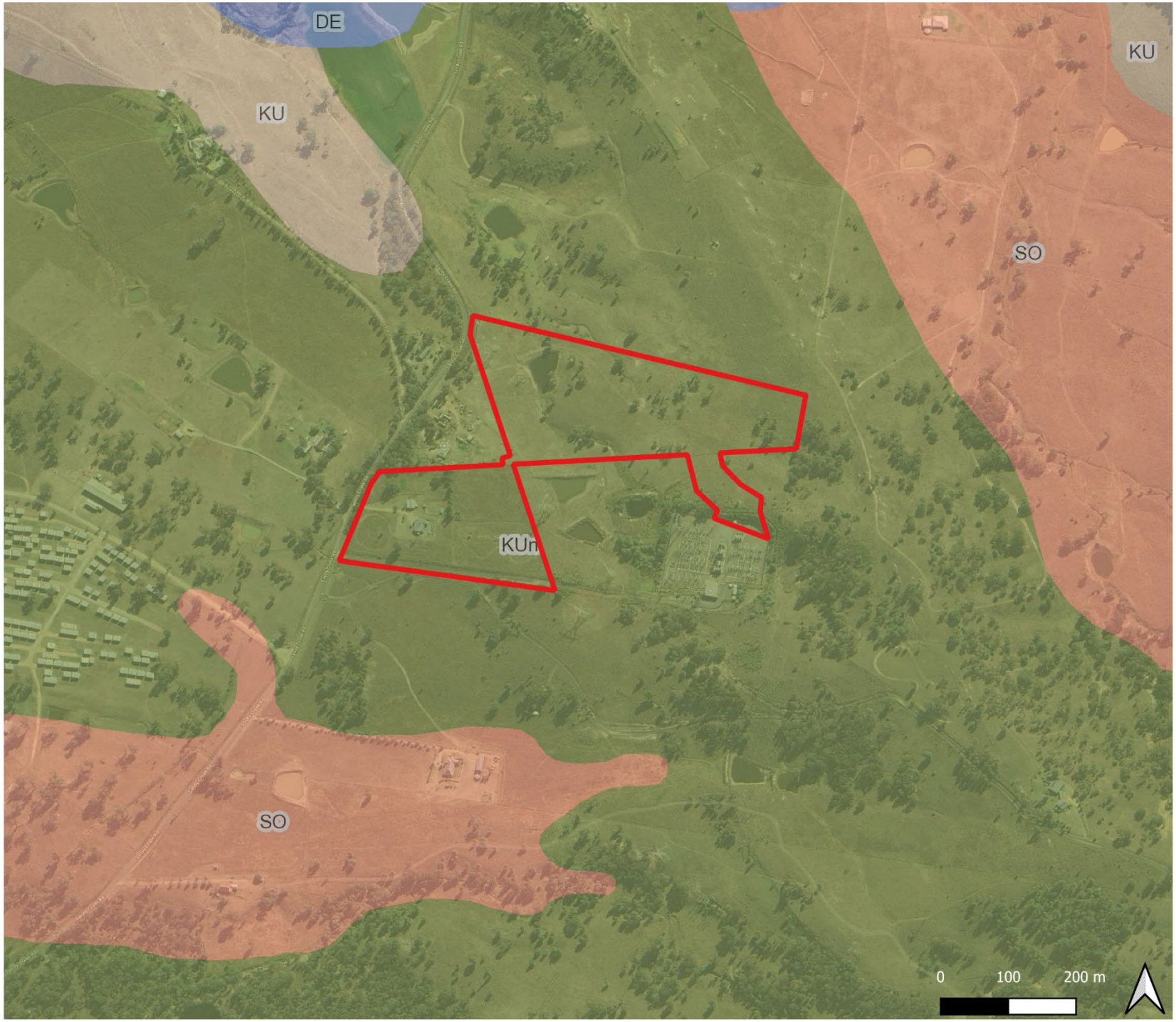


Figure 14: Australian Soil Classification of the Project Area

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

6.7 Social

6.7.1 Existing Environment

The Project is located in McCully's Gap, a suburb within the Muswellbrook LGA in the Upper Hunter Region of NSW. The Project lies approximately 7 km northeast of Muswellbrook and 30 km northeast of Denman townships.

The Muswellbrook LGA covers an area of 3,404.9 km² and had a population of 16,357 as of the 2021 Census (ABS, 2021). Centrally located in the Upper Hunter Valley, the LGA includes two main towns, Muswellbrook and Denman, with Muswellbrook township accounting for 10,901 residents and Denman for 1,547, along with several rural communities such as Sandy Hollow, Wybong, Baerami, Martindale, McCully's Gap, Widden, and Muscle Creek.

The closest major towns to Muswellbrook township, New South Wales, include:

- Singleton (42 km southeast of Muswellbrook): Located in the Singleton LGA, this regional town is known for its strong economy based on coal mining, agriculture, and defence industries, as well as being home to Singleton Army Base (Lone Pine Barracks) and surrounded by wineries and Lake St Clair
- Scone (27 km north of Muswellbrook): Located in the Upper Hunter Shire LGA, Scone is famous as the "Horse Capital of Australia", with a focus on thoroughbred horse breeding and racing, and hosting the Scone Horse Festival. It also serves as a gateway to Barrington Tops National Park
- Maitland (98 km southeast of Muswellbrook): Located in the Maitland LGA, this historic and rapidly growing city features Maitland Gaol, a vibrant retail and commercial sector, and cultural events like the Maitland Riverlights Festival
- Tamworth (160 km northwest of Muswellbrook): Situated in the Tamworth Regional LGA, this city is renowned for the Tamworth Country Music Festival and is a hub for agriculture, beef cattle farming, and rural services
- Newcastle (127 km southeast of Muswellbrook): Located in the Newcastle LGA, it is the second-largest city in NSW, known for its coal-exporting port, beaches, University of Newcastle, and a growing reputation in arts, culture, and tourism.

These major towns near Muswellbrook contribute to the Hunter Region's economy, culture, and lifestyle. Together, these towns support the region's agricultural, cultural, tourism, and industrial sectors, enhancing the area's economic strength and quality of life.

6.7.1.1 Population

According to the 2021 ABS Census, Muswellbrook LGA has a median age of 37, which is slightly lower than the Australian median of 38. This indicates a relatively youthful population, which can be an asset for the workforce, providing a foundation for economic growth, especially as industries evolve and diversify. A younger population can also mean greater adaptability to emerging sectors, such as renewable energy.

Muswellbrook LGA has a labour force participation rate of 60.1%, which reflects a slightly lower-than-average workforce participation compared to the national average of 61.1% (ABS, 2021). The town's economy is largely supported by industries such as coal mining, agriculture, and energy production, and these sectors represent the dominant forms of employment in the region. For instance, coal mining alone accounts for 19.9% of employment in the area, followed by other sectors like horse farming (3.4%), takeaway food services (2.7%), and supermarkets and grocery stores (2.7%). While these industries have traditionally provided stable employment, shifts in the energy sector (e.g., coal-fired power plant closures) may lead to employment challenges in the coming years. However, this shift also offers potential for job creation in the renewable

energy sector, as Muswellbrook and the broader Hunter Valley region increasingly invest in sustainable energy solutions.

The Aboriginal and Torres Strait Islander population in Muswellbrook LGA makes up 11.7% of the total population, which is notably higher than the national average of 3.2%. This reflects the region's rich Indigenous heritage and connection to the traditional lands of the Wonnarua people and other Aboriginal groups in the area. The higher-than-average Aboriginal population underscores the importance of ensuring that economic and social opportunities, including employment and access to services, are accessible to all residents, including the Indigenous community. Cultural initiatives and community engagement programs that reflect Indigenous traditions, values, and history are also vital in promoting social cohesion and providing a platform for Indigenous voices and leadership in the region. The relatively high proportion of Aboriginal and Torres Strait Islander people also highlights the importance of targeted employment strategies to improve Indigenous participation in the workforce, especially as Muswellbrook looks to diversify its economy.

6.7.1.2 Economic Profile

The regional economic profile of Muswellbrook LGA is characterized by a strong foundation in coal mining, agriculture, and energy production, with these industries playing pivotal roles in shaping the local economy. One of the most significant contributors to Muswellbrook's economic strength is the coal mining industry. The region is home to several major coal mines, including the Mount Arthur Coal Mine, one of the largest open-cut mines in the Hunter Valley. The coal industry not only provides substantial employment opportunities but also generates significant export revenue, making it a critical part of the economic landscape. Additionally, mining-related infrastructure and services in the region further drive economic activity and contribute to the area's overall prosperity.

Agriculture also plays a vital role in the Muswellbrook economy, particularly through livestock farming and cropping. Cattle, sheep, and dairy farming are prominent agricultural activities in the region, contributing to both local consumption and broader market supply. Additionally, the region is known for its horse breeding industry, which is a key driver of agricultural and tourism-related income. The agricultural sector is supported by the area's natural resources, making it an integral part of the LGA's economic fabric.

Energy production is another cornerstone of Muswellbrook's economy, with Bayswater Power Station and the now-closed Liddell Power Station historically playing significant roles in electricity generation for the region. These coal-fired power stations have been important sources of energy and employment, contributing to the regional economy for decades. However, the energy landscape in Muswellbrook is undergoing a shift, as the Bayswater Power Station is set to close in stages between 2030-2033, in line with the broader trend of transitioning away from coal-based power generation. While this shift presents economic challenges, it also offers the region opportunities to invest in renewable energy projects, such as battery storage technologies, solar, and wind, which can help diversify the energy sector and mitigate the loss of coal-based power generation.

Transportation and logistics also play a significant role in the local economy, with Muswellbrook being well-connected by the New England Highway and the Main North Rail Line. These transportation networks are crucial for moving coal and agricultural products to market, especially to Newcastle Port, one of the largest coal-exporting ports. The infrastructure in place helps facilitate the export of resources from Muswellbrook to international markets, ensuring that the region remains a key player in Australia's resource-based economy.

In addition to these primary industries, tourism and local services contribute to the region's economy. While tourism is not as dominant as mining or agriculture, Muswellbrook benefits from its proximity to the Hunter Valley wine region, as well as its rural landscapes and national parks. These features attract visitors to the area, which in turn supports the hospitality and service sectors. Furthermore, the healthcare, education, and retail sectors provide essential services to the local population, creating jobs and enhancing the quality of life for residents.

6.7.2 Potential Impacts and Further Assessment

Muswellbrook Shire Council commissioned Micromex Research to conduct a random telephone survey with residents living in the Muswellbrook LGA, published in 2023 (Micromex Research, 2023). The findings highlight shifting community perceptions regarding economic opportunities and challenges:

- Economic Opportunities: Coal mining remains the most cited major opportunity for the prosperity of the Shire (24% of residents), followed by renewable energy (9%) and retail/small business (7%). Notably, in the 2021 survey, only 3% of respondents identified renewable energy as an opportunity, indicating growing recognition of the sector. When asked which industries should be the focus beyond mining, 77% of respondents identified renewable energy production as a priority.
- Challenges and Concerns: The most prominent concerns for the region's future include the decline of the coal industry (21%), job security/unemployment (17%), and young people moving to larger cities (7%).

Edify's review of this research suggests that while coal mining remains central to the local economy, there is increasing community support for renewable energy development. However, concerns about economic stability and employment persist, highlighting the need for a well-managed transition. Edify aims to address these challenges through proactive community engagement during Project's development, workforce transition planning and investment in renewable energy projects.

A preliminary assessment of potential social and economic impacts of the Project has been carried out using the DPE Social Impact Assessment (SIA) Scoping Worksheet and is provided in **Appendix C**.

At a state level, the Project is expected to contribute positively to the renewable energy transition, energy security, and investment attraction. Locally, it will create job opportunities and commercial benefits, particularly during construction. However, some temporary negative impacts may arise, such as increased traffic, noise, and pressure on local accommodation and services due to an influx of non-local workers. These impacts are expected to be manageable through effective mitigation measures.

A Social Impact Assessment (SIA) will be provided as part of the EIS in accordance with the Social Impact Assessment Guideline (DPIE 2021). The SIA will include in-depth community consultation that will assist with Project design refinements, evaluate social impacts, and develop strategies to manage challenges and maximize benefits. The SIA will address community perceptions and stakeholder feedback.

6.8 Other Environmental Issues

There are a range of potential environmental issues associated with the Project which are not considered to be key issues. These are considered secondary issues for investigation, given the characteristics of the Project and the availability of appropriate safeguards for mitigation. These issues are outlined in Table 10 below. The impacts and any required mitigation relating to these issues would be addressed at an appropriate level of detail in the EIS, and in response to relevant requirements outlined in the SEARs.

Table 12: Other Environmental Issues

Existing Environment	Potential Impacts	Management and Mitigation
Historic Heritage		
A search of online heritage databases was undertaken on 20 February 2025. The following online databases were reviewed: • Australian Heritage Database • NSW State Heritage Inventory (SHI) • NSW State Heritage Register • Muswellbrook LEP. The search indicated no records within the Project Area. Three items are within 2km of the Project Area, all listed under Muswellbrook LEP 2009: • Lime Kiln - "E.I.E.I.O", listing no: I115 • Gelston, listing no: I114 • St Heliers, listing no: I114.	The closest registered historic heritage item is the locally listed item Lime Kiln - "E.I.E.I.O" (Muswellbrook LEP 2009 – listing no: I115) located approximately 590 m north of the Project Area. Edify considers there to be a low risk of impact to heritage items as a result of the development of the Project.	The heritage status of the site would be assessed during fieldwork undertaken as part of the archaeological assessment (refer **Section 6.2**). Appropriate management measures would be implemented if required.
Contamination		
The EPA contaminated land register and did not identify any records for the Muswellbrook LGA. A search of the POEO Public Register for McCully's Gap did not identify any records. Contamination associated with agricultural activities (e.g. pesticides, petrochemicals) or asbestos construction or insulation materials may still be present on the site.	There is potential that contaminants may be uncovered during excavation activities at the site.	Risks associated with contamination at the site are considered low and therefore no detailed investigation is likely to be required within the EIS. The mitigation measures would require a CEMP to be prepared to manage any contamination identified during site construction.
Hazard and Risk – Electric and Magnetic Fields (EMF)		

Existing Environment	Potential Impacts	Management and Mitigation
Existing powerlines produce EMF at the site. Additional infrastructure which forms part of the Project such as connecting powerlines and substation would produce additional electromagnetic emissions at the Project Area.	The substation, battery storage and network connection would be in the Impact Area. The EMF that would be generated by the proposed powerlines, battery storage and substation is expected to be below the guideline for public exposure and would not be expected to have an adverse impact on human health.	The EMF levels of the proposed powerlines, battery storage and substation would be assessed as part of the EIS.
Hazard and Risk – Environmental Hazards		
Battery storage is proposed as part of the Project.	Batteries pose a potential fire or contamination risk to the Project Area.	A preliminary risk screening will be completed in accordance with State Environmental Planning Policy (Resilience and Hazards) 2021 and Applying SEPP 33 (DoP, 2011), and a Preliminary Hazard Analysis (PHA) will be undertaken as part of the EIS. The PHA will be prepared in accordance with the Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis' and Multi-Level Risk Assessment (DoP, 2011). Consideration all recent standards and codes and verify separation distances to on-site and off-site receivers to prevent fire propagation and compliance with Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011).
Hazard and Risk - Bushfire		
The Impact Area has been predominantly cleared for agriculture. The site has not been identified as being within a bushfire prone area on NSW Rural Fire Service mapping.	The Project is unlikely to be affected by bushfire or pose a significant bushfire risk.	In addition to the PHA described above, the impacts and risks of a bushfire or gas explosion or leak would be assessed in the EIS. Risk of fire from proposed infrastructure will also be addressed in the EIS.

Existing Environment	Potential Impacts	Management and Mitigation
		Proactive engagement with both Rural Fire Service NSW and NSW Fire & Rescue will be undertaken during the EIS preparation phase.
Utilities		
Transmission Network Service Provider (TNSP) TransGrid and Distribution Network Service Provider (DNSP) Essential Energy, manage and operate the high voltage electricity network in this region of NSW. Both TransGrid and Essential Energy have restrictions on development within powerline easements. For instance, TransGrid guidelines state that activities and encroachments are prohibited within a transmission line easement, including 'the installation of fixed plant or equipment', and 'the placing of obstructions within 30 metres of any part of a transmission line structure or supporting guy wire'. Roads or tracks within 20 metres of the centreline of a transmission line above 132 kV are prohibited, although roads that cross the transmission line as a thoroughfare may be permitted.	The proposed works would involve works adjacent to the TransGrid Muswellbrook Substation.	The EIS would assess the Project against the setback and approval requirements of TransGrid. The Project would be designed to comply with required setback, approval, and consultation requirements of both network operators.
Watercourses and Hydrology		
An unnamed Strahler order 1 and 2 tributary of Sandy Creek, flowing north to join the Hunter River and broader Hunter Catchment, exists within the Project Area as shown in watercourse and local hydrology figure provided in **Figure 5**. One farm dam was also identified within the Project Area.	The Project does not include the extraction of groundwater; however, contamination from construction operations could have an impact on the quality of groundwater if adequate mitigation measures are not taken. The Project has avoided the farm dams as part of design of the facility.	The EIS would assess the impacts to hydrology during construction and operation and include a flood impact assessment and appropriate mitigation measures as required. The EIS will also include consideration of water use during construction and operation of the project, including identifying available water sources.

Existing Environment	Potential Impacts	Management and Mitigation
Air quality		
The air quality in the region is expected to be good, typical of rural settings in NSW, characterized by low population density and few industrial pollution sources. The primary contributors to air pollution in the region are likely to be emissions from surrounding agricultural activities and road networks. Existing sources of pollution include vehicle emissions and smoke from seasonal burning. During colder months, solid fuel heating may cause localized reductions in air quality, particularly when temperature inversions occur overnight.	The construction of the Project is not anticipated to have a significant impact on air quality and would mostly be related to dust during dry periods and vegetation removal. Impacts to air quality during operation would be negligible. The Project would contribute to improved air quality in the long term by supporting renewable energy developments that reduce greenhouse gas emissions.	The mitigation measures would require a CEMP to be prepared to manage air quality impacts during the construction phase. There is an opportunity to improve local air quality by maintaining ground cover vegetation under the panels. Water tanks will also be utilised during the Project's construction phase, to suppress potential dust impacts.
Waste Management		
N/A	The majority of waste generated will be during the construction period and may include green waste from cleared vegetation and general waste from construction material and activities associated with workforce. During the operation of the Project, waste generated would be minimal.	A Concept Waste Management Plan would be incorporated into the CEMP, applying the principles to avoid, re-use and recycle to minimise wastes. Whilst efforts have been taken to limit the quantity of vegetation disturbance, any cleared trees would be repurposed as fauna habitat where possible. Excavated soils for facilities and cable trenches would be re-used to level areas of depressions or rehabilitate any degraded areas on site.

6.9 Cumulative Impacts

Several SSDs located within the Muswellbrook LGA could potentially lead to cumulative impacts with the development of the Project, particularly during the construction phase. **Table 13** below provides a summary of these projects, identified through the Major Projects website, and displayed in **Figure 15**. Further analysis of the potential for cumulative impacts would be addressed in detail in the EIS in accordance with Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2021).

Impact interactions between the Project and identified SSD projects are likely to be limited to construction traffic and workforce accommodation, particularly where multiple projects are competing for the same accommodation. The key projects for consideration in the cumulative impact assessment are McCullys Gap Battery Energy Storage System, Muswellbrook Pumped Hydro Energy Storage Project, Muswellbrook Battery Energy Storage System and Muswellbrook Solar Farm.

Table 13: Significant Projects in proximity to the Project

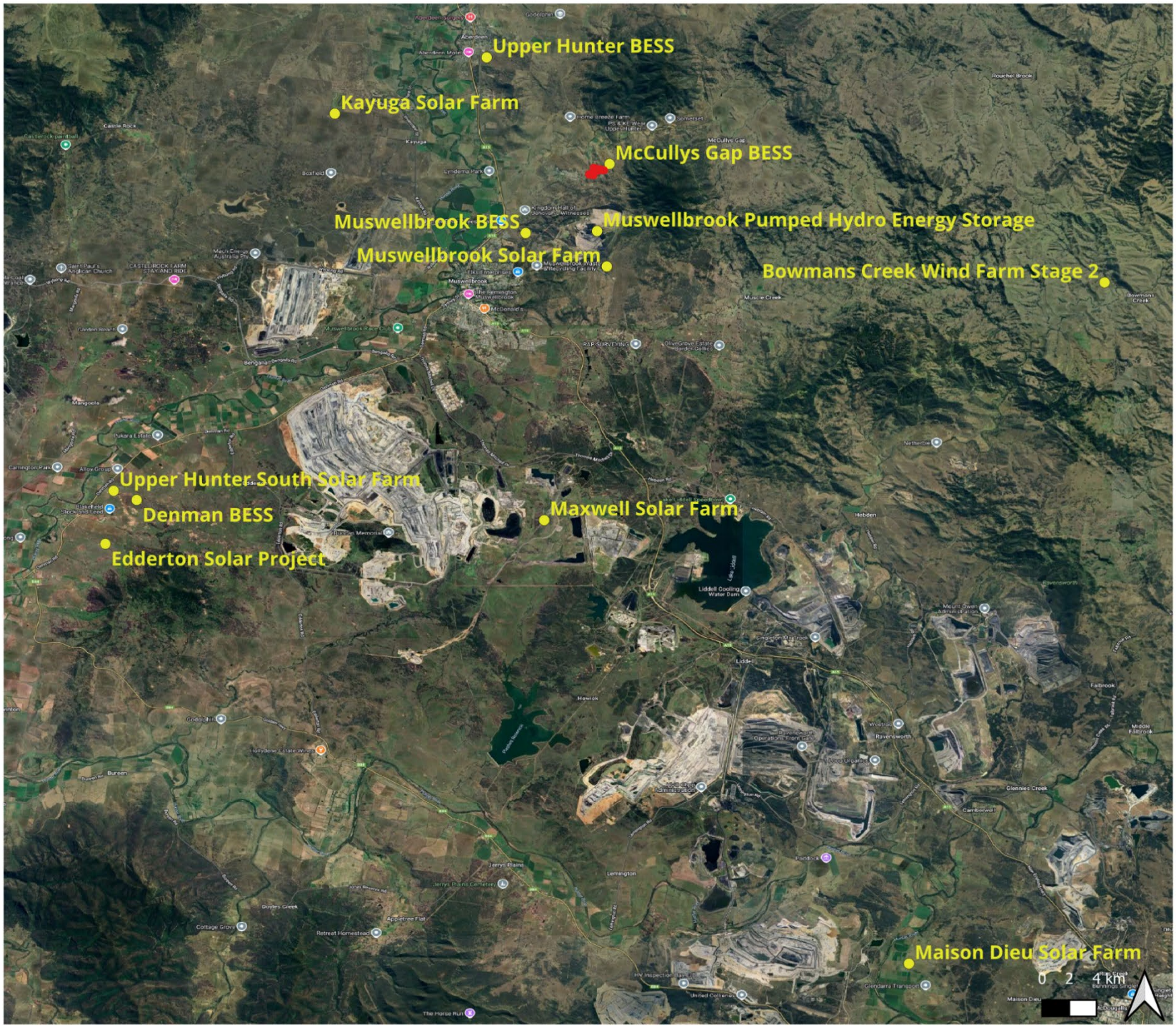
Project	Status[6]	Description	Distance to Project	Cumulative Impact
McCullys Gap Battery Energy Storage System	Prepare SEARs SSD-81555720	Development of a 400 MW/1600 MWh BESS facility with associated infrastructure. Construction is estimated to take approximately 18 months, to commence in 2026 and complete in 2028. Operations are anticipated to begin in 2030.	130 m to the east	Potential for construction and operation phases to overlap. Potential construction impacts that may require detailed assessment include biodiversity, traffic, visual, noise and social.
Muswellbrook Pumped Hydro Energy Storage Project	Prepare EIS SSD-65797725	Development of a 500MW pumped hydro power station, upper and lower reservoirs, grid connection and ancillary infrastructure. Construction is estimated to take approximately 4 years, to commence early 2026 and complete by end of 2029. Operations are anticipated to begin in 2028.	1.7 km to the south	Potential for construction and operation phases to overlap. Potential construction impacts that may require detailed assessment include biodiversity, traffic, visual, noise and social.

[6] As of 22April 2025

Project	Status[6]	Description	Distance to Project	Cumulative Impact
Muswellbrook Battery Energy Storage System	Determination SSD-29704663	Development of a 150 MW / 300 MWh battery energy storage facility with associated infrastructure. Construction is estimated to take approximately 12 months, to commence late 2023 and complete by end of 2029. Operations are anticipated to begin in 2025.	3.3 km to the southwest	Potential for operation phases to overlap. Limited to none cumulative construction impacts.
Muswellbrook Solar Farm	Recommendation SSD-46543209	Development of a 135 MW solar farm and associated infrastructure, including battery storage facility. Construction is estimated to take approximately 31 months, to commence late 2024. Operations are anticipated to be in excess of 35 years.	3.9 km to the south	Potential for construction and operation phases to overlap. Potential construction impacts include traffic and social. Low risk of cumulative visual and noise related impacts.
Upper Hunter Battery Energy Storage System	Prepare EIS SSD-61707209	Development of a 400MW/ 800MWh BESS facility with associated infrastructure. Construction is estimated to take approximately 18 to 24 months, commencement date is unknown. Operations are anticipated to span 25 years, with start date unknown.	6.1 km to the northwest	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.
Kayuga Solar Farm	Prepare EIS SSD-69489708	Development of a 80-100 MW solar farm, 50 MW/ 100 MWh BESS and associated infrastructure. Construction is estimated to take approximately 18 to 24 months, to commence late 2025. Operations are anticipated to begin in 2027.	9.7 km to the west	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.

Project	Status[6]	Description	Distance to Project	Cumulative Impact
New England REZ Transmission Project	Prepare EIS SSD-74175972	Development of new transmission lines between Bayswater Power Station Substation and the New England REZ, new energy hubs within the New England REZ, and ancillary infrastructure. Construction period is unknown. Operations are anticipated to begin in 2031 for Stage 1 and 2033 for Stage 2.	12.4 km to the east (at its closest)	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.
Maxwell Solar Farm	Determination SSD-9820	Development of a 25 MW solar farm and associated infrastructure. Construction is estimated to take approximately 12 to 18 months, to commence in 2021. Operations are anticipated to begin in 2022.	14.9 km to the south	Potential for operation phases to overlap. Limited to none cumulative construction impacts.
Bowmans Creek Wind Farm Stage 2	Prepare EIS SSD-73123714	Development of a 120 MW wind farm with associated infrastructure. Construction is estimated to take approximately 18 to 24 months, to commence in 2025. Operations are anticipated to begin in 2027.	18.5 km to the southeast	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.
Hunter Transmission Project	Prepare EIS SSD-70610456	Development of a new double circuit 500 kV overhead transmission line between the proposed substations at Bayswater and Olney State Forest, and connections from these lines to the existing 500 kV transmission network.	19.1 km to the south (at its closest)	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.

Project	Status[6]	Description	Distance to Project	Cumulative Impact
Denman Battery Energy Storage System	Prepare EIS SSD-76189216	Development of a 2.4 GW / 4.8 GWh battery energy storage facility with associated infrastructure. Construction is estimated to commence in 2025. Operations are anticipated to begin in 2027 with a life span of 20 years.	21.7 km to the southwest	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.
Upper Hunter South Solar Farm	Prepare EIS SSD-65996959	Development of a 90 MW solar farm, 30 MW/ 60 MWh BESS and associated infrastructure. Construction is estimated to take approximately 12 to 18 months, to commence in 2025. Operations are anticipated to begin in 2026.	21.9 km to the southwest	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.
Edderton Solar Project	Prepare EIS SSD-69965958	Development of a 350 MW solar farm, 350 MW BESS and associated infrastructure. Construction is estimated to take approximately 20 months, commencement date is unknown. Operations are anticipated to begin in 2022, commencement date is unknown.	23.4 km to the southwest	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.
Maison Dieu Solar Farm	Response to Submissions SSD-48160216	Development of a 60 MW solar farm, 40 MW/ 80 MWh BESS and associated infrastructure. Construction is estimated to take approximately 18 months, to commence in 2025 and complete in 2026. Operations are anticipated to begin in 2027.	35.6 km to the south	Potential for construction and operation phases to overlap. Potential construction impacts include traffic, and social. Low risk of cumulative visual and noise related impacts.



Legend

Project Area

State Significant Projects

Baselayers

Google Hybrid Satellite

Figure 15: Nearby State Significant Developments

Sandy Creek BESS
Muswellbrook, NSW

Scoping Report

Edify™

7 Conclusion

Edify proposes to develop a BESS with a capacity of 750 MW/ 1500 MWh, in McCully's Gap, NSW. The Project is located within the Muswellbrook LGA. The Project is known as the Sandy Creek BESS.

The Project is classified as SSD under Section 4.36 of the EP&A Act as it has a EDC greater than $30 million and is for the purpose of an electricity storage facility it meets the criteria outlined in Clause 20 of the Planning Systems SEPP. Consequently, the Project will require development consent from the Minister for Planning (or delegate) or the IPC under Section 4.5(1) of the EP&A Act.

Batteries are playing an increasingly crucial role in the electricity market as coal-fired power stations are phasing out. By providing firm capacity, they help address the intermittency of renewable energy sources like wind and solar, ensuring a more stable and reliable electricity supply. Additionally, batteries contribute to improving grid stability and resilience, reducing fluctuations in power quality, and enhancing the overall efficiency of the energy system.

The Project is expected to deliver significant benefits at both the state and local levels. By enabling greater integration of renewable energy, it will support the transition to a cleaner energy mix, strengthen the broader electricity network, and help reduce wholesale electricity costs by increasing competition and optimizing energy dispatch. Locally, the Project will create employment opportunities, particularly during construction, and stimulate economic activity in surrounding communities. Furthermore, by enhancing the reliability of the grid, the Project will contribute to a more secure and sustainable energy future for households and businesses.

This Scoping Report together with desktop assessments and the Biodiversity Scoping Report have been prepared to identify the Project Area, describe the Project, confirm the planning approval pathway, and identify the key environmental considerations. It aims to provide enough information to enable the DPHI to issue targeted and project specific SEARs for the EIS needed to accompany the SSD application. Key environmental issues identified based on preliminary investigations include:

- Biodiversity
- Aboriginal Heritage
- Access, Traffic, and Transport
- Visual Amenity and Landscape Character
- Noise
- Agriculture, land and soils
- Cumulative Impacts

These aspects will be assessed in detail in the EIS. Other issues, such as air quality, waste, soil values, traffic impacts, and natural hazards, are likely to be addressed through appropriate mitigation and management measures. The relevance and importance of these issues will be reviewed throughout the EIS process.

8 References

Australian Energy Market Operator, 2022, *2022 Integrated System Plan*. Available from https://aemo.com.au/-/media/files/major-publications/isp/2022/2022-documents/2022-integrated-system-plan-isp.pdf?la=en [Accessed 14 04 2023]

Australian Government, Australian Heritage Database Search. Available from http://www.environment.gov.au/cgi-bin/ahdb/search.pl [Accessed 14 04 2024]

Australian Government, Australian Bureau of Statistics, 2020, *Employment in Renewable Energy Activities, Australia*. Available from https://www.abs.gov.au/statistics/labour/employment-and-unemployment/employment-renewable-energy-activities-australia/latest-release [Accessed 14 04 2024]

Australian Government, Bureau of Meteorology, 2023,

http://www.bom.gov.au/climate/averages/tables/cw_063291.shtml [Accessed 14 04 2024]

Australian Government, Clean Energy Regulator, 2022, *Renewable Energy Target*. Available from

http://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target [Accessed 10 04 2024]

Australian Government, Department of Agriculture, Water and the Environment, Australian Heritage Protected Matters Search Tool. Available from

https://pmst.awe.gov.au [Accessed 17 04 2024]

Australian Government, Department of Industry, Science, Energy and Resources, 2022, *International climate change commitments*. Available from

https://www.industry.gov.au/strategies-for-the-future/australias-climate-change-strategies/international-climate-change-commitments [Accessed 08 04 2023]

Australian Government, Clean Energy Regulator, 2023, *National Greenhouse and Energy Register 2021-22*. Available from https://www.cleanenergyregulator.gov.au/NGER/National%20greenhouse%20and%20energy%20reporting%20data/Extract-of-National-Greenhouse-and-Energy-Register-by-year/national-greenhouse-and-energy-register-2021-22 [Accessed 10 04 2023]

Department of Planning, Industry and Environment (DPIE) 2022b. NSW Wildlife Atlas Search. Accessed from NSW BioNet | NSW Environment and Heritage. Available from https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet [Accessed 14 04 2023]

Micromex Research 2323. Muswellbrook Shire Council - Community Research. Available from https://www.muswellbrook.nsw.gov.au/wp-content/uploads/2023/10/Community-Satisfaction-Survey-2023.pdf) [Accessed 14 04 2023]

NSW Government, eSPADE mapping, 2023. Available from https://www.environment.nsw.gov.au/eSpade2Webapp# [Accessed 10 04 2024]

NSW Environment Protection Authority, EPA contaminated land register, Available from https://apps.epa.nsw.gov.au/prclmapp/searchregister.aspx [Accessed 20 04 2024]

NSW Government, 2023, *New South Wales Electricity Strategy*. Available from https://energy.nsw.gov.au/government-and-regulation/electricity-strategy [Accessed 08 04 2023]

NSW Government, NSW Heritage Register. Available from https://www.environment.nsw.gov.au/topics/heritage/search-heritage-databases/state-heritage-inventory [Accessed 03.05.2024]

NSW Government, NSW Rural Fire Service mapping. Available from https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/planning-for-bush-fire-protection/bush-fire-prone-land/check-bfpl [Accessed 17 04 2024]

NSW Government, 2023, Southeastern Highlands bioregions. Available from https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/bioregions/bioregions-of-nsw/south-eastern-highlands [Accessed 21.04.2023]

NSW Government, 2023, *NSW Net Zero Plan Stage 1: 2020-2030*. Available fromhttps://www.environment.nsw.gov.au/topics/climate-change/net-zero-plan [Accessed 08 04 2023]

NSW Government, 2023, RMS NSW Combined Higher Mass Limits and Restricted Access Vehicle Map. Available fromhttps://www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/ [Accessed 03.05. 2025]

Wonnarua Nation Aboriginal Corporation:, 2025, Our History. Available from https://wonnarua.org.au/about-us-page-2/ [Accessed 20.02. 2025]

Appendix A Scoping Report Summary

Matter	CIA	Engagement	Relevant government plans, policies, and guidelines	Scoping Report reference
Level of Assessment -Detailed				
Biodiversity	Yes	General	Biodiversity Assessment Method (DPIE 2020) Commonwealth EPBC 1.1 Significant Impact Guidelines – Matters of National Environmental Significance (Commonwealth of Australia, 2013) Commonwealth EPBC 1.2 Significant Impact Guidelines – Actions on, or Impacting upon Commonwealth Land and Actions by Commonwealth Agencies (Commonwealth of Australia, 2013) Commonwealth Department of the Environment – Survey Guidelines for Nationally Threatened Species (various) Commonwealth Department of Environment – Survey Guidelines for Nationally Threatened Species Threatened Species Survey and Assessment Guidelines NSW Biodiversity Offsets Policy for Major Projects (Office and Environment and Heritage 2014) Framework for Biodiversity Assessment (Office and Environment and Heritage 2014)	Biodiversity
Heritage – Aboriginal	Yes	Specific	Guide to investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010)	Aboriginal Heritage

Matter	CIA	Engagement	Relevant government plans, policies, and guidelines	Scoping Report reference
			Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010)NSW Skeletal Remains: Guidelines for Management of Human Remains (Heritage Office, 1998) Criteria for the Assessment of Excavation Directors (NSW Heritage Council, 2011) Native Title Act 1993	
Traffic	Yes	Specific	Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2013) Guide to Traffic Generating Developments Version 2.2 (RTA, 2002)	Access, Traffic and Transport
Amenity - Visual	No	Specific	Guidance Note for Landscape and Visual Assessment (Australian Institute of Landscape Architects 2018) Transport for NSW'S Guideline for landscape character and visual impact assessment (TfNSW, 2020)	Visual Amenity and Landscape Character
Hazards and risks	No	Specific	Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (DoP, 2011a) Multi-Level Risk Assessment (DoP, 2011b). Hazardous and Offensive Development Application Guidelines: Applying SEPP 33 (DoP 2011)	Other Environmental Issues
Level of Assessment - Standard				
Amenity – Noise and vibration	Yes	General	NSW Interim Construction Noise Guideline (DECC 2009)	Noise

Matter	CIA	Engagement	Relevant government plans, policies, and guidelines	Scoping Report reference
			NSW Noise Policy for Industry (EPA 2017) NSW Road Noise Policy (DECCW 2011) Assessing Vibration: A Technical Guideline (DECC 2006) Construction Noise Strategy (Transport for NSW, 2012)	
Stakeholder Engagement	Yes	Specific	Social Impact Assessment Guideline for State Significant Projects 2022 (DPIE 2022)	Community Engagement
Heritage – Historical	Yes	General	Historical Archaeology Code of Practice (Heritage Council 2006)	Other Environmental Issues
Land resources	No	General	Land Use Conflict Risk Assessment Guideline (DPI 2011) Biosecurity Act 2015	Agriculture, Land and Soils
Water resources	No	General	Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) Managing Urban Stormwater: Soils and Construction Volume 2 (Department of Environment and Climate Change, 2008) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC / ARMCANZ, 2000) Guidelines for instream works on waterfront land (NOW 2012) Guidelines for riparian corridors on waterfront land (NOW 2012) Guidelines for watercourse crossings on waterfront land (NOW 2012)	Other Environmental Issues

Matter	CIA	Engagement	Relevant government plans, policies, and guidelines	Scoping Report reference
Air quality	No	General	N/A	Other Environmental Issues
Waste	No	General	Waste Classification Guidelines (DECCW 2009)	Other Environmental Issues

Appendix B Biodiversity Scoping Report

Appendix C Social Impact Assessment (SIA) Scoping Worksheet

Social Impact Assessment (SIA) Worksheet

Project name: Sandy Creek BESS

Date: 13/03/2025

PROJECT ACTIVITIES	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
								Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its:						What methods and data sources will be				
Which **project activity / activities** could produce social impacts ?	what **social impact categories** could be affected by the	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	If yes, identify which other impacts and/or projects	**extent** i.e. number of people potentially affected?	**duration** of expected impacts? (**i.e. construction vs operational phase**)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity** or **vulnerability** of people potentially affected?	**level of concern/interest** of people potentially affected?	Level of assessment for each social impact	Secondary data	Primary Data - Consultation	Primary Data - Research	Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
Site selection	livelihoods	Land Acquisition: The purchase or leasing of land for the BESS may require the displacement of current occupants or users. Change in Land Use: Conversion of agricultural or communal land into a battery storage can disrupt existing livelihoods and social structures.	Negative	Yes	Other projects have demonstrated the impacts on livelihoods and how varying levels of community acceptance and concern.	No	Not required	No	No	No	No	Yes	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	Ongoing communication with affected stakeholders is essential to ensure transparency and to address any emerging concerns during the project's development.
Site selection	livelihoods	Land Acquisition: The lease of land for the Project can generate another source of income for landowners.	Positive	Yes - other project	Other projects have demonstrated benefits for land use and income.	No	Not required	No	No	No	No	Yes	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	Conduct timely and appropriate community engagement and implement measures to maximise benefits for the local and regional economy.
Site selection	surroundings	Environmental Changes: Changes in the local environment, such as altered water flows or microclimates, might indirectly cause displacement.	Negative	Yes	These imacts are well understood from other Edify projects, and industry learnings / best proactice.	No	Not required	No	No	No	No	Yes	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	Design is modified as constraints are identified. Ie. Heritage (PADS) Ecology, Flood mapping
Community Engagement	community	Stakeholders are unable to make informed decisions; do not have influence on project design or decisions; and are unable to access enquiry and complaint processes.	Negative	Yes - other project	These imacts are well understood from other Edify projects, and industry learnings / best proactice.	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	No	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	Yes	Edify aims for an effective community engagement , through clear communication, proactive consultation, and accessible grievance mechanisms. Regular meetings,and diverse outreach methods ensure stakeholders can contribute to decision-making. A structured grievance process, educational workshops, and culturally sensitive engagement help build trust. Enhancing engagement through feedback integration, community benefit programs, and long-term dialogue fosters transparency and community support throughout the project lifecycle. Edify has prepared and maintains a Community Stakeholder Register, with phone/postal/email contact details, to ensure proactive advice is shared when Planning Milestones for the project are achieved.
EIS	culture	Renewable energy projects can include educational components that highlight the cultural heritage of the area, fostering a greater appreciation and awareness among both locals and visitors.	Positive	Yes	Edifiy is current assessing the ACHA for the project and engaging with local TOs	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	Yes	Edify is currently undertaking ACHA process, the Project will considered sensitive cultural areas into design
EIS	culture	Engaging with local communities to integrate traditional knowledge and practices into the planning and operation of renewable energy projects can create a more culturally sensitive and sustainable approach.	Positive	Yes	Edifiy is current assessing the ACHA for the project and engaging with local TOs	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Traditional knowledge will be incorporated into ACHA and environmental management plans, ensuring that cultural values and practices are considered when making decisions about design, construction, and operation.
EIS	culture	Changes to the landscape can affect places of cultural and spiritual significance, disrupting traditional practices and connections to the land.	Negative	Yes	Edifiy is current assessing the ACHA for the project and engaging with local TOs	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	A cultural heritage assessment will be undertaken for the Project, including indigenous communities consultation to identify significant areas, and modifying project plans to avoid or minimize impacts on these sites. Ongoing dialogue is essential to ensure traditional practices and connections to the land are respected.
Public Exhibition of Environmental Impact Statement	community	Potential impacts on social cohesion between community members (for/against renewable energy and/or the project).	Negative	Yes - other project	These impacts are well understood from other projects.	No	Not required	Yes	Yes	No	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Edify to continue conducting timely and detailed community engagement. Ensure community concerns are listened to and information to address concerns is provided to the community. Work with local community stakeholders to identify needs in the community that can be supported via the Project's Community Benefit Fund / Voluntary Planning Agreement.
Construction	health and wellbeing	Potential noise impacts on host landowners and nearby neighbours from increased traffic flow or construction works.	Negative	Yes - other project	These impacts are well understood from other projects.	No	Not required	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	A detailed noise impact assessment will be completed as part of the EIS. Based on the assessment, measures such as scheduling construction activities, installing noise barriers or vegetation buffers, and optimizing traffic routes will be incorporated as required. Ongoing noise monitoring and community engagement will also help manage impacts and ensure compliance with regulations.
Construction	livelihoods	Increased demand for local services, such as housing and food, stimulates local businesses.	Positive	Yes	These imacts are well understood from other Edify projects, and industry learnings / best proactice.	No	Not required	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Impacts will be investigated assessed and documented in the EIS and supporting technical assessments.
Construction	access	Potential upgrades to local road network to facilitate the project may improve the condition of the local road network.	Positive	Yes - other project	Positive impacts as a result of road upgrades have been demonstrated on other projects.	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Consultation with landholder and local Council, Crown Lands, Transport for NSW and community on transport routes, local roads, private roads and potential upgrades to ensure benefits are delivered for landholder and local community wherever possible.
Construction	access	Potential impacts from increased traffic and over sized loads during construction could include disruption to local roads, cause damage to roads and increased risk of accidents,	Negative	Yes - other project	Traffic imapcts are well understood and assessed by Edify during scoping and EIS	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Consultation with local Council, TfNSW and community on transport routes, local roads and services. During the EIS stage a detailed Traffic Impact Assessment will be conducted. Edify will implement measures to repair road damage, minimise impacts and delays to local road users/residents during construction. Conduct timely and appropriate community engagement so neighbours are aware of construction schedules and avenues for raising and resolving concerns or complaints.
Construction	surroundings	Potential impacts in relation to change in the natural environment and visual amenity may lead to impacts on the perceived quality, use and aesthetics of the landscape.	Negative	Yes	Preliminary Landscape and Visual Impact Assessment	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Appropriate set back from native vegetation will be incorporated into project design, layout will continue to be revised during EIS stage to minimise impacts where possible. Consideration of neighbouring residences will be concidered during the LVIA and mitigation strategies for any residual impact, including landscape screening, will be considered.
Construction	livelihoods	Potential for increased pressure on limited local accommodation from construction and operational work force, which could impact availability of rental housing for local residents and tourism.	Negative	Yes - other project	Other projects have investigated accommodation camps for workers and collaborated with local councils for long term accommodation opportunities.	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Explore possibility for accommodation camps that may be located within the region during construction, or the use of camps associated with other, larger projects in the region. A Workforce Accommodation Plan will be prepared prior to construction commencing, in consultation with Muswellbrook Council and stakeholders within the local accommodation economy. Consultation with local business groups and Councils will occur throughout the planning phase, to understand existing constraints and opportunities to deliver local economic benefits.
Construction	way of life	Potential for increased pressure on local work force, negatively impacting local businesses with labour competition and wage increases.	Negative	Yes - other project	Other projects have investigated accommodation camps for workers and collaborated with local councils for long term accommodation opportunities.	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Implementing strategies to prioritize local hiring, ensuring that the local workforce is given preference for project-related jobs. To minimize competition for labor, the project will consider collaborating with local training providers to upskill workers and help meet demand. Additionally, fostering partnerships with local businesses can encourage the use of local suppliers and contractors, reducing the need for external labor. Wage increases due to labor shortages can be mitigated by establishing fair pay scales and providing competitive, yet sustainable, compensation packages. Ongoing communication with local businesses and workforce development programs will also help balance labor needs and maintain a stable economy for the community.
Construction and demobilising construction	health and wellbeing	Potential impacts during construction from dust and noise may affect the host landowners and nearby neighbours.	Negative	Yes - other project	Edify hasve assessed and managed dust and noise impacts on our other projects	Yes	Not required	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Conduct timely and appropriate dust suppression watering of site, so impacts can be minimised wherever possible through project design and delivery. Noise control measures can involve scheduling noisy activities during daytime hours, and installing temporary noise barriers or enclosures as needed. Additionally, maintaining a clean construction site and controlling traffic flow can help minimize dust and noise. Regular monitoring of dust and noise levels will ensure compliance with environmental standards including as outlined in a CEMP. Ongoing communication with host landowners and nearby neighbors will help manage expectations and address concerns promptly.
Construction and operation	Way of life	Broader Community - employment and contracting opportunities during the construction and operation period. Also flow on economic benefits for regional community.	Positive	Yes - other project	Other projects have demonstrated significant local and regional economic benefits.	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Develop project opportunities for local businesses by collaborating with local business networks and utilizing the ICN Gateway for business registration. Facilitate local employment opportunities by promoting them on the project website and through local media outlets. Additional mitigation measures will include prioritizing local hiring, engaging local contractors, offering workforce development programs, and supporting local businesses through procurement opportunities. Furthermore, investing in community development initiatives will help enhance long-term economic impacts. Ongoing communication with the community will be essential to identify further opportunities and ensure regional prosperity.
Construction and operation	livelihoods	Temporary Jobs: During the construction phase, a significant number of temporary jobs are created for local laborers, technicians, and engineers. Permanent Jobs: Long-term operational and maintenance roles are generated, providing stable employment for local communities	Positive	Yes	These imacts are well understood from other Edify projects, and industry learnings / best proactice.	No	Not required	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Impacts will be assessed and documented in the EIS. Local hiring and procurement will be prioritized to maximize economic benefits. Temporary construction jobs will be created for local laborers, technicians, and engineers, while long-term operational and maintenance roles will provide stable employment to the local region. Community benefit programs will address local priorities such as education, health, and infrastructure, ensuring positive contributions to the local economy and development.
Construction and operation	community	Introduction of new technologies and practices related to battery storage can promote innovation and technical skills within the community.	Positive	Yes	These imacts are well understood from other Edify projects, and industry learnings / best proactice.	Yes	Employment	Yes	Yes	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Impacts will be investigated assessed and documented in the EIS. The provision of training programs, partnerships with educational institutions, and workshops will be assessed to develop technical skills in the local community. These initiatives aim to foster innovation, create a skilled workforce, and support long-term community involvement in the renewable energy sector.
Operation	health and wellbeing	There are concerns about the potential health effects of exposure to electromagnetic fields generated by battery storage infrastructure, though current research indicates that EMF levels from battery storages are well below harmful levels.	Negative	Yes	Edify have assed these EMF impacts on previous projects, the imapcts are well understood and managed	Yes	VIA	No	No	No	Unknown	Yes	Standard assessment of the impact	Required	Targeted consultation	Potentially targeted research	Yes	Conducting health and safety assessmentsduring EIS phase to confirm that EMF generated by the battery storage infrastructure are well below harmful levels, as current research indicates no health risks associated with BESS. Ongoing monitoring will be carried out to ensure compliance with relevant standards. Transparent communication and community engagement will be maintained to provide accurate information and address any concerns, reinforcing that there are no health risks from EMF exposure.
Operation	way of life	Choose sites that minimize disruption to existing land use and ecosystems. Implement land restoration and management practices to support local biodiversity.	Positive	Yes	Edify have assed these impacts on previous projects, the imapcts are well understood and managed	Yes	Way of life	Yes	Yes	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	Yes	Land restoration and management practices will be assessed in the EIS phase and implemented post-construction to support local biodiversity. These may include controlling invasive species during construction, with adaptive management strategies employed as needed to protect and enhance local biodiversity.
Life of project	decision-making systems	Capacity building and education	Positive	Yes	Edify have assed these impacts on previous projects, the imapcts are well understood and managed	Yes	Other renewable energy projects in the area are: Muswellbrook Pumped Hydro Energy (SSD-65797725) Storage ProjectMuswellbrook Battery (SSD-29704663) Energy Storage SystemMuswellbrook Solar Farm (SSD-46543209)	Yes	Yes	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	Yes	Raising awareness and educating the community about the benefits and challenges of renewable energy projects to foster informed decision-making. This can be achieved through workshops, informational campaigns, and community engagement initiatives. Additionally, transparency in decision-making and project implementation will be maintained, with clear mechanisms for accountability and feedback to ensure the community's concerns are heard and addressed. Providing accessible resources and opportunities for learning will help build local capacity and promote greater understanding of the project's long-term impacts.

PROJECT ACTIVITIES	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
Which **project activity / activities** could produce social impacts ?	what **social impact categories** could be affected by the	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	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: **extent** i.e. number of people potentially affected?	**duration** of expected impacts? (i.e. **construction vs operational phase**)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity or vulnerability of people potentially affected?**	**level of concern/interest of people potentially affected?**	Level of assessment for each social impact	What methods and data sources will be Secondary data	Primary Data - Consultation	Primary Data - Research	Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
Decommissioning project at end-of-life	surroundings	Potential impacts during deconstruction from amenity, including traffic, dust and noise may affect the host landowners and nearby neighbours.	Negative	No		No	Not required	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	No	Conducting timely and appropriate dust suppression, such as regular watering of the site, to minimize impacts from dust during decommissioning. Noise and traffic management plans will also be implemented to reduce disturbances to host landowners and nearby neighbors. Deconstruction activities will be carried out in accordance with relevant legislation, as outlined in the Environmental Management Plan (EMP), with a strong emphasis on recycling project materials to reduce waste. Ongoing communication with affected communities will ensure that any concerns are addressed promptly, and that the decommissioning process is carried out as smoothly and responsibly as possible.

Appendix D Community Consultation and Engagement Plan

Appendix E AHIMS Searches

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 003

Client Service ID : 976707

Elohanna Azevedo

22 Darley Rd
Manly New South Wales 2095

Attention: Elohanna Azevedo

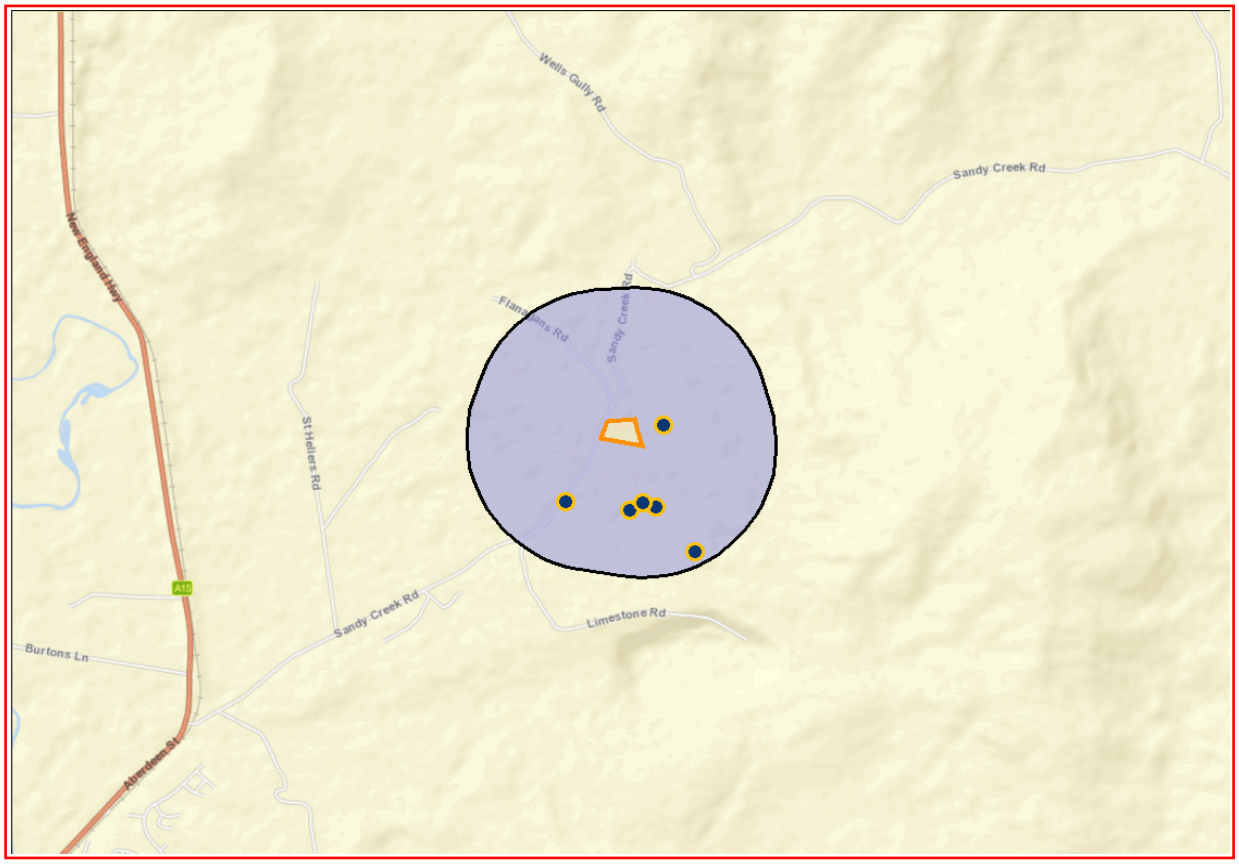
Email: elohanna.azevedo@edifyenergy.com

Date: 20 February 2025

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 1622, DP:DP852356, Section : - with a Buffer of 1000 meters, conducted by Elohanna Azevedo on 20 February 2025.

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

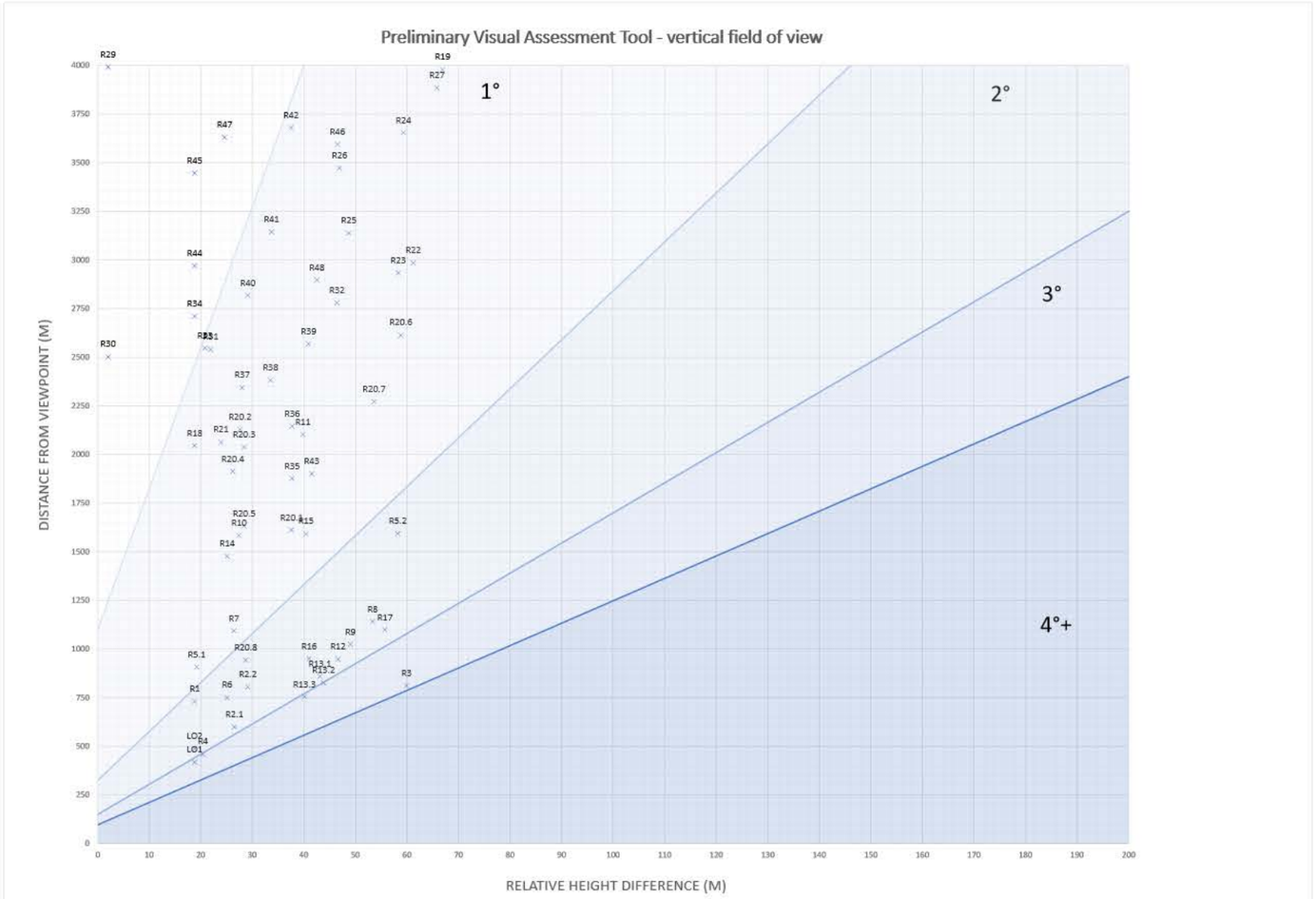


A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

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

Appendix F Preliminary Visual Assessment

	X	Y	
Name/ID	Relative Height Difference (m)	Distance from viewpoint (m)	Sector
PV1	20.8	215.13	3°
PV2	67.8	3734.26	2°
PV3	66.8	3485.41	2°
LO1	18.8	418.3335501	2°
LO2	18.8	488.3305076	2°
R1	18.8	730.8083707	3°
R2.1	26.5	599.3292071	3°
R2.2	29.1	804.5648816	1°
R3	59.9	812.0374545	2°
R4	20.4	459.3449897	2°
R5.1	19.2	907.3762365	2°
R5.2	58.2	1593.612804	1°
R6	25.1	750.1896273	2°
R8	53.3	1140.722468	1°
R7	26.4	1093.919075	1°
R9	49	1024.682405	2°
R10	27.4	1584.346525	2°
R11	39.8	2103.006425	3°
R12	46.6	947.0141126	3°
R13.1	43.1	859.6227191	1°
R13.2	43.8	825.5788243	1°
R13.3	40.1	755.522026	2°
R14	25.1	1477.3695	2°
R15	40.4	1592.037904	1°
R16	41	950.6082005	1°
R17	55.7	1099.315281	1°
R18	18.8	2045.999668	1°
R19	66.9	3978.731741	1°
R20.1	37.6	1612.309426	1°
R20.2	27.6	2129.298456	1°
R20.3	28.4	2038.327611	1°
R20.4	26.2	1913.947759	1°
R20.5	28.4	1633.228902	2°
R20.6	58.8	2612.860669	1°
R20.7	53.6	2271.651943	1°
R20.8	28.7	942.923686	1°
R21	23.9	2063.442509	1°
R22	61.2	2984.516243	1°
R23	58.3	2933.239858	1°
R24	59.3	3655.240836	1°
R25	48.7	3137.668821	1°
R26	46.9	3471.590499	0°
R27	65.8	3884.302025	0°
R28	69.7	4006.874336	1°
R29	2	3992.418755	1°
R30	2	2501.664254	1°
R31	21.9	2539.125554	0°
R32	46.4	2779.50917	1°
R33	20.8	2547.646855	1°
R34	18.8	2710.563387	1°
R35	37.7	1877.096897	1°
R36	37.7	2144.791222	1°
R37	28	2343.518382	1°
R38	33.5	2381.866843	1°
R39	40.9	2568.005501	1°
R40	29.1	2818.367268	1°
R41	33.7	3144.40203	0°
R42	37.5	3679.104198	0°
R43	41.5	1900.871865	1°
R44	18.8	2969.903371	0°
R45	18.8	3446.670485	1°
R46	46.5	3594.043506	1°
R47	24.6	3630.060461	1°
R48	42.5	2897.179533	1°
R49	65.2	4014.475119	1°
R50	71.1	4165.845788	1°
R51	69.4	4273.819917	1°
R52	69.7	4380.707603	1°
R53	69	4568.446208	1°
R54	72.7	4278.533882	1°
R55	72.5	4292.649867	1°
R56	71.6	4311.750784	1°
R57	71.4	4325.646755	1°
R58	70.5	4334.57898	1°
R59	70.4	4353.334766	1°
R60	69.8	4368.081195	1°
R61	69.5	4436.854334	1°
R62	67.8	4485.725653	1°
R63	66.8	4516.501065	1°
R64	66.8	4533.604578	1°
R65	66.8	4553.76001	1°
R66	66.6	4581.146453	1°
R67	66.7	4605.289854	1°
R68	66.4	4629.717368	1°
R69	66	4648.050802	1°
R70	65.8	4663.503485	1°
R71	64.4	4585.880568	1°
R72	53.1	4456.105166	1°
R73	54.2	4459.927005	0°
R74	51.7	4453.580173	0°
R75	48.4	4452.025437	0°
R76	45.6	4448.458885	0°
R77	43.6	4451.560661	0°
R78	42.6	4447.636006	0°
R79	42.6	4443.093861	0°
R80	39.5	4438.305276	0°
R81	33.8	4434.713525	0°
R82	30.2	4437.121858	0°
R83	31.5	4465.01526	0°
R84	36	4497.832094	0°
R85	37	4503.803695	0°
R86	38.6	4504.742428	1°
R87	40.7	4508.420367	1°
R88	46.9	4507.829484	0°



	X	Y	Equation
Line 1	0	1100	y = 72.5x + 1100
	40	4000	
Line 2	0	325	y = 25.167x + 325
	150	4100	
Line 3	0	150	y = 15.5x + 150
	200	3250	
Line 4	0	97	y = 11.515x + 97
	200	2400	

This page intentionally left blank