Kiar Energy Storage System

SCOPING REPORT

June 2025

BID ENERGY PARTNERS PTY LTD

PROJECT	KIAR ENERGY STORAGE SYSTEM
Document Title	Scoping Report
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DISCLAIMER

Contents

Glossary

Term	Definition
AEMO	Australian Energy Market Operator
AHIMS	Aboriginal Heritage Information Management System
BAM	Biodiversity Assessment Method
BESS	Battery Energy Storage System
BDAR	Biodiversity Development Assessment Report
BID	BID Energy Partners Pty Ltd
CIV	Capital Investment Value
CPHR	Conservation Programs, Heritage and Regulation Group
DPE	Department of Planning and Environment (former)
DPIE	Department of Planning, Industry and Environment (former)
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act
FCAS	Frequency Control Ancillary Services
Ha	Hectare
HV	High voltage
IBRA	Interim Biogeographic Regionalisation for Australia
ISP	Integrated System Plan
Km	Kilometre
kV	Kilovolt
LEP	Local Environmental Plan
LGA	Local Government Area
m	Metre
MVA	Megavolt-amperes

Term	Definition
MW	Megawatt
MWh	Megawatt hours
NDC	Nationally Determined Contribution
NSP	Network Service Provider
NSW	New South Wales
OSOM	Over Size Over Mass
PCS	Power Conversion System
RET	Renewable Energy Target
RFS	Rural Fire Service
SEARs	Secretary's Environmental Assessment Requirements
SRAS	System Restart Ancillary Services
SSD	State Significant Development
VRE	Variable Renewable Energy

1. Introduction

1.1. Overview

BID Energy Partners Pty Ltd is seeking regulatory and environmental planning approval for the construction, operation and decommissioning of the Kiar Energy Storage System (the **Project**), which is a grid scale battery energy storage system (**BESS**) with a discharge capacity of approximately 1,000 megawatt (**MW**) and storage capacity of approximately 4,000 megawatt hours (**MWh**). The Project will connect to Transgrid's line 2M, an existing 330kV transmission line running directly through the site, by way of a greenfield substation connection located on site and a 330kV transmission cut in.

The primary purpose of the Project is to store energy during periods of surplus electricity generation in the electricity network, typically excess solar renewable generation in the middle of the day and then return that stored energy to the electrical network during periods of high demand, typically the afternoon and morning peak demand periods. Additionally, the Project will provide market ancillary services such as frequency control and key electricity network services that support the secure and reliable operation of the electricity network for the benefits of consumers and businesses. The Project supports the long-term reduction of emissions involved in the electricity generation and distribution network, by shifting excess solar generation during the day to the evening and morning peak periods. The site selected for the Project is well suited to the deployment of energy storage assets and within a region that hosts several existing and proposed intermittent wind and solar generation assets but with limited complementary energy storage assets.

The Project is located on private land in the 2259 post code and sits wholly within the Central Coast Council Local Government Area (**LGA**), in the locality of Kiar in New South Wales (**NSW**) (refer to Figure 1). Kiar is located in the Central Coast and Hunter region of NSW and is located approximately 100 km north of the Sydney Central Business District (**CBD**).

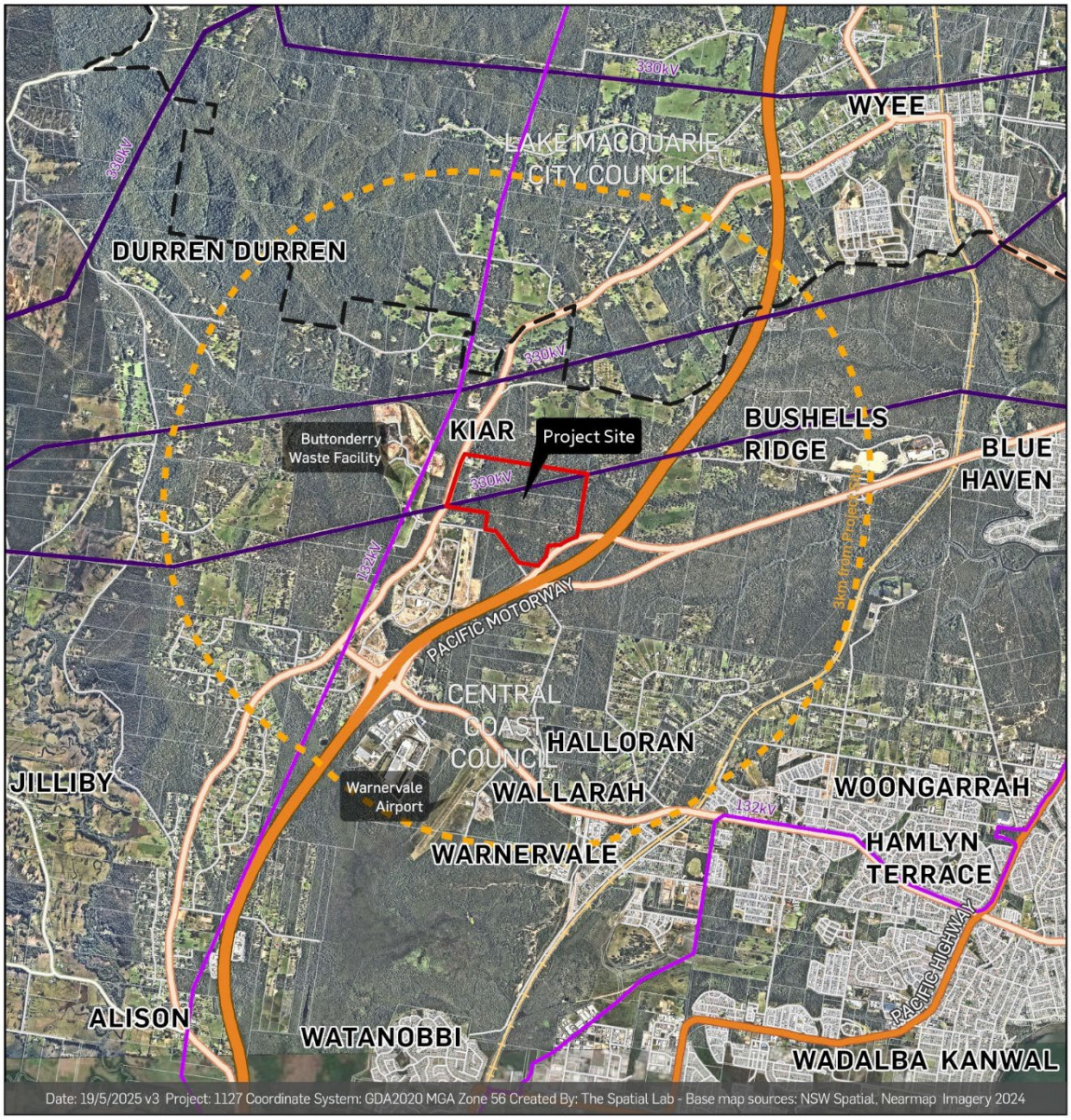

330kV
WYEE
LAKE MACQUARIE CITY COUNCIL
DURREN DURREN
330kV
330kV
Buttonderry Waste Facility
KIAR
Project Site
330kV
BUSHELLS RIDGE
BLUE HAVEN
3km from Project Site
132kV
PACIFIC MOTORWAY
CENTRAL COAST COUNCIL
HALLORAN
JILLIBY
Warnervale Airport
WALLARAH
WOONGARRAH
132kV
WARNERVALE
HAMLYN TERRACE
PACIFIC HIGHWAY
ALISON
WATANOBBI
WADALBA
KANWAL
Date: 19/5/2025 v3 Project: 1127 Coordinate System: GDA2020 MGA Zone 56 Created By: The Spatial Lab - Base map sources: NSW Spatial, Nearmap Imagery 2024
Local Context
Project Site
3km from Project Site
LGA Boundary
Transmission Lines
132kV
330kV
N
0
1 km

Figure 1

Land for the Project is accessed off Hue Hue Road. The primary project infrastructure would be located over two properties being 893 Hue Hue Road, Kiar NSW (Lot 2 DP 719762) and 847 Hue Hue Road, Kiar NSW (Lot 3 DP 719762). Alternative access to the Project may be considered via Kiar Ridge Road and part of 85 Bushells Ridge Road, Kiar NSW (Lot 4 DP719762) subject to the studies in the EIS phase, detailed stakeholder consultation and agreement for access.

The key elements of the Project's permanent infrastructure will include:

- Battery Energy Storage System compounds comprising rows of enclosed battery modules connected to associated power conversion systems (**PCS**) and high voltage (**HV**) reticulation equipment.
- Transformers and 33/330kV substation.
- Transmission line cut-in and connection to the existing 330kV overhead transmission line passing through the site.
- Control room, safety systems and site ancillary infrastructure including parking, storage, maintenance and offices.
- Associated water infrastructure, if required, such as on site fire water storage and water stilling basins.

The Project's primary operational functions will be to store electricity from the grid during periods of surplus electricity generation and then generate during periods of high demand in the grid using the stored energy in the battery banks. This regime is anticipated to be a daily cycle.

1.2. Proponent Details

The Project is being developed by BID Energy Partners Pty Ltd (**BID**). BID is an Australian owned business that specialises in the origination, development and delivery of renewable energy sector projects. Refer to Table 1 for the details of the proponent.

Table 1 Proponent Details

Item	Details
Proponent Name	BID Energy Partners Pty Ltd
ABN	99 658 636 849
Postal address	Level 6, 77 Castlereagh Street, Sydney NSW 2000

1.3. Project Objectives

The objectives of the Project are to:

- Provide safe, reliable and efficient storage of energy in NSW including firming of variable renewable energy (**VRE**) generation such as wind and solar.
- Provide reliability and security services to the electricity network such as Frequency Control Ancillary Services (**FCAS**), System Restart Ancillary Services (**SRAS**) and system strength services such as inertia services.

- Support the mitigation of volatility in the energy market by shifting, smoothing and stabilizing supply to the grid during periods of peak demand, unexpected outages and the closure of large-scale coal generation.
- Support the transition of the electricity network from fossil-fuel based generation to renewable energy and in particular achieving:
    - the NSW Climate Change Policy Framework net-zero emissions target by 2050 and
    - the Federal Government's Renewable Energy Target (**RET**) Scheme targets.
- Design, develop and operate the project in a manner that minimizes impacts to the environment and local stakeholders where possible.
- Provide positive outcomes for the local communities including the creation of employment and economic benefits.

1.4. Key Impacts Avoidance or Minimisation

The Project will be designed, developed and operated to avoid impacts wherever possible, and will consider the outcomes of the detailed environmental, social and economic studies to be conducted during the Environmental Impact Statement (**EIS**), as well as ongoing community and stakeholder consultation. Where impacts are unavoidable, strategies to minimize or mitigate the impacts will be developed and detailed in the EIS.

The Project infrastructure has been arranged to be sited on land in a location that allows for direct connection to the existing HV transmission line, thereby minimizing the disturbance and potential impacts of connecting the project to the grid.

The site setting is a local valley with natural terrain providing substantive shielding of the site from locations beyond the immediately surrounding neighbours.

1.5. Purpose of this Report

The purpose of this report is to support a request for the Secretary's Environmental Assessment Requirements (**SEARs**), that will then guide preparation of an EIS as part of a development application under Division 4.1 of Part 4 of the Environmental Planning and Assessment Act (**EP&A Act**)

2. Strategic Context

2.1. Overview

The Project is supported by a range of strategic plans, policies and strategies at local, State and National levels of government. At a strategic level, the Project offers the opportunity to:

- Support Australia's commitments to reduce greenhouse gas emissions.
- Support the associated energy transition, which involves changing the generation of electricity from fossil fueled to renewable energy. This process is well underway and shift the grid's dependence from coal fired generation to firmed renewables.
    - The entire coal generation fleet in the National Electricity Market (**NEM**), which is currently providing the 'firming" to intermittent VRE generators, is forecast to retire before 2040 (AEMO, *draft 2024 Integrated System Plan*, 2023) and be replaced by intermittent renewable energy generation such as wind and solar which will largely replace the coal generation capacity lost from the grid. However, the variability of these renewable generation sources introduces challenges to matching energy supply with demand.
    - BESS assets like the Project are essential to the future operation of the electricity grid, as they provide the ability to 'firm' intermittent VRE generators and store this energy for later flexible dispatch to the grid at the time it is required by energy users.
- Improve electricity network security and reliability.
- Mitigate against price volatility in the energy market by shifting VRE generation and smoothing and stabilizing supply to the grid during periods of peak demand, unexpected outages and the closure of large-scale coal generation.
- To provide sustainable economic development and growth for the Central Coast, including support for local employment and skills development while respecting the region's characteristics by locating the Project in a location that is predominately bounded by transport infrastructure and industrial or commercial land uses.

Further overview of key strategic plans and policies that the Project aligns with, and supports is shown in Table 2.

Table 2 **Project alignment with strategic plans and policies**

Strategy, Policy or Plan	Details
National	
Paris Agreement	Under the Paris Agreement, Australia's Nationally Determined Contribution (**NDC**) is a target reduction in greenhouse gas emissions of 43% below 2005 levels by 2030. The NDC also includes a commitment to achieve net zero emissions by 2050
Renewable Energy Target	The Australian Federal Government's RET Scheme is designed to reduce greenhouse gas emissions in the electricity sector by encouraging renewable energy generation.

Strategy, Policy or Plan	Details
Capacity Investment Scheme	The Capacity Investment Scheme (**CIS**) provides a national framework to encourage new investment in renewable capacity, such as wind and solar, as well as clean dispatchable capacity, such as battery storage. It aims to help build a more reliable, affordable and low-emissions energy system for all Australians. The CIS involves the Australian Government seeking competitive tender bids for renewable capacity and clean dispatchable capacity projects to: • deliver an additional 32 GW of capacity by 2030 • fill expected reliability gaps as ageing coal power stations exit • deliver the Australian Government's 82% renewable electricity by 2030 target.
Integrated System Plan	The Integrated System Plan (**ISP**) is a whole-of-system plan that provides an integrated roadmap for the efficient development of the NEM over the next 20 years and beyond. The draft 2024 ISP was released on 15 December 2023. The ISP supports Australia's highly complex and rapid energy transformation towards net zero emissions, enabling low-cost renewable energy and essential transmission to provide consumers with reliable, and secure and affordable power. It serves the regulatory purpose of identifying actionable and future ISP projects, as well as the broader purposes of informing market participants, investors, policy decision makers and consumers.
State	
NSW Electricity Infrastructure Road Map	The NSW Electricity Infrastructure Roadmap (**Roadmap**) is the State's 20-year plan to transform the electricity system into one that is cheap, clean and reliable. The Roadmap is enabled by the Electricity Infrastructure Investment Act 2020 (**EII Act**). The plan sets out to coordinate investment in transmission, generation, storage and firming infrastructure as the State's coal-fired power plants are retired from 2023. It is intended to lay the foundations for more secure, reliable and affordable electricity. The Roadmap will support the private sector to deliver at least 12 gigawatts of new renewable electricity generation and 2 gigawatts of long-duration storage.
NSW Net Zero Plan	The Net Zero Plan Stage 1: 2020-2030 is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050. The plan aims to support the State's objective to deliver a 70% cut in emissions by 2035 compared to 2005 levels.
Local	
Central Coast Council Local Environmental Plan 2022	The Central Coast Council Local Environmental Plan (LEP) defines what land may be used for as well as development standards and controls that apply to the land. The Project footprint sits on land zoned as RU6 Transition. The objectives of this zone are to: • To protect and maintain land that provides a transition between rural and other land uses of varying intensities or environmental sensitivities. • To minimise conflict between land uses within this zone and land uses within adjoining zones. • To ensure land uses do not have an adverse impact on the conservation or development potential of land. The purpose of the Project is 'electricity generating works' as defined in the LEP. The LEP provides for 'electricity generating works' to be carried out on land zoned RU6 with development consent.
Central Coast Council Local Strategic Planning Statement 2020	The Central Coast Council Local Strategic Planning Statement (LSPS) sets outs the 20-year vision for land use within the LGA, outlining how growth and change will be managed into the future. It defines the special characteristics which contribute to the Central Coast's identity and recognises the shared community values to be maintained and enhanced. The plan's vision is for sustainable growth of the Central Coast region that overcomes the constraints of its spatial form by reorientating neighborhoods to their centres and directing growth so it does not compromise the amenity of existing communities or environments.

Strategy, Policy or Plan	Details
Central Coast Council Community Strategic Plan 2018-2028	The Central Coast Council Community Strategic Plan (CSP) provides the community's vision for the Central Coast LGA. The CSP is a 10 year plan developed to outline how the Central Coast Council will identify and plan funding priorities, manage regional challenges and plan for a sustainable future.

2.2. Regional Context

The Project site, including the network connection, sits wholly within the Central Coast Council LGA. The LGA has an area of approximately 1,681 km^2 and a population of approximately 346,596 people (Australian Bureau of Statistics, 2021 Census).

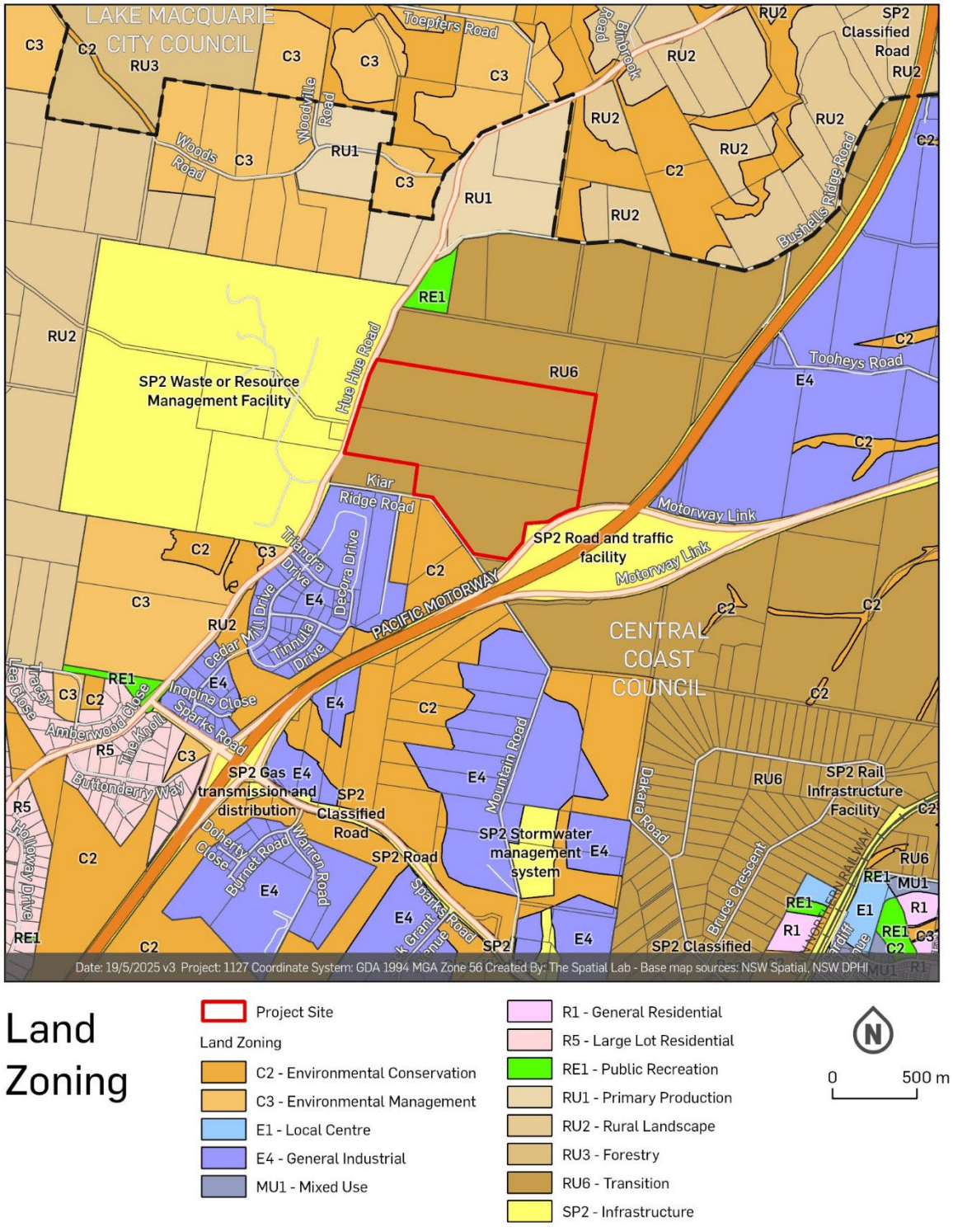
The Central Coast has traditionally been inhabited by Aboriginal people including the Awabakal, Darkinyung and Kuringgai people. The Central Coast region was first seen by Europeans beginning with Captain Cook's sailing records from 1770. The earliest exploration parties were led by Arthur Phillip in 1788. Currently the Central Coast is a diverse community with a rich history. The region is a hybrid of urbanized areas dispersed amongst national parks, forests and coastal waterways. The Central Coast Council LGA is the sixth largest urban area in Australia.

2.3. Local Context

The Project site is within the locality of Kiar. Existing residential areas within Kiar are predominantly single dwellings on larger rural lots north and south/ south-east of the site, while the most dominant employment development of the locality is industrial.

Sections of both wet and dry forests exist within the locality, although historic land use patterns have fragmented the natural landscape across the wider locality. Predominant features of the locality include the Pacific Motorway to the east, Hue Hue Road and the Buttonderry Waste Management Facility to the west.

The local zoning and land use context is shown in Figure 2. The potentially sensitive receivers to the Project are indicated in Figure 3.



Land Zoning

- Project Site

Land Zoning

- C2 - Environmental Conservation
- C3 - Environmental Management
- E1 - Local Centre
- E4 - General Industrial
- MU1 - Mixed Use
- R1 - General Residential
- R5 - Large Lot Residential
- RE1 - Public Recreation
- RU1 - Primary Production
- RU2 - Rural Landscape
- RU3 - Forestry
- RU6 - Transition
- SP2 - Infrastructure

N

0 500 m

Figure 2

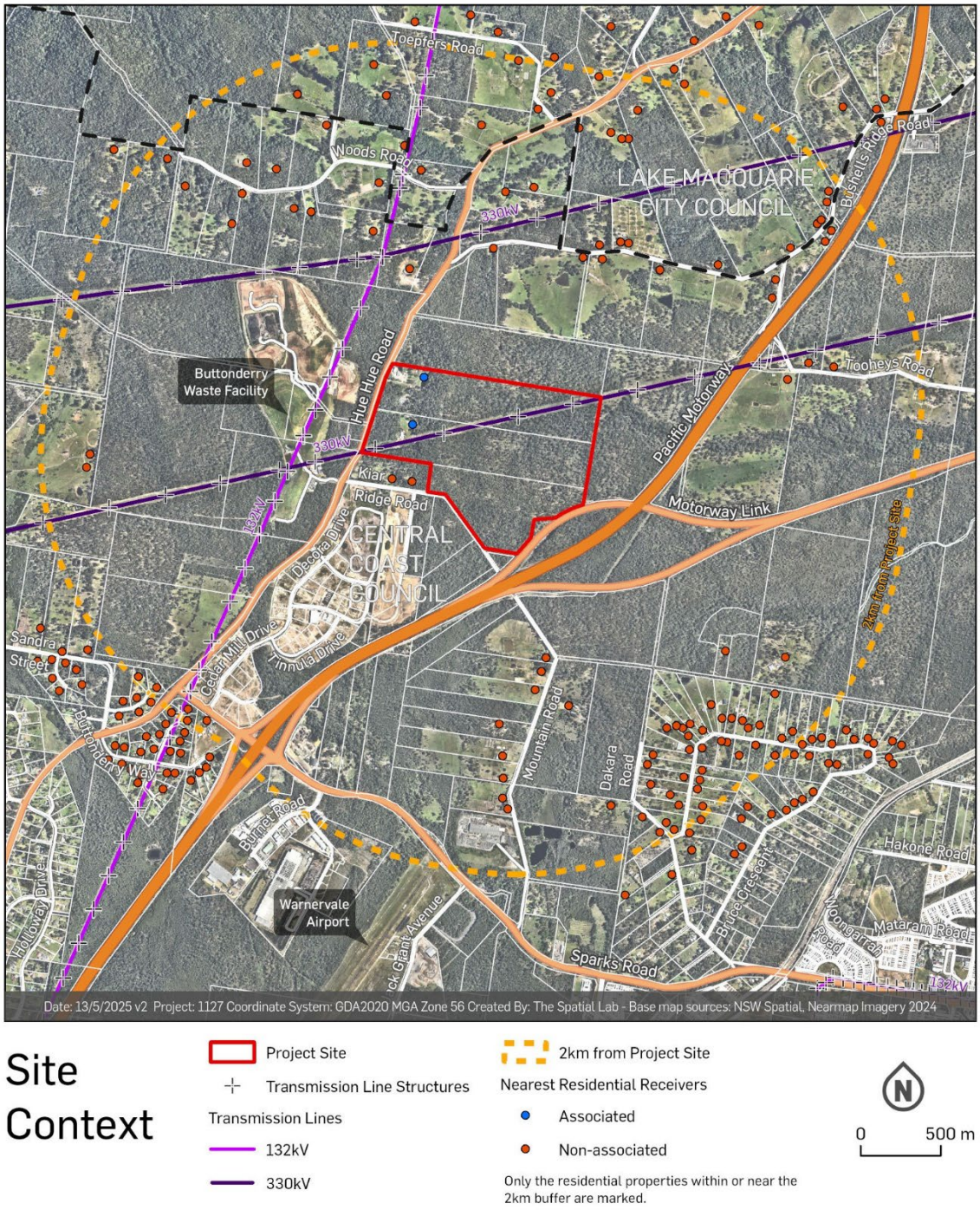

Toepfers Road
Woods Road
LAKE MACQUARIE CITY COUNCIL
Bishells Ridge Road
330kV
Buttonderry Waste Facility
Hue Hue Road
Tooheys Road
Pacific Motorway
330kV
Kiar Ridge Road
132kV
Motorway Link
CENTRAL COAST COUNCIL
Dacora Drive
2km from Project Site
Sandra Street
Cedar Mill Drive
Innula Drive
Buttonderry Way
Mountain Road
Dakara Road
Burnet Road
Hakone Road
Warnervale Airport
Holloway Drive
Bruce Crescent
Woongarrah Road
Mataram Road
Sparks Road
132kV
Date: 13/5/2025 v2 Project: 1127 Coordinate System: GDA2020 MGA Zone 56 Created By: The Spatial Lab - Base map sources: NSW Spatial, Nearmap Imagery 2024
Site Context
Project Site
Transmission Line Structures
Transmission Lines
132kV
330kV
2km from Project Site
Nearest Residential Receivers
Associated
Non-associated
Only the residential properties within or near the 2km buffer are marked.
N
0
500 m

Figure 3

2.4. The Site

The Project Site comprises two adjoining freehold lots located on Hue Hue Road. The Pacific Motorway runs approximately 500m to the east and south. Road access to the site is anticipated to be provided by new entry/exits directly from Hue Hue Road.

Transgrid's 330kV overhead transmission line 2M runs east-west through the properties, with an associated easement. Four transmission line towers are located within the subject properties.

The site is vegetated, with the exception of cleared areas covering the transmission line easement, dwellings and commercial structures associated with the lot owners and various access tracks through the lots.

The topography of the subject lots rises in the middle with a ridgeline running in the north south direction. Four first order streams and one second order stream traverse the site.

2.5. Key Risks or Hazards

The key risks and hazards that have the potential to affect the project land are outlined below:

- **Bushfire** - The land for the Project is within a bush fire prone area, and is classed as Vegetation Category 1 (highest risk for bush fire)
- **Flooding** – The Central Coast Council flood mapping shows the stream lines that traverse the eastern sections of the project plan do experience inundation under the modelling scenarios. The proposed concept layout for the Project has been developed with sufficient buffer to avoid where possible the areas of the properties that are subject to this inundation.
- **Land contamination** - No known contaminated sites have been identified within the land for the Project.

These risks will be further considered in the Project's hazard analysis during the EIS development (refer to **section 6.8**).

2.6. Cumulative Impacts

Cumulative impacts, as per the Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE 2022) (the "CIA Guideline"), are a result of incremental, sustained and combined effects of human action and natural variations over time. The impacts may be both positive and negative and can be caused by the compounding effects of a single project or multiple projects in an area. It may also be caused by the accumulation of effects from past, current and future activities.

The assessment levels for cumulative impacts, as per the CIA Guideline are set out in Table 3.

Table 3 Cumulative impact assessment levels as per the CIA Guideline

Assessment Level	Notes
Detailed Assessment	The project may result in significant impacts on the matter, including cumulative impacts. Detailed assessment is characterised by: • Potential overlap in impacts between a future project (e.g. Project A) and the proposed project • Potential for significant cumulative impacts as a result of the overlap, requiring detailed technical studies to assess the impacts • Sufficient data is available on the future project to allow a detailed assessment of cumulative impacts with the proposed project for the relevant matter • Uncertainties exist with respect to data, mitigation, assessment methods and criteria
Standard Assessment	The project is unlikely to result in significant impacts on the matter, including cumulative impacts. Standard assessments are characterised by: Impacts are well understood • Impacts are relatively easy to predict using standard methods • Impacts are capable of being mitigated to comply with relevant standards or performance measures • The assessment is unlikely to involve any significant uncertainties or require any detailed cumulative impact assessment.
N/A	• No potential overlap in impacts between a future project (e.g. Project A) and the proposed project that would warrant any consideration in the cumulative impact assessment

There are several other projects in proximity to this proposed Project and therefore there is the potential for cumulative impacts to occur. The EIS will consider any potentially relevant interactions between the Project and the developments in the vicinity and assess potential cumulative impacts. The locations of proposed and approved major development projects in relation to the Project are shown in Figure 4.

The CIA guideline provides six key questions that must be considered in scoping the cumulative impact assessment, these are set out in **Table 4** .

Table 4 Cumulative impact assessment approach

Question	Answer
What to assess?	Matters to be considered would include: • Access • Air • Amenity • Biodiversity • Built environment • Economic • Hazards and risks • Heritage • Land • Social • Water
What study area?	The area will depend upon each of the matters to be considered and be broad enough in nature to capture all relevant cumulative impacts.

Over what time period?	The life of the Project covering construction, operation and decommissioning
What projects to include?	The projects listed in Table 5 and other proposed projects that are publicly known at the time of preparing the EIS.
What is the approach to assessment?	The assessment would be undertaken in accordance with the Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE 2022).
What are the key uncertainties?	Typically, quality and availability of data on proposed projects would be the key uncertainty.

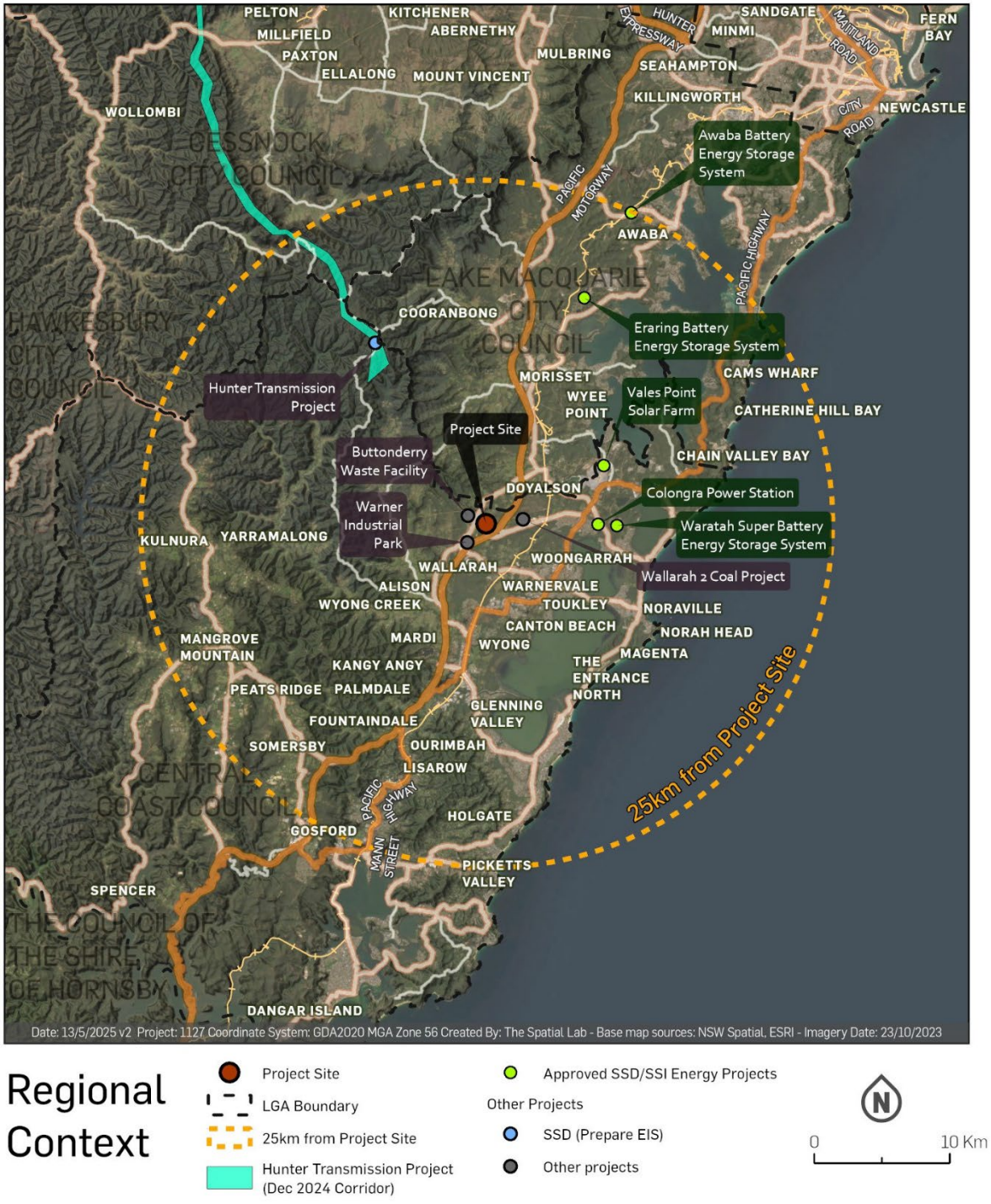


Figure 4

The cumulative impact assessment would be undertaken in accordance with the CIA Guideline. A cumulative impact assessment scoping summary table for this assessment has been prepared and is shown in Table 5 with the details of the currently identified major projects in proximity to the Project. Additional or revised details of nearby major projects with the potential to interact with the proposed Project

would be considered as necessary during the EIS phase. This would include consultation with relevant stakeholders and evaluation of DPHI's Major Projects database.

An initial assessment of the potential cumulative impacts associated with the construction and operational phases of the Project, as well as mitigation measures, has been undertaken. This assessment is summarised in Table 6.

Table 5 Cumulative impact assessment scoping summary table

Project	Approx. Distance from the Project	Status Indicative Timing / Overlap	Traffic	Social	Economic	Amenity	Biodiversity	Hazard & Risk
Buttonderry Waste Facility	1km	Project is operational Operations overlap would occur	Detailed	Standard	Standard	Standard	Detailed	Standard
		Study area key features	Hue Hue Rd and Sparks Rd	5km from the site	5km from the site	500m from the site	500m from the site	500m from the site
Warner Industrial Park	3km	Project is operational Operational overlap would occur	Detailed	Standard	Standard	Standard	Detailed	Standard
		Study area key features	Hue Hue Rd and Sparks Rd	5km from the site	5km from the site	500m from the site	500m from the site	500m from the site
Wallarah 2 Coal Project	10km	Project is approved Potential for an overlap of both construction and operations, although the timing of the timing of this project commencing is uncertain.	Detailed	Standard	Standard	Standard	Detailed	Standard
		Study area key features	Hue Hue Rd and Sparks Rd	5km from the site	5km from the site	500m from the site	500m from the site	500m from the site
Waratah Super Battery Energy Storage System	10km	Project in advanced construction Operations overlap would occur	N/A	Standard	Standard	N/A	N/A	N/A
		Study area key features		5km from the site	5km from the site			

Project	Approx. Distance from the Project	Status Indicative Timing / Overlap	Traffic	Social	Economic	Amenity	Biodiversity	Hazard & Risk
Vales Point Solar Farm	15km	Project is approved Potential for an overlap of both construction and operations	N/A	Standard	Standard	N/A	N/A	N/A
		Study area key features		5km from the site	5km from the site			
Hunter Transmission Project	20km	Project is at prepare EIS stage Anticipated 2026 construction start date. Potential for overlap of construction and operations	N/A	Standard	Standard	N/A	N/A	N/A
		Study area key features		5km from the site	5km from the site			
Eraring Battery Energy Storage System	20km	Project is in advanced construction Operations overlap would occur	N/A	Standard	Standard	N/A	N/A	N/A
		Study area key features		5km from the site	5km from the site			
Awaba Battery Energy Storage System	25km	Project is approved Potential for an overlap of both construction and operations	N/A	Standard	Standard	N/A	N/A	N/A
		Study area key features		5km from the site	5km from the site			

Table 6 Cumulative impact considerations

Matter	Potential Cumulative Impacts	Potential Impact Scale	Duration	Potential Mitigation Measures
Construction Phase				
Traffic	The potential cumulative impacts include: • Changes to traffic volumes and timings • Interactions of traffic when entering/leaving the Project site on roads used by multiple projects such as Hue Hue Road • Timings and volumes of OSOM vehicles that may disrupt normal use of surrounding roads	Moderate	Short term	Coordination of scheduling of construction activities between nearby projects Avoiding concurrent / simultaneous disruption to surrounding roads Appropriate design of turn-in to the Project from Hue Hue Road in consultation with relevant stakeholders and in consideration of nearby projects
Amenity	The potential for cumulative noise impacts from nearby projects to surrounding receivers.	Moderate	Short term	Coordination of scheduling of construction activities between nearby projects and avoidance of simultaneous activities with compounding noise and/or vibration impacts
Social	The potential for increased demand on local social infrastructure such as accommodation.	Moderate	Short term	The Social Impact Assessment prepared during the EIS will identify any potential impacts and the appropriate mitigation measures. Consultation with the community and relevant stakeholders throughout the construction phase will be an important mitigation measure.
Economic	The potential economic impacts, both positive and negative, may include additional local employment opportunities, increased spending at local businesses, however this may result in strains on local business capacity.	Moderate	Short term	Given the high economic capacity and profile of the region as well as the benefits for the electricity network from the Project, the economic impacts are largely anticipated to be positive. This will be further considered in the EIS phase.
Biodiversity	As the site is in proximity to other existing and proposed developments there may be cumulative biodiversity impacts or factors that require evaluation	High	Long term	Minimise vegetation clearing associated with the Project. Orientate the layout of the Project elements such that clearance of the higher sensitivity vegetation is avoided. Consider biodiversity corridors and pathways both within the Project site and the surrounding locality. The Biodiversity Development Assessment Report that is prepared during the EIS phase would need to consider the potential for cumulative impacts to biodiversity.

Operational Phase				
Amenity	The potential for cumulative impacts to receivers from the operational noise of the equipment.	Moderate	Long term	The Project location has been selected for its separation distance to surrounding receivers as well as the topography which provides shielding benefits to potential for noise transmission. However the noise assessments during the EIS phase and detailed design stage will further consider the potential noise impacts at receivers and the need for refinement of equipment layouts or specifications against relevant noise criteria.
Social	The potential for ongoing social impacts resulting from multiple projects in proximity	Minor	Long term	Detailed community and stakeholder consultation to understand the potential concerns and impacts (both positive and negative) of the operational phase of the project on local social amenity.
Hazard & Risk	There is the potential for a cumulative impact from hazards and risks of major projects in proximity, such as a fire emanating from a project that spreads or a bushfire from surrounding vegetation that affects a project	Moderate	Long term	Detailed hazard and risk analysis during the EIS will consider the risks of surrounding projects and the appropriate mitigations.

2.7. Site Selection

The land for the Project was identified as viable for a battery energy storage system due to:

- Existing Transgrid high voltage transmission line (2M) that passes through the site will be the Project's onsite point of connection (**POC**) to the grid. This minimises the cost of transmission infrastructure needed to connect the project by using existing underutilized infrastructure, reducing the cost to NSW energy consumers.
- The location of the Project within a region of the electricity transmission network with high energy demand and with high-capacity existing transmission lines that are currently underutilized owing to the progressive exit of legacy coal generation.
- Large amount of predominantly suitable land available on the Project site, providing the ability to orientate the Project infrastructure in a manner that minimizes any potential impacts of the development.
- Location of the Project site on suitably zoned land, in a transitional precinct with separation from the major residential areas of the region and adjacent to existing industrial uses.
- Access from the Project site to major transport infrastructure including the Pacific Motorway and Hue Hue Road.
- Topography surrounding the site, which provides natural shielding protection from impacts to visual amenity for the majority of receivers.

2.8. Project Need

The NEM is in transition in line with government policies to reach a net zero economy by 2050. According to AEMO (AEMO, *draft 2024 Integrated System Plan*, 2023), urgent action is needed to deliver benefits for consumers as the NEM moves away from its traditional dependency on coal-fired generation. Renewable energy generated from wind and solar that is firmed with storage assets such as the Project will form the foundation of the replacement for the aging coal-fired generation.

The retirement of the coal generation fleet has been continuing at a steady rate since 2012, with all scheduled for retirement by 2051. AEMO's forecast is that the remaining coal fleet will close two to three times faster than the announced retirement dates due to higher operating costs, reduced fuel security, high maintenance costs and greater competition from renewable energy in the wholesale market.

Storage is required to smooth out the peaks and fill the gaps from VRE. AEMO estimates 50 gigawatts (**GW**) / 654 gigawatt hours (**GWh**) of dispatchable storage is required. Storage is typically considered in the following categories:

- Consumer owned or distributed storage (such as behind the meter household batteries)
- Shallow storage (such as utility scale batteries of duration up to 4 hours)
- Medium Storage (such as utility scale batteries or pumped hydro of duration between 4 and 12 hours)
- Deep storage (with duration exceeding 12 hours such as Snowy 2.0)

The Project is a form of shallow storage and is designed to dispatch stored energy upon demand and instantaneously, and to be able to support grid stability and security through various ancillary services and system strength services functions.

The Project is justified and in the public interest as the Project:

- Is suitably located in the NSW electricity network in a region that has high energy demand and underutilized existing transmission capacity. The location of the Project in this region supports a more efficient provision of energy storage assets to the energy user compared to locations away from energy demand and/or where existing transmission capacity is not sufficient.
- Is able to provide energy storage, flexible dispatch and grid stability and security services to support the energy transition.
- Will support the efficient replacement of coal generation with renewable energy sources by building energy storage in a location close to existing coal fired power generation facilities due to be retired, locations where the grid has both high energy demand and underutilized transmission capacity, thereby providing flexible dispatch back to the grid when needed by energy users at the lowest possible cost to NSW energy consumers.
- Supports the energy transition and Australia achieving its target of net zero emissions by 2050.
- Is sited in a locality with direct access to high quality existing infrastructure including the high voltage transmission line and main access roads. Additionally, the precinct is located such that the residential amenity of the major residential pockets in the region will not be affected.
- Will create economic and employment opportunities and benefits to the local region.

2.9. Project Benefits

The Project would provide a range of direct and indirect benefits for local stakeholders. During the approvals process, BID intends to work closely with the Central Coast Council, near neighbours, the local community, Indigenous groups, local businesses and other key stakeholders to understand local needs, preferences and opportunities to share the benefits of the Project through community benefits sharing arrangements.

Direct economic benefits of the Project are expected to include approximately 250 jobs during construction and 7 jobs for the operational life of the project, as well as the development and strengthening of local skills and capabilities in the electricity sector.

Benefits to the electricity network from the Project would include supporting the safe, reliable and affordable transition of the grid to renewable energy. Primarily this is through the storage of excess energy generated by VRE generators such as solar and wind, and then injection of this energy back into the electricity network at times of demand by consumers and businesses. The Project is also able to provide a range of network services to the grid such as FCAS, SRAS and system strength services that facilitate the electricity network operating reliably and securely.

3. Project

3.1. Overview

The Project involves the construction, operation and eventual decommissioning of the proposed BESS, high voltage grid connection and other supporting infrastructure. An indicative project layout showing the Project boundary and the currently anticipated development footprint is provided in Figure 5. The development footprint shown includes the access roads, battery modules and the substation.

The current orientation of the development footprint within the Project boundary is informed by avoidance of the riparian zones around the streamlines that traverse the site. Flexibility to adjust the final development footprint within the Project boundary may be required as the findings of the detailed studies and engineering during the EIS phase become available.

The battery will have a peak generation capacity of approximately 1,000 MW and with an energy storage duration of 4,000 MWh. The Project will be configured to allow the stored energy to be discharged continuously over multiple hours at the peak capacity, or over a longer duration at a lower capacity.

3.2. Project Area

The boundary of the total Project site area under investigation is approximately 100 ha. Within this, the area of the disturbance footprint for project components is anticipated to be approximately 40 ha, subject to the final design and layout, including the grid connection and access road. It is anticipated that the site would be accessed via Hue Hue Road, although this will be determined during the EIS study phase of the project based upon the findings of the detailed EIS studies and engagement with relevant stakeholders.

3.3. Project Components

The main components of the Project are the battery system and the substation and associated network connection to the existing transmission line passing through the site. The relative layout of the components on the site is shown in Figure 5.

The intended layout is based on the battery system being broken into two main islands located in the north and south ends of the site. The substation and network connection will likely be on the site's eastern side.

This concept layout has been informed by avoiding impact on streamlines traversing the site as much as practically possible, as well as containing the infrastructure into consolidated islands to minimise the disturbance area on the site. The final orientation of the Project components will be determined during the EIS but would remain within the estimated total development footprint. The final orientation of the components will have regard to the EIS studies, the consultation with key stakeholders, outcomes of the grid connection application process with Transgrid and AEMO and the detailed design of the Project.

Battery System

The battery system component of the Project would comprise:

- Rows of enclosed battery modules connected to associated power conversion systems (**PCS**) and underground 33kV HV ring main reticulation equipment and switchgear.

- Ventilation, heating, control and safety systems and likely include dedicated on-site fire water storage.
- Buildings and ancillary infrastructure including control room, storage, maintenance/workshop buildings and offices.
- Access roads and parking.
- Security fencing and landscaping.

The arrangement and number of battery modules, PCS and ring main units will be refined during the detailed design and EIS process. It is anticipated the battery system will be grouped into two or three main islands within the wider site.

Substation and Network Connection

The Project will connect directly to the grid via a new substation and cut in to the existing 330kV transmission line that runs through the site. The substation and network connection component of the Project would comprise of:

- 33/330kV transformers.
- Substation and switching yard infrastructure.
- Short section of overhead transmission line cutting into the existing 330kV overhead transmission line.
- Substation control room, safety systems and site ancillary infrastructure including storage and maintenance/workshop buildings.
- Access roads and parking.
- Security fencing and landscaping.

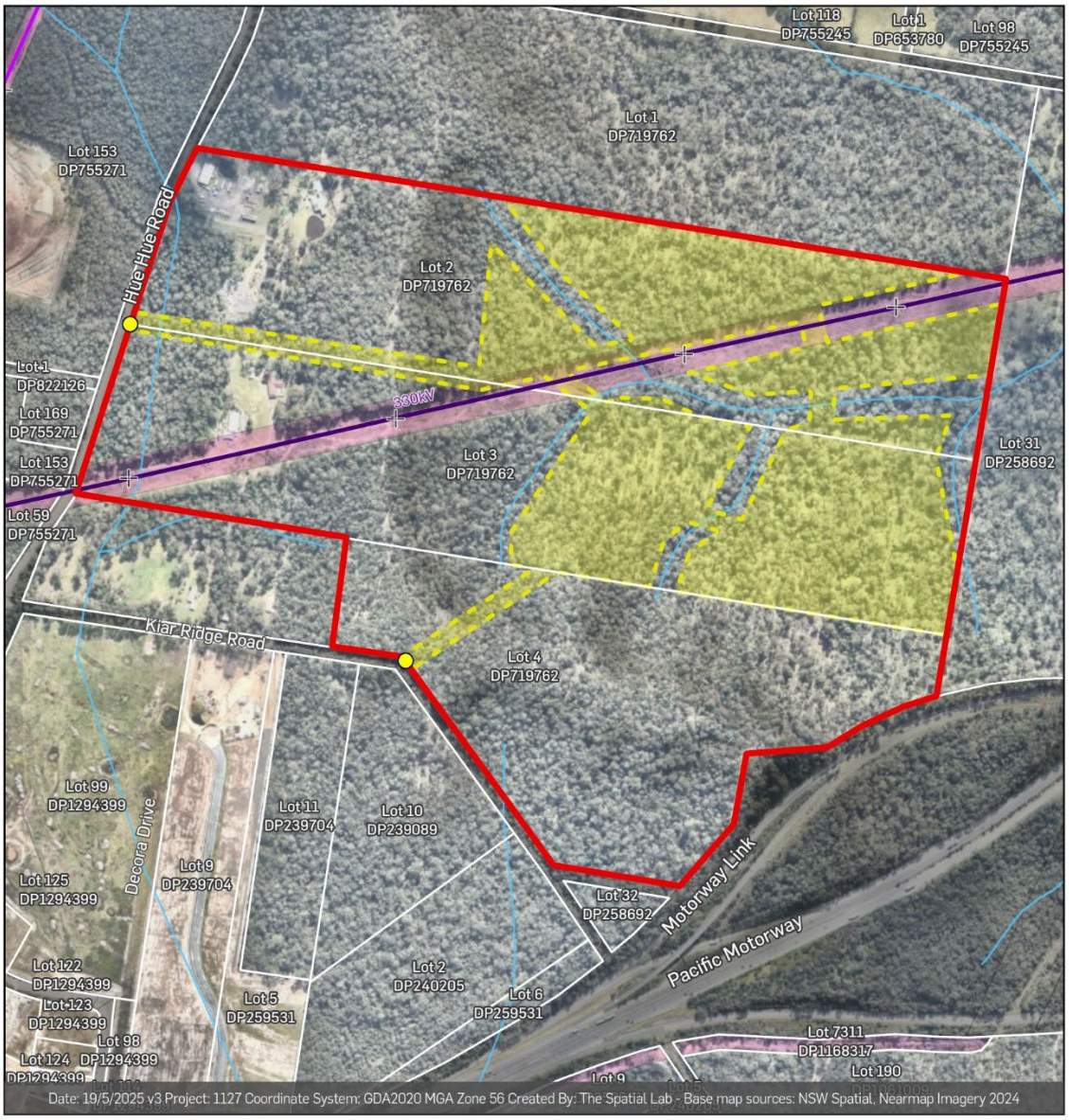

Lot 118 DP755245
Lot 1 DP653780
Lot 98 DP755245
Lot 1 DP719762
Lot 153 DP755271
Hue Hue Road
Lot 2 DP719762
Lot 1 DP822126
330kV
Lot 169 DP755271
Lot 153 DP755271
Lot 3 DP719762
Lot 31 DP258692
Lot 59 DP755271
Kiar Ridge Road
Lot 4 DP719762
Lot 99 DP1294399
Lot 11 DP239704
Lot 10 DP239089
Decora Drive
Lot 9 DP239704
Lot 125 DP1294399
Motorway Link
Lot 32 DP258692
Pacific Motorway
Lot 122 DP1294399
Lot 2 DP240205
Lot 5 DP259531
Lot 6 DP259531
Lot 123 DP1294399
Lot 98 DP1294399
Lot 7311 DP1168317
Lot 124 DP1294399
Lot 190
Date: 19/5/2025 v3 Project: 1127 Coordinate System: GDA2020 MGA Zone 56 Created By: The Spatial Lab - Base map sources: NSW Spatial, Nearmap Imagery 2024
Indicative Project Layout
Project Site
Site Access Point
Indicative Development Footprint
Easement
Road Corridor
Existing Transmission Line Structures
Transmission Lines
132kV
330kV
Topographic Creekline (NSW Spatial)
N
0
100 m

Figure 5

3.4. Project Stages and Timing

The Project stages are:

- Construction.
- Operation.
- Decommissioning.

3.4.1. Construction

The construction of the Project is expected to begin in 2026, subject to the approvals process, and have a duration of 18-24 months. Completion of construction, and commissioning of the Project, is therefore expected in late 2027 or early 2028.

The development of the Project may be staged depending upon circumstances in the NEM and grid demand needs. Staging of the Project would result in staged commissioning dates.

The majority of construction activities would be carried out during the following standard hours:

- 7am-6pm Monday to Friday
- 8am-1pm Saturday
- No work on Sundays or Public Holidays

Some construction activities may be carried out outside the standard hours including:

- Work determined to comply with the relevant noise limits at the nearest sensitive receiver.
- Delivery of materials and equipment as may be required by authorities for safety reasons.
- Testing and commissioning stages where continuous activities must be completed that extend beyond standard hours.
- Emergency situations.

3.4.2. Construction Activities

Activities comprising the construction of the Project would include:

- Establishment of road access points into the site from Hue Hue Road and/or Kiar Ridge Road. Appropriate design of these points would be considered in the EIS and in consultation with relevant stakeholders that may include Transport for NSW, the Central Coast Council, the Rural Fire Service and neighbouring landowners.
- Establishment and maintenance of environmental controls.
- Transportation to the site of construction plant such as earthmoving equipment, compaction equipment, trenching and excavation equipment, forklifts, cranes and materials unloading and handling equipment.
- Transportation to the site of temporary construction equipment and materials such as site offices, facilities, temporary fencing, safety and environmental management equipment and materials.
- Clearing of vegetation.
- Cut and fill earthworks and construction of hardstand pads.
- Civil works to construct slabs and footings for the equipment and buildings.

- Delivery of materials and equipment associated with the earthworks and civil works phases which would include materials such as sand, road base, road drainage and culverts, gravel and pavements, engineered fill materials, concrete, reinforcing steel, formwork, electrical, communications, water and drainage conduits.
- Delivery of the long term project equipment and facilities which would include the enclosed battery modules units, power conversion system units, ring main units, transformers, electrical cabling and reticulation equipment, mechanical equipment, switchgear, ventilation, heating, control and safety systems, fire fighting equipment, prefabricated offices, workshop/maintenance/storage structures, security fencing and landscaping.
- Installation and fit out of all equipment.
- Testing and commissioning.
- Installation of buildings, fencing and other minor ancillary works.
- Removal of construction waste, construction plant and equipment, temporary construction facilities and rehabilitation of construction areas.
- Landscaping.

3.4.3. Construction Workforce

Construction of the Project would involve a construction workforce estimated to peak at 100 people on site. As part of the selection of the delivery partners for the Project, commitments to use and upskill the workforce from the local Central Coast region, create indigenous and equal opportunity employment will be prioritised.

3.4.4. Operation

Operation of the Project is expected to commence in late 2027 or early 2028. The Project would typically operate 24 hours per day, 7 days per week. The normal operational regime involves charging the battery during times of excess energy in the grid and then discharging the stored energy back to the grid during times of high energy demand.

Typically, the Project is expected to cycle through one charge/discharge cycle per day. although the circumstances in the electricity market may increase the number of times the battery is cycled per day, or alternatively the battery may not be cycled at all on a given day.

The expected operating life of the Project is at least 25 years. Prior to the end of the Project's operating life, the viability of refurbishing or replacing equipment would be considered in the decision to extend or decommission the Project.

3.4.5. Decommissioning

At the end of its operational life, the Project would be decommissioned. Above ground components of the project would be removed and transported to appropriate offsite locations for re-purposing or recycling where possible or else waste disposal. Land utilized or impacted by the Project would then be appropriately rehabilitated in consultation with the relevant landowners.

3.5. Project Alternatives to be Investigated

The layout and arrangement of the Project components will be refined during EIS studies, ongoing community and stakeholder consultations, and the detailed design process. The project boundary area has been oversized relative to the anticipated development footprint in order to provide the flexibility required during the EIS and detailed design stage to refine and adjust the final project layout to minimise project impacts as a greater understanding of the site specific conditions relating to such matters as biodiversity, heritage and hazard and risk are further assessed.

4. Statutory Context

The framework for development control and land use planning in NSW is provided by the *Environmental Planning and Assessment Act 1979* (**EP&A Act**) and the *Environmental Planning and Assessment Regulation 2021* (**EP&A Regulation**).

The Project is State Significant Development (SSD) under Division 4.7 of Part 4 of the Act. Section 4.36(2) declares certain types of development to be SSD under a State environmental planning policy. In this instance, the project is designated as State significant under *State Environmental Planning Policy (State and Regional Development) 2021* Schedule 1, Cluse 20 being:

> *"Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that—*
>
> *(a) has a capital investment value of more than $30 million, or*
>
> *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance."*

The Project is classified as "electricity generating works" under this clause and exceeds the $30 million capital investment threshold. Therefore, it is declared SSD, and the consent authority is the Minister for Planning or their delegate.

In addition to the designation of SSD, the following sections of the EP&A Act apply:

- Section 4.40–4.42: Provide the requirements for the assessment and determination of SSD, including the requirement for an Environmental Impact Statement (EIS) and the public exhibition process.
- Section 4.41: Identifies approvals under other legislation that are not required for SSD. This includes certain permits under the *Fisheries Management Act 1994, Heritage Act 1977, National Parks and Wildlife Act 1974, Rural Fires Act 1997*, and *Water Management Act 2000*.

The EP& A Regulation prescribes requirements for the content and form of the EIS. These include Clause 17 and Schedule 2 which set out the mandatory requirements for preparing an EIS, including a full description of the development, an analysis of likely environmental impacts, alternatives considered, and mitigation strategies. The Regulation also outlines public exhibition requirements, consultation expectations, and procedures for requesting SEARs.

The key statutory considerations to the Project under the EP&A Act and other relevant NSW and Commonwealth legislation are summarised in Table 7.

Table 7 Planning framework:

Item	Details
Power to grant consent	The Project meets the threshold for State Significant Development (**SSD**) under Part 4 of the EP&A Act. Approval for the Project will be sought under Part 4, Division 4.7 of the EP&A Act. Under Clause 2.6 of the *State Environmental Planning Policy (Planning Systems) 2021*, *(1) Development is declared to be State significant development for the purposes of the Act if—* *(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and* *(b) the development is specified in Schedule 1 or 2.* Under Schedule 1, Clause 20 of the *State Environmental Planning Policy (Planning Systems) 2021,* *Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that—* *(a) has a capital investment value of more than $30 million, or* *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance.* The Project meets the definition of "electricity generating works' and it has a capital investment value exceeding $30 million and is therefore SSD. The consent authority for the Project is therefore the NSW Independent Planning Commission or the NSW Minister for Planning.
Permissibility	**Central Coast Council LEP 2022** The Project is located within the Central Coast Council LGA. The relevant environmental planning instrument is the Central Coast Council Local Environmental Plan 2022 (LEP 2022). The Project land is wholly located on land zoned RU6 – Transition. Development for the purpose of electricity generating works is permissible with consent in the RU6 zone. Project meets the definition of 'electricity generating works' as defined in the *LEP* 2022. ***electricity generating works** means a building or place used for the purpose of—* *(a) making or generating electricity, or* *(b) electricity storage.* The site of the Project facilities including the substation and network connection is wholly located within land zoned RU6 – Transition. The site is located within the Central Coast Council LGA. Under the *Central Coast Council LEP 2022*, development for the purpose of electricity generating works is permissible with consent on land zoned RU6 Transition. Further, the *State Environmental Planning Policy (Transport and Infrastructure) 2021* provides for 'electricity generating works' to be carried out on any land in a prescribed non-residential zone. Therefore, the Project is permissible with consent.
Other approvals	**Consistent Approvals** • **Environmental Protection Licence** It is anticipated that an environment protection licence (**EPL**) will be required under the *Protection of the Environment Operations Act 1997 (**POEO Act**)*. If this is required, it would be obtained prior the Project commencing. • **Roads Act** Under the *Roads Act 1993*, Section 138, approval is required to permit the erection of a structure or carry out a work in, on or over a public road. This would be obtained as part of the SSD DA approval. It is anticipated that the Project would involve an upgrade of the existing road access connections to the properties from Hue Hue Road. Access via Kiar Ridge Road may also be considered during the EIS phase depending upon the results of detailed stakeholder consultant and agreement for access. The impact assessment of traffic volumes and design of the turnoffs from Hue Hue Road and Kiar Ridge Road will be assessed and identified in the EIS, including with consultation with Transport for NSW and the Central Coast Council. **EPBC Act Approval**

Item	Details
	Under the *Environment Protection and Biodiversity Conservation Act 1999 (**EPBC Act**)*, any action which could have a significant impact on Matters of National Environmental Significance (**MNES**) must be referred to the Federal Minister for the Environment and Energy. A March 2025 search of the Commonwealth Protected Matters Search Tool (**PMST**) identified 3 threatened ecological communities and 91 threatened species may occur within a 5km buffer of the Project area. There are no matters of national significance identified on the site. Biodiversity assessments covering the land proposed to be included in the Project footprint will be completed during the EIS. It is currently anticipated that a referral relating to the Project under the EPBC Act would be made to the Commonwealth Department of Agriculture, Water and Environment. **Other Approvals** • **Native Title** The *Native Title (New South Wales) Act 1994* provides for native title in relation to land or waters. The Project does not affect land that is subject to a native title claim or determination nor to which an Indigenous Land Use Agreement applies. • **Water Access Licences** Water sources for the construction and operation of the Project will be identified and detailed within the EIS. If it is determined that a water access license or approvals is required, it would be obtained prior to the commencement of construction. • **Land Lease** Land access agreements have been entered into with the owners of the affected land. • **Network Connection** Agreements for the Project to connect to the NEM would be progressed with Transgrid separately. **Approvals not required for SSD** Under Section 4.41 of the EP&A Act, the following approvals are not required for an SSD development: *(a) (Repealed)* *(b) a permit under section 201, 205 or 219 of the Fisheries Management Act 1994,* *(c) an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977,* *(d) an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974,* *(e) (Repealed)* *(f) a bush fire safety authority under section 100B of the Rural Fires Act 1997,* *(g) 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.*
Pre-conditions to exercising the power to grant consent	The EIS will be prepared in accordance with the relevant legislative requirements and guidelines. No pre-conditions to exercising the power to grant approval have been identified for the Project.
Mandatory matters for consideration	The applicability of the following legislation to the Project would be determined in the EIS. **Biodiversity Conservation Act 2016** The EIS for the Project will include an assessment of biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016* a. A Biodiversity Development Assessment Report (BDAR) will be required. **Biosecurity Act 2015** The Biosecurity Act may be applicable if listed weeds are identified within the Project site. **National Parks and Wildlife Act 1974**

Item	Details
	The *National Parks and Wildlife Act 1974* details the care, control, governance and management of national parks, nature reserves, Aboriginal and historic sites. The Project land does not include any land reserved under this act. Impacts to biodiversity and heritage will be assessed in the EIS. **Heritage Act 1977** There are no sites listed on the NSW State Heritage Inventory in the vicinity of the Project site. **Rural Fires Act 1997** The Project site is mapped as containing category 1 bushfire prone vegetation which is considered a high bushfire risk. Potential risks associated with bushfires would be assessed in the EIS. As part of the EIS, consultation would be undertaken with the NSW Rural Fire Service (**RFS**). **Contaminated Land Management Act 1997** This Act outlines the process in which notification of the NSW Environment Protection Authority (**EPA**) is required in relation to contaminated land. Preliminary investigations have not identified the existence of any contaminated land at the Project site. **Waste Avoidance and Resource Recovery Act 2001** Management practices as required by the *Waste Avoidance and Resources Recovery Act 2001* would be included in the EIS. **State Environmental Planning Policy (Resilience and Hazards) 2021** The EIS would include a preliminary hazard analysis (**PHA**) prepared in accordance with the *State Environmental Planning Policy (Resilience and Hazards) 2021* (***Resilience and Hazards SEPP***), and other guidelines such as *Multi-Level Risk Assessment* and *Applying SEPP 33*.

5. Engagement

5.1. Background

BID's approach to stakeholder engagement and consultation is to ensure:

- Clear and accurate information about the Project is available to interested stakeholders. That this information is regularly updated as the Project progresses.
- That constructive and enduring working relationships are established and maintained with stakeholders.
- That stakeholder communication channels are created and maintained, and
- feedback on the Project details is sought and incorporated where relevant and appropriate.

To date BID has:

- Established and maintained a public webpage with information about the Project.
- Informed and commenced consultation process with the relevant Central Coast Council staff.
- Informed (via a scoping meeting) and commenced engagement with the Department of Planning, Housing and Infrastructure
- Informed and commenced the consultation process with the Hunter Central Coast branch of the NSW Government Conservation Programs, Heritage and Regulation Group (CPHR). The initial consultation meeting focused primarily on biodiversity impacts.
- Informed and sought feedback from the only direct neighbour, Wyong Coal who owns the land to the north, east and south of the site. Engagement has been via email and registered post although no response has yet been received. Informed the Buttonderry Waste Management Facility which is located opposite the site on Hue Hue Road. This has also included a face-to-face meeting and briefing about the proposed project.
- Informed and sought engagement with the local representative to the NSW Parliament, and the representative to Federal Parliament.
- Informed and commenced engagement with Transgrid, the TNSP for the connecting transmission line.

BID will continue to engage with council, neighbours, the community, Indigenous groups, other relevant stakeholders and agencies to ensure they are informed about the details and potential impacts of the Project as it progresses, and to understand any concerns that may exist and work to address and manage them.

5.2. Key Stakeholders and Engagement to Date

The likely level of community interest in the Project by geographic extent is summarised in Table 8.

Table 8 Likely level of community interest in the Project

Community Group	Likely Level of Interest
Local Community **(<5km from the site)**	Medium to high level of interest Expected areas of key interest to the local community are: • Impacts to amenity (visual / noise) • Impact on housing/accommodation during construction • Disruption to roads and amenities during construction • Impact of multiple renewable energy projects being developed in the region at the same time
Regional **(5-100km from the site)**	Medium interest Expected areas of key interest to the regional community are: • Impact on accommodation during construction • Disruption to roads and amenities during construction • Impact of multiple renewable energy projects being developed in the region at the same time
>100km from the site)	Low There are multiple renewable energy developments both operating and in construction in the wider regional area.

Key stakeholders who may be directly or indirectly impacted by the Project, or who otherwise may have an interest in the Project have been identified, together with a summary of the engagement completed to date, in Table 9.

Table 9 Key stakeholder engagement to date summary

Stakeholder	Engagement to Date
Central Coast Council	Introductory meeting held 17 March 2025. The Pre-DA format meeting included key planning, development and environmental staff. Discussion included definition of the use and permissibility, access, site layout and development footprint, waste management, biodiversity and heritage. Further specifics on the key feedback received from Council and where these have been addressed at this stage are provided as follows: • The site is partially impacted by flood modelling. This is associated with the streamlines traversing mainly the eastern side of the site, and these areas have been avoided in the proposed development footprint. • The site is located within Mine Subsidence Guideline 6 area. Subsidence Advisory NSW have separately been contacted by the project team to commence the process of engagement as a stakeholder. • The site is located within a Bushfire prone land area • Any signage proposed as part of the development is required to address the provisions outlined within the Statement Environmental Planning Policy (Industrial and Employment) 2021. Details of any proposed signage is required to be provided on the submitted architectural plans. • The objectives of RU6 Transition Zone in the Central Coast Council LEP as well as the Central Coast DCP were raised, which will be addressed in the EIS stage. • Water and sewer is not available at the site, this will noted in the detailed design of the project and the EIS stage.

Stakeholder	Engagement to Date
	• The Council noted the vegetated nature of the site and their expected requirements for detailed biodiversity and ecological studies during the EIS. • Council requests the EIS demonstrate via a Crime and Safety report how the proposal has been designed with consideration of the Crime Prevention through Environmental Design (CPTED) strategies relating to surveillance, access control, territorial reinforcement, and space management. • Council requests the proposed development is to comply with the provisions of the SEPP (Resilience and Hazards) 2021 and SEPP (Biodiversity) 2021 that are relevant to the Project. This will be addressed during the EIS stage.
DPHI	Introductory meeting held on 26 March 2025. Discussion included preliminary feedback of the Department's expectations for how proponents should approach the key planning and consents matters as well as stakeholder engagement for BESS projects in general. Preliminary project specific feedback was received in relation to ecology, hazard and risk, heritage and traffic.
CPHR	Introductory meeting held 30 April 2025. The CPHR team were appreciative of the early collaboration and are keen to remain in touch regarding development of the project scope and findings during the detailed studies of the EIS phase. The team noted the challenges and potential impacts of the site's biodiversity constraints.
Primary host landowners	Extensive discussions held with host landowners
Directly surrounding neighbours	The project has only one directly adjacent neighbour (additional to the road easement for Hue Hue Road). The properties to the north, east and south are owned by a single owner being entities controlled by Wyong Coal. Introductory information has been sent to this neighbour by registered post and emails beginning October 2024. An introductory phone call was held in May 2025. Further engagement and detailed consultation is intended at the neighbour's convenience.
Buttonderry Waste Facility	The site is bounded to the west by Hue Hue Road. The Buttonderry Waste Management Facility is located opposite the site on Hue Hue Road, - see engagement details in Buttonderry row of this table. Initial discussion held with Central Coast Council Waste and Resource Recovery in August 2024. Project introductory letter sent on 17 March 2025 Project presentation and Q&A discussion held on site at Buttonderry on 30 April 2025 Overall the feedback to date on the proposed project from the Buttonderry Waste Management Facility has been positive with specific questions in relation to road access during construction which will be addressed in the traffic management plan.
Broader community	Website created January 2025
Transgrid	Introduction to the project and initial consultation meeting held 7 April 2025
Subsidence Advisory NSW	Introduction to the project provided by email beginning 18 March 2025

5.3. Ongoing Engagement

Continued engagement and consultation will be undertaken throughout the EIS. Engagement will be in accordance with the *Undertaking Engagement Guidelines for State Significant Projects* (DPIE,2021).

The summary of the proposed ongoing engagement is outlined in Table 10.

Table 10 Ongoing engagement plan summary

Engagement Method	Outline of Proposed Ongoing Engagement	Engagement Objective
Community information sessions	Consultation with general community, local neighbours and residents	Consult
Newsletters and project updates	Information distributed to stakeholders consenting to receiving periodic updates and news on the Project	Inform
Project website updates	Information maintained about the Project and latest details on the publicly accessible website	Inform
Personal meetings & direct communications	Engagement available to any stakeholder that contacts the Project directly	Involve
Social impact assessment engagement activities	Engagement, involvement and consultation of key stakeholders as part of the social impact assessment including surveys, workshops, meetings with local residents, community groups, Aboriginal groups, local businesses and other key stakeholders	Consult/ Involve
Project briefings and presentations	Project specific briefings to key stakeholders including • Central Coast Council Councilors and staff, • State and Federal Members of Parliament, • State and Federal government agencies, • NSW RFS, • local media, • local business and community groups, and • other key stakeholders.	Involve

BID understands that community engagement must evolve during the process and that it is critical to provide opportunities for the community to be involved in the process and provide feedback. BID adopts a range of communication methods including direct and indirect written communications as well as digital communications through website and social media.

BID uses an online database management tool to monitor the effectiveness of community engagement. The tool enables BID to monitor communications, information provided and responses received. All communication provided by BID offers the opportunity for the community to provide direct feedback and stakeholder feedback will be sought regularly through the process to ensure that the frequency and level of detail being provided is suitable.

BID will use this feedback to adapt engagement to ensure that all stakeholders are able to be engaged with and heard in an appropriate manner and that the feedback is used to influence the final shape of the project.

5.4. Identified Stakeholder Issues

The engagement conducted to date has provided valuable opportunities to receive feedback from stakeholders and to discuss potential issues, concerns and needs. A summary of the issues identified through stakeholder consultation to date is outlined in Table 11.

Table 11 Feedback summary

Aspect	Key Feedback to Date
Visual amenity	• Information sought about potential changes to visual amenity • Support for the selection of the site for the limited potential to impact surrounding visual amenity
Noise	• Interest in understanding the potential noise impacts during the construction and operation to sensitive receivers surrounding the project • Support for the selection of the site for the limited surrounding noise receivers and the topographical shielding to these neighbours as well as the elevated background noise levels that exist from the Pacific Motorway
Bushfire	• Interest in understanding the plans for address bushfire risk and need to undertake engagement with RFS
Biodiversity	• Need to undertake survey work to determine vegetation typology and plant communities on the site • Preference for any development to avoid riparian zones associated with the streamlines that traverse the property • Interest in understanding when detailed design and EIS studies are completed what actions and strategies have been implemented to avoid and minimise/mitigate impacts from the Project to biodiversity
Traffic and access	• Interest in understanding how the site will be accessed, and the traffic volumes associated with the project • Details sought on the interface with traffic associated with the neighbouring Buttonderry waste facility
Hazard and risk	• Interest in understanding further details on the main risks associated with battery energy storage projects • Details sought on how the project will avoid the sections of the site that are subject to flood modelling • Interest in understanding the assessment of the risk of fire and how this will be managed/resolved
Social	• Interest in understanding the potential for project workforce to strain availability of short-term accommodation infrastructure • Interest in understanding plans for shared benefits with the local community/region
Economic	• Interest in understanding of local employment opportunities
Waste	• Interest in what waste the project would generate and what would happen to materials removed from site at the end of life/decommissioning stage

6. Proposed Assessment of Impacts

6.1. Overview

The assessment to date of the likely relevant matters has involved:

- Assessment of the construction and operational phases of the Project.
- Desktop review of relevant databases and available background data.
- Preliminary field review of the site and the surrounding area.
- Information received from stakeholder consultation to date.
- Review of *State significant development guidelines – preparing a scoping report* (DPIE, 2022).
- Review of relevant SEARs issued by DPHI.

Potential categories of matters considered for assessment include:

- Access
- Air
- Amenity
- Biodiversity
- Built Environment
- Economic
- Hazards and risks
- Heritage
- Land
- Social
- Water

The scale and nature of the likely impacts have been considered to identify matters requiring further assessment in the EIS. The summary of the matters identified, the preliminary assessments and proposed level of assessment are summarised in Table 12.

In developing the Project through the detailed design and environmental assessment phases, a key focus will be to avoid and minimise impacts from the construction and operation of the Project. Mitigation and management measures will be identified in the assessment phase to minimise impacts.

Table 12 Summary of assessment matters

Matter	Scale and Nature of likely impacts	Receiving environment sensitivity	Cumulative Impact Assessment (CIA)	Level of Assessment
Access – access to property, traffic and parking, road facilities	A new or upgrade of an existing road entry/exit points to the Project site from Hue Hue Road are anticipated to be required for the project. Access from Kiar Ridge Road would also be considered in addition/alternatively depending upon the results of detailed stakeholder consultation and agreement for access. During construction, the Project would involve additional traffic volumes to the local roads. Some oversize and overmass vehicle movements would be required for delivery of equipment such as the transformers. During operation of the Project traffic volumes on local roads are not expected to materially change. Private property access would not be affected by the Project.	The Project site is accessed directly by high quality road infrastructure, including the Pacific Motorway and Hue Hue Road, that is unlikely to be sensitive to the minor volumes of additional road traffic introduced by the Project on existing volumes.	Yes	Detailed
Air – atmospheric emissions, particulate matter	During construction, activities such as site earth and civil works could eventuate in localized dust emissions. Standard management measures are available such that impacts would not extend off site. Normal operation of a battery energy storage system has no emissions.	The Project is located in transitional zoned precinct with a substantive level of industrial/commercial activity within the locality and with minimal sensitivity to the proposed Project activities.	No	Minor
Amenity – noise, vibration, visual	During construction the Project is anticipated to generate noise from various construction activities and equipment, this is unlikely to exceed noise management levels. Standard construction noise management measures would mitigate or manage any exceedance of noise management levels. Normal operation of a battery energy storage system does generate noise from the equipment, but these are not anticipated to exceed noise management levels. A range of measures are available to manage or mitigate operational noise including design and orientation of the equipment, specification of low noise level equipment and shielding of the noise sources. The topography surrounding the Project land provides substantial natural shielding to receivers beyond the immediately surrounding receiver dwellings.	The Project is located in a transitional zoned precinct, with minimal sensitivity to the proposed Project activities. Substantial natural shielding due to topography and separation distance exists between the Project site and any receivers currently identified as likely to be sensitive to noise, vibration or visual impacts.	Yes	Noise: Detailed Visual: Standard

Matter	Scale and Nature of likely impacts	Receiving environment sensitivity	Cumulative Impact Assessment (CIA)	Level of Assessment
Biodiversity – flora and fauna	The Project site investigation area is approximately 100 Ha to allow the ability to reorientate or reconfigure project infrastructure within the overall project area to avoid and mitigate any potential impacts to biodiversity (and other matters). The disturbance area is estimated to be approximately 40 Ha, subject to the results of detailed design and the detailed environmental studies during the EIS. Detailed site studies during the next phase of the Project would provide delineation of vegetation condition, likely ecological communities and to truth the State Vegetation Type mapping. Whilst the current concept layout for the project has already avoided watercourse riparian zones, further refinement of the project layout would be undertaken to avoid / mitigate impacts in the EIS phase as the detailed site biodiversity studies are completed. A search of the Commonwealth Protected Matters Search Tool has identified the potential for Matters of National Environmental Significance to occur within, or relate to, the land for the Project (refer to Table 13). No protected maters have been recorded on the site. Assessment of the potential for the presence of and impacts to these matters would be confirmed during the EIS.	The Project area is generally vegetated with native timbered vegetation, and with four first order streamlines and one second order stream. Preliminary concept designs have avoided the riparian buffers associated with these watercourses. The site is mapped by NSW DCCEEW as containing the following plant community types: • 3582 – Hunter Coast Lowland Apple-Bloodwood Forest • 3433 Hunter Coast Foothills Spotted Gum-Ironbark Grassy Forest • 3242 Lower North Ranges Turpentine Moist Forest • 3583 Hunter Coast Lowland Scribbly Gum Forest The mapping is indicative only and subject to detailed ground survey. 91 threatened species are recorded to occur within a 5km buffer of the site. Of the species listed in Flora, Thelymitra adorata (Wyong Sun Orchid) and Genoplesium insigne (Variable Midge Orchid) have been recorded within 1500m of the site.	Yes	Detailed
Economic	The Project would contribute to the future stable, reliable and secure operations of the electricity grid and the transition of the energy sector to renewable sources. The Project would provide direct and indirect economic benefits for the local region through opportunities such as employment and skills development.	The Project area is located in a transitional zoned precinct with substantive industrial/commercial activities within the locality, and low density residential surrounding neighbours that are predominantly shielded by topography from the site.	Yes	Minor

Matter	Scale and Nature of likely impacts	Receiving environment sensitivity	Cumulative Impact Assessment (CIA)	Level of Assessment
Hazard and risk – biosecurity flooding, bushfire, environmental hazards, groundwater, waste, dangerous goods, land contamination	The design of the Project would need to consider hazards and risks including bushfire and flooding. The land for the Project is within a bush fire prone area, and is classed as Vegetation Category 1, which is considered a high bush fire risk. Battery energy storage systems incorporate appropriate fire detection and management measures, and are not highly sensitive to bushfires. The streamlines within the site do map as showing minor flooding in major events, however the Project infrastructure is anticipated to be oriented to avoid the areas of the site with flooding risks.	Surrounding the Project site are vegetated neighbouring lots, then bounded by major infrastructure elements including the Pacific Motorway and Hue Hue Road. A fire emanating from the Project would have the potential to impact neighbouring lots and users of the surrounding infrastructure.	Yes	Standard
Heritage – Aboriginal	The Project site investigation area is approximately 100 Ha. The Project land includes three Aboriginal sites listed in the Aboriginal Heritage Information Management System (AHIMS) as being recorded in or near the project location. The detailed records of the three sites list them to be around the banks of Wallarah Creek, on the property located directly to the east of the Project site. The Project would not involve any disturbance to these sites. Given the vegetated nature of the site and the presence of nearby recorded Aboriginal sites, there is the potential for heritage items and values to exist within the Project Area. Accordingly detailed consultation and site walks with the appropriate Aboriginal groups would be undertaken in the EIS phase of the Project. The potential Project footprint is oversized and as the detailed consultation and site investigations are completed the orientation of project infrastructure would be reviewed depending upon any findings of Aboriginal heritage items or values.	If any Aboriginal heritage items or sites were identified they would have importance.	No	Detailed
Heritage – non-Aboriginal	A search of the NSW State Heritage Inventory shows no record of non-Aboriginal heritage sites in the vicinity of the Project site.	If any non-Aboriginal heritage items or sites were identified they would have importance.	No	Minor

Matter	Scale and Nature of likely impacts	Receiving environment sensitivity	Cumulative Impact Assessment (CIA)	Level of Assessment
Land	The site topography includes the Kiar Ridge running north south in the middle of the subject lots, then falling away to the east and west. The western section of the subject lots where the project infrastructure is proposed to be located is relatively flat. During construction, earth and civil works would initially be undertaken on the Project land to level, compact and prepare hardstand pads suitable for the equipment and components of the battery energy storage system to be installed. Standard construction management practices would be available to manage potential impacts associated with ground disturbance such as sedimentation and erosion controls. Site hygiene protocols would minimize risks of weed introduction or transfer. The Project land is not known to contain any contamination. An unexpected finds management process would mitigate the impacts of unknown contamination if encountered.	The Project site is located within a transitional zoned area with major transport corridor to the east in the Pacific Motorway. To the west and south, a major industrial estate and a waste handling facility a predominant features.	No	Minor
Social	The Project is located in a precinct that is designated by the Central Coast Council as transitional. To the south west, a large industrial estate is currently in the construction phase. Directly to the west, a large Council waste handling facility operates. To the east, the landscape is dominated by the Pacific Motorway. The locality is located far enough away from the high density residential pockets of this region such that residential amenity will be largely unaffected by the Project. The Project is anticipated to have a range of positive social benefits through the direct and indirect benefits flowing from the significant investment required to construct the Project. The region has strong social infrastructure, and the substantial infrastructure of Sydney is also accessible to support the construction phase of the Project. The operation of the Project will not impact social infrastructure.	Social infrastructure capacity of the Central Coast region is not considered likely to be sensitive to the labour demands of the construction phase of the Project.	Yes	Standard
Water	Stormwater from the Project area drains towards the east. The subject properties largely cover the origination of this catchment, with minimal to no stormwater flowing into the Project area from neighbouring properties The design of the Project would need to allow stormwater flow to continue to pass through and away from the site towards the east.	Properties to the east are likely to be sensitive from water quality and flooding perspectives.	No	Standard
Access – port, rail and airport facilities	The Project would not involve the development of, or impact to, rail, port or airport facilities.	Not applicable	No	No further assessment proposed

Matter	Scale and Nature of likely impacts	Receiving environment sensitivity	Cumulative Impact Assessment (CIA)	Level of Assessment
Amenity – odour	The Project would not produce odours during construction or operation that have the potential to impact amenity.	Not applicable	No	No further assessment proposed
Built Environment	The Project would not impact upon other built assets, the public domain or public infrastructure. The traffic impact assessment would consider any impacts to local roads.	Not applicable	No	No further assessment proposed
Biodiversity – conservation areas	There are no conservation areas within the area of the Project land nor within proximity of the site.	Not applicable	No	No further assessment proposed
Hazards and risks – coastal hazards	The Project land is not located near the coast, and therefore coastal hazards are not relevant.	Not applicable	No	No further assessment proposed
Land – soil chemistry	The Project would not involve any activities altering or impacting soil chemistry.	Not applicable	No	No further assessment proposed

6.2. Access and Traffic

Existing Environment

To the east and west of the site is a transport corridor with high quality existing highway and regional standard roads, which host substantial existing traffic volumes. The Pacific Motorway runs to the east of the site, and to the west runs Hue Hue Road (refer to Figure 5). There are no footpaths or bicycle ways on Hue Hue Road in the proximity of the Project.

The Project site would be primarily accessed from the following key roads in the existing road network:

- Hue Hue Road, which is a local road managed by the Central Coast Council, is a two-way road with a single lane in both directions. Hue Hue Road connects to the Pacific Motorway most closely to the site via Sparks Road approximately 2 km to the south-west of the site.
- The Pacific Motorway (**M1**), which is State Road managed by Transport for NSW. The Pacific Motorway is the main east coast motorway and connects to Sydney (approximately 100 km to the south) and Brisbane to the north as well as other east coast centres in between.

Potential Impacts and Issues for Consideration

The primary potential for traffic impacts would occur during the construction and decommissioning phases of the Project. Potential impacts may include:

- Increases in traffic volumes on roads used by construction vehicles.
- Performance of traffic flows on roads and intersections surrounding the site.
- Disruptions to movements on roads used by construction vehicles.
- Damage or deterioration of roads used by construction vehicles.
- Modifications to Hue Hue Road for the new access to the site.

During the operational phase of the project the traffic volumes associated with the Project would be of minor volumes and the potential impacts are expected to be negligible.

The Project would not involve the development of, or impact to, rail, port or airport facilities.

<u>New road intersections for site access points</u>

The Project is anticipated to require a new entry and exit site access point intersecting off Hue Hue Road. The indicative locations of this access point are shown in Figure 5. The details of the new intersection will be developed during the EIS in consultation with the Central Coast Council, Transport for NSW and other stakeholders. Access to the Project site from Kiar Ridge Road, which turns off Hue Hue Road, would also be considered during the EIS phase of the Project depending upon relevant detailed stakeholder consultation and agreement on access.

<u>Access Routes</u>

It is anticipated that equipment sourced internationally would enter Australia via either the Port of Newcastle, or alternatively Port Botany (refer to Figure 6). Both options then connect via major existing road infrastructure to the Pacific Motorway, which connects to the Project site via Sparks Road and then Hue

Hue Road. Existing port and highway capacity would be sufficient for any requirements for material deliveries to the Project.

Internal roads would be provided within the footprint of the Project site for movements in and around the equipment forming the Project components.

Transport Vehicles

Light vehicle movements will be required for personnel working on the Project site.

Vehicles transporting all construction materials, plant and equipment to or from the site would be heavy vehicles up to B-double sizing, although a small number of oversize overmass vehicles may be required for large items such as the delivery of the step-up transformers. Further details will be assessed and confirmed during the EIS.

Proposed Assessment Approach

A traffic, transport and access impact assessment will be included in the EIS to identify and assess potential impacts of the Project on the road network during construction and operation, and to propose measures to avoid, minimize and manage potential impacts where feasible and reasonable.

The assessment would include:

- Traffic surveys to assess existing volumes at key locations surrounding the site.
- Detailed assessment of traffic movements and vehicle types for the phases of the Project.
- The potential impacts and traffic performance on Hue Hue Road.
- Consultation with Central Coast Council and other relevant stakeholders to design the optimal access points for the site, in consideration of local council's preferred approach and the potential for interaction with nearby existing intersections including the Council waste management facility.
- Review of other information and context relevant to the assessment including road safety, public transport, school transport, parking and property access on access routes surrounding the site.

No assessment relating to rail, port or airport facilities are proposed as part of the EIS.

Required Engagement

Consultation would be undertaken with Transport for NSW, Central Coast Council and other relevant stakeholders as part of the traffic and transport assessment and the refinement of the entry/exit point design from Hue Hue Road.

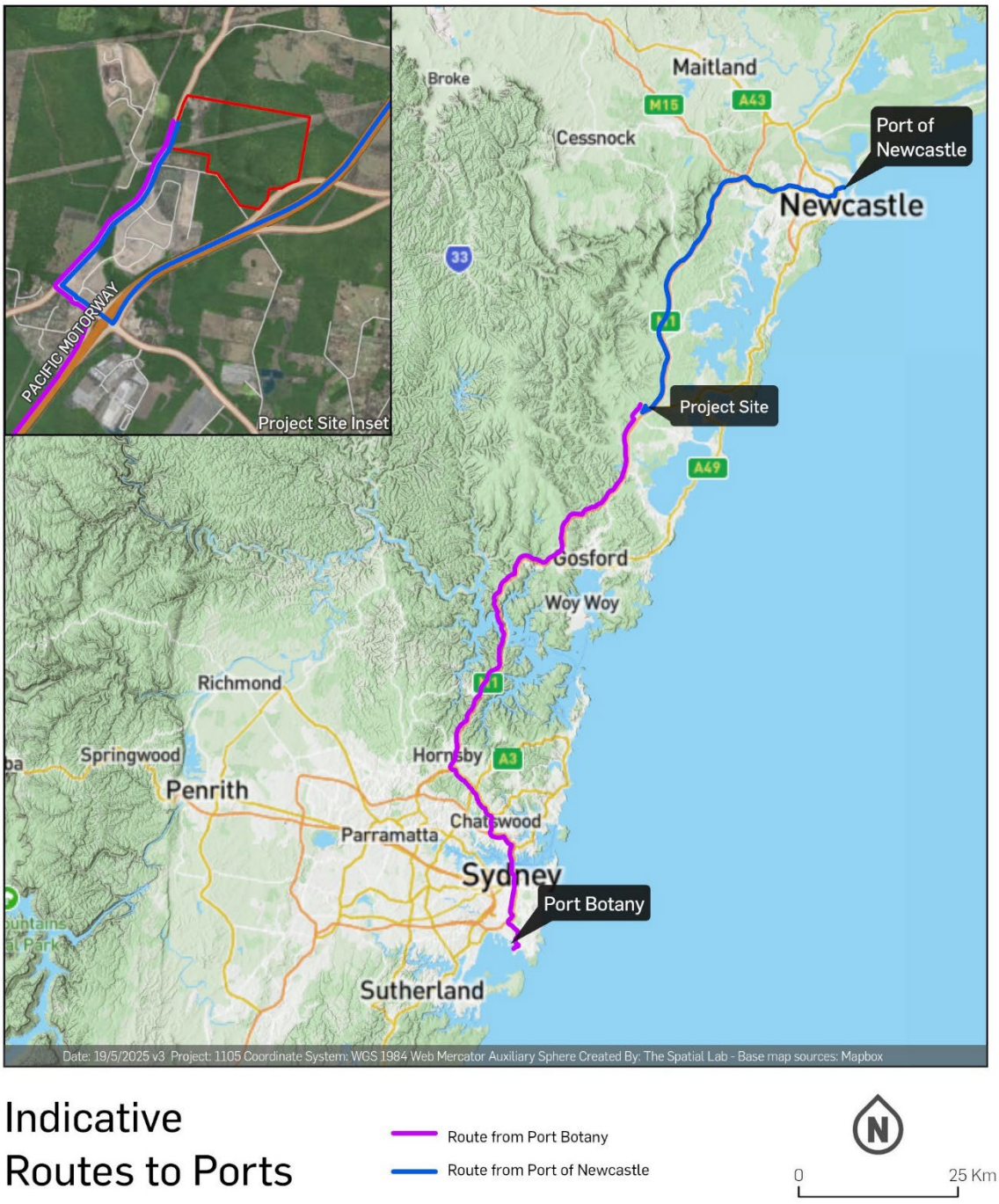

Project Site Inset
PACIFIC MOTORWAY
Broke
Maitland
M15
A43
Cessnock
Port of Newcastle
Newcastle
33
Project Site
A49
Gosford
Woy Woy
Richmond
Springwood
Penrith
Hornsby
A3
Parramatta
Chatswood
Sydney
Port Botany
Sutherland
Date: 19/5/2025 v3 Project: 1105 Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere Created By: The Spatial Lab - Base map sources: Mapbox
Indicative Routes to Ports
Route from Port Botany
Route from Port of Newcastle
N
0
25 Km

Figure 6

6.3. Air

Existing Environment

There are no sensitive receivers in the immediate vicinity of the Project. The Project is situated within a locality with the surrounding land consisting of industrial properties, large lot rural, transport and electricity transmission infrastructure.

Potential Impacts and Issues for Consideration

Construction of the Project would involve disturbance of the soil by construction plant and equipment, which would have the potential to generate dust. Vehicle movements associated with the construction of Project would contribute to combustion engine related vehicular air emissions. Standard construction management measures would be implemented to minimize dust generation and contain it within the site. Air quality impacts to the region are expected to be negligible.

Air impacts during the operation of the Project are expected to be negligible.

The Project would not involve any activities with the potential to generate odorous impacts.

Proposed Assessment Approach

The potential for dust generation associated with the Project would be assessed as part of the EIS. Standard mitigation measures would be implemented to manage.

No assessment relating to odour is proposed as part of the EIS.

6.4. Amenity

6.4.1. Noise and Vibration

Existing Environment

Currently, the main receivers identified as likely to be sensitive are residential dwellings located approximately 700 m to the south, although this will be further investigated during the EIS. There is no direct line of sight between the Project and this receiver due to topography providing shielding. The topography between the Project and the next band of receivers who are greater than 1,000m away also offers substantial shielding.

Background ambient noise sources in the vicinity of the Project include traffic along the Pacific Motorway and Hue Hue Road. The background noise environment of the area is anticipated to be elevated compared to typical rural or residential background noise levels due to the constant and continuous noise generated from the Pacific Motorway.

Potential Impacts and Issues for Consideration

Material noise impacts at the nearest sensitive receivers are not anticipated during either the construction or operation of the Project.

During construction the Project is anticipated to generate noise from various construction activities and equipment. The topographic shielding of the nearest sensitive receivers from the site, together with

standard construction noise management measures would mitigate or manage construction noise to levels that do not exceed the applicable criteria at the nearest sensitive receivers.

Normal operation of a battery energy storage system does generate noise from the equipment, but these are not anticipated to exceed noise management levels. A range of measures are available to manage or mitigate operational noise including design and orientation of the equipment, specification of low noise level equipment and shielding of the noise sources.

Proposed Assessment Approach

A noise impact assessment would be undertaken as part of the EIS. This would model the anticipated noise impacts to local receivers by modelling the predicted noise levels generated during construction and operation of the Project, together with background noise characterisation and where applicable the benefits of the topographic shielding around the Project site.

6.4.2. Visual

Existing Environment

The Project land is set within a local valley with the natural terrain surrounding the site providing substantial topographical shielding of viewpoints to the site beyond the immediate neighbours around the site. Traffic on the publicly accessible Hue Hue Road, which runs to the west of the Project site, and the Pacific Motorway, which runs to the east of the Project site, are not anticipated to have any visibility of elements of the Project infrastructure.

The above ground 330kV Transgrid transmission line running through the Project site is a prominent existing visual feature of the locality.

Potential Impacts and Issues for Consideration

The Project is not anticipated to materially impact the visual amenity of the region.

The project infrastructure will mainly consist of low-height, single-story structures set on the ground. The topography of the site and surrounds means visual shielding is anticipated to prevent a direct line of site from existing receiver dwellings surrounding any major elements of Project infrastructure.

Proposed Assessment Approach

A visual impact assessment will be included in the EIS showing the potential viewsheds of the Project and any planned mitigation and management measures to reduce the impact to visual amenity around the Project site.

6.5. Biodiversity

Existing Environment

The Project is located within the NSW North Coast Interim Biogeographic Regionalisation for Australia (**IBRA**) region and falls within the Lake Macquarie & Tuggerah Lakes catchments.

The land that would be required for the Project is generally vegetated with native timbered vegetation, and with four first order streamlines and one second order stream. Preliminary concept designs have avoided the riparian buffers associated with these watercourses.

During the EIS consideration would be given to the *NSW Biodiversity Conservation Act, 2016*, which outlines the framework for addressing impacts on biodiversity from development and clearing. The approach would be to firstly avoid impacts to biodiversity, secondly to minimise and finally to offset through the Biodiversity Offsets Scheme any impacts that could not be avoided or minimised. A BDAR will be required as part of the EIS.

A Protected Matters Search was conducted on 13 March 2025 with a 5km buffer around the site, which identified the matters shown in Table 13 as having the potential to occur in, or may relate to, the footprint of the Project site (for the full report refer to Appendix B – EPBC Protected Matters Search Tool Report).

Biodiversity assessments covering the land proposed to be included in the Project footprint will be completed during the EIS. It is currently anticipated that a referral relating to the Project under the EPBC Act would be made to the Commonwealth Department of Agriculture, Water and Environment.

Table 13 Protected matters search tool results

Matters of National Environmental Significance	Matters that may relate to the area within the footprint of the Project site
World Heritage Properties	None
National Heritage Places	None
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	3
Listed Threatened Species	91
Listed Migratory Species	55
Other Matters Protected by the EPBC Act	**Matters that may relate to the area within the footprint of the Project site**
Commonwealth Lands	2
Commonwealth Heritage Places	None
Listed Marine Species	68
Whales and Other Cetaceans	None
Critical Habitats	None
Commonwealth Reserves Terrestrial	None
Australian Marine Parks	None
Habitat Critical to the Survival of Marine Turtles	None

Potential Impacts and Issues for Consideration

The Project has the potential to impact biodiversity during construction as a result of activities associated with the surface disturbance and clearing to prepare the site terrain for the Project infrastructure, with introduction or transfer of weeds and with disturbances from noise, light and vibration.

During the operation phase, the Project the potential for biodiversity impacts would likely be negligible.

Proposed Assessment Approach

The EIS will include a BDAR that will assess:

- Flora and fauna species, habitat and communities that occur or are likely to occur.
- Identification of threatened species or habitats.
- Assessment of the impacts and significance of the Project on the identified flora and fauna and any threatened species or habitats.
- Assessment of the potential for the presence and impacts to any Matters of National Environmental Significance in the area of the Project (refer to **Table 13**).
- Identification of management, mitigation and offset measures in accordance with the Biodiversity Assessment Method (**BAM**) and the EPBC Act Environmental Offsets Policy, where necessary.

6.6. Built Environment

Existing Environment

The locality surrounding the Project site is a mix of industrial/commercial operations and low density single dwelling rural/residential lots. Predominant features of the area include the Pacific Motorway to the east, Hue Hue Road to the west and Transgrid's overhead high voltage 330kV transmission line that traverses the Project site.

Potential Impacts and Issues for Consideration

The Project would be consistent with the land zoning and existing use in the area within which the Project, is located. Disturbances to land required to construct and operate the project would be considered so as to avoid / minimise impacts to all environmental matters including specifically ecology, biodiversity and heritage.

No significant impacts are anticipated on surrounding land uses. Currently, the nearest receivers considered likely to be sensitive are located greater than 700 m away and with no direct line of sight due to topographic shielding. This will be assessed further during the EIS. The site is directly accessed via high quality road infrastructure, which is anticipated to have sufficient capacity to handle the additional traffic volumes associated with the construction of the Project.

Proposed Assessment Approach

Significant impacts upon the built environment are not anticipated. Local community and stakeholder preferences and feedback would be taken into consideration in the design and construction of the Project. Potential impacts associated with access (refer **section 6.2**) and amenity (refer **section 6.4**) would be considered as part of these respective sections of the EIS.

6.7. Economic

Existing Environment

The Project sits within the Central Coast Council LGA, which is the sixth largest urban area in Australia and has a diverse economic landscape. Industrial operations are the main economic activity within the locality of the Project site.

Potential Impacts and Issues for Consideration

Construction of the Project would represent a substantial investment that would provide a range of direct and indirect economic benefits for the local region including:

- A construction workforce anticipated to be up to 250 persons, to be sourced wherever possible from the LGA or surrounding regions.
- Training and upskilling of local capacity in the electricity sector.
- Indirect employment and economic opportunities in services and hospitality sectors.

During the operation phase approximately 8 permanent full-time positions are anticipated to be required. Additional resources to support periodic maintenance activities would be drawn from the local region where possible.

Proposed Assessment Approach

The Project would contribute positively to the economy of the LGA and support employment, skills and businesses in the area. The EIS level of assessment for economic matters would be standard.

6.8. Hazard and Risk

Existing Environment

The current characterisation of key hazards and risks for the land required for the Project is:

- **Bushfire**: the Project sits within an area mapped for bushfire risk as Vegetation Category 1 (highest risk for bush fire) (refer to Figure 7).
- **Flooding**: the land for the Project maps on the Central Coast Council flooding mapping dataset as including sections that are predicted to flood during major rainfall events. The concept design prepared to date has been prepared to avoid wherever possible these areas, and this principle would be intended to continue through the detailed design phase.
- **Land contamination**: no known contaminated sites have been identified within the land for the Project.

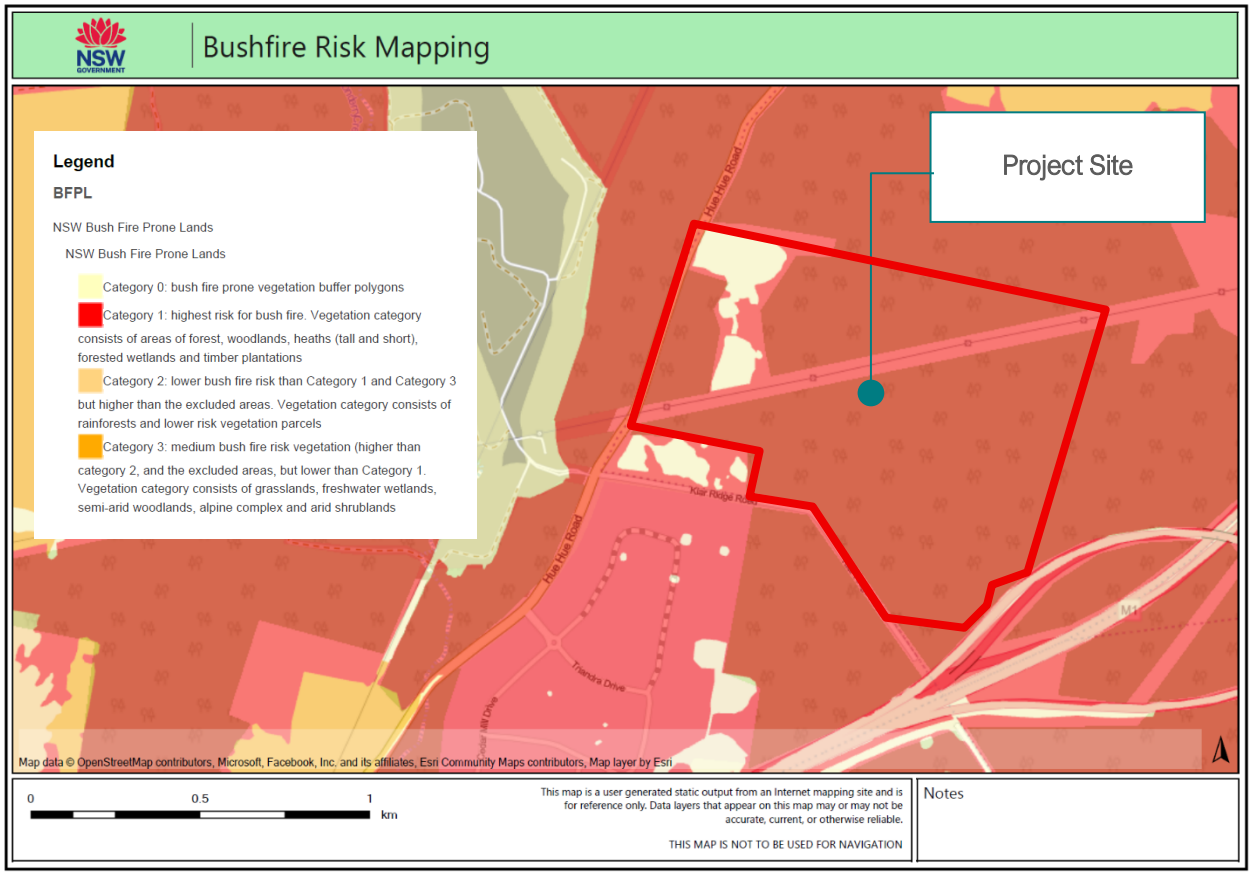


Figure 7

Potential Impacts and Issues for Consideration

The design of the facilities comprising the Project would consider the management and mitigation of hazards and risks. Standard battery module technology includes fire prevention, detection and mitigation systems. Project specific fire risks to be considered by the EIS and the design phase include scenarios for both externally originated bushfires and a fire initiating from within the Project. The specific orientation of the Project assets, the neighbouring land uses and surrounding vegetation would be considered. It is anticipated that perimeter fire roads and dedicated on site fire water storage may be a risk mitigation measured to be implemented, however this would be determined through the EIS risk assessment findings and stakeholder consultation processes.

Proposed Assessment Approach

The EIS would include a preliminary hazard and risk screening assessment prepared in accordance with relevant guidelines such as the NSW Government, State Environmental Planning Policy (Resilience and Hazards), 2021 and multi-level risk assessment publications by DPIE.

A Bushfire Risk Assessment would be prepared in accordance with the requirements of *Planning for Bush Fire Protection* (NSW RFS, 2019).

Required Engagement

The EIS process would include consultation and feedback from key stakeholders in relation to hazards and risks, which are anticipated to include the NSW RFS, DPIE, Transport for NSW, the Central Coast Council and surrounding neighbours to the Project.

6.9. Heritage

6.9.1. Aboriginal Heritage

Existing Environment

A search of the AHIMS database (undertaken on 27 September 2024 with a 200 m buffer) identifies three recorded Aboriginal sites or Aboriginal places in or near the Project land. The concept layout for the Project infrastructure would not directly impact the location of any of these three sites.

A preliminary assessment of the archaeological potential of the Project site undertaken by a heritage consultant in February 2025, including a site walkover and desktop assessment of available information, identified the potential for undisturbed archaeological deposits to exist within the Project footprint.

Potential Impacts and Issues for Consideration

The site is anticipated to have the potential for undisturbed Aboriginal artefacts and culturally modified trees.

Proposed Assessment Approach

As part of the EIS, an Aboriginal Cultural Heritage Assessment Report will be prepared. The report will consider:

- The Aboriginal archaeological potential of the Project area.
- Identification of registered Aboriginal sites within and surrounding the Project area.
- The significance of any heritage items or areas to the Aboriginal community, determined in consultation with the relevant stakeholders.
- Appropriate measures to be implemented to avoid, minimise and/or mitigate impacts to Aboriginal heritage.

Required Engagement

Consultation would be undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water, 2010). This is anticipated to include a program of field surveys with the relevant Aboriginal stakeholders.

6.9.2. Non-Aboriginal Heritage

Existing Environment

A search of the NSW State Heritage Inventory shows no record of non-Aboriginal heritage on the Project site.

Potential Impacts and Issues for Consideration

The Project is not anticipated to have any potential impacts on non-Aboriginal heritage.

Proposed Assessment Approach

The EIS level of assessment for non-aboriginal heritage matters would be minor.

6.10. Land

Existing Environment

The Central Coast Area 1:100000 Coastal Quaternary Geology Map characterises the geology at the Project site to be predominantly of the Narrabeen Group: quartz-lithic to quartzose sandstone, conglomerate, mudstone, siltstone and rare coal from the Triassic Sydney Basin sedimentary rocks grouping.

The Project area is mapped as having a Land and Soil Capability of predominantly Class 4 (moderate to severe limitations) (OEH, 2012), although some areas of Class 5 (severe restrictions) also exist on within the area (refer to Figure 8).

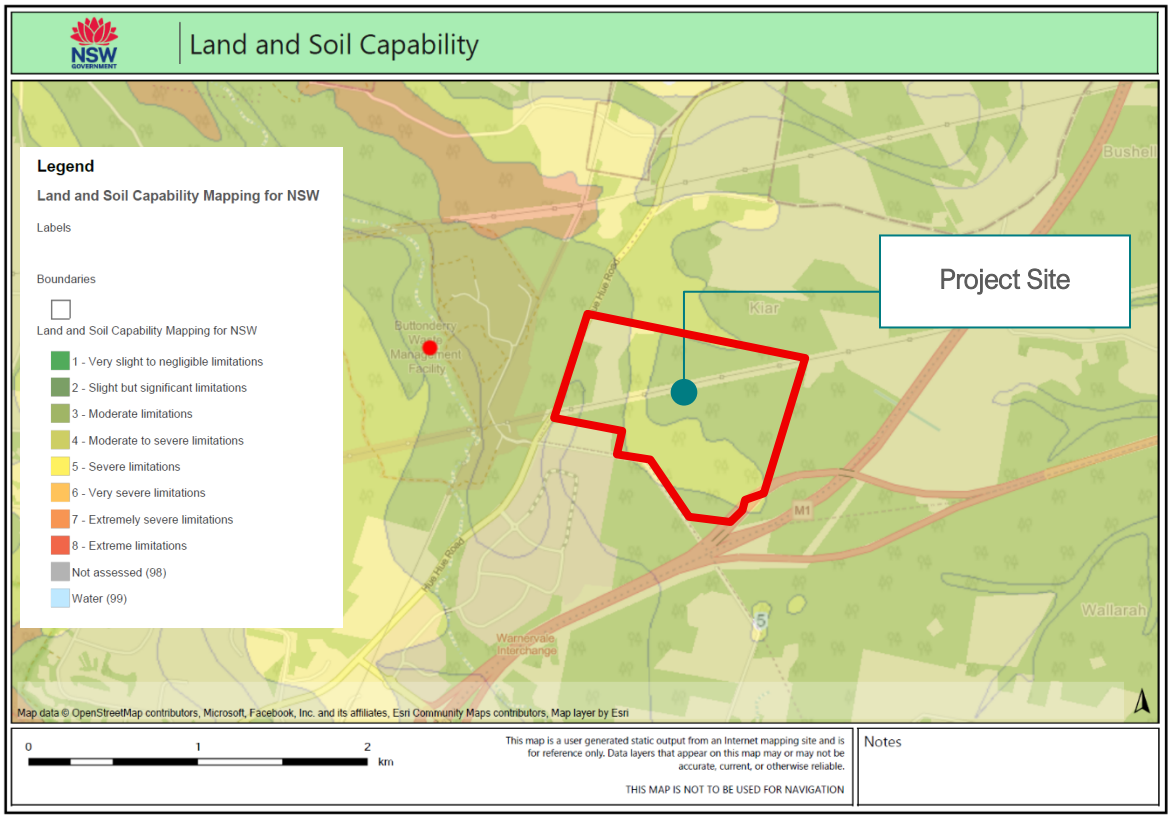


Figure 8

The Project area does not:

- Map as having a probability of acid sulfate soils (NSW Department of Climate Change, Energy, the Environment and Water 1998).
- Contain land listed on the NSW EPA Contaminated Land Register.

The Project site is within the Wyong Mine Subsidence District.

Potential Impacts and Issues for Consideration

During the construction and operation of the Project, a range of fuels, lubricants, building materials, wastes and other potential contaminants would be used, stored and handled on the site. The risks of contamination would be managed through engineering design, standard construction and operational management practices and where applicable the use of Australian Standards.

Proposed Assessment Approach

The EIS level of assessment for land matters would be minor.

6.11. Social

In accordance with the *Social Impact Assessment Guidelines for State Significant Projects (2021)* and the *Technical Supplement (2023)*, a Social Impact Assessment (SIA) will be prepared to support the EIS. The SIA will identify, assess and propose responses to the likely social impacts, both positive and negative, arising from the Kiar BESS project. It will be informed by baseline analysis, cumulative context, and targeted engagement with affected communities and stakeholders.

Existing Social Environment

The Project is located in the Central Coast LGA, home to approximately 346,000 residents. The social profile of the region includes a mix of young families, older retirees, long-term residents, and socio-economically diverse communities. The area surrounding the site is semi-rural and industrial in nature, forming part of a transitional land use zone between natural bushland and emerging industrial precincts.

The Project site is directly adjacent to the Buttonderry Waste Management Facility and the Warner Industrial Park and is buffered from the nearest sensitive residential receptors. The immediate locality has limited formal social infrastructure (e.g. schools, health facilities), but the broader Central Coast region and Greater Sydney corridor provide a wider range of services and employment catchments.

Three recorded Aboriginal cultural heritage sites are located near the site. These highlight the cultural significance of the area for local Aboriginal groups. A detailed Aboriginal Cultural Heritage Assessment, guided by consultation with Registered Aboriginal Parties (RAPs), will be undertaken during the EIS phase in accordance with DPIE and Heritage NSW requirements.

Potential Social Impacts

Based on the project's characteristics, the following potential impacts have been identified:

Construction Phase

- **Accommodation and Workforce Pressure**: The influx of a construction workforce (estimated at up to 250 personnel at peak) may place short-term pressure on local accommodation, particularly in nearby townships with limited vacancy. This may temporarily displace tourism or itinerant workers, affecting local business continuity.
- **Cumulative Perception of Infrastructure Fatigue**: The Central Coast region is currently experiencing a wave of infrastructure development. Community feedback has expressed concerns about perceived cumulative impacts from multiple projects, including increased traffic, land use intensification, and visual change.

- **Amenity Disruption**: Temporary impacts may include noise, dust, and traffic during construction. These are expected to be localised but may contribute to stress or reduced quality of life for nearby rural residents and road users.
- **Perception of Risk and Safety**: Community concern around the safety of BESS technology, particularly regarding fire risk and battery failure, has been noted during early engagement. While these risks are managed through engineering controls and safety systems, perceptions may still influence social acceptance.

Operational Phase

- **Low Ongoing Impact Profile**: Once operational, the Project will have minimal on-site staffing and low activity levels, resulting in limited ongoing social disruption.
- **Positive Outcomes**:
    - Generation of 7 permanent jobs and associated indirect employment in services and maintenance;
    - Increased local and regional economic participation through procurement and service contracts;
    - Enhanced energy stability and security, supporting residential, industrial, and regional growth;
    - Support for NSW's net-zero emissions and clean energy transition goals, contributing to a broader public benefit.

Engagement and Assessment Approach

A **standard level of social impact assessment** is proposed, in accordance with the Guidelines, and will be refined through the EIS process. The approach will be evidence-based and proportionate to the scale of social change likely to occur.

Engagement to date has included:

- Preliminary discussions with Central Coast Council regarding land use compatibility and infrastructure interface;
- Early contact with adjacent facilities, including the Buttonderry Waste Management Facility and Warner Industrial Park;
- Initial contact with Aboriginal stakeholders to inform scoping of cultural values.

Proposed engagement activities during the SIA process will include:

- **Targeted discussions with near neighbours**, including residents within the visual and acoustic catchment of the site;
- **Consultation with Aboriginal stakeholders**, including identifying cultural concerns, values, and site-specific issues that may be affected by development;
- **Engagement with local businesses and community services** potentially impacted by construction logistics or infrastructure upgrades;
- **Coordination with regional infrastructure proponents**, to share insights and avoid compounding community disruption;
- **Transparent communication platforms**, including newsletters, drop-in sessions, and online information portals to share updates and address concerns.

Engagement outcomes will directly inform the assessment of the scale, distribution, duration, and acceptability of identified impacts.

Proposed Mitigation Measures

The EIS will outline strategies to avoid, minimise, or manage identified social impacts, including:

- **Workforce accommodation management** strategies to prevent displacement of tourism or local service populations;
- **Clear communication on project timing, construction impacts, and safety protocols**, including risk mitigation associated with BESS infrastructure;
- **Partnerships with local community organisations** to explore benefit-sharing opportunities or sponsorships that align with local needs;
- **Establishment of a grievance mechanism** to ensure concerns are addressed in a timely and transparent manner;
- **Development of a Social Impact Management Plan (SIMP)**, to document actions, responsibilities, and monitoring indicators.

This approach is aligned with NSW Government expectations for social impact assessment and supports a socially responsible delivery of the Kiar BESS Project.

6.12. Water

Existing Environment

The Project area is within the Lake Macquarie & Tuggerah Lakes catchments. The catchment of the Project site flows to Wallarah Creek, which then joins Budgewoi Lake approximately 6km to the east.

The site is traversed by four first order streams and one second order stream (by the Strahler system).

The Central Coast Council's flood mapping data indicates that a small section of the land within the Project footprint may be susceptible to flooding under major flood scenarios. This area is predominantly associated with the second order stream. The layout of the Project infrastructure would avoid this streamline and the predicted maximum flood level wherever possible.

Potential Impacts and Issues for Consideration

During construction, the earthworks activities would have the potential for erosion and/or sedimentation of stormwater runoff. Given the low scale and nature of the earthworks activities the potential impacts are anticipated to be minor and able to be managed through standard construction environmental management processes. Water use would be required during construction for earthworks activities including dust suppression. Required volumes and sources will be assessed during the EIS.

During the operation of the project, negligible ongoing water use will be required. Management of stormwater drainage to minimise downstream impacts and prevention of sediment discharge from the site will be considered in the Project's detailed design.

Proposed Assessment Approach

The EIS would assess potential water impacts and any required mitigation and management measures associated with hydrology, water quality and water use including sources.

7. References

Document
Acid Sulfate Soil Management Advisory Committee, *Acid Sulfate Soils Assessment Guidelines*, 1998
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Department of Environment and Climate Change*, Managing Urban Stormwater Soils and Construction Volume 2A*, 2008
Department of Environment, Climate Change and Water, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, 2010.
Department of Environment, Climate Change and Water, *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*, 2010.
Department of Environment, Climate Change and Water, *National Environment Protection (Ambient Air Quality) Measure*, 2021
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Department of Planning, *Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines*, 2011
Department of Planning and Environment, *Assessing heritage significance*, 2023
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Department of Planning, Industry and Environment, *State significant development guidelines – preparing a scoping report*, 2022
Department of Planning, Industry and Environment, *Social Impact Assessment Guidelines for State Significant Projects*, 2021
Department of Planning, Industry and Environment, *Undertaking Engagement Guidelines for State Significant Projects*, 2021

Document
Landcom, *Managing Urban Stormwater: Soils and Construction Volume 1*, 2004
Landscape Institute and Institute of Environmental Management and Assessment, *Guidelines for Landscape and Visual Impact Assessment,* 2013
NSW EPA, *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*, 2022
NSW EPA, *Draft Construction Noise Guideline*, 2020
NSW EPA, *Noise Policy for Industry*, 2017
NSW Heritage Office, *Heritage Guidelines*, 2002
NSW Government, *Electricity Infrastructure Roadmap*, 2020
NSW Government, *State Environmental Planning Policy (Resilience and Hazards) 2021*, 2021
Office of Environment and Heritage, *NSW Biodiversity Offsets Policy for Major Projects*, 2014
Office of Environment and Heritage, *Framework for Biodiversity Assessment*, 2018
Office of Environment and Heritage, *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW*, 2011
NSW RFS, *Planning for Bush Fire Protection*, 2019
Roads and Traffic Authority, *Guide to Traffic Generating Developments Version 2.2*, 2002

Appendix A – Scoping Summary Table

Level of Assessment	Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Scoping Report Reference
Detailed	Access – access to property, traffic, parking, road facilities	Yes	Specific	• Guide to Traffic Management Part 3 Traffic Studies and Analysis (Austroads, 2018) • Guide to Traffic Generating Developments Version 2.2 (Roads and Traffic Authority, 2002)	Section 6.2
Detailed	Amenity – noise and vibration	Yes	General	• Draft Construction Noise Guideline (NSW EPA, 2020) • Noise Policy for Industry (NSW EPA, 2017)	Section 6.4.1
Standard	Amenity – visual	No	General	• Guidelines for Landscape and Visual Impact Assessment (Landscape Institute and Institute of Environmental Management and Assessment, 2013)	Section 6.4.2
Detailed	Biodiversity – flora and fauna	Yes	Specific	• NSW Biodiversity Offsets Policy for Major Projects (Office of Environment and Heritage, 2014) • Framework for Biodiversity Assessment (Office of Environment and Heritage, 2018) • Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (Department of the Environment, Water, Heritage and the Arts, 2013)	Section 6.5
Standard	Economic	Yes	General	• Social Impact Assessment Guidelines for State Significant Projects (Department of Planning Industry and Environment, 2021)	Section 6.7
Standard	Hazard and Risk	Yes	Specific	• State Environmental Planning Policy (Resilience and Hazards) 2021 (NSW Government, 2021) • Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (Department of Planning, 2011) • Assessment Guideline: Multi-Level Risk Assessment (Department of Planning and Infrastructure, 2011)	Section 6.8
Detailed	Heritage – Aboriginal	No	Specific	• Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (NSW Office of Environment and Heritage, 2011) • Aboriginal Cultural Heritage Consultation requirements for proponents (Department of Environment, Climate Change and Water NSW, 2010) • Code of practice for archaeological investigation of Aboriginal objects in NSW (Department of Environment, Climate Change and Water, 2010)	Section 6.9.1
Standard	Social	Yes	General	• Social Impact Assessment Guidelines for State Significant Projects (Department of Planning Industry and Environment, 2021)	Section 6.11

Level of Assessment	Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Scoping Report Reference
Standard	Water	No	General	• Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) • Managing Urban Stormwater Soils and Construction Volume 2A (Department of Environment and Climate Change, 2008)	Section 6.12
Minor	Air	No	General	• National Environment Protection (Ambient Air Quality) Measure (Department of Climate Change, Energy, the Environment and Water, 2021) • Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2022)	Section 6.3
Minor	Heritage – non-Aboriginal	No	General	• Heritage Guidelines (NSW Heritage Office, 2002) • Assessing Heritage Significance (Department of Planning and Environment, 2023)	Section 6.9.2
Minor	Land	No	General	• Acid Sulfate Soils Assessment Guidelines (Acid Sulfate Soil Management Advisory Committee, 1998)	Section 6.10
Not relevant	Built Environment	No	General	Not applicable	Section 6.6

Appendix B – EPBC Protected Matters Search Tool Report

EPBC Act Protected Matters Report

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

Report created: 13-Mar-2025

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	91
Listed Migratory Species:	55

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	68
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	1
Nationally Important Wetlands:	2
EPBC Act Referrals:	11
Key Ecological Features (Marine):	None
Biologically Important Areas:	2
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

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

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In feature area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]	Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat may occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
FISH			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Epinephelus daemelii			
Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
FROG			
Heleioporus australiacus australiacus			
Giant Burrowing Frog, Eastern Owl Frog [92013]	Endangered	Species or species habitat likely to occur within area	In feature area
Litoria aurea			
Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Mixophyes balbus			
Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Mixophyes iteratus			
Giant Barred Frog, Southern Barred Frog [1944]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
MAMMAL			
Chalinolobus dwyeri			
Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Notamacropus parma			
Parma Wallaby [89289]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
Petrogale penicillata			
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus tridactylus			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pseudomys novaehollandiae			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
PLANT			
Acacia bynoeana			
Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat known to occur within area	In feature area
Angophora inopina			
Charmhaven Apple [64832]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caladenia tessellata			
Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Corunastylis insignis			
Wyong Midge Orchid 1, Variable Midge Orchid 1 [84692]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Cryptostylis hunteriana			
Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat known to occur within area	In feature area
Cynanchum elegans			
White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area	In feature area
Diuris praecox			
Newcastle Doubletail [55086]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat known to occur within area	In feature area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area	In feature area
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat may occur within area	In feature area
Genoplesium branwhiteorum listed as Corunastylis sp. Charmhaven (NSW 896673) [93200]	Critically Endangered (listed as Corunastylis sp. Charmhaven	Species or species habitat known to occur within area	In feature area
Grevillea parviflora subsp. parviflora Small-flower Grevillea [64910]	Vulnerable	Species or species habitat known to occur within area	In feature area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat known to occur within area	In feature area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area	In feature area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rutidosis heterogama Heath Wrinklewort [13132]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Tetratheca juncea Black-eyed Susan [21407]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thelymitra adorata Wyong Sun Orchid [84724]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Hoplocephalus bungaroides Broad-headed Snake [1182]	Endangered	Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
SHARK			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Sphyrna lewini			
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus			
Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna grisea			
Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Calonectris leucomelas			
Streaked Shearwater [1077]		Species or species habitat known to occur within area	In buffer area only
Diomedea antipodensis			
Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora			
Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans			
Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi			
Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Fregata ariel			
Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche steadi			
White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Migratory Marine Species			
Caretta caretta			
Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas			
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea			
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Eretmochelys imbricata			
Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Lamna nasus			
Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In buffer area only
Mobula alfredi as Manta alfredi			
Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
Mobula birostris as Manta birostris			
Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus			
Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus			
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris alba Sanderling [875]		Species or species habitat known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area	In buffer area only
Calidris tenuirostris Great Knot [862]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]	Endangered	Species or species habitat known to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa brevipes			
Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Tringa stagnatilis			
Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area	In buffer area only
Xenus cinereus			
Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

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

Commonwealth Land Name	State	Buffer Status
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [16063]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [11757]	NSW	In buffer area only

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus			
Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris alba Sanderling [875]		Species or species habitat known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris tenuirostris Great Knot [862]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Charadrius ruficapillus Red-capped Plover [881]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]	Endangered	Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Sterna striata White-fronted Tern [799]		Migration route may occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Extra Information

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State	Buffer Status
North East NSW RFA	New South Wales	In feature area

Nationally Important Wetlands [Resource Information]

Wetland Name	State	Buffer Status
Budgewoi Lake Sand Mass	NSW	In buffer area only
Tuggerah Lake	NSW	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
School campus K-12 development project	2023/09598		Assessment	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Torrens Title 8-Lot Industrial Subdivision	2023/09648		Post-Approval	In buffer area only
Wyong Regional Distribution Centre Expansion	2023/09473		Referral Decision	In buffer area only
Controlled action				
Wallarah 2 Coal Project	2012/6388	Controlled Action	Post-Approval	In feature area
Wallarah 2 Coal Project	2007/3881	Controlled Action	Completed	In feature area
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Mandalong Mine Power Line, Mandalong, NSW	2018/8321	Not Controlled Action	Completed	In buffer area only
Subdivision, clearing and development of industrial zoned land Lot 3 DP 1007500	2008/4385	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Multipurpose Centre Dora St Lot 122 DP 881828 Morisset	2003/1084	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
Mine Modification	2010/5442	Referral Decision	Completed	In buffer area only
Residential Subdivision Dickson Road Lots 231 & 233 DP755271	2003/1105	Referral Decision	Completed	In feature area

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence	Buffer Status
Seabirds			
Ardenna pacifica Wedge-tailed Shearwater [84292]	Foraging	Likely to occur	In buffer area only
Ardenna tenuirostris Short-tailed Shearwater [82652]	Foraging	Likely to occur	In buffer area only

Bioregional Assessments [Resource Information]

SubRegion	BioRegion	Website	Buffer Status
Hunter	Northern Sydney Basin	BA website	In feature area

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix C – Social Impact Assessment Scoping Worksheet

Social Impact Assessment (SIA) Worksheet

Project name: Kiar Energy Storage System

Date: 4-Jun-25

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS		ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT				PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. **NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.**	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics **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 used to investigate this impact? Secondary data	Primary Data - Consultation	Primary Data - Research	Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
way of life	Impact to people's daily routines (in particular neighbouring landowners) caused by construction activities such as construction noise, increased traffic movements, visual changes and potential cumulative impacts from concurrent developments.	Negative	**Yes - other project**	Waratah Super Battery Energy Storage System	Yes	Buttonderry Waste Facility, Warner Industrial Park, Wallarah 2 Coal Project	No	No	No	No	No	Not relevant	Not required	Not required	Not required	No	Potential for changes to local amenity during construction are expected to be relatively localised. Mitigation measures could include coordination of scheduling of construction activities between nearby projects and avoiding concurrent / simultaneous disruption to surrounding roads.
way of life	Potential for local and regional businesses procurement opportunities during construction. Local businesses may benefit from construction workers spending money at local businesses, such as food outlets located in nearby suburbs.	Positive	**Yes - other project**	Waratah Super Battery Energy Storage System	Yes	Wallarah 2 Coal Project	Unknown	Yes	No	No	No	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	Impact will be assessed at a high level in an SIA if required.
way of life	Potential stress on local short term and/or temporary accommodation due to the presence of the construction workforce	Negative	**Yes - other project**	Waratah Super Battery Energy Storage System	Yes	Wallarah 2 Coal Project	Unknown	No	No	No	No	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	Local employment would be preferenced which will assist in mitigating stress on temporary or short term accommodation
way of life	Increased demand for skilled and unskilled workforce during construction and operation of the project, which may lead to increased temporary employment opportunities for local and regional workforce during construction	Positive	**Yes - other project**	Waratah Super Battery Energy Storage System	Yes	Eraring Battery Energy Storage System, Waratah Super Battery Energy Storage System	Unknown	Yes	No	No	No	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	Local employment would be preference to enhance the potential for a positive contribution to the local workforce and employment opportunities
access	During construction, construction vehicles would be generated and increase the volume of traffic in the area/on the road. Increased construction traffic and temporary changes to local access may lead to minor delays. Operational traffic movements are anticipated to be limited and thus operational traffic impacts are considered neutral.	Negative	Yes - other project	Waratah Super Battery Energy Storage System	Unknown		Unknown	No	No	No	No	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	Potential for changes to local amenity during construction are expected to be relatively localised. Mitigation measures could include coordination of scheduling of construction activities between nearby projects and avoiding concurrent / simultaneous disruption to surrounding roads.
health and wellbeing	Changes in acoustic environment and visual amenity during construction may impact on the health and wellbeing of neighbouring landowners.	Negative		Waratah Super Battery Energy Storage System	Unknown		Unknown	No	No	No	No	Minor assessment of the impact	Required	Limited - if required (e.g. local council)	Not required	No	The potential for amenity impacts are expected to be limited given the separation distance and topographical barriers to line of site to neighbouring recievers. The EIS will assess the potential for changegs to the visual and acoustic environment to neighbouring landowners
surroundings	Possible that some neighbours may be able to hear some construction and operational noise. An assessment of construction and operational noise will be undertaken as part the EIS.	Negative		Waratah Super Battery Energy Storage System	Unknown		Unknown	No	Unknown	Unknown	Yes	Detailed	Required	Targeted stakeholder engagement, surveys and direct observations	Equipment noise levels	No	'The potential for amenity impacts are expected to be limited given the separation distance and topographical barriers to line of site to neighbouring recievers. Additionally, traffic on the Pacific Motorway elevates the ambient noise level of the locality. The EIS will assess the potential for noise impacts during construction and operations to neighbouring landowners
surroundings	Biodiversity impact due to the clearing of native vegetation	Negative	**Yes - this project**	Review of recent SSDA BESS and Renewable projects to refine approach to suit circumstances of the Kier BESS. Preliminary metings with CPHR and Council	No	Not required	Unknown	Unknown	Unknown	**Unknown**	**Unknown**	Detailed assessment of the impact	Required	Broad consultation	Targeted research	Yes	Through the detailed EIS studies including the BDAR, the sensitivity of the site vegetation will be assessed and then the project disturbance footprint and design will be avoid or minimise impacts where possible. Finally, impacts will be offset after other avoidance or minimisation strategies have been considered
decision-making systems	Agency and community consultation has commenced as part of the Scoping Report and will continue through the EIS and subsequent planning stages.	**N/A**	**N/A**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A