ENVIRONMENTAL IMPACT STATEMENT

Finley Battery Energy Storage System

BESS PACIFIC Pty Ltd

Job No: P001993
Rev: 001C
7 May 2025

Premise

DOCUMENT AUTHORISATION					
Revision	**Revision Date**	**Proposal Details**			
A	03/04/25	Draft for client review			
B	22/04/2025	For issue			
C	07/05/25	Updated to respond to DPHI test of adequacy			
Prepared By		**Reviewed By**		**Authorised By**	
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CERTIFICATION

For submission of an environmental impact statement (EIS) under Part 4, Division 4.1 of the NSW *Environmental Planning and Assessment Act 1979.*

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Applicant/Responsible Person		
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Description of Proposed Development		
BESS Pacific Pty Ltd (The Applicant) is proposing to develop a 100 Megawatt Alternating Current (MW_{AC}) Battery Energy Storage System (BESS) at Riverina Highway, Finley NSW 2713.		
Land to be developed		
> Lot 3 DP740920, Riverina Highway, Finley (BESS site); > Lot B DP961693, 168 Canalla Road, Finley (Transgrid substation site); and > Broockmanns/Canalla Road reserves (underground transmission cable easement).		
Declaration by Registered Environmental Assessment Practitioner		
Name	David Walker	
Registration number	7333	
Organisation registered with	Planning Institute of Australia	
The undersigned declares that this EIS: > has been prepared in accordance with Division 5 of the Environmental Planning and Assessment Regulation 2021; > contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates; > does not contain information that is false or misleading; > addresses the Planning Secretary's Environmental Assessment Requirements (SEARs) for the project;		

- identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments;
- has been prepared having regard to the Department's State Significant Development Guidelines - Preparing an Environmental Impact Statement;
- contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development;
- contains a consolidated description of the project in a single chapter of the EIS;
- contains an accurate summary of the findings of any community engagement; and
- contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.

DAVID WALKER

B. Urban and Regional Planning (MPIA)

7 May 2025

ABBREVIATIONS

Abbreviation	Abbreviated term
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
AIA	Agricultural Impact Assessment
ANL	Acceptable Noise Levels
BAR	Bushfire Assessment Report
BESS	Battery Energy Storage System
BDAR	Biodiversity Development Assessment Report
BLEP	*Berrigan Local Environmental Plan 2013*
BOM	Bureau of Meteorology
BSAL	Biophysical Strategic Agricultural Land
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CFP	Chance Finds Protocol
CSES	Community and Stakeholder Engagement Strategy
DA	Development Application
DCP	Development Control Plan
DNG	Derived Native Grassland
DoE	Commonwealth Department of Environment
DPE	NSW Department of Planning and Environment
DPI	NSW Department of Primary Industries
DPHI	NSW Department of Planning, Housing and Infrastructure
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
ENM	Excavated Natural Material
EOR	Engagement Outcomes Report
EPA	NSW Environment Protection Authority
ESD	Ecologically Sustainable Development
FRGA	Flood Risk and Groundwater Assessment

FRNSW	Fire and Rescue New South Wales
ICNG	*Interim Construction Noise Guideline (2009)*
INP	*Noise Policy for Industry 2017*
LEP	Local Environmental Plan
LGA	Local Government Area
LPI	NSW Land and Property Information
LUCRA	Land Use Conflict Risk Assessment
NIA	Noise Impact Assessment
OEH	NSW Office Environment and Heritage
OSOM	Over Size Over Mass
PBP 2019	*Planning for Bush Fire Protection 2019*
PHA	Preliminary Hazards Analysis
RFS	NSW Rural Fire Service
RMS	NSW Roads and Maritime Service
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SIA	Social Impact Assessment
SSD	State Significant Development
TfNSW	Transport for New South Wales
TIA	Traffic Impact Assessment
VIA	Visual Impact Assessment
Units of measure	
ºC	degrees Celsius
dB(A)	A-weighted decibel
Ha	Hectare
m	Metres
m/s	Metres per second
ML	Megalitre
MW	Megawatt
MW_{AC}	Megawatt alternating current
MWh	Megawatt hour

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EXECUTIVE SUMMARY

Introduction

BESS Pacific Pty Ltd seeks to develop a 100 Megawatt AC (MW_{AC})/ 200 Megawatt Hour (MWh) Battery Energy Storage System (BESS) at Riverina Highway, Finley NSW 2713 being Lot 3 DP740920; within the Berrigan Local Government Area. Ancillary aspects of the project include:

- Substation augmentation works - 168 Canalla Road, Finley being Lot B DP961693; and
- Underground transmission cables within the Broockmanns/Canalla Road reserves and Mulwala No. 19 channel.

The proposed development is characterised as State Significant Development ('SSD') as the proposal is for the purpose of electricity generating works with an estimated development cost ('EDC') of more than $30 million, pursuant to Section 20 of Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021*.

Proposal

The Finley BESS project comprises a BESS with capacity of 100 Megawatt AC (MW_{AC}) / 200 Megawatt Hour (MWh) and includes the following key infrastructure:

- Site establishment works including clearing of grassed area within the BESS boundary and underboring for the transmission cable, bulk earthworks and temporary construction compound;
- Construction of hardstand, control room and switch gear, auxiliary transformer, battery enclosures, and inverter and transformer stations;
- Development site road works to formalise internal access road to accommodate heavy vehicles movements off Canalla Road and two light vehicle accesses to Broockmanns Road;
- Installation of approximately 80 x 20-foot modular containers comprising of Lithium-Ion batteries with the appropriate cooling and protection system and approximately 40 inverters located externally to the modular containers;
- Construction of 132 kV TL route ~480m length underground transmission cable to facilitate connection to the existing Transgrid Finley 132/66 kV Substation and associated high voltage steel poles;
- Construction of ancillary works including parking areas, water tanks, storage structures, stormwater management infrastructure, CCTV, security lighting and fencing; and
- Vegetation buffer.

Ancillary to the BESS would be the associated Transgrid substation upgrade works occurring within Lot B DP 961693. An underground transmission cable connection would cross Broockmanns Road, Canalla Road and Mulwala No. 19 channel via underbore to traverse the land owned by Transgrid (Lot B DP961693) and connection to the substation.

The areas directly impacted by the BESS infrastructure, including the access driveway, BESS area, substation and connection of electricity transmission cables to the existing Transgrid Finley Substation will be collectively referred to as the 'development site'.

The development site is not located within a Renewable Energy Zone (REZ).

Environmental issues

An analysis of site constraints, undertaken through an environmental risk assessment process, and identified key environmental issues outlined in the SEARs that warrant quantitative assessment.

- Biodiversity;
- Heritage;
- Land;
- Visual;
- Noise and vibration;
- Traffic, access and transport;
- Water;
- Hazards;
- Social and economic; and
- Waste.

Other matters requiring qualitative assessment in the body of the EIS include biodiversity, water, soils, cumulative impacts and waste management.

Comprehensive engagement has been completed with the community, agencies and other relevant stakeholders to ensure that the project objectives are clearly understood and so that any feedback on the project can be considered and incorporated where necessary.

Mitigation measures outlined in relation to each of the above matters would be addressed in a Construction Environmental Management Plan or Operational Environmental Management Plan as appropriate sitting beneath an overarching Environmental Management Strategy.

A summary of the outcomes of quantitative analysis for key impact areas is provided in the following sections.

BIODIVERSITY

A Biodiversity Development Assessment Report (BDAR) (Premise, 2025) is provided in **Appendix E.** Vegetation surveys were conducted in June and October 2024 by Premise Ecologists and targeted threatened species surveys conducted in July and October 2024, and subsequently in January and March 2025. All targeted surveys were considered sufficient, and no threatened species were detected during searches on the development site.

Native Vegetation on the site was identified as Plant Community Type (PCT) 76: Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western slopes and Riverina bioregions in three condition zones:

- VZ1: PCT 76 DNG Roadside;
- VZ2: PCT 76 DNG Poor; and
- VZ3: PCT 76 DNG Wet.

PCT 76 on the development site is associated with *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions Endangered Ecological Community (EEC)* listed under the NSW Biodiversity Conservation Act, 2016 (BC Act), but does

not conform to the criteria for the *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia EEC* listed under the Commonwealth Environmental Protection and Biodiversity Conservation Act, 1999 (EPBC Act).

A comprehensive desktop review was conducted to identify threatened flora and fauna species and ecological communities which have, or may have, suitable habitat on the development site. The searches returned a total of 46 threatened species with potential to occur on the development site, including 10 flora species and 36 fauna species.

The majority of the threatened species were eliminated from further consideration based on geographic limitations and habitat constraints. Two flora species and two fauna species were retained for assessment and subject to targeted searches:

- Flora species:
  - Austrostipa wakoolica (A spear-grass); and
  - Swainsona sericea (Silky Swainson-pea).
- Fauna species:
  - *Crinia sloanei* (Sloane's Froglet); and
  - *Myotis Macropus* (Southern Myotis).

All targeted species surveys were considered sufficient, and no threatened species were detected during searches on the development site.

Thirty-five threatened flora and fauna species and eight migratory species recognised as Matters of National Environmental Significance (MNES) under the EPBC Act were identified during database searches as potentially occurring on the development site. Species considered likely to utilise the habitat features present on or near the development site were considered further, including *Falco hypoleucos* (Grey Falcon), *Hirundapus caudacutus* (White-throated Needletail), *Melanodryas cucullata cucullata* (South-eastern Hooded Robin) and *Stagonopleura guttata* (Diamond Firetail). An MNES assessment concluded that no significant impact on any MNES was likely and referral to the Commonwealth is not required.

Mitigation measures to be implemented for the project include:

- Timing of works;
- Pre-clearing surveys;
- Clearing protocols;
- Pre-clearing protocols;
- Temporary fencing and signage;
- Adjust construction hours;
- Hygiene protocols;
- Prevent chemical drift;
- Sediment barriers and erosion control measures;

Indirect impacts have been assessed for the project and mitigation measures will be implemented. There will be no residual indirect impacts of the project.

The development site has been refined from a broader study area to minimise impacts to native vegetation, including avoiding direct impacts to remnant scattered trees and reducing the area of DNG impacted, minimising the area of Inland Grey Box Woodland TEC to be cleared. The project layout could not avoid the Mulwala Channel No 19. however, this channel will be under-bored to reduce impacts.

The development site has been refined during the design process to the minimum area necessary to provide space for the construction and operation phases of the project. To minimise the project's direct impact, 3.52 ha of DNG were removed during the study area refinement, resulting in a final development site of 10.45 ha. This is informed by freehold parcels and road reserves having different purposes and development potential.

The development site has a total area of 10.45 ha of which 5.18 ha is native vegetation comprised of derived native grassland (DNG) and 5.27 ha of non-native vegetation or cleared land.

The 5.27 ha includes infrastructure (1.38 ha), cropping (2.78 ha) and disturbed ground including roads (1.11 ha). All vegetation will be cleared for the construction of the BESS.

Direct impacts have been assessed for the project and mitigation measures will be implemented to manage residual impacts. Excluding infrastructure (1.38 ha) and disturbed ground including roads (1.11 ha), residual impacts that cannot be avoided are the permanent removal of 7.96 ha of vegetation including:

- Exotic vegetation (2.78 ha);
- PCT 76 DNG Roadside (0.14 ha);
- PCT 76 DNG Poor (4.74 ha);
- PCT 76 DNG Wet (0.30 ha).

A portion of these direct impacts will require biodiversity offsets, comprising of 44 credits for PCT 76 (DNG Poor) and one (1) credit for PCT 76 (DNG Roadside). PCT 76 (DNG Wet) has a VI score of <15 which is the benchmark VI score for PCTs representative of an EEC or a CEEC. Therefore, PCT 76 (DNG Wet) does not generate any credits. No threatened flora or fauna species credits require an offset as per BAM Subsection 9.2.2(2).

HERITAGE

An Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared by Premise and is provided in **Appendix F**.

A review of the Aboriginal Heritage Information Management System (AHIMS) online database identified nil previously recorded Aboriginal sites located with proximity to the Finley BESS site. A pedestrian archaeological survey of the development site was undertaken with Registered Aboriginal Parties (RAPs) to confirm the likelihood of Aboriginal cultural heritage sensitivity. No newly recorded sites or areas of sensitivity were observed during the survey.

Although nil sites were recorded through the desktop analysis and site survey, a mitigation approach to minimise impacts and manage unidentified Aboriginal heritage items/objects has been recommended in the form of a chance finds protocol.

Premise have undertaken a historic heritage desktop analysis of the Finley BESS, in accordance with the SEARs requirements. The development site is not mapped as containing any items of heritage significance and is not located in or adjacent to a heritage conservation area. It is concluded that the

proposed development will not result in physical impacts to a heritage item. It is considered that mitigation measures including a chance finds protocol and visual vegetation screening will be sufficient to address residual impacts.

LAND

A Land Use Conflict Risk Assessment (LUCRA) has been prepared by Premise (2025) and is provided in **Appendix G** and an Agricultural Impact Assessment (AIA) has been prepared by Premise (2025) and is provided in **Appendix H**.

The development site is classified under the Land and Soil capability Assessment Scheme (OEH, 2012) as containing Class 3 - High Capability land and a soil survey of the site has identified that the soil is comprised of Brown Sodosols under the Australian Soil Classification System. While not mapped within the BSAL mapping, the site is partially located within the draft state significant agricultural land map.

It is concluded by the AIA that the site is suitable for the proposed development and that effects on adjacent agricultural land soil and agricultural production value of the region are considered to be minimal.

In terms of cumulative impacts of the project on adjoining land uses, the LUCRA concludes that impacts can be managed through ongoing consultation with developers of nearby projects and via the implementation of recommended management and mitigation measures. This would allow for project timelines to consider surrounding projects, ensuring that cumulative impacts such as construction noise and traffic, can be appropriately managed.

The LUCRA concludes that while there was a total of 39 potential land use conflicts identified, the revised risk ranking of all identified conflicts would be reduced to 10 or below, achieving the objective of the LUCRA Guide. The LUCRA recommends the implementation of mitigation measures to reduce the average revised risk ranking of all conflicts to 7.03 which is considered low risk. Notwithstanding it is recognised that the management of potential for land use conflicts is dependent on the effective implementation of mitigation measures and performance monitoring (e.g., management plans) throughout the construction, operation and decommissioning of the project.

VISUAL

The Visual Impact Assessment (VIA) (Premise, 2025) is provided in **Appendix I**. The VIA evaluates the potential visual impacts of the development, following guidelines from the NSW Department of Planning and Environment.

The site is located in a flat rural landscape, surrounded by agricultural land and infrastructure, including the Transgrid Finley Substation and the Finley Solar Farm.

The assessment highlights that the development will have limited visibility due to its scale and the distance from key viewpoints, with only minor impacts anticipated during construction and operation. Visual impacts to residential receivers are assessed as being low to very low.

Temporary visual effects during construction, such as the presence of cranes are anticipated to be short term and minimal. At night, the project will introduce low-level security lighting but will not significantly alter the surrounding area's light levels.

Due to the potential for minor residual impacts to a number of non-associated receivers, and to respond to concerns raised by landowners during early engagement consultation, mitigation measures are recommended in the form of vegetation screening to further ameliorate visual impacts . The landscaping treatment will be located around the perimeter security fencing to help reduce visual impacts comprising of native vegetation appropriate to the locality.

NOISE AND VIBRATION

The Noise Impact Assessment (NIA) (Assured Environmental, 2025) provided in **Appendix J** assesses both construction and operational phases of the project. Construction is anticipated to last approximately 11 months with a peak period of construction of 3 months. Works will be carried out within the standard hours for construction (7 am to 6 pm weekdays, 8 am to 1 pm Saturdays and at no time on Sundays or Public Holidays), with only permitted minor activities occurring outside these hours where they generate negligible offsite noise.

Noise levels during construction may exceed the 45 dB(A) Noise Affected criterion but will remain below the Highly Noise Affected 75 dB(A) criterion. Any adverse construction noise impacts are expected to be short lived.

Vibration assessments predict compliance with nuisance and damage criteria, with no adverse effects expected at residential receivers. During operation, majority of predicted noise levels will remain within acceptable limits without additional mitigation measures. Recommended mitigation measures for construction include community consultation, noise management awareness and ongoing equipment maintenance.

Operational road traffic noise is expected to be negligible due to minimal staffing.

TRAFFIC, ACCESS AND TRANSPORT

A Traffic Impact Assessment (TIA) has been prepared by Premise (2025) and is provided in **Appendix K**.

The TIA evaluates the traffic impacts on the road network during the construction, operation and decommissioning phases of the Finley BESS, focusing on the delivery route, vehicle movements and access arrangements. Developed in consultation with Transport for NSW (TfNSW) and Berrigan Shire Council (BSC), the assessment addresses SEARs requirements, particularly concerning heavy and over-dimensional vehicle movements.

The anticipated construction phase of Finley BESS is 11 months, with peak period spanning three months. An estimated 56 light vehicles will generate 29 daily movements, supplemented by shuttle buses for construction workers. Heavy vehicles, including one over-dimensional transformer delivery, will access the site via Canalla Road, in consultation with Council. Traffic impacts during construction will not overlap with peak hours on Riverina Highway, and heavy vehicles will be scheduled outside peak commuter times.

Operational traffic will consist of two staff members, generating minimal impact (four light vehicle movements per day). The decommissioning phase will be addressed with a future traffic plan.

Traffic safety analysis and intersection assessments confirm adequate capacity at key junctions, including the Riverina Highway/Canalla Road/Marantellis Road intersection, which can accommodate expected construction traffic without the need for upgrades. Traffic volume increases during

construction will be up to 29.7% during peak hours, but operational traffic will increase only marginally (up to 1.8%).

Overall, the BESS project will have a manageable and decreasing traffic impact over time, with no significant safety concerns or infrastructure upgrades required.

WATER

A Water Impact Assessment (WIA) prepared by Premise (2025) is provided in **Appendix L**.

The WIA provides an assessment of pre and post development flooding risk within the development site based on hydraulic modelling. While the development site is impacted by the 1% AEP flood event, modelling of the development site in its existing state, has indicated a low flooding risk with flooding hazard classified as H1 (low hazard).

The modelling further indicates that the proposed BESS will not significantly impact local flooding conditions and accordingly no mitigation measures such as detention basins are required. Standard mitigation measures including proper site design and stormwater management infrastructure, however, are recommended to ensure the development aligns with best practices in flood risk management.

Subject to the implementation of best-practice environmental management measures, including a Construction Environmental Management Plan (CEMP) and supporting plans, the development is not anticipated to result in significant impacts on surface water quality, erosion, or sedimentation. In addition, the proposed activities are unlikely to lead to result in significant changes in groundwater quantity or quality. Given the nature of the works and the separation distance between the development footprint and identified Groundwater Dependent Ecosystems (GDEs), the potential for significant impacts on these ecosystems is considered low.

HAZARDS

The Preliminary Hazard Analysis (PHA) prepared by Riskcon (2025) and attached as **Appendix M** evaluates the potential risks associated with the construction and operation phases of the proposed project, focusing on fire, electrical failures and hazardous material incidents.

The PHA concludes that the project poses minimal off-site risks, with battery technology (LiFePO4) deemed safe due to its inherent design preventing fire propagation and toxic gas dispersion. Fire safety measures, such as fire suppression systems and non-combustible materials for vents will be incorporated to prevent incident escalation. Transformer-related risks, including oil spill and ignition, have been quantitatively analysed and mitigation measures have been recommended, including fire protection systems and self-bunded transformers.

Noise, vibration and road traffic impacts during construction and operation are anticipated to comply with the regulatory criteria, with negligible cumulative effects. The overall risk of adverse impacts is considered low and the project is deemed acceptable for the intended use subject to incorporation of recommended mitigation measures.

SOCIAL

A Social Impact Assessment (SIA) prepared by Urbis Ltd (2025) and attached as **Appendix O**.

The SIA evaluates the potential social impacts associated with the proposed development during both the construction and operational phases, including cumulative effects. These impacts are categorised under the domains of *way of life, community, accessibility, culture, health and wellbeing, surroundings,* and *livelihoods*. The SIA determines that the significance of both non-enhanced positive impacts and unmitigated negative impacts generally falls within the low to negligible range. To address these, the SIA outlines a series of mitigation measures aimed at enhancing the positive impacts and minimising the adverse effects.

ECONOMIC

Key economic impacts during construction would include:

- Increased employment;
- Investment in the local economy; and
- Pressure on local services.

During the peak of construction, the project would generate up to 55 jobs, which would positively contribute to the local economy. Where possible, local workers would be employed, however due to the nature of the some of the work and the quantity of workers required, this may result in out of area workers being employed, who would need to be accommodated near to the project.

Once operational, the BESS will contribute approximately 2 full-time equivalent (FTE) positions for ongoing employment opportunities in system maintenance and monitoring. This has a positive impact for the local economy and provides training/value add opportunities for local workers. The change in land use from agriculture to renewable energy is likely to have a neutral economic impact given the bulk of the host lot will continue to generate an income.

Additionally, the facility will support the regional energy infrastructure and contribute to the transition to renewable energy.

While the BESS will temporarily impact agricultural land, this effect is expected to be limited, given the limited area required for the development. The land is anticipated be returned to agriculture post-operation and opportunities for land leasing for renewable energy purposes could be explored with local farmers, being mutually beneficial to the agricultural community. Mitigation measures, including proactive community consultation and a well-structured Accommodation and Employment Strategy, will ensure that any residual impacts are managed and that the local community can derive long-term benefits from the project.

WASTE

The waste management approach for the project is designed to minimise environmental impacts throughout its lifecycle by adhering to a clear hierarchy of waste management practices. Key strategies include waste avoidance, reduction, reuse, recycling and as a last resort, disposal.

During construction, waste will be minimised through careful planning and resource utilisation, with an emphasis on reusing materials wherever possible. For example, vegetation cleared from the site will be converted into mulch. Waste that cannot be avoided or reused will be sent to off-site recycling facilities or licensed disposal sites.

Operational impacts will be minimal, with waste primarily arising from packaging materials and occasional maintenance activities. The most significant waste during this phase will be from battery replacements, being classified as hazardous waste. Proper disposal and recycling of these batteries will follow all relevant hazardous materials handling and transport regulations.

During the decommissioning phase, waste will be managed similarly to the construction phase, with a focus on maximising material reuse and recycling. Any hazardous waste, particularly batteries, will be disposed of following current regulations. Materials with ongoing utility for the landowner or electricity authority, such as access roads or sub-stations, will remain in place as agreed upon.

To ensure effective waste management across all project phases, a detailed Waste Management Plan will be developed in accordance with the waste management plan principles in **Appendix P**. This plan will outline specific mitigation measures, including ongoing monitoring and updates to stay aligned with evolving regulations, helping to further reduce environmental impacts. Overall, these strategies will ensure the project remains compliant with relevant environmental legislation while supporting sustainable waste management practices.

Justification

The NSW Government has recognised that the NSW electricity system needs to change, acknowledging that traditional generators are ageing, and the State's transmission system is congested. Further, electricity prices are putting pressure on households and businesses. This realisation has informed the preparation of Government policies and documents, the provisions of which have filtered to the local scale and informed local plan making.

The project will contribute to the provision of renewable energy in NSW and facilitate private investment in the state's electricity system over the next decade and beyond, a key consideration of the NSW Electricity Strategy. The BESS has an anticipated lifespan of up to 20-25 years and will contribute to the NSW Government's three objectives for the electricity system: reliability, affordability and sustainability.

The project would support the electricity supply market shift from a centralised power generation system, overly reliant on fossil fuels, to a dispersed and smaller scale system. The project provides firming capacity to the market by filling supply gaps when renewable energy sources are not producing.

The project is contributing to the enhancement of the existing Transgrid Finley 132/66KV Substation infrastructure, through the provision and operation of the BESS, which will serve to balance the grid and support the performance and future uptake of renewable energy. The project seeks to invest in and contribute to the local economy through the creation of jobs and provision of affordable electricity.

The project has been sited and designed to minimise environmental impacts. Where impacts cannot be avoided, mitigation measures have been proposed.

The project is consistent with the objects and matters for consideration in the EP&A Act and with the principles of Ecologically Sustainable Development.

Conclusion

The assessments presented in the EIS indicate that the proposed Finley BESS should be approved on the basis that it provides a range of benefits to the region, state and the country, in the context of meeting renewable energy targets.

The technical studies supporting the EIS confirm that the proposed development would not lead to any significant or detrimental impacts to the environment and that residential impacts are manageable through the implementation of standard measures.

The project is consistent with the objects and matters for consideration in the EP&A Act and with the principles of Ecologically Sustainable Development.

The EIS concludes that the project would not significantly affect environmental, cultural, social and economic values at the local or regional scale and is therefore considered to be in the public interest.

1. INTRODUCTION

1.1 The Applicant

BESS Pacific Pty Ltd (the 'applicant') was founded out of the growing demand for renewable energy developments across Australia. The applicants' goal is to develop high quality solar photovoltaic energy and battery storage systems (BESS), Solar (PV) and Hybrid BESS/PV projects throughout Australia, working towards a future of decarbonisation.

BESS Pacific Pty Ltd is a wholly owned subsidiary of Gransolar Development Australia Pty Ltd and have experience and capabilities in origination, development and commercialisation of renewable energy projects. Based in Brisbane, Queensland, their head office is located at Level 4, 307 Queen Street, Brisbane QLD 4000 and ABN/ACN is 55 659 303 590 / 659 303 590.

1.2 Development Overview

BESS Pacific Pty Ltd seeks to develop a 100 Megawatt AC (MW_{AC})/ 200 Megawatt Hour (MWh) Battery Energy Storage System (BESS) impacting land within Lot 3 DP740920 (private land under agreement by the proponent), Lot B DP961693 (Transgrid Finley substation) and the road reserves of Canalla Road and Broockmanns Road, Finley. Collectively are hereafter referred to as 'the development site'. The development site has a total area of approximately 10 hectares (ha), accessible from the existing access via Broockmanns Road, and located within the Berrigan Shire Council (BSC) Local Government Area (LGA) in the locality of Finley.

The area of the development site within Lot 3 is currently used for agricultural activities and primary production. The area of the development site within Lot B contains the Transgrid Finley substation.

The proposed Finley BESS includes:

- Installation of containerised lithium-ion phosphate batteries with a capacity of approximately 100 MW_{AC} / 200 MWh, with associated inverters, switchgear and a control building;
- Underground transmission cable to connect the BESS to the Transgrid Finley substation approximately 480 metres in length;
- Cabling and collector units, site office, storage area, internal access tracks, on-site parking, security fencing and temporary construction laydown area; and
- Construction of new heavy vehicle site access from Canalla Road and light vehicle accesses to Broockmanns Road.

The regional and local context are shown **Figure 1** and **Figure 2**.

The proposed BESS and associated infrastructure will be contained within the development site shown in **Figure 3**.

A conceptual layout of the BESS and associated infrastructure is included in **Figure 4.**

The development site will be leased from the landholder via a lease of premises and no subdivision of land is required.

It is expected that augmentation work within the substation would be required to facilitate connection of the BESS. These works will be managed as an ancillary component of the project by Transgrid under this application and are addressed within the EIS.

1.3 Background

The proposed Finley BESS has been designed to enhance grid flexibility and optimise the efficiency of the existing electrical network, by responding to pricing signals, the system will charge during low-price periods and discharge during peak demand, thereby contributing to regulating energy availability. The capacity to store excess energy during low demand and supply additional energy during peak demand will improve grid efficiency, support more stable generation, and provide consumers with a more reliable and consistent energy supply.

A variety of strategies have been implemented throughout the project's conception, development, and delivery to avoid, minimise and offset residual impacts wherever possible. The following points are noted in this regard:

- Site selection has included identifying a site that is immediately adjacent to an existing substation, generally well separated from residential zoned land, separated from non-associated dwellings, with low environmental values and located wholly on land zoned RU1 – Primary Production, with suitable existing access arrangements.
- The initial analysis of the project identified the potential for road upgrades and consequently, the initial site surveys to information specialist assessments encompassed a much larger area of land. Through refinement of the project, this area has been reduced to approximately 10 ha and project impacts reduced.

1.4 Related Development

A review of the NSW Planning Portal Application Tracker on the 4 March 2025 for the Berrigan LGA returned no search results for past development applications on the development site. A specific development application tracker is not available on Council's website.

A review of available information and discussions with the applicant and landowner have not revealed any other development consents relating to the development site.

1.5 Restrictions and Covenants

A copy of the land titles for the site is provided in **Appendix Q**, detailing the following restrictions that apply to the development site:

- Lot 3 DP 740920:
  - Land excludes minerals and is subject to reservations and conditions in favour of the crown - see crown grant(s);
  - Easement for transmission line 30.48 metres wide;
  - Easement to drain water 10 metres wide burdening Lot 4, benefiting Lot 3; and
  - Restriction on the use of land, to not use McMurr's Road (Canalla Road) for vehicular access to either Broockmanns Road or Riverina Highway during those periods when the road formation is not suitable as determined by Council.

- Lot B DP 961693:
  - Land excludes minerals and is subject to reservations and conditions in favour of the crown - see crown grant(s);
  - Lease to NSW Electricity Networks Assets Pty Limited, expiring: 15/12/2114. Option of renewal: 99 years; and
  - Sub-lease to NSW Electricity Networks Operations Pty Limited, expiring: 15/12/2035. Option of renewal: 20 years.

1.6 Report Structure

In accordance with the *State Significant Development Guidelines – Preparing an Environmental Impact Statement* (DPE 2022), this EIS has been prepared and is provided in the following format.

- **Section 1 (Introduction)** of this report sets the context for detailed assessment of the project in the following sections of the EIS and includes a description of the applicant, the project, the background to the project, any related development and any restrictions or covenants that apply to the site.
- **Section 2 (Strategic Context)** of this report provides the strategic context and includes any supporting strategies, policies or plans, key features of the site and surrounds, likelihood of generating cumulative impacts any agreements entered into with other parties.
- **Section 3 (Project Description)** outlines the proposed development, including the development site, physical layout and design, uses and activities and timing.
- **Section 4 (Statutory Context)** details the statutory context relevant to the justification and evaluation of the project.
- **Section 5 (Community Engagement)** identifies the key stakeholders for the project and describes what actions were taken with respect to community engagement in accordance with Undertaking Engagement Guidelines for State Significant Projects and SEARs.
- **Section 6 (Assessment of impacts)** identifies the impacts of the proposed development, including the condition of the existing environment, the ability to avoid, mitigate and/or offset the impacts of the development, the scale and nature of the predicted impacts, key uncertainties associated with the assessment and proposed measures to deal with these uncertainties.
- **Section 7 (Justification of the project)** provides the justification for the proposed development, including impact avoidance or minimisation measures, consistency with the strategic context, compliance with any relevant statutory requirements, outcomes of community engagement, the scale and nature of the impacts of the project, how compliance will be monitored and how key uncertainties will be addressed.

2. STRATEGIC CONTEXT

This section identifies key strategic considerations that are of relevance to the assessment of the project.

2.1 Key features of the site and surrounds

2.1.1 SITE DESCRIPTION

The development site for the Finley BESS project impacts land within Lot 3 DP740920 (private land under agreement by the proponent), Lot B DP961693 (Transgrid Finley Substation) and the road reserves of Canalla Road and Broockmanns Road, Finley.

The development site context is shown in Figure 1.

The portion of the development site hosting the BESS infrastructure is bounded by Canalla Road to the west and Broockmanns Road to the south. The Transgrid Finley Substation occupies Lot B DP961693 fronting Broockmanns Road in the north and Canalla Road in the east.

The development site is located on land zoned RU1 - Primary Production under the *Berrigan Local Environmental Plan 2013* (LEP) (refer Figure 5). Lot 3 DP740920, is primarily used for agricultural activities including irrigated agriculture and grazing. The development site has an area of approximately 10 ha, being the area with the potential to be impacted by all physical disturbance.

The development site has been largely subject to historic agricultural activities, with remaining vegetation comprising a mixture of exotic grassland and limited native vegetation. There will be some impacts to exotic and native vegetation on site as assessed by the project biodiversity assessment. Areas of impacted native vegetation within the development site are limited to the Transgrid Finley Substation, Canalla and Broockmanns Roads and the irrigation channels located in the north and east of Lot B DP961693.

The development site does not contain any dwellings and is not mapped as containing items of heritage significance or containing sensitive biodiversity. The development site is not mapped as a flood planning area via the LEP.

Waterways in the area include an established irrigation channel, Mulwala No 19 Channel, located west of Canalla Road and south of Broockmanns Road in the northern extent of Lot B DP961693, with an east-west alignment. The channel then reorients running in a north-south orientation in various alignments with Canalla Road. The project transmission line would be constructed under this channel via underboring methods.

Existing 66kV, 22kV and 132kV overhead electricity transmission lines run along Broockmanns and Canalla Roads and traverse Lot B DP961693.

The development site features an existing farm access from Broockmanns Road to Lot 3; this would be upgraded to provide light vehicle access to the site.

2.1.2 THE LOCALITY

The development site is located approximately 5 km west of the town of Finley in the Riverina area of NSW (refer Figure 2). The development site is in the Berrigan LGA and is not located within a REZ.

In 2021, Finley had a total population of 2,455 people (Australian Bureau of Statistics). It is a small regional town and includes residential properties, schools, sporting grounds, health services, and business and retail properties.

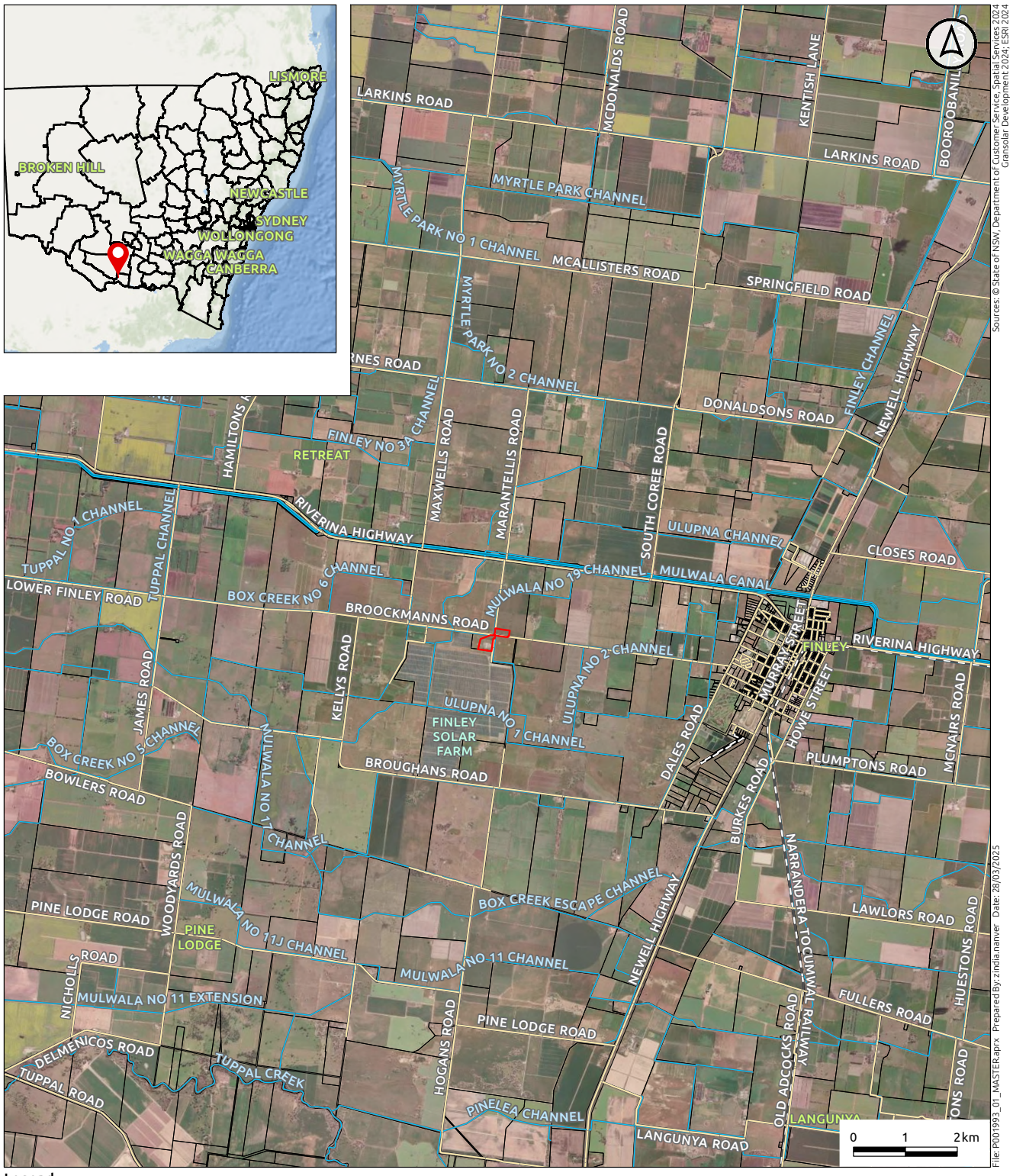
The Berrigan LGA has a population of approximately 8,500 people located generally within four towns: Barooga, Berrigan, Finley and Tocumwal. The LGA is bordered by the Murray River and features bushland areas and large areas of agricultural lands. The area around Finley features a combination of irrigated and dryland farming, including grain, beef, sheep, orchards and vegetable crops.

The Murray Valley National Park is located approximately 18km to the south-west.

The Finley Solar Farm is located approximately 388 metres to the south of the development site, Finley South Solar Farm is located to the south-east of Finley (approximately 12 kilometres from the development site), the proposed Berrigan BESS is located to the west of the site on the opposite side of Canalla Road, with proposed South Coree BESS located approximately 300 m to the east and Tarleigh Park Solar Farm is located approximately 25.5 km to the west.

There is one non-associated receiver located within 1 km of the development site and a further eight receivers between 1 km and 2 km from the development site. The closest zoned residential land (RU5) is located approximately 4 km east of the development site.

Receiver locations are depicted in **Figure 6**.



Legend

- Development Site
- Lot
- Major Road
- Railway
- Runway
- Major Water Body
- Major Watercourse

Premise

Finley BESS

Figure 1: Regional Context

Legend

- Development Site
- BESS Lease Area
- Substation
- Indicative BESS Security Fence
- Lot
- Road
- Water Body
- Watercourse
- Essential Energy OH
- Essential Energy UG
- Transgrid Optic Fibre
- Easement

Premise

Finley BESS

Figure 2: Local Context

2.2 Strategic Justification

The NSW Government has recognised that the NSW electricity system needs to change, acknowledging that traditional generators are ageing, and the State's transmission system is congested. Further, electricity prices are putting pressure on households and businesses. This realisation has informed the preparation of Government policies and documents, the provisions of which have filtered to the local scale and informed local plan making.

The project supports the electricity supply market shift from a centralised power generation system, overly reliant on fossil fuels, to a dispersed and smaller scale system. The project provides firming capacity to the market by filling supply gaps when renewable energy sources are not producing.

In the following sections is a discussion of the applicable state and local strategies, policies and plans and how the project is facilitating the objectives of each as they relate to the delivery of renewable energy.

2.2.1 NSW 2021 PLAN (NSW GOVERNMENT 2011) AND RENEWABLE ENERGY ACTION PLAN (NSW GOVERNMENT 2013)

The NSW 2021 plan, released in 2011, sets state-wide priorities for action and guides resource allocation. Goal 22 of this plan seeks to protect the natural environment and includes a specific target to increase renewable energy. The plan states:

> *"We will contribute to the national renewable energy target by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources. Specific initiatives include:*
>
> - *Establishing a Joint Industry Government Taskforce to develop a Renewable Energy Action Plan for NSW to identify opportunities for investment in renewable energy sources."*

Since release of the 2021 plan, the NSW Government has overseen the development of the NSW Renewable Energy Action Plan (REAP). The vision of the plan is a 'secure, affordable and clean future for NSW'. Goal 1 of the REAP is to attract renewable energy investment, including to 'support mid-scale solar PV to enable an uptake of solar technologies where they are most cost effective'.

The proposed BESS sits comfortably within this state-led objective and is consistent with the goal and intent of the REAP. Large-scale battery systems represent a fundamental component of the REAP, facilitating greater flexibility in electrical generation and stabilising the grid such that further deployment of renewables can be made possible.

Through assisting the expansion of renewable forms of electrical generation, the proposed BESS further supports the *NSW Government's Climate Change Policy Framework* (NSW, 2016). This framework is committed to effective action on climate change, outlining long-term objectives to achieve net-zero emissions by 2050 and to make New South Wales more resilient to a changing climate. The achievement of net zero emissions by 2050 is reliant on transitions towards more sustainable and renewable forms of electrical production.

The project supports this objective by improving the reliability and stability of the electrical grid. The ability of the proposed BESS system to balance electrical demand and supply assists the management of variations in electrical demand and supply which are expected to increase with transitions to more

sustainable and renewable forms of electrical production. The proposed development is consequently consistent with the objective of the *NSW Government's Climate Change Policy Framework* (NSW, 2016), supporting transitions toward lower emissions and improving the resilience of NSW to a changing climate.

2.2.2 NSW ELECTRICITY STRATEGY & ELECTRICITY INFRASTRUCTURE ROADMAP

To address pressing matters around reliability, affordability and the fostering of a sustainable electricity future that supports a growing economy, the NSW Government has formed the NSW Electricity Strategy.

The NSW Electricity Strategy strives to:

- Deliver Australia's first coordinated Renewable Energy Zone in the Central-West Orana region;
- Save energy, especially at times of peak demand, via the Energy Security Safeguard;
- Support the development of new electricity generators;
- Set a target to bolster the state's energy resilience; and
- Make it easier and more efficient to do energy business in NSW.

The strategy encourages new private investment in NSW's electricity system over the next decade to support an estimated 1200 jobs, primarily in regional NSW. The strategy closely aligns with the NSW Government's 'Net Zero Plan Stage 1: 2020–2030'.

In November 2020, the NSW Government released the Electricity Infrastructure Roadmap, enabled by the Electricity Infrastructure Investment Act 2020. The Roadmap builds on the foundations of the Electricity Strategy and is expected to attract up to $32 billion of private investment in regional energy infrastructure by 2030 and support over 9000 jobs, mostly in regional NSW.

The NSW Electricity Strategy acknowledges that firmed renewables are now the most cost-competitive form of new generation and cost less than the current wholesale electricity price.

The project will contribute to the provision of renewable energy in NSW and facilitate private investment in the state's electricity system over the next decade and beyond, a key consideration of the NSW Electricity Strategy. The BESS has an anticipated lifespan in the order of 20-25 years and will contribute to the NSW Government's three objectives for the electricity system: reliability, affordability and sustainability.

Five Renewable Energy Zones (REZs) are at various stages of development including in the Central West-Orana, New England, South-West, Hunter-Central Coast and Illawarra, selected based on the availability of resources and existing connecting infrastructure. The development site is not located within any of the current REZs however the project is considered to provide significant strategic value given the proximity to the town of Finley and the development of nearby renewable energy projects in the locality.

2.2.3 ENERGY SECURITY SAFEGUARD (NSW GOVERNMENT 2020)

The Energy Security Safeguard is part of the NSW Electricity Strategy and legislation to establish the Safeguard was passed by Parliament in May 2020 with an objective to improve the affordability, reliability and sustainability of energy through the creation of financial incentives for energy activities.

Under the *Electricity Supply Amendment (Peak Demand Reduction Scheme) Regulation* 2021, the Government will establish a new Peak Demand Reduction Scheme (PDRS) to support activities that reduce demand at peak times, including flexible demand response.

Coupled with the Energy Saving Scheme (ESS), the PDRS is expected to deliver a net economic benefit for New South Wales of $1.2 billion.

The proposed BESS project supports the objectives of the Energy Security Safeguard by providing capacity to reduce peak demand during summer periods and assists NSW in meeting its peak demand reduction targets.

2.2.4 RENEWABLE ENERGY POLICY FRAMEWORK

The Renewable Energy Policy Framework (Policy Framework) was published by Department of Planning, Housing and Infrastructure (DPHI) in November 2024 to help achieve the transition to renewable energy, support legislated net zero targets by 2050 and secure an affordable supply of electricity for NSW. While the Policy Framework generally relates to solar energy, wind energy, hydrogen and transmission projects, it also accounts for both associated and stand-alone BESS projects, highlighting the need for two gigawatts of long-duration energy storage. The Policy Framework is relevant to stand-alone BESS projects in terms of benefit sharing to the local neighbourhoods and local community, and private agreements with landowners and adjacent landowners. The Policy Framework will provide guidance for future benefit sharing agreements with Berrigan Shire Council and private agreements with landowners.

2.2.5 RIVERINA MURRAY REGIONAL PLAN 2041

The Riverina Murray Regional Plan 2041 is the NSW Government's strategy for guiding land use planning decisions for the Riverina Murray Region (Regional Plan) for the next 20 years. The Regional Plan acknowledges the following key renewable energy focussed outcomes:

> *"Capitalise on a changing regional economy and catalyst projects such as the Wagga Wagga Special Activation Precinct, Albury Regional Job Precinct, Inland Rail, South-West Renewable Energy Zone (South West REZ) and multiple Murray River bridge projects*
>
> *Support the transition to a net zero carbon emission State by 2050, including enabling the establishment of the South-West REZ"*

The proposed development site is outside the confines of the South West REZ, however would give effect to objective 13, being to support the transition to net zero by 2050.

The proposed BESS project supports objective 13 and intended renewable energy outcomes of the Riverina Murray Regional Plan 2041 by providing capacity to reduce the Region's reliance on fossil fuels and increase electricity storage for reuse during peak consumption periods.

2.2.6 RIVERINA AND MURRAY JOINT ORGANISATION (RAMJO) STATEMENT OF STRATEGIC REGIONAL PRIORITIES 2022-2026

RAMJO adopted the Statement of Strategic Regional Priorities 2022-2026 (SSRP) in November 2022. The SSRP identifies the key priority areas on which RAMJO will concentrate its strategies and actions plans through to the year 2026 to enable collaboration between State Government and local councils

(including Berrigan Shire Council) and their communities to implement significant infrastructure projects.

The SSRP identifies seven priority pillars for the RAMJO region, the second of which highlights the priority to "Improve energy security and affordability". The SSRP identifies that the region faces several energy challenges, including aging infrastructure, use of generators, and pressure to be more environmentally friendly with renewable energy generation, and identifies actions to support energy security for the region.

The development is consistent with the priorities of the SSRP.

2.2.7 RAMJO REGIONAL ENERGY STRATEGY 2022-2032

RAMJO adopted the Regional Energy Strategy (RES) in November 2022 to identify actions that can be undertaken by RAMJO to address energy challenges of the region.

The RES identifies the following goals:

- A shared strategy and a shared Implementation and Resourcing Plan (I&R Plan) for Energy Security in the region;
- Increased funding and development of local and regional energy infrastructure;
- Improved energy access and transmission (extraction and feeding into the grid);
- Increased local generation of clean energy to become more self-reliant AND improved value for money;
- Lack of energy supply is no longer viewed as a barrier to industry investment and growth;
- Regional energy security; and
- The development is considered consistent with the goals identified within the RES.

2.2.8 BERRIGAN SHIRE LOCAL STRATEGIC PLANNING STATEMENT

The LSPS sets out six planning priorities for the Berrigan Shire LGA to support the Berrigan LSPS Vision, which is to:

> *"Contemporary standard of urban amenity facilitating an active lifestyle in a rural community characterised by its proximity to Melbourne and a thriving visitor economy valuing and enhancing our communities' informed stewardship of*
>
> *• our nationally significant export-oriented irrigation agriculture industry, its assets and infrastructure, and*
>
> *• our iconic cultural, environmental and economic assets."*

The six planning priorities include agriculture and agribusiness, - enabling infrastructure, transport and logistics, visitor economy, urban amenity and to protect and enhance cultural and natural environmental assets.

Planning priority two is relevant to the proposed development:

> *"The Berrigan Shire LGA has substantial economic assets for renewable energy investment and is in close proximity to market sources in Victoria and the city of Melbourne. Cross-border*

planning will identify efficient strategic links between renewable energy assets and market sources."

Via planning priority two, BSC are committed to embracing technologies and practices which reduce carbon emissions such as the development of BESS.

Planning priority two aligns with the Berrigan Shire Community Strategic Plan 2040 which promotes alternative energy and renewable energy projects in the region to help reduce the Shire's carbon footprint, mitigating the impacts of climate change through renewable energy and water conservation measures and encourage sustainable living.

The development is consistent with the vision of planning priority two under the Berrigan LSPS.

2.3 Relationship to National Electricity Market

The Australian Energy Market Operator (AEMO) operates the National Electricity Market (NEM) within NSW and surrounding states and territories. The AEMO has published the 2023 System Strength, Inertia and NSCAS Reports which identifies existing shortfalls and system strength nodes within the NEM.

While there are no shortfalls identified within the Riverina Murray region the reports do demonstrate the increase in declared security need over the past decade as the NEM transitions from retiring coal generation to renewable generation. The AEMO highlights technologies such as "batteries, solar and wind farms connected to the system with advanced inverters" will help in meeting this need.

The proposed development comprises a BESS in close proximity to the existing Finley Substation, providing opportunities for energy storage to support system strength and stability during and after disturbances to the NEM.

2.4 Analysis of feasible alternatives to the project

This section provides an analysis of feasible alternatives to the project, having regard to the objectives of the development, including the consequences of not carrying out the development.

Table 1 – Development Options

Alternatives		Description
Option 1	Base Case, Do Nothing	Option 1 would involve not installing and operating a BESS at the site or elsewhere.
Option 2	Alternative Site	Option 2 would involve installing and operating a BESS at an alternative site.
Option 3	BESS Technology and Provider Alternatives	Option 3 would involve using alternative technology at the site.
Option 4	BESS at Riverina Highway, Finley, 'Preferred Option'	Option 4 would involve the installation and operation of a BESS at the site.

Of the above, Option 4 is the preferred option, and this is discussed in further detail in the following sections.

2.4.1 OPTION 1

Option 4 is preferred over Option 1, on the grounds that the latter is:

- Inconsistent with the strategic context set by State and local policy, including:
  - Goal 22 of the NSW 2021 Plan (NSW Government 2011) which seeks to "promote energy security through a more diverse energy mix, reduce coal dependence, increase energy efficiency and move to lower emission energy sources";
  - Goal 1 of the *NSW REAP* (NSW Government 2013) which seeks to attract renewable energy investment;
  - Objectives of the Energy Security Safeguard legislation to improve the affordability, reliability and sustainability of energy by addressing the shortfall in firm capacity during times of peak demand;

2.4.2 OPTION 2

Option 4 is preferred over Option 2, as the latter would result in increased costs and environmental impacts associated with the acquisition of a suitable property. It would also entail the construction of increased lengths of connecting infrastructure (likely to include earthworks and vegetation removal). By comparison to the site of the proposed development, the length of connecting infrastructure is expected to be minimal due to the proximity to the existing Finley substation.

By locating the BESS project adjacent to the Finley substation, the project is also sympathetic to the existing power infrastructure setting and the large-scale Finley 170 MW Solar Farm on adjacent land.

2.4.3 OPTION 3

Option 4 is preferred over Option 3 as:

- Option 4 provides the most reliable way, using current technology, to regulate electricity supply in a network which is expected to become increasingly variable due to the transition from traditional to more sustainable, renewable sources in the region; and
- Option 3 may not be suitable to the site due to its limited area or other reasons, requiring the seeking out and acquisition of an alternative site and construction of connecting infrastructure.

2.5 Existing agreements

To date, the applicant has not entered into any agreements with other parties in relation to planning agreements, negotiated landowner agreements, or benefit-sharing schemes.

3. PROJECT DESCRIPTION

3.1 Project Overview

The Finley BESS project comprises a BESS with a delivery capacity of approximately 100 MW_{AC}/200 MWh, incorporating on-site energy storage containers, approximately 80 x 20-foot modular containers comprising of Lithium-Ion batteries with the appropriate cooling/protection system. Other physical features include a control room/switchgear and auxiliary transmission cables, car parking, landscaping, security fencing/lighting, and a single storage structure.

The BESS will connect to the Finley Transgrid substation located adjacent to the development site (southwest) via an underground transmission cable, approximately 480 metres in length.

The development site has an area of approximately 10 ha and will consist of all physical disturbance aspects associated with the development of the project.

The Finley BESS will comprise of the following key components:

- Site establishment works including clearing of grassed area within the BESS boundary and transmission line (TL) footprint, bulk earthworks and temporary construction compound;
- Construction of hardstand, control room and switch gear, auxiliary transformer, battery enclosures, and inverter and transformer stations;
- Vehicular access crossing to Canalla Road (heavy vehicles) and two crossings to Broockmanns Road (light vehicles); one new and one existing to be upgraded;
- Installation of approximately 80 x 20-foot modular containers comprising of Lithium-Ion batteries with the appropriate cooling and protection system and approximately 40 inverters located externally to the modular containers;
- Construction of 132 kV TL route ~480m length underground transmission cable to facilitate connection to the existing Transgrid Finley 132/66 kV Substation and associated high voltage steel poles;
- Earthing and lightning protection systems;
- Construction of ancillary works including internal roads, parking areas, water tanks, storage structures, stormwater management infrastructure, CCTV, security lighting and fencing; and
- Vegetation buffer.

The primary components associated with the installation of the BESS are as follows:

- Site investigations, vegetation clearing, levelling, access way construction, drainage system installation and installation of foundations/supports to install equipment on;
- Transportation to site and installation of equipment;
- Testing and commissioning of the equipment;
- Operation and maintenance.

Key features of the project are summarised in **Table 2** and shown in **Figure 4**.

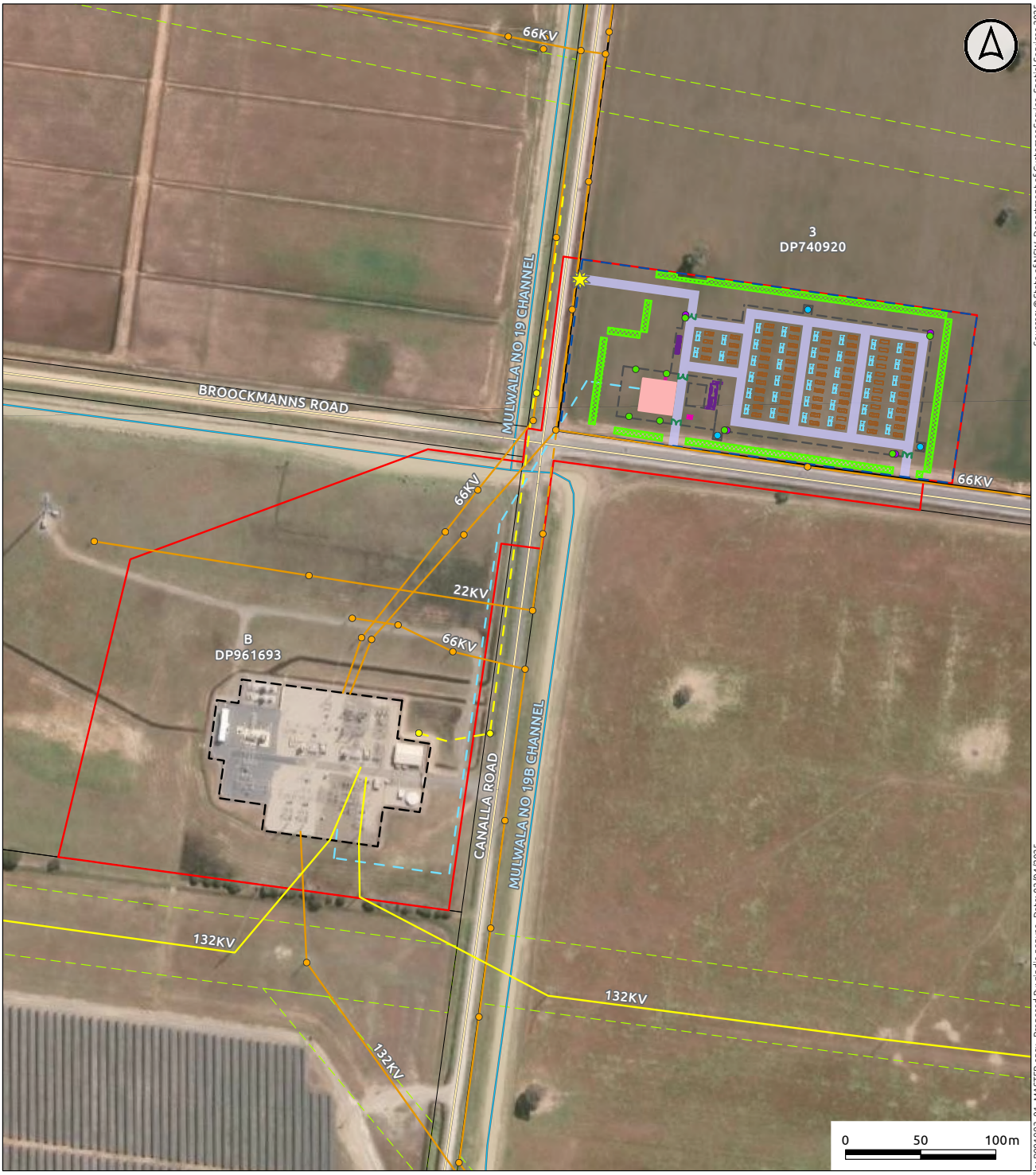
As the proposed development comprises a BESS with a capacity of greater than 30 MW, the development represents designated development by reference to Section 7 of Schedule 3 of the EP&A

Regulations. However, Section 4.10(2) of the EP&A Act provides that state significant development is not designated development.

Table 2 – Project Summary

Project Element	Summary of the Project
Development site details	> Lot 3 DP740920, Riverina Highway, Finley (BESS site); > Lot B DP961693, 168 Canalla Road, Finley (substation site); and > Broockmanns/Canalla Road reserves (transmission line easement).
Development site	The area accommodating the BESS infrastructure and associated operational and construction infrastructure – having an area of approximately 3.5 ha
Battery storage capacity	100 MW_{AC}/200 MWh
BESS Lifespan	Up to 20-25 years
Infrastructure	> Approximately 100 MW_{AC}/200 MWh BESS occupies the majority of the development site; > Upgrade works within the existing 132/66kV Transgrid Finley Substation to accommodate the connection of the BESS; > Underground transmission cables approximately 480 m long connecting the BESS substation to the Finley Transgrid substation; > Temporary construction compound including material laydown areas, site offices, vehicle parking and amenities; > Construction of a new property accesses from Canalla and Broockmanns Roads and ; > Security fencing and lighting; and > Specific native vegetation screening from identified visual impact locations if required.
Site Access	Heavy vehicle access the site via a new access treatment from Canalla Road. Transgrid vehicles will use a new light vehicle entrance from Broockmanns Road and light vehicle associated with the project will use the existing (upgraded) access off Broockmanns Road.
Access route	> Heavy vehicles carrying BESS components would travel to the site from the Port of Melbourne and utilising the proposed heavy vehicle site access location on Canalla Road > Heavy vehicles carrying project construction materials and machinery, utilising the proposed heavy vehicle site access location on Canalla Road. > Light vehicles including shuttle buses carrying construction workers would be expected to travel from Finley and Deniliquin via either Riverina Highway and Canalla Road, or, if from Finely, via Broockmanns Road.

Project Element	Summary of the Project
Construction	> Construction is expected to commence in 2026 and occur over an approximately 11 month period. > Construction would occur during standard construction hours. However, it is anticipated that some activities that are inaudible and would not result in amenity impacts to surrounding receivers, may be required to occur outside of standard hours in accordance with an Out-of-Hours Construction Protocol.
Operations and maintenance	The project would be operated remotely with occasional maintenance activities generally be undertaken by up to two Full Time Equivalent (FTE) personnel.
Decommissioning and rehabilitation	> The development site would be progressively rehabilitated during the decommissioning period, including removal of the temporary construction facilities. Temporary construction facilities include temporary buildings installed on site to provide for workers associated with decommissioning. > At the end of operational life, components above ground and below ground (with depth subject to agreement with landowner) would be removed and land rehabilitated to as close as possible to pre-development conditions.
Workforce	Up to 55 FTE construction jobs and 2 FTE ongoing operational jobs
Hours of Operation	24 hours, 7 days a week



Legend

- Development Site
- BESS Lease Area
- Substation
- Primary Site Access (Heavy Vehicle)
- Subject Site
- Substation Site
- Lot
- Road
- Watercourse
- Easement
- Essential Energy Pole
- Transgrid Pit
- Essential Energy OH
- Essential Energy UG
- Transgrid OH
- Transgrid Optic Fibre

Proposed Layout

- Substation Switch Area
- Internal Road
- BESS Battery
- BESS Inverter Line
- BESS Buildings
- Fence
- Gate
- BESS Substation
- Proposed BESS underground line
- Vegetation
- Watertank
- CCTV Mast
- BESS Lighting Mast

Premise

Finley BESS

Figure 3
Development Site

Legend

- Development Site
- BESS Lease Area
- Primary Site Access (Heavy Vehicle)
- Subject Site
- Lot
- Road
- Watercourse
- Easement
- Essential Energy Pole
- Transgrid Pit
- Essential Energy OH
- Essential Energy UG
- Transgrid Optic Fibre

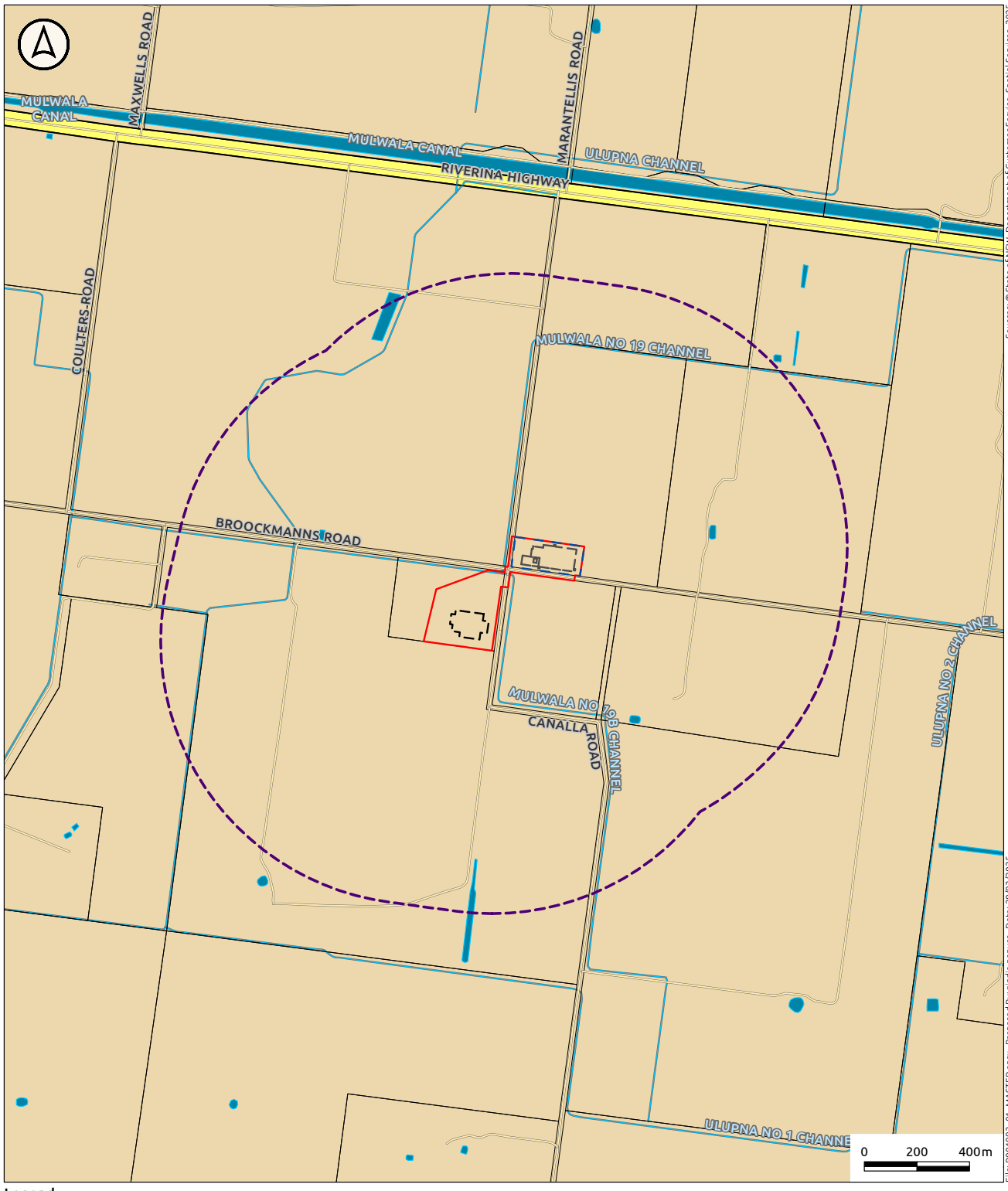
Proposed Layout

- Substation Switch Area
- Internal Road
- BESS Battery
- BESS Inverter Line
- BESS Buildings
- Proposed BESS underground line
- Fence
- Gate
- BESS Substation
- Vegetation
- Watertank
- CCTV Mast
- BESS Lighting Mast

Premise

Finley BESS

Figure 4
BESS Layout



Legend

- Development Site
- BESS Lease Area
- Substation
- Locality (1km Buffer)
- Indicative BESS Security Fence
- Lot
- Road
- Water Body
- Watercourse

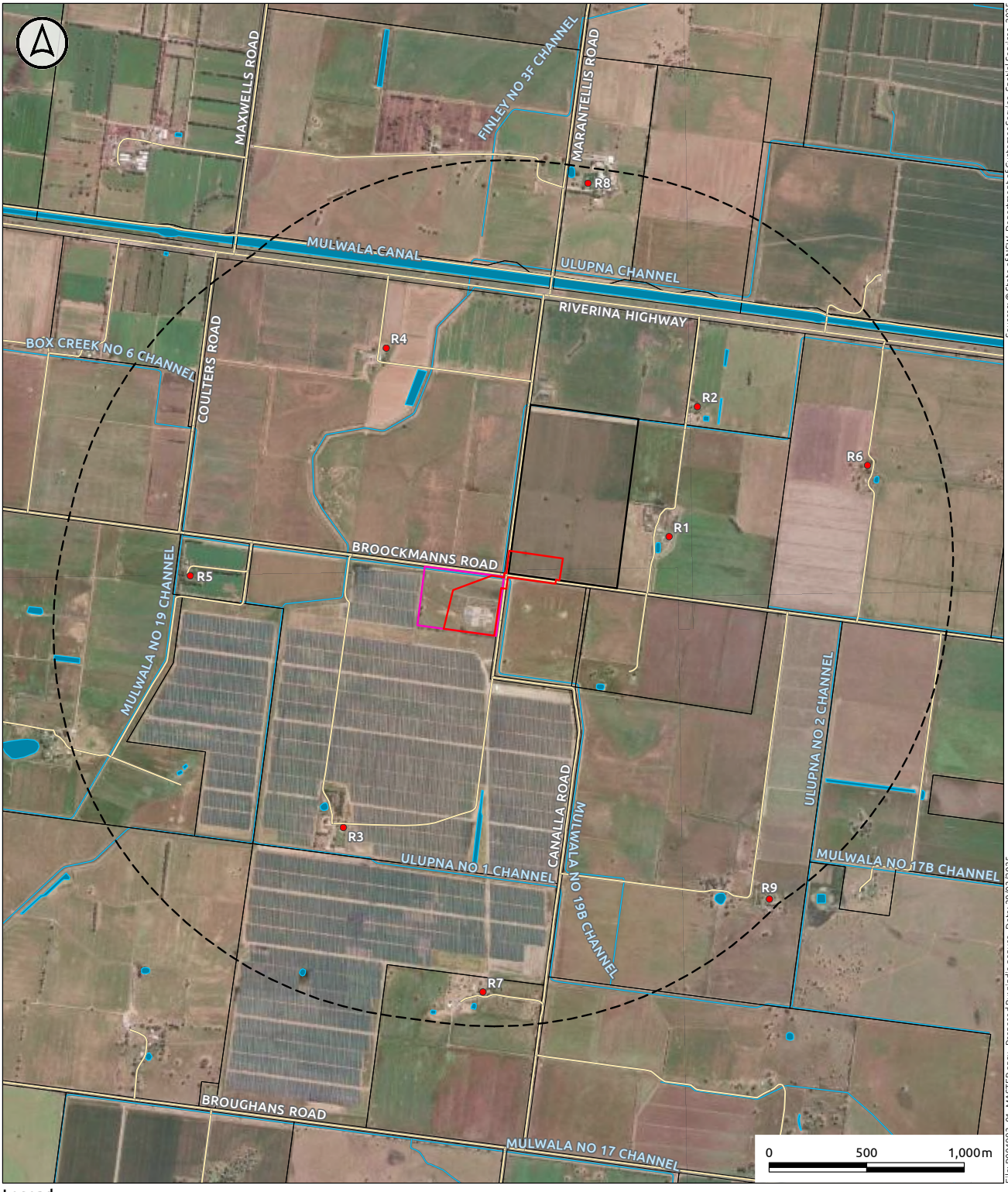
Land Zoning

- RU1 - Primary Production
- SP2 - Infrastructure

Premise

GRANSOLAR DEVELOPMENT
Finley BESS

Figure 5: Land Zoning



Legend

- Development Site
- Substation Site
- Subject Site
- Development Site 2km Buffer
- Lot
- Road
- Water Body
- Watercourse

Receivers

- Non-Associated

Premise

Finley BESS

Figure 6: Receivers

3.2 Uses and Activities

The project comprises the development of electricity generating works, meaning a building or place used for the purpose of making or generating electricity, or electricity storage.

The Finley BESS will operate in conjunction with the existing Finley Transgrid Substation on the adjacent site to manage and store electricity transferred by the substation. This will positively contribute to the system security needs of the NEM.

Upon the commencement of operation, the only time personnel will be required on the site is for maintenance works. Staff will access the site via the Broockmanns Road site access to the east in standard sized vehicles. The Broockmanns Road western site access will provide direct access for Transgrid to the fenced substation area at the development site. Occasionally a heavy vehicle may need to access the site for maintenance but will do so via the heavy vehicle access on Canalla Road.

Specific project elements are discussed in the following sections.

3.2.1 BATTERIES

The proposed BESS contains containerised Lithium-Ion type batteries which will be manufactured offsite and delivered to the site for installation. The number and exact layout of battery modules would be confirmed during detailed design. However, the location of this equipment would be limited to the areas shown on **Figure 4**. The siting of this equipment has formed the basis of the technical assessments that support this EIS.

For the purposes of the assessment of the BESS, a conservative approach was taken, whereby the maximum area and quantities of this infrastructure was considered, subject to this infrastructure being located wholly within the identified areas.

3.2.2 UNDERGROUND CABLING

Underground cabling interconnecting equipment would be designed in accordance with the relevant Australian and international standards and manufacturers' specifications. The cabling would be installed, surrounded by a thermally controlled bedding mix (such as sand, cement or similar) and backfilled with fill obtained on site or excavated natural material (ENM) imported to site.

3.2.3 TRANSMISSION LINE

Electrical connection from the BESS to the Transgrid Finley Substation will be via an approximately 480 m, 132 kV underground transmission cable underboring Broockmanns/Canalla Roads, through Lot B DP 961693 to connect to the Transgrid Finley substation.

The approximate location of the transmission line has been identified but would be subject to detailed design considerations in consultation with Transgrid.

Land within the Broockmanns Road reserve is not identified as 'terrestrial biodiversity' under the Berrigan LEP.

Along the roadside, vegetation is predominantly comprised of native vegetation. The transmission line is below ground, it would be under bored to minimise impacts to terrestrial vegetation. The impacts of both options have been considered in the project BDAR and via this EIS.

3.2.4 TRANSGRID FINLEY 132/66KV TRANSMISSION SUBSTATION AND GRID CONNECTION

The existing substation may require some minor augmentation to accommodate the BESS infrastructure.

The new feeder connection to the existing Finley Transgrid Substation is expected to comprise a single dedicated feeder bay and suitable underground transmission cable to which the required throughput meets Transgrid thermal rating standards. Transgrid standard design 132 kV feeder protection shall be installed for the new feeder.

3.2.5 INVERTERS, TRANSFORMERS AND SWITCHGEAR

A total of approximately 40 inverters will be located externally to the modular containers. Batteries and inverters are fixed to hardstand footings where they are accessible by an internal road. The inverter stations would resemble 20 foot containers.

3.2.6 ACCESS AND INTERNAL TRACKS

Within the site, paved internal roads are limited to a gravel, all weather connection from the development site entrances to the site compound/operations and maintenance buildings.

3.2.7 TEMPORARY ANCILLARY FACILITIES AND CONSTRUCTION COMPOUND

Ancillary facilities include:

- Temporary construction compound;
- Hardstand laydown areas, storage areas/enclosures;
- Site office;
- Internal access road;
- Earthworks (under boring Canalla/Broockmanns Road and Mulwala No 19 channel);
- Car parking areas for construction workers' transportation; and
- Parking for staff and visitors.

3.2.8 SECURITY

The development site will be secured by a CCTV system and security fencing surrounding the perimeter, with a height of up to 2.1 m and access via security access gates.

3.2.9 VEGETATION SCREENING

A vegetation screen will be established between the security fencing and BESS structures as a visual buffer. The landscape screening will ensure any residual visual impacts are mitigated for existing or potential residential receivers.

3.3 Project Phases

3.3.1 CONSTRUCTION

The construction period is estimated to be 11 months (peak period of construction of approximately 3 months) and is anticipated to commence 2026.

Construction and substation upgrading activities will occur within the standard hours for construction:

- 7 am to 6 pm Monday to Friday;
- 8 am to 1 pm Saturdays; and
- no time on Sundays and NSW public holidays.

Where construction and upgrading activities that are inaudible and would not result in amenity impacts to surrounding receivers, they may be undertaken outside of standard hours in accordance with construction noise protocol.

A security fence will be installed on the development site boundary and internal access roads will be constructed. Construction will require the use of water trucks, graders, flatbed trucks, skid steers, front end loaders, roller compactors, trenchers, backhoes, gravel trucks and aerial lifts.

Batteries required for the development will be manufactured offsite and delivered to the site for installation following completion of concrete footings. Deliveries of other equipment will be made via flatbed trucks on the approved route and via the approved site entrances. The nominated route for over-dimensional movements is as follows:

Heavy vehicle movements carrying project components, including high-risk oversize and overmass movements, are expected to travel from the Port of Melbourne via the following route:

- Heavy vehicles carrying BESS components would travel to the site from the Port of Melbourne via Beacon Road > Williamstown Road > Todd Road > Cook St > Graham St (M2/Citylink) > Western/Metropolitan Ring Road (M80) > Hume Freeway (M31) > Goulburn Valley Freeway (M39/A39) > River/Doyles/Grahamvale Road (C391) > Goulburn Valley Freeway (A39) > Katamatite Shepparton Main Road (C363) > Benalla/Tocumwal Road/ Goulburn Valley Highway (C371) > Newell Highway (A39) > Riverina Highway (B58) > Canalla Road and utilising the proposed site heavy vehicle access location on Canalla Road

Standard movements (i.e., non-over-dimensional transporting construction materials or machinery and construction worker shuttle buses) are likely to travel from surrounding centres via local roads and highways and would utilise the new project access point on Canalla Road.

Light vehicles would travel from Finely or Deniliquin via local roads and highways and would utilise the upgrade existing access on Broockmanns Road.

Given the generally flat nature of the development site and lack of vegetation, minimal preparation is required in advance of installing the BESS.

The construction phase will take approximately 11 months (with a peak period of approximately 3 months) and comprise of:

- Site establishment works including removal of existing grasses within the BESS security fencing boundary and transmission line (TL) footprint, bulk earthworks and temporary construction compound;
- Transportation of construction personnel, associated light/heavy vehicles and materials, to and from the development site on a day-to-day basis (dependent on construction schedule);

- Road works to formalise internal site access road to accommodate heavy vehicles, including new driveway crossovers;
- Construction of hardstand, paved internal roads, control room and switch gear, auxiliary transformer, battery enclosures, and inverter and transformer stations;
- Construction of an above and below ground 132 kV TL to facilitate connection to the existing Finley Transgrid substation, located to the southwest of the BESS Site. Under boring is proposed to facilitate the TL below Broockmanns Road and the Mulwala No. 19 channel;
- Construction of ancillary works including parking areas, water tank, storage structures, stormwater management infrastructure and security lighting and fencing; and
- Removal of temporary construction facilities and rehabilitation of disturbed areas following completion of construction of the Project.

The primary components associated with the installation of the BESS are as follows:

- Off-site manufacture of the BESS equipment;
- Vegetation clearing to provide a constructable site;
- Installation of fencing and gates to secure the development site, connection station and BESS;
- Levelling the development site as needed;
- Installation of concrete footings and steel platforms on which to install the BESS containers and inverters;
- Delivery and installation of an approximately 100 MW/200 MWh BESS;
- Underground cabling and construction of earthing systems;
- Auxiliary power protection, indication and control systems;
- Lighting inside BESS containers to provide illumination for operation and/or maintenance, when required at night;
- Control rooms and connection station;
- Ancillary high voltage equipment, such as circuit breakers, switching equipment, filters, transformers and other electrical protection equipment;
- Connection of the BESS to the Finley Substation; and
- Testing and commissioning.

The project is expected to generate up to 2 FTE jobs during construction.

3.3.2 OPERATION

The BESS will be operational for a period of up to 20-25 years, operating 24 hours and day, seven days a week. The area of the BESS would be leased for the duration of the development from the associated landowners.

Once operational, the BESS will be managed by on-site staff, with routine responsibilities typically including:

- Monitoring, testing and maintenance of onsite equipment;
- Receipt of goods;
- Removal of waste; and
- Other general site maintenance (e.g. vegetation management).

The above activities are expected to generate up to 2 FTE jobs during operation, associated with operation, maintenance, and vegetation management.

The remainder of the development site could continue to be used for agricultural purposes surrounding the BESS development site. This would assist to control fuel loads surrounding the development and maximise economic output from the development site.

3.3.3 DECOMMISSIONING

It is anticipated that the BESS would be operational for a period of up to 20-25 years after which time the existing BESS would be removed and the development site would be decommissioned. Upon decommissioning, the following indicative steps would occur:

- BESS and associated infrastructure would be unbolted from concrete slabs and removed by crane onto transporters. All site infrastructure would be taken away from the development site for resale or to an appropriate recycling or waste management facility;
- Underground services would be cut back to below ground level and capped, in agreement of landowners; and
- The development site would then be rehabilitated to as possible to its original state and use for agricultural or other permissible purpose.

It is possible that the infrastructure may be upgraded rather than decommissioned and the lifespan extended, subject to necessary approvals and agreements with landowners. It is also possible that the site may be decommissioned sooner, subject to technology and project viability.

4. STATUTORY CONTEXT

4.1 Summary

In accordance with Section 3.5 of the *State Significant Development Guidelines – Preparing an Environmental Impact Statement* (DPIE 2022), the statutory requirements for the development are set out in **Table 3.**

Further discussion around statutory requirements and pre-conditions to approval are discussed in **Table 4**.

Table 3 – Statutory Requirements

Category:	Assessment
Power to grant approval	Section 4.5 of the EP&A Act provides that the consent authority is the Independent Planning Commission (if the development is of a kind for which the Commission is declared the consent authority by an environmental planning instrument) or the Minister (if the development is not of that kind). Section 4.36(2) of the EP&A Act provides that a State Environmental Planning Policy may declare any development, or any class or description of development, to be State significant development. Section 2.6(1) of the Systems SEPP provides that development is declared to be State significant for the purposes of the EP&A Act if: > 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 EP&A Act; and > The development is specified in Schedule 1 or 2 of the SEPP. > The consent authority for the proposed development is likely to be the Minister as the proposed development satisfies: • Section 2.6(1)(a) of the Systems SEPP on the grounds that it is permitted with consent under Section 2.361(b) of the Infrastructure SEPP; and • Section 2.6(1)(b) of the Systems SEPP on the grounds that it is for the purposes of electricity generating works that has an EDC of more than $30 million in accordance with Section 20 of Schedule 1 of the SEPP. > Unless it is the Independent Planning Commission if, in accordance with Section 2.7(1) of the Systems SEPP: • The council of the area in which the development is to be carried out (BSC) has duly made a submission by way of objection under the mandatory requirements for community participation in Schedule 1 of the EP&A Act; • At least 50 unique submissions (other than from a council) have duly been made by way of objection under the mandatory requirements for community participation in Schedule 1 to the Act; and

	• The development application is made by a person who has disclosed a reportable political donation under section 10.4 to the Act in connection with the development application.
Permissibility	Electricity generating works are prohibited in the RU1 Primary Production zone applying to the development site under the relevant local environmental plan (Berrigan LEP 2013). Notwithstanding the above, the development is permitted with consent as the proposed development satisfies Section 2.6(1)(a) of the Systems SEPP as electricity generating works are permitted with consent within prescribed rural zones under Section 2.36(1)(b) of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (the Infrastructure SEPP). Under Section 2.35 of the Infrastructure SEPP, prescribed rural zones include the RU1 Primary Production zone which applies to the development site under the BLEP 2013. A proposed power line connection to the Finley Transgrid substation is permissible as an ancillary component of an electricity generating works. The proposed development satisfies Section 2.6(1)(b) of the Systems SEPP on the grounds that it is for the purposes of electricity generating works which have an EDC of more than $30 million in accordance with Section 20, Schedule 1 of the Systems SEPP.
Other approvals	Commonwealth approvals are not required for the following reasons: > A search for potential matters of national environmental significance (MNES) that may trigger the need for referral to the Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) via the online Protected Matters Search Tool (PMST) – showed no MNES affecting the sites that require referral (results shown in **Appendix A**): • Identified no World Heritage Properties or National Heritage Places protected by the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). • Identified no Wetlands of International Importance (Ramsar Wetlands). • Identified thirty-seven (35) threatened species which may be present in or within proximity to the development site. • Identified five (6) threatened ecological communities with the potential to occur in or within proximity to the development site. • Identified ten (8) migratory bird species which may be present in or within proximity to the development site. The project BDAR forms the view that the project is not likely to result in MNES impacts and thus referral to DCCEEW is not required. A review of the National Native Title Tribunal's Native Title Register did not identify any Native Title claims or applications, or Indigenous Land Use Agreements applying to the development site under the *Commonwealth Native Title Act 1993* (the Native Title Act).
Pre-condition to exercising the	Pre-conditions to approval include consideration of the following:

power to grant approval	> Consideration as to whether the project site is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out; > Consideration as to whether the project represents potentially hazardous or offensive development; > Consideration of impacts associated with development with a frontage to a classified road; > Consideration of impacts associated with earthworks; and > Consideration of impacts on land identified as biodiversity. These matters are addressed in **Table 4**.
Mandatory matters for consideration	Pursuant to Section 4.15 of the EP&A Act, the following mandatory matters for consideration apply: > Relevant environmental planning instruments, including: • State Environmental Planning Policy (Resilience and Hazards) 2021 (the Hazards SEPP): > Chapter 3 Hazardous and offensive development; and > Chapter 4 Remediation of land. • State Environmental Planning Policy (Transport and Infrastructure) 2021 (the Infrastructure SEPP): > Chapter 2 Infrastructure. • State Environmental Planning Policy (Planning Systems) 2021 (the Systems SEPP): > Chapter 2 State and regional development. • State Environmental Planning Policy (Biodiversity and Conservation) 2021 (the Biodiversity SEPP): > Chapter 3 Koala habitat protection 2020 • Berrigan LEP 2013. > The relevant Development Control Plan (DCP) (the Berrigan DCP 2014). It should be noted that the application of a DCP is excluded from SSD under Section 2.10 of the Systems SEPP. > The likely impacts of the development including environmental impacts on natural and built environments and social and economic impacts in the locality. > The suitability of the development site for the development. > The public interest.

4.2 Pre-conditions to approval

Table 4 – Pre-conditions table

Statutory reference	Pre-condition	Assessment
State Environmental Planning Policy (Resilience and Hazards) – section 4.6(1)(b)	A consent authority must be satisfied that the land is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out.	The AIA (Premise, 2025) was carried out in consultation with the landowner and included discussions about the potential occurrence of land contaminating activities on the site. This was further augmented through review of aerial photography as part of preparation of the LUCRA. There were no indications from these discussions that would suggest any prior contaminating activities, thereby a detailed assessment was not warranted. The requirements of the SEPP are satisfied on the basis that the analysis of historic use do not indicate any likely contaminating land uses. As such, the land is considered to be suitable for the proposed purpose without the need for remediation.
State Environmental Planning Policy (Resilience and Hazards) – Chapter 3	Section 3.7 of the Hazards SEPP requires consideration of relevant circulars and guidelines in consideration of whether a proposed development represents potentially hazardous or offensive development. Where a conclusion is reached that a project is either, or both, a potentially hazardous or offensive development, must prepare a PHA in relation to the project.	Whilst the project is not assessed as representing potentially hazardous or offensive development, by response to the SEARs, a PHA has been provided – refer to **Section 6.10**.
State Environmental Planning Policy (Transport and Infrastructure) 2021	Section 2.119 - Development with frontage to a classified road	The development site does not directly front a classified road, however it located in close proximity to the Riverina highway which is identified as a classified road. The Riverina Highway is the main route for access to the site which is accessed directly via Canalla Road. The development does not require upgrade to the existing road network. Access can be managed during construction where oversized and overmass vehicles need to access the site to

Statutory reference	Pre-condition	Assessment
		ensure that suitable access can occur without requiring augmentation of the road network. The TIA considers the impacts of the project in the context of the operation of the BESS and the Finley Solar Farm and surrounding agricultural uses – refer **Section 6.7** and **Appendix K.**
	Section 2.48 - Determination of development applications - other development	The project will likely include the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower, is immediately adjacent to an electricity substation and is within 5m of an exposed overhead electricity power line. It is anticipated that written notice of the application to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and that the department will take into consideration any response to the notice that is received within 21 days after the notice is given.
Berrigan Local Environmental Plan 2013	The Berrigan LEP 2013 sets up the environmental planning provisions applicable to the Berrigan LGA and is administered by Berrigan Shire Council.	The project is wholly located within the RU1 Primary Production zone (refer **Figure 5**), which prohibits electricity generating works. Notwithstanding, the project is not inconsistent with the objectives of the zone, and is particularly consistent with the following objectives: > To minimise the fragmentation and alienation of resource lands; and > To minimise conflict between land uses within this zone and land uses within adjoining zones. The project is located on the edge of an agricultural area, adjoining an existing substation, contributing to an energy infrastructure cluster to minimise any fragmentation of the agricultural land. The LUCRA considers the potential for land use conflicts resulting from the change in land use proposed by the development– refer **Section 6.4** and
	Section 6.1 of the BLEP requires consideration of a range of factors prior to the	Relatively minor earthworks are required to provide a level development site to accommodate the proposed battery arrangement and install ancillary elements.

Statutory reference	Pre-condition	Assessment
	grant of consent for earthworks.	Relevant heads of consideration are discussed in **Section 4.4.1**
	Section 6.3 of the BLEP requires consideration of impacts to mapped sensitive terrestrial biodiversity	The site does not contain any mapped sensitive terrestrial biodiversity

4.3 Environmental Planning and Assessment Act 1979

4.3.1 OBJECTS OF THE EP&A ACT

In New South Wales (NSW), the relevant planning legislation is the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EP&A Act instituted a system of environmental planning and assessment in NSW and is administered by the Department of Planning, Housing and Infrastructure (DPHI). The objects of the EP&A Act are:

(a) *To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,*

(b) *To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*

(c) *To promote the orderly and economic use and development of land,*

(d) *To promote the delivery and maintenance of affordable housing,*

(e) *To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*

(f) *To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),*

(g) *To promote good design and amenity of the built environment,*

(h) *To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,*

(i) *To promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,*

(j) *To provide increased opportunity for community participation in environmental planning and assessment.*

The proposed development is not considered to be antipathetic to the above objects.

4.4 Other Environmental Planning Instruments

4.4.1 BERRIGAN LOCAL ENVIRONMENTAL PLAN 2013

Section 1.2 sets out the aims of the Berrigan LEP. The project is not antipathetic to the aims of the LEP and is particularly aligned with the aims 2(b) and (d) on the basis that:

- The project has demonstrated through a thorough assessment of the potential impacts that the project can be developed with nothing other than minor impacts on the surrounding locality.
- The project will generate both construction and operational jobs, contributing to the ongoing economic grown and development of the Berrigan area, as well as the state and country.
- As outlined in **Section 7.9**, the project is aligned with the principles of ESD.
- As outlined in **Appendix G**, the use of the site for electricity generating works is not anticipated to detrimentally impact the opportunity for the land to return to its former agricultural uses if the project is decommissioned. The project will preserve the agricultural values of the land to enable future opportunities for all forms of primary production.
- As outlined in **Appendix G**, the risk of land use conflicts has been considered and it is concluded that the mitigation measures discussed across the specialist reports will sufficiently mitigate the risk of land use conflicts.

From a review of the LEP, the statutory pre-conditions to approval include consideration of a number of matters as outlined in **Table 4**.

The following is noted with respect to these matters:

- The consent authority can be satisfied that the proposed earthworks that are necessary to construct the facility are minor in nature, due to the low scale nature of the development, such that they will not lead to:
  - disruption to drainage patterns (refer to **Section 6.8**);
  - disruption of soil stability (refer **Section 6.4.3.4**);
  - impacts to amenity (refer **Sections 6.5 and 6.6**);
  - the likelihood of disturbing relics (refer to **Sections 6.2 and 6.3**);
  - impacts to surface water (refer **Section 6.8**);
- The project will be managed with adequate measures to avoid, minimise or mitigate the impacts of the development (refer to **Appendix D**);
- Fill to be excavated or used in relation to the project would be subject to strict management via the recommended project construction management plans, which would implement appropriate measures to allow for the auditing of these aspects of the project and demonstrated compliance with all relevant requirements;
- As outlined throughout **Section 6.1**, the development has been designed, sited and will be managed to avoid any significant adverse environmental impact, and adequate mitigation measures implemented to mitigate any minor residual impacts;
- As outlined throughout **Section 6.8**, adequate consideration has been given the likelihood that the project could lead to impacts to the local water environment and appropriate mitigation measures have been recommended to offset and minimise any minor residual impacts; and

> As outlined in **Section 3**, the site will be adequately serviced and that services are available to the site for augmentation or provision as required to meet the needs of the project.

By reference to the assessment within this EIS, the project is not antipathetic to the aims and objectives of the LEP and the RU1 zone specifically. The EIS provides adequate consideration of relevant pre-conditions to approval to demonstrate that the development can be achieved without resulting in significant or detrimental impacts to the locality or region. Taken in the round, the assessment confirms that the range of impacts are acceptable, and any residual impacts are adequately managed via recommended mitigation measures.

5. ENGAGEMENT

5.1 Introduction

This chapter provides an outline of the consultation and engagement activities carried out for the Finley BESS project. It identifies who has been consulted, how the consultation was carried out, the feedback received and how the feedback has been addressed. The overarching objective for community engagement was to build relationships of trust that provided opportunities for the community to understand the project and to provide feedback about impacts and benefits that could be fed into project development and assessment.

This chapter outlines additional consultation and engagement activities for the development of the Environmental Impact Statement (EIS).

5.2 Secretary's Environmental Assessment Requirements

The Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS were provided for the project on 18 July 2024. SEARs relevant to community and stakeholder engagement are outlined in **Table 5.**

Table 5 – Response to SEARs

SEARs item	Project response
During the preparation of the EIS, you should consult with the relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups, affected landowners and any exploration licence and/or mineral title holders. In particular, you must undertake detailed consultation with affected landowners surrounding the development, relevant government agencies, including the relevant local Council.	**Section 5.3** provides a summary of how stakeholders were identified and the list of relevant stakeholders consulted during the development of the EIS. No consultation was conducted with exploration license mineral holders, none were present in the area. Consultation with key stakeholders, including affected landowners, government agencies, and the local council, are detailed in Table 7.
The EIS must detail how engagement undertaken was consistent with the Undertaking Engagement Guidelines for State Significant Projects (DPIE, 2024)	BESS Pacific engaged Urbis to prepare a community and stakeholder engagement plan (CESP) to outline the approach to engagement, taking careful consideration of the requirements of the applicable guidelines. By engaging an experienced engagement specialist, BESS Pacific was able to ensure that engagement was effective, respectful and appropriately scaled. Further commentary through this section of the EIS details the engagement efforts and demonstrates consistency with the guidelines.
The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended	The applicant has undertaken extensive consultation and technical assessments to inform the proposed project design.

SEARs item	Project response
in response to these issues. Where amendments have not been made to address an issue, an explanation should be provided.	Feedback from stakeholders was generally limited, as many common issues associated with BESS developments were addressed early in the design process based on prior project experience. In response to consultation and technical findings, the primary design amendment involved underboring the transmission line connection to avoid impacts to native vegetation. No further changes were required, as remaining issues were addressed through proposed mitigation measures detailed in the EIS.
Heritage – evidence of adequate and ongoing consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate and mitigation measures (including the final proposed measures), having regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010), including the consultation process within.	Ongoing consultation has been undertaken as part of the Aboriginal Cultural Heritage Assessment in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (refer **Appendix F**).
Land – an assessment of the compatibility of the development, including any proposed accommodation camps with existing land uses, during construction, operation and after decommissioning, including: - consideration of the zoning provisions applying to the land, including subdivision in consultation with Council (if proposed)	This is addressed in Section 6.4 and Appendix G. No accommodation camps are proposed. Zoning considerations are addressed in **Section 4**.
Transport – provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) - a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes), - clear figures of proposed road upgrades (including the site access point), and - road maintenance contributions, and any other traffic control measures.	A TIA is provided in **Appendix K** and a summary of transport impacts are discussed in **Section 6.7**. No road upgrades are required to facilitate the project. A detailed traffic management plan would be prepared prior to construction commencing.
Water –	Water demand is addressed in **Section 6.8.3.1**.

SEARs item	Project response
details of water requirements and supply arrangements for construction and operation (including consultation with suppliers).	
Waste – identify, quantify and classify the likely waste stream to be generated during construction, operation, and decommissioning, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste (in consultation with waste facilities, including Council).	This is addressed in **Section 6.12**

5.3 Community and stakeholder engagement

In December 2024, BESS Pacific engaged Urbis to prepare a Communication and Stakeholder Engagement Strategy (CESS) outlining how the community and relevant stakeholders will be provided with opportunities to learn about the project, provide feedback and describes the planning process.

5.3.1 PURPOSE OF ENGAGEMENT

The CESP set out the community participation objectives of the engagement strategy with the intent of aligning with the key objectives of the DPHI *Undertaking Engagement Guidelines* (2024).

The engagement process for the project aimed to:

- Identify the people or groups who are interested in or are likely to be affected by the project.
- Use appropriate engagement techniques. This includes:
  - considering the accessibility of how information is delivered;
  - the avoidance of technical language and jargon so information can be easily interpreted by the audience; and
  - the adoption of non-written forms of engagement, where needed.
- Appropriate engagement techniques are particularly important when engaging with specific groups, such as Aboriginal and Torres Strait Islander groups, where engagement should be a discrete, planned activity undertaken by and with experienced Indigenous engagement specialists.
- Ensure the community are provided with safe, respectful and inclusive opportunities to express their views.
- Involve the community, councils and government agencies early in the development of the proposal, to enable their views to be considered in project planning and design.
- Be innovative in their engagement approach and tailor engagement activities to suit the:
  - context (e.g. sensitivity of the site and surrounds);
  - scale and nature of the project and its impacts; and
  - level of interest in the project.
- Provide clear and concise information about what is proposed and the likely impacts for the relevant people or group they are engaging with.

- Clearly outline how and when the community can be involved in the process.
- Make it easy for the community to access information and provide feedback.
- Seek to understand issues of concern for all affected people and groups and respond appropriately to those concerns.
- Provide feedback about how community and stakeholder views were used to shape the project or considered in making decisions.
- Be able to demonstrate how the demography of the area affected has been considered in how and what engagement activities have been undertaken.

The CSEP followed engagement principles from the following guidelines:

- *Undertaking Engagement Guidelines for State Significant Projects* (DPHI, 2024); and
- *Social Impact Assessment Guideline for State Significant Projects* (DPIE, 2023).

5.3.2 STAKEHOLDERS

Stakeholders are individuals, groups of individuals or organisations that could influence or affect a project. Described in DPHI's Undertaking Engagement Guide: Guidance for State Significant Projects, the community is anyone (including individuals, community groups, Aboriginal and Torres Strait Islander communities, culturally and linguistically diverse communities, peak bodies or businesses) interested in or likely to be affected by the project.

Stakeholders are categorised based on their impact and/or interest and grouped into four main categories and ten subgroups (refer to **Table 6**).

Table 6 – Stakeholder categorisation

Stakeholder group	Individual stakeholder subcategory	Description	Key focus
Government authorities	Local Council	Berrigan Shire Council	Detailed consultation. Direct impacts on Council assets and constituents during construction, operation and decommissioning. Interest in Voluntary Planning Agreements and community benefits.
	State regulator	DPHI	Detailed consultation. Regulatory compliance and impact assessment. Interest in Voluntary Planning Agreements and community benefits.

Stakeholder group	Individual stakeholder subcategory	Description	Key focus
Relevant government agencies	> Government agencies and departments	> Rural Fire Service	> Detailed consultation. > Compliance and feedback on social and environmental impacts of the project.
Infrastructure and service providers	> Infrastructure owners	> Transgrid > Murray Irrigation Limited	> Detailed consultation. > Connection to the relevant electricity infrastructure and connection capacity > Impacts to Transgrid infrastructure
Community	> Affected landowners surrounding the development	Surrounding residential landowners on streets within a 2km radius and broader community.	> Detailed consultation. > Impacts during construction and operation including visual, noise, traffic and vibration. > Social and environmental impacts and benefits associated with the project.
	> Community groups	> Finley NSW Community Noticeboard (Facebook group) > Finley For The Future (Facebook group) > Finley Men's Shed > Murray Landcare Collective > Lions Club > Finley RSL > Local Business and Industry Groups > Finley Chamber of Commerce	> Concerns the direct and indirect environmental and social impacts of the project. > Interest in operational benefits such as Voluntary Planning Agreements, benefit schemes, and employment opportunities.
	> Aboriginal stakeholders	> Five Registered Aboriginal Parties (RAPs) > Local Aboriginal Land Council (LALC) -	> Cultural significance or connection to Country impacted by the project.

Stakeholder group	Individual stakeholder subcategory	Description	Key focus
		Cummeragunja LALC	
	> Broader community	> Finley township > Rural landholders in the broader locality	> General interest about the project among including environment, benefit sharing, energy supply, general impacts on the town

5.4 Communication and consultation summary

The engagement strategy for the project utilised a variety of communication channels and activities to enhance community and stakeholder participation and feedback relevant to the project's scale, size and impact.

Community engagement methods included both in-person and online approaches to reach a wider range of individuals and cater to their preferred mode of communication and have been supplemented by engagement in late 2023 during development of the scoping report, including:

- A community newsletter, including information about the proposal and how to provide feedback;
- Dedicated project website, including detailed information about the proposal and how to provide feedback;
- Newspaper print and digital advertisements including details about the proposal, how to provide feedback, as well as an invitation to the community to attend information pop-up sessions;
- community information pop in sessions, one weekday evening and one weekday morning, including information display boards and attended by members of the project team;
- Individual project briefings to capture feedback from government agencies;
- Feedback survey as part of the Social Impact Assessment, with a QR code to the survey included on the community newsletter and pop in session display boards; and
- Enquiry channels via a toll free 1800 phone number and email.

This diverse array of engagement methods contributes to a more comprehensive and robust data collection process, thereby enhancing the quality of information available to inform project related decision making. Outcomes of the engagement methods are detailed in the Engagement Outcomes Report (Urbis, 2025) provided in **Appendix R**, a summary of the engagement activities undertaken, along with the key issues identified for each stakeholder group, is provided in **Table 7** below.

5.5 Consultation summary

Table 7 – Consultation summary

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
Government authorities	Berrigan Shire Council	> Email to introduce project – 8 December 2023 > Introductory meeting with Council officers – 28 February 2024 > Emails and meetings regarding Voluntary Planning Agreement (VPA) – February 2024 to ongoing > Outbound email inviting Council to community pop-up sessions or briefing – 24 January 2025 > Interview with Council to discuss potential social impacts and mitigation – 12 February 2025 > Meeting with Council to discuss local character and potential community impacts – 24 February 2025 > Council issued Landowner Consent Form – April 2025	Planning and Technical Considerations: > Council requested a Biodiversity Impact Assessment, including waterways and stormwater management. > A Construction Management Plan and Traffic Impact Assessment were recommended to address local asset impacts, post-project remediation, and community benefits. > Council advised a 14-day exhibition period; development contributions not required; internal referral to traffic engineers noted. Engagement and Communication: > Council queried whether community engagement would include face-to-face sessions. > While Council acknowledged community engagement efforts, they did not attend January 2025 pop-up sessions. > Council expressed interest in participating in the Social Impact	The applicant has maintained ongoing and constructive engagement with Berrigan Shire Council throughout the planning process. Feedback received from Council has informed project design refinements, including the consideration of multiple site access points to improve connectivity and reduce local impacts. The applicant has engaged Urbis to develop and implement a community engagement strategy, including in person information sessions to support transparent and

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
			Assessment (SIA) and was later interviewed. Landowner Consent: > Formal landowner consent for SSD lodgement was provided by the Council CEO on April 2025. Social and Economic Context: > Finley has experienced socio-economic decline since the implementation of the Murray-Darling Basin Plan. > The town has seen population loss, reduced local services, and out-migration to regional centres. Community Sentiment and Concerns: > Community support exists for improved grid stability, but residents are unclear on direct local benefits. > Concerns raised about loss of agricultural land and potential for site remediation post-decommissioning. > Difficulty in distinguishing between multiple renewable projects has led to confusion; clear communication is essential. Benefit Sharing:	accessible community dialogue. Discussions regarding the structure and content of a Voluntary Planning Agreement (VPA) have been ongoing since February 2024, with the applicant committed to progressing the VPA collaboratively with Council to deliver meaningful community benefits utilising the Benefits Sharing Guideline. Council's input has also informed the scope of the Social Impact Assessment (SIA), with identified concerns and suggestions to be addressed through mitigation measures as part of the EIS.

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
			> Council stressed the need for transparent, inclusive community benefit programs. > Past experiences of unfulfilled promises by other proponents have led to local scepticism. > Preference for benefits that support the broader community, such as allied health services and recreation facility maintenance. Other Feedback: > Council noted local objection to the term "solar farm," as residents do not associate these developments with traditional farming.	
	DPHI	Project scoping meeting 24 October 2023 and subsequent minutes of the meeting on 2 November 2023. Letter correspondence and correspondence through DPHI Major Projects Portal on 18 July 2024. (no response).	> The EIS should present a single, refined corridor alignment; multiple route options are not preferred. > Initial surveys should fully assess the proposed footprint to address environmental constraints. > Early engagement with the Biodiversity Conservation Division is recommended. > A detailed visual impact analysis should be submitted at the scoping stage, in line with the NSW Large-Scale Solar Energy Guideline.	All requested matters were addressed in the request for SEARs, issued 18 July 2024. Requested technical reports have been appendix to this EIS.

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
			> Cultural heritage values should be carefully considered to avoid encroachment on sensitive land. > A traffic route analysis is required as part of the SEARs request, with further detail potentially required in the EIS. > A comprehensive Noise Impact Assessment, including on-site mitigation measures, is critical. > Water supply and waste management during construction should be addressed in the SEARs request. > Workforce accommodation impacts should also be considered in the SEARs request. > Mitigation measures for the nearest sensitive receiver (400–500 m from the site) should be included. > Letters of consent or deeds of release from affected landowners may be obtained prior to EIS lodgement. > DPE confirmed other proponents are investigating property acquisitions for impacted sites. > Social licence and community benefit are key assessment factors; the Proponent should identify local infrastructure upgrades and prepare a	

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
			Voluntary Planning Agreement (VPA) with Council.	
Relevant regulators, agencies, and service providers	Rural Fire Service (RFS)	October 2024	Standard requirements to be met.	Addressed in **Appendix N**. The applicant will continue to engage with the NSW Rural Fire Service (and local service if required) to keep informed on the proposals progress and next steps and identify and mitigate any concerns raised throughout the process.
	Transgrid	Ongoing since December 2022 for grid connection.	Refinement of connection transmission route.	The applicant has maintained consultation with Transgrid regarding the proposed connection alignment to the existing substation, as outlined in **Appendix B**.

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
	Transport for NSW	Outbound email introducing the project – 8 December 2023 (no response) Inbound email and letter correspondence received – 18 January 20	TfNSW highlighted the need to consider traffic volumes, characteristics, capacity analysis, heavy vehicle routes, cumulative impacts, accommodation and transport needs, road safety, project schedule, vehicle routes, road upgrades, internal road layouts, rail corridor impacts, SEPP 33 controls, and a draft TMP.	Addressed in the Traffic Impact Assessment (TIA) at **Appendix K**.
	Murray Irrigation Limited (MIL)	> Ongoing engagement with Murray Irrigation since 2023. > Communications include emails, meetings, and phone calls. > Key engagement date: 11 April 2023.	> Discussions focused on trenching under the Mulwala No. 19 canal, located through the site.	The applicant will continue to work with MIL to ensure the transmission cable design adheres to MIL's Works Policy.
	Biodiversity Conservation and Science now Conservation Programs, Heritage & Regulation Division; Fire and Rescue NSW; Crown lands; Heritage NSW (ACH); MEG; DPI Ag; Water NSW;	Emails – March 2025 seeking feedback on potential impacts of the project.	No specific issues raised, advised further feedback is to be provided during the exhibition period.	The applicant will continue to engage with agencies throughout the planning process.

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
	Heritage NSW; and DCCEEW Water.			
Community	Landowner Lot 3 DP 740920	Ongoing since November 2023 through a series of regular phone calls, online meetings and emails.	Discussion with the landowner has included the following topics: > Capacity of substation for multiple projects; > Approval authority and process; > Relationship with Berrigan Shire Council and his neighbours (anticipated objection from one neighbour); > Access options for the site; > Intel on local road network; and > Local supply chain opportunities.	A Land Use Conflict Risk Assessment (LUCRA) was provided to the landowner on following the first engagement to inform them of the past, present and future land use of the development site. The applicant is committed to ongoing engagement with the landowner of Lot 3 DP 740920.
	Affected landowners surrounding the development (2km from the site) > 384 Broockmanns Road (proposed South Coree BESS site) > 16731 Riverina Highway	> 1200 project newsletters distributed to near neighbours - 20 January 2025 > Community pop in information sessions on 30 and 31 January 2025 > Project enquiry phone line - Ongoing > Social Impact Survey from 20 January – late February 2025	One resident from a neighbouring dwelling provided feedback at the community information pop up, with concerns relating to visual amenity and fire risk. Feedback received from the community information pop ups and SIA survey include: > Most understood the need for renewable energy and were aware that more projects were in planning for the area;	The EIS requires the project to identify and scope potential issues and impacts, and detail how the project will address and manage these impacts. This is discussed in **Section 6** and technical assessments provided in: > **Appendix A**;

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
	> 16891 Riverina Highway (proposed Berrigan BESS site) > 198 Canalla Road > 589 Broockmanns Road > 276 Broockmanns Road > 56 Marantellis Road > 402 Canalla Road > 311 Broockmanns Road And broader community.		> There was some confusion, or lack of awareness about other projects, including renewables, in the region; > Fire risk was the number one concern from community; > There was interest in the job opportunities the project would provide if approved; > Concern about potential ecological impacts, including impacts on local bat populations; > Concern about community division and social cohesion, related to conflict about the growth of renewables in the area; > Concern about the reduction of arable agriculture and farm land; > Concern about potential visual impacts; > Positive feedback about the economic benefits of bringing in an external workforce; > Positive feedback about "greenwashing" Australia's power supply; > Workforce arrangements and housing; and > Visual impacts. No enquiries have been received through project enquiry line.	> **Appendix H**; > **Appendix I**; > **Appendix M**; > **Appendix N**; and > **Appendix O**.

Stakeholder category	Individual stakeholder subcategory	Consultation summary	Issues raised	Project Response
	Community groups and peak bodies: > Finley Men's Shed; > Murray Landcare Collective; > Lion's club; > Finley Returned Services Club; and > Finley Chamber of Commerce.	> Outbound email to invite community groups to pop in sessions or individual briefing on 24 January 2025. > Enquiry management: Ongoing throughout the project. > Social Impact Survey between 20 January – late February 2025.	No responses received.	The applicant will continue to engage with these groups informed through the planning process.
	Registered Aboriginal Parties (RAPs) and Cummeragunja LALC.	Advertisement and Expression of Interest to invite groups letter - October 2024 Site walkover with LACL - 11 January 2025	Five local groups joined the site walk on 11 January. No further clarifications received at the site walk or during the 30-day consultation period which closed on 12 March 2025.	Further details about the engagement process and feedback from the LACL is provided in **Appendix F.**
	Elected officials State Member for Murray, Helen Dalton (independent) and Federal Member for Farrer, Sussan Ley MP (Liberal)	Outbound email to elected officials inviting attendance at community pop-up sessions or individual briefing on 24 January 2025.	No response to date from the State member. The Office of the Hon Sussan Ley MP thanked the project team for the invitation, and advised there may be opportunities to discuss further following community consultation.	The applicant will continue to keep the elected officials informed throughout the planning process.

The site selection process was informed by a comprehensive evaluation of multiple factors, drawing on the applicant's experience with previous development projects. This approach allowed for the early identification and resolution of common issues typically associated with renewable energy and BESS projects. As a result, only a limited number of concerns were raised during the consultation phase, and it was determined that no further amendments to the final design were necessary.

5.6 Future community engagement

The applicant will continue to keep stakeholders and the community informed of the project approval process through the exhibition and determination phases by:

- Continuing to engage and inform the community about the project, its impacts, and the approval process; and
- Enabling the community to seek clarification about the project through two-way communication channels.

6. ASSESSMENT OF IMPACTS

This section provides a detailed summary of the findings of the assessment of the potential impacts of the project. The scale and nature of the impacts of the project on each matter has informed the following table which ranks the matters based on the potential impacts generated by the project; from significant impacts ('high impact matters') through to those with minimal impacts ('low impact matters').

Table 8 – Impact assessment level

High Impact Matters	Medium Impact Matters	Low Impact Matters
None	Biodiversity	Aboriginal Cultural Heritage
	Land	Historic Heritage
	Hazards	Water
	Social	Contamination
	Transport, traffic and access	Waste
	Bushfire	Economic
	Visual	

6.1 Biodiversity

6.1.1 INTRODUCTION

A Biodiversity Development Assessment Report (BDAR) (Premise, 2025) is provided in **Appendix E.** The assessment has been undertaken to assess the potential impact of the Finley BESS on biodiversity values, threatened species, threatened ecological communities and their habitats under the *Biodiversity Conservation Act 2016* (NSW) (BC Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) in accordance with the *Biodiversity Assessment Method* (BAM) (NSW DPIE, 2020a). The BDAR also documents measures taken to avoid, minimise or mitigate potential impacts to threatened entities and calculate the number and class of any biodiversity credits that need to be offset to achieve a 'no net loss' of biodiversity using the *BAM Credit Calculator* (BAM-C) (DCCEEW, 2024a).

The BDAR includes a combination of desktop review and field survey methods covering two stages:

- Stage 1: Biodiversity assessment - including landscape features, native vegetation cover, mapping plant community types (PCTs), assessment of potential threatened species and assessment of habitat suitability for threatened species; and
- Stage 2: Impact assessment (Biodiversity values and prescribed impacts) - including identification of potential impacts of the proposed development, avoidance and mitigation measures and biodiversity offset requirements.

The following sections provide a summary of the BDAR and recommended mitigation measures.

6.1.2 EXISTING ENVIRONMENT

The development site is located wholly within the Riverina Biogeographic Region of Australia (IBRA) Bioregion, in the Murray Fans IBRA subregion of NSW according to the Biogeographic Regionalisation for Australia (IBRA) (Thackway and Cresswell, 1995).

The development site occurs approximately 20 km north of the Murray River. Waterbodies within the assessment area include a number of irrigation channels including the Mulwala and Ulupna channels.

The BESS development site is located within the Murray Depression Plains Mitchell Landscapes (93% cleared) (NSW DPIE, 2016).

The development site has an area of 10.45 ha of which 5.18 ha is native vegetation comprised of derived native grassland (DNG). The remaining 5.27 ha comprises non-native vegetation or cleared land including infrastructure (1.38 ha), cropping (2.78 ha) and disturbed ground including roads (1.11 ha). The development site is located in a highly fragmented landscape predominantly used for agricultural production.

6.1.2.1 Native vegetation assessment

Field surveys were conducted in June and October 2024 to map vegetation on site and identify and confirm landscape features, including:

- Identifying vegetation types, dominant canopy, mid-storey and groundcover species;
- Vegetation formation and class in accordance with Keith (2004);
- Landform and landscape type;
- Weed species and high threat weeds or priority weeds;
- Soil characteristics;
- Evidence of previous disturbance; and
- Photographic evidence.

The vegetation within the development site is attributed to PCT 76 includes DNG. Scattered remnant trees surrounding the BESS development site were identified as *Eucalyptus microcarpa* (Inland Grey Box) which is consistent with the dominant canopy species of PCT 76.

PCT 76 occurs on the BESS development site in three conditions, derived native grassland in the roadside, poor quality derived native grassland and derived native grassland wet. Due to past clearing on the BESS development site, the shrub layer is almost completely removed with only a small amount of *Sclerolaena birchii* (Galvinized Burr) and *Sclerolaena muricata* (Black Rolypoly) remaining. The DNG on the development site is likely to be derived from the original PCT 76 on the site and is considered to be degraded due to past and continuing disturbance (i.e., grazing, mowing, rubbish and vehicle access).

PCT 76 is aligned with *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions Endangered Ecological Community* (EEC) (Inland Grey Box TEC) listed under the BC Act (NSW DCCEEW, 2025c).

PCT 76 is aligned with Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia EEC (Grey Box EEC) listed on the EPBC Act (Cth TSSC, 2010).

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Premise

Finley BESS

Figure 7: Plant Community Types

6.1.2.2 Threatened species assessment

A comprehensive desktop review was conducted to identify threatened flora and fauna species and ecological communities which have, or may have, suitable habitat on the development site. The searches returned a total of 46 threatened species with potential to occur on the development site, including ten flora species and 36 fauna species, the following database searches were conducted:

- NSW BioNet Atlas (NSW DCCEEW, 2025b) search within a 10 km buffer of the development site. BioNet Atlas searches were undertaken throughout the duration of survey planning and implementation to ensure the candidate species list was as temporally accurate as possible, with the most recent search undertaken in October 2024;
- Protected Matters Search Tool (PMST) (Cth DCCEEW, 2024a) within the same 10 km buffer. PMST searches were undertaken throughout the duration of survey planning and implementation to ensure the candidate species list was as temporally accurate as possible, with the most recent search undertaken in October 2024;
- NSW BioNet Threatened Biodiversity Profiles Database Collection (TBDC) (NSW DCCEEW, 2025b);
- Commonwealth Species Profile and Threats Database (SPRAT) (Cth DCCEEW, 2025b); and
- The BAM-C (NSW DCCEEW, 2024a).

The majority of the threatened species were eliminated from further consideration based on geographic limitations and habitat constraints. Two flora species and two fauna species were retained for assessment and subject to targeted searches.

Thirty-five flora and fauna species recognised as MNES under the EPBC Act were identified during database searches as potentially occurring on the development site. However, only those species considered likely to occur on or utilise the development site land for foraging or breeding were considered in further detail. Including, Grey Falcon, White-throated Needletail, South-eastern Hooded Robin and Diamond Firetail.

The BDAR identifies that the Finley BESS is unlikely to lead to significant adverse effects on the aforementioned species, as the project is not expected to cause a long-term decrease in the size of important populations, reduce the area of occupancy or fragment existing populations. The species' habitats are not anticipated to be critically impacted, nor is there expected to be disruption to their breeding cycles or modifications to habitats that would lead to a population decline. Additionally, the project is unlikely to facilitate the establishment of invasive species harmful to these species or introduce diseases that could cause their decline or interfere the recovery of these species.

6.1.3 ASSESSMENT IMPACTS

Stage 2 of the BAM (NSW DPIE, 2020a) provides the requirements for the impact assessment of the BDAR. The impact assessment assesses the potential direct, indirect and prescribed impacts of the Finley BESS in line with Chapter 8 of the BAM (NSW DPIE, 2020a).

6.1.3.1 Direct impacts

The proposed development will result in direct impacts to native vegetation identified within the development footprint. Subject to final transmission line alignment, the direct impact on native vegetation will comprise a maximum clearing extent 5.18 ha of PCT 76 in three condition zones:

- VZ1: PCT 76 DNG Roadside;
- VZ2: PCT 76 DNG Poor; and
- VZ3: PCT 76 DNG Wet.

A portion of these direct impacts will require biodiversity offsets, comprising of 44 credits for PCT 76 (DNG Poor) and one credit for PCT 76 (DNG Roadside). PCT 76 (DNG Wet) has a VI score of <15 which is the benchmark VI score for PCTs representative of an EEC or a CEEC. Therefore, PCT 76 (DNG Wet) does not generate any credits. No threatened flora or fauna species credits require an offset as per BAM Subsection 9.2.2(2).

6.1.3.2 Indirect impacts

There is potential for indirect impacts to occur as a result of the proposed development. Indirect impacts that may occur during the construction or operational phase include:

- Inadvertent impacts on adjacent habitat or vegetation;
- Reduced viability of adjacent habitat due to dust, noise or light spill;
- Transport of weeds and pathogens from the site to adjacent vegetation;
- Rubbish dumping; and
- Changed fire regimes.

Overall, the identified impacts are considered minimal, subject to the implementation of appropriate mitigation measures to address potential environmental concerns.

6.1.3.3 Prescribed impacts

The prescribed impacts to be considered under the BAM have been addressed in Section 6 and 8.3 of the BDAR. Prescribed impacts relevant to the Finley BESS have been identified as non-native vegetation which is considered potential foraging habitat for three threatened bird species (White-throated Needletail, Grey falcon and Black falcon). The removal of 2.78 ha of cropped vegetation is unlikely to impact the foraging capacity of these species, or reduce the viability or survival of local populations, due to the abundance of similar habitat in the surrounding area. These species are also only considered likely to utilise the development site as a minor component of their broader foraging range.

6.1.3.4 Serious and Irreversible Impacts

No biodiversity values at risk of an SAII are considered likely to occur on the development site and therefore will not be impacted by the Finley BESS.

6.1.3.5 Avoiding and minimising impacts

The development site has been refined from a broader study area to minimise impacts to native vegetation, including avoiding direct impacts to remnant scattered trees and reducing the area of DNG impacted, minimising the area of Inland Grey Box Woodland TEC to be cleared. The project layout could not avoid the Mulwala Channel No 19. however, this channel will be under-bored to reduce impacts.

The development site has been refined to the minimum area necessary to provide space for the construction and operation phases of the project. To minimise the project's direct impact, 3.52 ha of

DNG were removed during the study area refinement, as identified in Figure 11 of the BDAR, resulting in the final development site having an area of 10.45 ha.

6.1.4 MITIGATION MEASURES

The following mitigation measures have been recommended in the BDAR to further minimise direct and indirect impacts of the project:

- Planning the timing of vegetation removal to avoid the breeding seasons of threatened migratory and resident species;
- Undertake pre-clearing surveys to determine the presence of resident fauna in vegetation;
- Implementation of best practice clearing protocols;
- Prior to commencing vegetation clearing, daily site briefings are to occur to identify the development site boundary, the presence of any adjacent remnant vegetation to be retained and methods to relocate habitat features into adjacent habitat;
- Clearly demark any vegetation to be retained;
- Construction activities are to occur generally during daylight hours minimising light spill and noise disturbance;
- Implementation of hygiene protocols. Vehicles, machinery and equipment to be clean prior to mobilisation to site;
- Application of herbicides to high threat weeds (HTW) is to occur as per the NSW Department of Primary Industries guidelines (NSW DPE, 2024). Spraying is to occur during suitable weather conditions; and
- Implementation of best practice erosion management and monitoring.

6.2 Aboriginal heritage

6.2.1 INTRODUCTION

An Aboriginal Cultural Heritage Assessment Report (ACHAR) is provided in **Appendix F**. The objectives of the ACHAR were to:

- Assess the Aboriginal cultural heritage values of the site, including archaeological and community cultural values and the significance of identified values;
- Identify Aboriginal cultural heritage values that may be impacted by the proposed work and implement measures to avoid significant impacts to these elements;
- Ensure appropriate Aboriginal community consultation in undertaken through the assessment process; and
- Identify any recommended further investigations, mitigation and management measures required, should the proposed works proceed.

This assessment was undertaken in accordance with the following requirements and guidelines:

- SEARs SSD-72430958;
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010) (Consultation Requirements);
- *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (Code of Practice; (Department of Environment, Climate Change & Water [DECCW] 2010);
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment & Heritage [OEH] 2011) (The ACHAR Guide); and
- *The Burra Charter* (ICOMOS 2013).

6.2.2 EXISTING ENVIRONMENT

The development site is located within the Riverina Bioregion of southeast NSW which also extends into the central-north of the state of Victoria and sits within the Murray Fans IBRA subregion. The Riverina Bioregion includes outlying remnants of the Murray Darling Basin and has historically been utilised for irrigated cropping activities.

Evidence suggests that Aboriginal people/s have lived in the Murray Darling region for at least 40,000 years with the Murray River in particular, representing one of the most densely populated areas in pre-contact Australia, with Aboriginal occupation likely to have been the heaviest in the lower and central portions of the river.

It is noted that Aboriginal communities are based largely on varying language groups rather than the geographical boundaries of an area. It is likely that these boundaries in pre-European Aboriginal society were fluid and often intersected into different towns or regions. The development site is located within the Cummeragunja Local Aboriginal Land Council (LALC) boundary and is associated with several Aboriginal language groups and traditional custodians of Country including the Bangerang, Yorta Yorta and Wiradjuri people/s who traversed the landscape of the Riverina along the Murray River.

Previous archaeological assessments have determined the majority of Aboriginal sites recorded in the wider context of the development site were identified on alluvial plains or within close proximity to a river or creek. Occupation would have been preferable along the Murray River and larger creek lines such as the Tuppal Creek located approximately 25 km southwest of the development site.

A review of the Aboriginal Heritage Information Management System (AHIMS) online database identified nil previously recorded Aboriginal sites located with close proximity to the Finley BESS development site. The AHIMS database results identified 4 sites within the wider context of Finley, approximately 9-10 km distance from the development site as shown in **Figure 8**.

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Legend

- Development Site
- Lot
- Major Road
- Railway
- Runway
- Major Water Body
- Watercourse
- Aboriginal Heritage Sites

Premise

Finley BESS

Figure 8: Aboriginal Heritage Sites in the Locality

6.2.3 ASSESSMENT IMPACTS

A pedestrian archaeological survey of the development site was undertaken in January 2025 to determine the likelihood for Aboriginal cultural heritage sensitivity to be present. No newly recorded sites or areas of sensitivity were observed during the survey. This survey was undertaken by one Archaeologist from Premise who was accompanied by five Registered Aboriginal Party (RAP) representatives.

The survey identified that the landform was highly disturbed, actively used for agricultural activities and had recently been cropped, which allowed for high visibility across the site. Most vegetation had been cleared with remnant trees scattered across Lot 3 DP740920. The surrounding context of the development site included irrigated canals, substation infrastructure, road infrastructure and rural lots. No newly recorded Aboriginal sites or objects were identified during the archaeological survey of the area.

Land within the Transgrid site was also surveyed as well as land along Canalla and Broockmanns Road and the Riverina Highway. Nil Aboriginal sites were identified in these areas.

Although nil sites were recorded through the desktop analysis and site survey, a mitigation approach to minimise impacts and manage unidentified Aboriginal heritage items/objects has been recommended in the form of a chance finds protocol.

Overall, the development site has been assessed as having low archaeological potential, with nil artefactual material, sensitive landscapes or cultural modifications observed during the archaeological survey, which would be subject to proposed impacts. The site has been subject to high levels of ground disturbance. It was determined through the assessment and in consultation with RAPs that archaeological test excavations were not required, given the low archaeological potential of the site.

The assessment of impacts for Aboriginal Cultural heritage is therefore considered low.

6.2.4 MITIGATION MEASURES

The following measures should be implemented to minimise impacts to Aboriginal heritage:

- Prior to works commencing a Chance Finds Protocol (CFP) is to be developed for the site. The CFP must include the procedure and management of unexpected finds relevant to Aboriginal cultural heritage.
- The CFP must include procedures for:
  - Notifying Heritage NSW, a heritage consultant and RAPs or the Local Aboriginal Land Council (LALC) where unexpected finds are identified; and
  - If suspected human remains are located during any stage of the proposed works, work must stop immediately and the NSW Police notified. An Archaeologist or Physical Anthropologist should be contacted in the first instance where there is uncertainty whether the remains are human.
- All impacts must remain within the assessed study area or further archaeological investigation may be required.

6.3 Historic Heritage

6.3.1 INTRODUCTION

The project SEARs issued by DPHI on 18 July 2024 (refer **Appendix F**) require an assessment of the impact on historic heritage with regard to the NSW Heritage Manual.

The below assessment has been undertaken in accordance with the project SEARS and NSW Department of Planning and Environment (NSW DPE) *Assessing heritage significance 2023* guidelines for assessing places and objects against the Heritage Council of NSW criteria. Information from these guidelines has been drawn from documents written as part of the NSW Heritage Manual. These guidelines replace the previous documents within the NSW Heritage Manual.

A review of the statutory and non-statutory heritage databases has confirmed the following:

- The development site is not listed on the National, World or Commonwealth heritage lists.
- The development site is not listed as or associated with a heritage item under the State Heritage Inventory database.
- The development site is not listed in a Heritage Conservation Area or as a separate item in Schedule 5 of the Berrigan LEP.
- The development site is not listed under the Register of the National Estate (Australian Heritage database).
- No interim heritage order/s or listing/s apply to the site under the State Heritage Register.

A review of the SHI and LEP has indicated 17 local heritage listed sites associated with the Finley township and one State heritage listed property (Finley Railway Precinct SHR Item #SHR #01144). All heritage sites are approximately 5-6 km east of the development site.

6.3.2 EXISTING ENVIRONMENT

Early European exploration of the Finley region occurred in 1824, when Hume and Hovell led an expedition south of Sydney and into Victoria, with the goal of finding new grazing lands. Gradual pastoral activities were undertaken with squatters soon settling across the region from as early as the 1840s. However, the first permanent residence was constructed much later in 1878. As settlement increased, town facilities including a post office were established in 1881. Formerly named Murray Hut, the post office changed its name to Finley in 1893 after Surveyor F.G Finley who surveyed approximately 1.2 million ha of land across the Riverina in the 1870s. by the late 1800s, infrastructure such as churches, schools and town halls being established. The town's design and layout followed traditional European colonial patterns, with wide streets, local markets and buildings that reflected the architectural styles of the time.

The town heavily relied on agricultural activities with wheat becoming the main crop and by 1912, the Finley Agricultural & Pastoral Association was formed. However, during the 1930s following periods of severe drought and the Great Depression, farming was abandoned. In 1935, the construction of the Mulwala Canal began, to provide water to the area, resulting in employment and necessary irrigation services for the fertile land. Irrigation activities reached Finley in 1939, which promoted growth in the region through beef and dairy cattle, sheep, wheat, rice, barley, maize and canola production.

Finley is located within the Berrigan Irrigation District which forms part of the wider Murray Irrigation System. Finley and surrounding towns such as Berrigan, Wakool, Bunnaloo also rely on the irrigation system for a reliable source of water, particularly in times of drought. The land on which the BESS is to be located (Lot 3 DP740920) has historically utilised the Mulwala No.19 Channel surrounding the land for cropping activities.

A review of historic aerial imagery has identified that the development site and surrounding land has been utilised for agricultural activities, particularly irrigation cropping, since at least 1968. However, it is noted that the Berriquin Irrigation District was in operation from 1940 and it can be assumed that agricultural activities can date back to at least the mid-1930s and most likely, to the mid-1800s when squatting activities began.

The residential dwelling and associated infrastructure located to the east of Lot 3 DP740920 has been present since at least 1968 while the Finley Substation on Lot B DP961693 appears to have been constructed between 1976 and 1991.

6.3.3 ASSESSMENT IMPACTS

The development area has been assessed for significance using the seven criteria listed under the NSW DPE *Assessing heritage significance 2023* guidelines:

- Historical significance;
- Historical association;
- Aesthetic/creative/technical achievement;
- Social, cultural and spiritual;
- Research potential;
- Rare; and
- Representative.

The development site is not a heritage listed item, nor does it fall within any of the above listed criterion and has nil historical significance. Overall, the proposed development will not result in physical and/or visual impacts to a heritage item.

6.3.4 MITIGATION MEASURES

Although no historic heritage sites have been identified within or in proximity to the development site and the site has not been assigned heritage significance, there is the potential for unknown archaeological remains to be discovered and encountered during the construction of the BESS.

While the potential to discover items of heritage significance is considered extremely low, a precautionary principle applies.

Appropriate mitigation measures would be implemented during the construction phase of the project to minimise the potential for adverse impacts in the form of an unexpected finds protocol.

6.4 Land

6.4.1 INTRODUCTION

A Land Use Conflict Risk Assessment (LUCRA) has been prepared by Premise and is provided in **Appendix G.** The LUCRA aims to identify and assess the potential for land conflicts between adjoining land uses and has been prepared with reference to the relevant requirements of the SEARs.

Additionally, an Agricultural Impact Assessment (AIA) has been prepared by Premise and is provided in **Appendix H.** The AIA evaluates the potential effects of the BESS development on farm, district and state impacts of the temporary reduction in useable arable agricultural land and examines the potential impacts on surrounding agricultural land and district land use.

6.4.2 EXISTING ENVIRONMENT

The development site is zoned as RU1 Primary Production Land and is predominantly mapped as irrigated cropping land use (refer **Figure 9**). The development site is generally flat and characterised by predominantly cleared land, historically disturbed by agricultural production, noting the occurrence of road and electrical infrastructure within the development site.

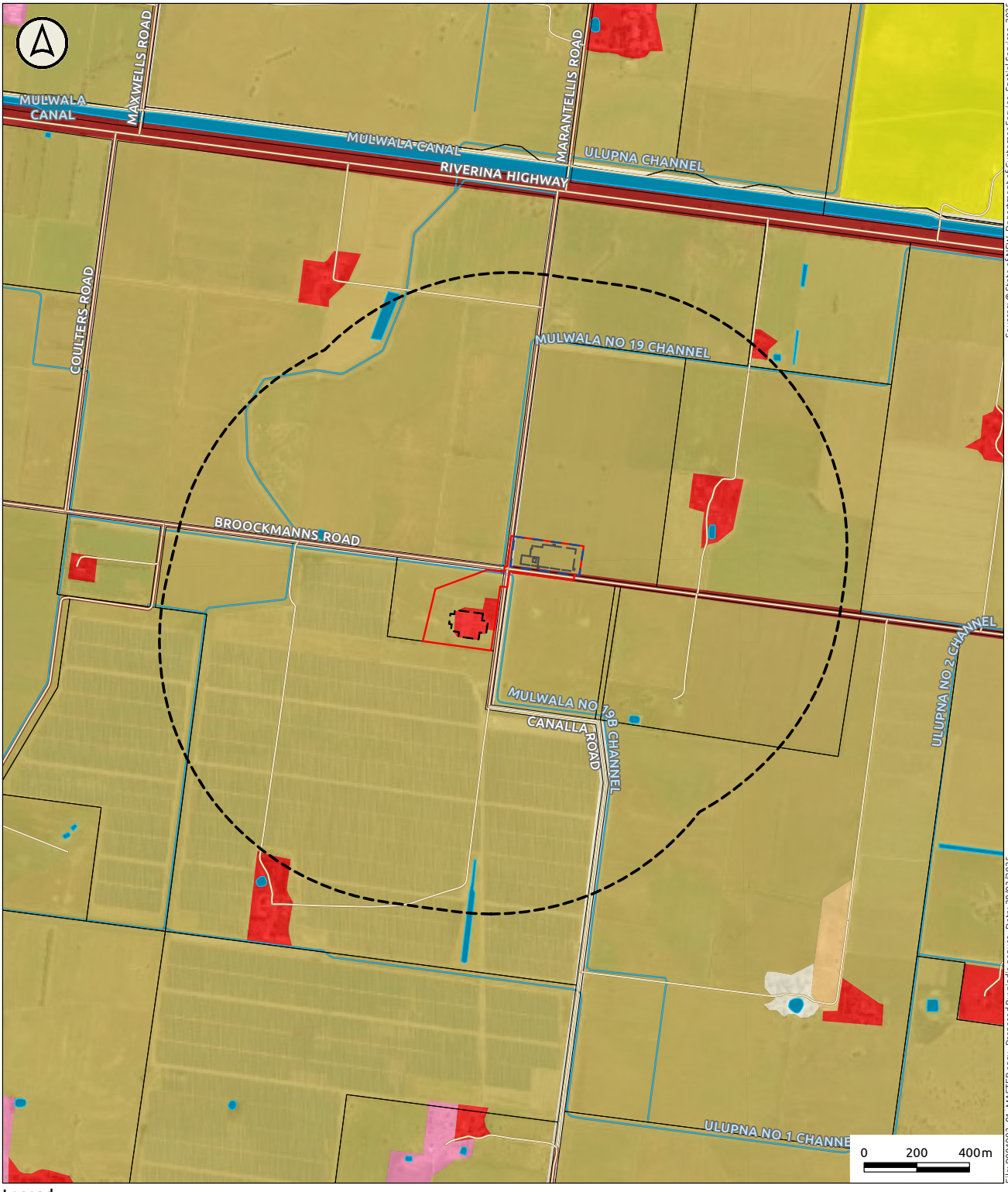
The development site predominantly consists of the irrigated cropping land use. The transport and communication land use is mapped along the access arrangement and the residential and farm infrastructure land use is mapped within the extent of TransGrid's Finley Substation. It is noted that no dwelling currently exists within the site of the substation and that the land use of this area, consistent with other substations in NSW, is considered to be more appropriately characterised as '5.6.0 Utilities'. Other land uses in the locality include grazing of modified pastures, residential and farm infrastructure, cropping, perennial horticulture and river land uses.

Existing farming infrastructure within the development site is limited to dams, fencing, access roads and landscaped areas. The closest residential receiver is located approximately 250 m to the northeast of the development site at 384 Broockmanns Road. Other infrastructure in the development site and surrounding locality consists of roadways, servicing infrastructure, the Transgrid Finley Substation and irrigation channels forming part of the Berriquin Irrigation System.

The AIA identifies that the land has a Land and Soil Capability classification of Class 3 - High Capability, indicating moderate limitations and the ability to sustain high-impact land uses such as cropping. A detailed soil assessment confirmed that the site predominantly consists of Brown Sodosols, as per the Australian Soil Classification System.

Soils across the site are characterized by a 10–20 cm layer of brown silty loam surface soil, underlain by yellow-brown medium clay subsoils. In the elevated, rocky areas, surface soils are shallower, with rock fragments and lighter clay/rocky subsoils. Soil chemistry analysis indicates acidic surface soils, which could adversely affect agricultural productivity, although low salinity levels are beneficial for agriculture.

Overall, the soils are considered marginal for agricultural production with low potential for agricultural productivity.



Legend

- Locality (1km Buffer)
- Development Site
- BESS Lease Area
- Substation
- Indicative BESS Security Fence
- Lot
- Road
- Water Body
- Watercourse

Land Use 2017

- 2.1.0 Grazing native vegetation
- 3.2.0 Grazing modified pastures
- 3.3.0 Cropping
- 4.3.0 Irrigated cropping
- 5.2.0 Intensive animal production
- 5.4.0 Residential and farm infrastructure
- 5.7.0 Transport and communication
- 6.4.0 Channel/aqueduct

Premise

Finley BESS

Figure 9: Surrounding Land Uses

Legend

- Development Site
- BESS Lease Area
- Substation
- Lot
- Road
- Watercourse
- Natural Contours (0.5m Interval)

Australian Soil Classification (ASC)

- Chromosols (CH)

Premise

Finley BESS

Figure 10: Soil landscapes

Legend

- Development Site
- BESS Lease Area
- Substation
- Subject Site
- Substation Site
- Indicative BESS Security Fence
- Lot
- Road
- Water Body
- Watercourse

Land and Soil Capability

- 3 - Moderate limitations

Premise

Finley BESS

Figure 11: Land and Soil Capability

6.4.3 ASSESSMENT IMPACTS

6.4.3.1 Agricultural Impacts

The Finley BESS will occupy a 3-hectare area currently used for dryland cropping and occasional sheep grazing. This land generates an estimated annual production value of $3,832.23, which will be impacted by the development. The land within the fenced project area will be excluded from agricultural use, while the remainder will continue its current agricultural activities.

Community engagement identified concerns about the potential loss of agricultural land, particularly among neighbours and Berrigan Shire Council, who also sought assurance about the possibility of land remediation after decommissioning. While the Finley BESS represents a reduction in annual agricultural farm productivity, there is a relatively small agricultural effect due to the small size and production value of the 3 ha impacted.

Section 6.14 assessment indicates that while agricultural productivity will be reduced, the effects will be minimal, and the project's renewable energy focus may diversify the region's income.

The project includes mitigation measures to minimise impacts on agriculture and soil. Post-decommissioning, the land is expected to be rehabilitated and either restored to agricultural use or repurposed in consultation with the land owner and project proponent.

6.4.3.2 Crown lands

The development footprint does not contain any Crown land parcels.

Notwithstanding, ongoing consultation with Crown Lands will be undertaken during the detailed design and construction phase of the project to manage potential impacts.

6.4.3.3 Mining, quarries, mineral and petroleum rights

The development site and locality are not located within or near a mine subsidence district (NSW ePlanning Spatial Viewer, 2024). A review of Minview identifies that no exploration or mining titles or applications currently apply to the site or the locality.

6.4.3.4 Soil

The Land and Soil Capability Assessment Scheme (OEH, 2012) maps the soil of the site as Class 3- High capability land. The soil survey identified the soil types across the site as Brown Sodosols under the Australian Soil Classification System (Isbell, 2002).

Soil chemical analysis indicated that the soils are moderately fertile throughout the profile. The subsoils are moderately alkaline and sodic at depth. Mitigation measures should be implemented during the construction period which prevent soil horizons being exposed or mixed during excavation or stripping.

Implementation of mitigation measures during construction and decommissioning phases in accordance with *Managing Urban Stormwater: Soils and construction – Volume 1* (Landcom, 2004) will minimise erosion risk.

The site is considered suitable for the Finley BESS in respect to how the land is classified in the local planning instrument, current land use and proximity to the existing Transgrid Finley Substation. Effects

on adjacent agricultural land, soil, and agricultural production of the region are considered to be minimal.

The Finley BESS will occupy 3 ha of agricultural land currently used for dryland cropping and occasional agistment of sheep. Implementing the change of use is anticipated to have a minimal effect on surrounding agricultural land, production and wider regional agricultural production.

6.4.3.5 Contamination

A site visit completed in relation to the preparation of the AIA and the carrying out of the soil survey confirmed no indications of historical potentially contaminated land uses. A review of historical aerial photography reinforced this finding. On this basis, the carrying out of further investigations is not considered warranted and the land is considered suitable for the proposed purpose without the requirement for remediation.

Contamination is further discussed in **Section 6.9**.

6.4.3.6 Cumulative impacts

Notable energy projects within the surrounding area include:

- South Coree BESS (SSD-77238990) proposed to be located immediately adjacent to the development site, with the corresponding BESS situated generally to the east of Finley BESS at 384 Broockmanns Road. This development application is currently in the Prepare EIS phase .
- Berrigan BESS (SSD-78106206) proposed to be located immediately adjacent to the development site, north of Finley Substation, with the corresponding BESS situated generally to the west of Finley BESS, at 16891 Riverina Highway. This development application is currently in the Prepare EIS phase.
- Finley Solar Farm (SSD–8540) which was originally approved on 29 January 2018 and is located immediately adjacent to the southwest of the development, south of Finley Substation. The solar farm received a subsequent approval for a modification for a substation upgrade on 4 June 2018 and is currently operational.
- Tarleigh Park Solar Farm (SSD–8436) which was approved on 18 May 2018 and is located approximately 25.5 km west of the development site at 260 Parfreys Road, Blighty.
- Finley South Solar Farm (SSD-10299) located approximately 9.8 km southwest of the development site at 670 Lawlors Road, Finley. This development application was withdrawn following issue of the issue of SEARs dated 9 May 2019.

Consultation with these project developers would occur during the detailed design construction and operational phases of the Finley BESS project, minimising the potential for significant cumulative impacts and potential land use conflicts.

The project is not expected to prevent the establishment of other future land uses.

6.4.3.7 LUCRA Conclusions

The LUCRA identified a total of 39 potential land use conflicts. The initial risk ranking evaluates the potential for land use conflicts without the implementation of mitigation measures and identified 27

potential land use conflicts with a risk ranking of above 10. Initial risks identified at above 10 were categorised as follows:

- All Land Uses
  - Health and safety – EMF;
  - Risk to property – fire;
  - Risk to property – flood; and
  - Competing industries - cumulative impacts.
- Agriculture
  - Competing industries – agricultural expansion;
  - Competing industries – land suitability; and
  - Environmental concern – weeds.
- Infrastructure
  - Risk to property – infrastructure;
  - Land ownership – public authorities;
  - Access and traffic – access/services; and
  - Competing industries – future project expansion.
- Renewable Energy Generation
  - Competing industries – future project expansion; and
  - Economic interests – insurance.
- Residential
  - Economic interest – demand;
  - Nuisance – noise;
  - Quality of life;
  - Security;
  - Privacy;
  - Amenity – visual; and
  - Economic interest – insurance.
- Resource Protection
  - Environmental concerns – heritage;
  - Environmental concerns – water; and
  - Environmental concerns – biodiversity.
- Water Storage and resources
  - Risk to property – infrastructure;
  - Competing industries – expansion;
  - Health and safety – water; and
  - Economic interests – insurance.

The effective implementation of management strategies is considered likely to minimise the risk of potential land use conflicts. The revised risk ranking evaluates the potential for land use conflicts with

the implementation of mitigation measures. The revised risk ranking for all potential conflicts has been reduced to 10 or below which is consistent with the LUCRA Guide.

In summary the LUCRA concludes that the overall average risk ranking of all identified potential land use conflicts has been reduced by the implementation of management measures from an initial risk ranking of 12.41 to a revised risk ranking of 7.03 which is considered low risk.

The LUCRA, however, recognises that the management of potential for land use conflicts is dependent on the effective implementation of mitigation measures and performance monitoring (e.g., management plans) throughout the construction, operation and decommissioning phases of the project.

6.4.4 MITIGATION MEASURES

Mitigation measures are reflective of those recommended throughout the range of specialist reporting prepared to support the proposal and are summarised in **Appendix D**. BESS Pacific commits to the implementation of these recommendations:

- Compliance with mitigation measures specified in the EIS is anticipated to reduce the risk of land use conflicts;
- The reversibility of the project would allow the site to be returned to its existing land use, therefore minimising potential for long term conflict and impacts to future agricultural activities.
- Compliance with the following crime management measures is anticipated to reduce the risk of conflict related to the increased risk of vandalism and theft for surrounding residents:
  - Maintenance of the existing key access point to ensure the delineation between private and public is clear;
  - Existing boundary fencing is to be maintained and/or installed to ensure site access is controlled;
  - Appropriate signage should be installed; and
  - Landscaping is to be maintained to remove opportunities for concealment.
- Ongoing consultation with stakeholders will identify and address concerns if they arise; and
- Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved).

6.5 Visual

6.5.1 INTRODUCTION

A Visual Impact Assessment (VIA) (Premise, 2025) is provided at **Appendix I**. The assessment has been prepared in accordance with the guidance provided in *Large-Scale Solar Energy Guideline (NSW DPE 2022),* including the *Technical Supplement – Landscape and Visual Impact Assessment,* to assess the visual impact of the Finley BESS project.

The VIA includes:

- A summary of the proposal, site and surrounding context;
- Methodology and assessment of potential visual impacts; and

> A summary of assessment and conclusion.

A summary of the VIA is provided in the following sections.

6.5.2 EXISTING ENVIRONMENT

The development site is located in a flat rural landscape and is surrounded by land historically cleared and used as cultivated farmland including several irrigation channels. Both the development site and the adjacent lots are zoned RU1 Primary Production and are primarily used for rural agricultural purposes.

Access to the site is provided via an existing driveway off Broockmanns Road, with several rural roads present in the local area. The Riverina Highway, the most significant road in the vicinity, is located approximately 1.2 km to the north of the site. A new heavy vehicle access point will be constructed off Canalla Road.

The development site includes the Transgrid Finley Substation, which features major existing overhead transmission lines along Broockmanns/Canalla Roads, and is in close proximity to the operational Finley Solar Farm.

Additionally, the existing Finley Solar Farm is located approximately 490 meters southwest of the development site.

6.5.2.1 Dwelling entitlements

A review of available data to identify any nearby properties with capacity to lawfully accommodate a dwelling included, identifying dwelling and subdivision approvals, was conducted via the NSW Planning Portal DA Tracker in lieu of the Berrigan Shire Council DA tracker as Council's DA tracker has not been available during the preparation of this EIS.

While the lack of available data regarding nearby approved developments or lodged applications limits the ability to perform a more comprehensive assessment of potential visual impacts, the flat topography and low scenic value of the surrounding area suggest that the proposed development will not result in significant visual disruption for any existing dwellings or land with the potential to lawfully accommodate a dwelling.

A review of spatial data concluded that within the visual catchment and within a 2 kilometre buffer of the development site indicates existing lots that met the minimum lot size of 120 hectares, pursuant to Clauses 4.2A, or already contain an existing dwelling and therefore could accommodate the erection of a rural workers' dwelling, pursuant to Clause 4.2B of the LEP, being:

Lot/Section/DP	Address	Comment
Lot 111, DP 752299	76 Broockmanns Road	Existing dwelling already located on the land.
Lot 4, DP 740920	384 Broockmanns Road	Existing dwelling already located on the land.

Lot 55, DP 661469	16891 Riverina Highway	Existing dwelling already located on the land, also lot for the proposed Berrigan BESS SSD-78106206.
Lot 133, DP 752299	198 Canalla Road	Existing Finley Solar Farm SSD-8540
Lot 1341, DP 1247098	Canalla Road	Vacant land, located south east to the development site, separated by Finley Solar Farm.
Lot 129, DP 752299	311 Broockmanns Road	Existing dwelling already located on the land.
Lot 1253, DP 1129454	231 Broockmanns Road	Existing dwelling already located on the land.
Lot 1372, DP 792806	Riverina Highway	Vacant land, located west of the development site, separated by the proposed Berrigan BESS SSD-78106206.
Lot 109/DP752299	Riverina Highway	Vacant land.
Lot 45, DP 661474	251 South Coree Road	Existing dwelling already located on the land.

No additional lots were identified as potentially having a dwelling entitlement though spatial data.

The Finley BESS is not anticipated to introduce any substantial visual intrusion or adversely affect the visual amenity of the surrounding residences or potential residences, public view corridors or view points within the locality.

Mitigation measures proposed, including vegetation screening will further ameliorate any potential visual impacts.

6.5.3 ASSESSMENT IMPACTS

6.5.3.1 Public domain visual impacts

Four (4) photomontage images have been provided in the VIA to analyse a range of visual solutions and illustrate views from areas of perceived sensitivity. The photomontages demonstrate the existing visual baseline and an overlay of the proposed BESS project.

6.5.3.2 Residential receivers

Within 2km of the BESS site, there are nine (9) non associated residential receivers. Of these receivers, R1 and R4 are the closest (600 m and 1.2 km respectively) and have a direct line of site to the proposed BESS. All other receivers are further removed from the proposed BESS, with obscured views to the site by intervening vegetation and/or development.

Notably, receivers R1 and R4 are located are both subject to pending SSD development applications for large scale battery projects. Should these projects proceed, views towards the Finely BESS will be wholly or partly obscured.

Due to the current line of site, it is considered that both R1 and R4 will have a moderate to low impacts. Neither property was able to be accessed for the purposes of preparing the VIA, therefore photomontages were unable to be prepared.

It is recommended that implementation of vegetation screening around the perimeter of the security fencing of the BESS will shield residual visual impacts from R1 and R4, effectively managing the minor residual impacts from these receivers.

Vegetation screening will be planted at 1.5 m high, in two (2) staggered rows of fast-growing native tree species capable of achieving a mature height of not less than three (3) meters high, located around the perimeter security fencing to minimise residual visual impacts and to integrate the development into the surrounding landscape.

6.5.3.3 Views during construction

During the construction phase, the Finley BESS will involve the use of various construction vehicles, including cranes, which may extend above the height of the proposed development. While this may result in temporary visual impacts, particularly with regard to views, these effects are expected to be short-term and are anticipated to have a minimal overall impact once construction has been completed.

6.5.3.4 Views at night

The surrounding landscape experiences generally low levels of lighting, with only scattered illumination from nearby rural dwellings. The proposed development will introduce relatively low levels of light within this context. As such, the development is anticipated to have a low district brightness and moderate visual sensitivity during nighttime conditions.

No construction activities are anticipated to occur at night and as a result, the visual impact during the construction phase is expected to be negligible.

During the operational phase, minor inward-facing security lighting will be installed at the site. However, this lighting is not expected to significantly alter the prevailing light levels in the area. The applicant commits to abide with AS/NZS 4282:2023 *Control of the obtrusive effects of outdoor lighting*.

The anticipated change in light levels and visual impact at night on neighbouring properties, as well as on dark sky requirements are anticipated to be negligible.

6.5.4 MITIGATION MEASURES

Mitigation measures are reflective of those recommended throughout the specialist reporting prepared to support the proposal and are summarised in **Appendix I**. BESS Pacific commits to the implementation of these recommendations:

- Vegetation screening will be planted at 1.5 m high, in two (2) staggered rows of fast-growing native tree species capable of achieving a mature height of not less than three (3) meters high, located around the perimeter security fencing; and
- Compliance with AS/NZS 4282:2023 *Control of the obtrusive effects of outdoor lighting*.

A landscape plan providing details of species, planting matrix and timing will be provided prior to construction commencing.

6.6 Noise and vibration

6.6.1 INTRODUCTION

A Noise Impact Assessment (NIA) (Assured Environmental, 2025) is provided in **Appendix J** and was prepared in accordance with:

- Draft Construction Noise Guideline (DCNG) (EPA, 2020);
- Road Noise Policy (DECCW, 2011);
- Assessing Vibration: A Technical Guideline, (DEC, 2006); and
- Noise Policy for Industry (EPA, 2017).

The NIA summarises the methodology, results and conclusions of the assessment of:

- Construction noise;
- Operational noise;
- Road traffic noise; and
- Vibration impacts.

The following sections provide a summary of each identified impact and a summary of the recommended mitigation measures within the NIA.

6.6.2 EXISTING ENVIRONMENT

The development site is located within an area predominantly comprised agricultural land with associated rural dwellings and is adjacent to the Transgrid Finley Substation.

The topography is flat, with limited vegetation and structures within the vicinity.

The NIA identifies nine (9) residential receivers within approximately two kilometres of the development site.

6.6.3 ASSESSMENT IMPACTS

6.6.3.1 Construction Noise

The construction period is anticipated to last approximately 11 months with a peak construction period of three months. During this time, the key construction phases identified are:

- Site establishment;
- Footing installation;
- Cabling installation;
- Equipment installation;
- Control room construction; and
- Decommissioning (upon project completion).

Construction activities will be restricted to the recommended standard hours for construction work, pursuant to the DCNG, being:

- 7 am to 6 pm weekdays;
- 8 am to 1 pm Saturdays; and
- No work on Sundays or Public Holidays.

Minor construction activities, such as electrical commissioning and fit-out, may be carried out outside standard hours if necessary, though these are expected to generate negligible noise.

The predicted construction noise levels from construction activities at the site, in relation to nine identified sensitive receivers, indicate that construction noise levels at times may exceed the Noise Affected criterion of 45 dB(A), but will remain below the Highly Noise Affected criterion of 75 dB(A) at all times.

No specific consideration was given to overlapping the construction stages, as specific details of timing have not yet been determined. However, based on the predicted results, any overlap between stages would not result in noise exceedances to the Highly Noise Affected criterion.

Further, the noise level estimates were based on a worst-case scenario, with no ground absorption and minimal distances between plant equipment and sensitive receptors. In practice, construction activities will occur at varying distances, meaning the assessment is conservative and actual construction noise levels are likely to be lower than those predicted.

Given that the construction period will be confined to the project area for a short period of time, the potential for adverse impacts on any single receptor is anticipated to be short lived.

6.6.3.2 Road Noise

A summary of the plant and equipment anticipated to be required during the construction phase is tabled within the assessment identifying the Sound Power Level (SWL) for each plant item, sourced from published noise emission datasets and the noise source level library maintained by Assured Environmental.

The assessment identifies compliance with the road traffic criteria is predicted during the peak construction period, during the day and night for both local (Canalla and Broockmanns Roads) and state roads (Riverina Highway), therefore compliance is implied for all other scenarios.

During the operational phase of the project, anticipated road traffic impacts are to be negligible due to minimal staffing required on site during operation.

6.6.3.3 Operational Noise

The predicted receptor noise levels during the operational phase of the project are based on the SWL for each plant equipment and the location of the nine residential receivers.

The results indicate a maximum predicted noise level of 35 dB(A) during the day, evening and night periods at the receptor located closest to the project being receptor R1. This suggests full compliance with the noise criteria during the operational phase, therefore, no additional noise mitigation measures have been recommended.

6.6.3.4 Vibration

Vibration impacts during the construction phase of the project have been assessed, focusing on potential effects on human comfort and structural damage at the nearest receivers. Using the construction equipment vibration source levels - peak particle velocities (PPVs) have been predicted at separation distances from 10 m to 150 m. The assessment follows the guidance from *Assessing Vibration: A Technical Guideline*, which indicates that vibration levels decrease with distance.

The predicted vibration levels indicate compliance with the continuous maximum vibration nuisance criteria for locations at a separation distance of 50-60 metres and compliance with the building damage criteria is predicted at 10 metres from construction vibration sources.

Therefore, as the closest residential receiver being located at approximately 500 m from the nearest vibration source, it is anticipated that there will be no adverse vibration impacts.

6.6.4 MITIGATION MEASURES

To minimise potential impacts for construction phase, the following mitigation measures are recommended:

- Implement community consultation or notification measures regarding noise generating activities;
- Ensure workers and contractors are aware of noise management requirements in approvals consents or licenses, site inductions and "toolbox talks" providing a summary of relevant project requirements for reference;
- Inform truck drivers of designated vehicle routes, parking locations and acceptable delivery hours or other relevant practices, such as minimising use of engine brakes and avoiding engine idling;
- Use broad band reversing alarms on all mobile plant and equipment where possible;
- Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine;
- Operate plant in a quiet and efficient manner;
- Reduce throttle setting and turn off equipment when not being used;
- Regularly inspect and maintain equipment to ensure it is in good working order including checking the condition of mufflers;
- Avoid unnecessary dropping of materials from a height and metal to metal contact on equipment;
- During any work generating high noise levels that have impulsive, intermittent, low frequency or tonal characteristics, consultation with sensitive receptors occurs regularly; and
- During works, the applicant will incorporate staff training regarding excessive noise from machinery use the importance of the recommended mitigation measures.

6.7 Transport, traffic and access

6.7.1 INTRODUCTION

The Traffic Impact Assessment (TIA) (Premise, 2025) is provided in **Appendix K**. The assessment has been developed to evaluate the traffic impacts associated with the construction, operation, and

decommissioning phases, as well as to examine the access arrangements for the Battery Energy Storage System (BESS).

The assessment responds to the SEARs and details how road impacts of the project traffic, particularly from standard heavy vehicle use and over-dimensional vehicles requiring escort, will be avoided or managed using road-use management strategies. The assessment has been prepared in consultation with Transport for NSW (TfNSW) and Berrigan Shire Council.

The assessment addresses, in consultation with Transport for NSW (TfNSW) and Berrigan Shire Council, the requirements set out in the SEARs and outlines strategies for managing the road impacts associated with project traffic, specifically the movement of standard heavy vehicles and over-dimensional vehicles requiring escorts. Traffic impacts will be mitigated through the implementation of road-use management strategies.

The TIA includes:

- Review the existing state of the relevant network;
- Review known and committed planning proposals (strategic document and known plans) to estimate impact on the network that can be expected from other projects;
- Assess the anticipated impact of the proposed development in construction and during the exploitation;
- Desktop review access and parking arrangements on the site;
- Desktop review applicable OSOM access routes;
- Vertical obstructions (overpasses, overhead power, large and dense tree canopy);
- Horizontal obstructions (tight intersections, proximity of building lines obstructing manoeuvres, inadequate carriage width etc.);
- Other obstructions (weight access limitation, dangerous goods access limitations etc);
- SIDRA Intersection model of Riverina Highway, Canalla Road and Marantellis Road intersection and the assessment of the construction impact; and
- Provide a comprehensive report detailing all findings and recommendations, inclusive of all plans, graphic, diagrams and calculations in draft and final format.

A summary of the TIA and recommended mitigation measures are provided in the following sections.

6.7.2 EXISTING ENVIRONMENT

Access to the development site will be facilitated through the existing road network, including Riverina Highway, Canalla and Broockmanns Roads.

Riverina Highway (State Road) spans 220 km from Bethanga Bridge to the Cobb Highway at Deniliquin, serving as a two-way, two-lane carriageway with 3.5 m wide lanes in each direction and a speed limit of 100 km/h.

The Riverina Highway / Canalla Road intersection features deceleration lanes for both minor roads (Canalla and Marantellis Roads) with line markings to accommodate large truck movements. Additionally, two coach stops are situated near the intersections on each side of Riverina Highway.

An intersection survey from 18th to 20th February inclusive demonstrates the existing peak hour traffic at the intersection of Riverina Highway, Canalla Road and Marantellis Road is between 8 am to 9 am and 3 pm to 4 pm. Recording a total of 110 vehicle movements in the morning peak period and 118 vehicle movements during the evening peak period

The highway forms part of the OSOM route, connecting directly to the local road network (Canalla Road) to the development site.

Canalla Road (unsealed) and Broockmanns Road (partially sealed) are within 20-meter road reserves, providing access to rural areas located south of Riverina Highway, with a speed limit of 100 km/h, although achieving this speed is unlikely due to the partial paving.

An existing access point from Broockmanns Road to the development site, will be retained for light vehicle access. New accesses will be required to be constructed to facilitate heavy vehicle movements off Canalla Road and provide direct BESS substation access for Transgrid (light vehicles) during operation.

A review of TfNSW Centre for Road Safety Crash and Casualty Statistics database for all injury crashes within proximity to the development site, identifies 2 non-casualty events in the five year period of 2019 to 2024. It does not appear to be any pattern or any locations of re-occurring similar incidents that would highlight sections of the road being excessively unsafe. The number and type of incidents recorded are consistent with other rural classified roads in the area. There are no known current or proposed roadworks, traffic management projects, or bikeways identified within the assessed area.

6.7.3 ASSESSMENT IMPACTS

6.7.3.1 Traffic generation

6.7.3.1.1 Construction traffic

The construction phase of the Finley BESS is anticipated to be for a period of 11 months, with a peak period of construction of three months.

The construction workforce is anticipated to compromise of 56 light vehicles per day, equating to a total of 28 vehicle movements (inbound/outbound trips to the development site) per day. Light vehicles will access the development site vis the dedicated light vehicle access on Broockmanns Road.

Shuttle buses (22 seater, accommodating 19 pax) will also be incorporated to accommodate the amount of construction workers required on site in 8 trips (equates to 4 movements per day).

The heavy vehicle access point will be located off Canalla Road, in consultation with Council, with the largest design vehicle being a 36 m over-dimensional vehicle (OSOM), required to deliver the transformer (1 movement only). The escorted OSOM movement is excluded from the calculations as it would only once during the construction phase.

Otherwise, the largest heavy vehicles accessing the site will be 12.5 m to 20m (B-Doubles and long loaders) anticipated to be up to 100 heavy vehicles trips (50 vehicle movements per day).

Distribution of peak hour construction traffic is not anticipated to coincide with the surveyed peak hour traffic on Riverina Highway. Construction peak hour traffic for light vehicles is anticipated between 6:30 am and 7:30 am for morning peak hour traffic and 5 pm to 6 pm for evening peak hour traffic.

Heavy vehicle (HV) peak hour traffic is anticipated to occur during work hours, outside of general construction peak hour traffic and outside of network peak hours. A maximum of 20 trips (10 heavy vehicle movements per hour) are anticipated during HV peak periods.

During the construction phase, on site car parking will be provided for 28 light vehicles and 4 buses to accommodate workforce and site access requirements. Car parking areas will be appropriately remediated prior to the commencement of operations.

6.7.3.1.2 Oversize and overmass vehicles

Heavy vehicle movements will be managed by the construction project team through a delivery schedule to reduce chances of more than four heavy vehicle deliveries within the same hour.

Based on regular working hours, it is anticipated that heavy vehicle access to the site will predominantly occur outside of commuter peak hours.

6.7.3.1.3 Operational traffic

Operational staff are anticipated to have a total workforce of two people, with each worker driving to site in their own vehicle for a total of 4 light vehicle trips (2 vehicle movements day).

During the operational phase, car parking will be retained for 2 operational vehicles and 1 heavy vehicle to support ongoing maintenance activities throughout the life of the project.

6.7.3.1.4 Decommissioning

At the end of Finley BESS's anticipated life expectancy of 20 to 25 years, a decommissioning and rehabilitation plan will be prepared to the satisfaction of regulators, detailing traffic volumes anticipated during the decommissioning phase the Finley BESS.

At the time of decommissioning, car parking will be reinstated in accordance with the requirements determined in consultation with the regulatory authorities, to ensure compliance with relevant planning and environmental standards.

6.7.3.2 Traffic distribution

The TIA assumes that, based on the surrounding road network, the following distributions:

- All heavy vehicles will access the site turning left onto Canalla Road (via Riverina Highway) and left into the site.
- Light vehicles distribution is expected to be as follows:
  - 20% eastbound from Riverina Highway – Canalla Road;
  - 60% westbound from Riverina Highway – Canalla Road; and
  - 20% eastbound from Broockmanns Road.

Assuming that construction workers will either reside or will be accommodated in the local area, with the majority residing in Finley. Workers may also arrive from Deniliquin. To be conservative it has been assumed that contractors will arrive by buses with a 50% distribution along Riverina Highway

6.7.3.3 Traffic assessment

The impact of the additional traffic generated from Finley BESS has been analysed and split into three sections:

- The impact on traffic safety;
- The impact of additional traffic on key roads; and
- The impact of additional traffic on the intersection of Riverina Highway, Canalla Road and Marantellis Road.

The turn treatment at the intersection between Riverina Highway & Canalla Road was assessed based on the unlikely scenario where the network morning peak hour coincided with the construction peak hour traffic, based on a design speed of 110km/h, being 10km/h above the posted speed limit along with estimated traffic volumes.

The current intersection of Riverina Highway, Canalla Road, and Marantellis Road, features an 85 m left-turn deceleration lane onto Canalla Road and a 75 m left-turn deceleration lane onto Marantellis Road, exceeding the minimum BAR/BAL standard, indicating adequate capacity for the anticipated construction peak traffic volumes.

Sensitivity testing confirms that the existing configuration can accommodate up to 20 right-turning and 60 left-turning trips from Riverina Highway within the BAR/BAL standard, demonstrating sufficient capacity to support the construction traffic for the Finley BESS.

Given that the Finley BESS peak traffic generation hours will not overlap with peak hours on Riverina Highway, no additional impacts on traffic safety are anticipated. Consequently, no upgrades are recommended for the Riverina Highway and Canalla Road intersection.

The construction phase of the Finley BESS would result in a percentage increase in traffic volumes ranging from 9.4% (AADT on Riverina Highway) to 29.7% (AM peak hour on Riverina Highway) during construction.

After the construction works, the total net increase during operation would range from 0.2% (AADT on Riverina Highway) to 1.8% (AM peak hour on Riverina Highway) during construction.

6.7.3.4 Cumulative impacts

TfNSW typically requires an assessment to evaluate potential impacts of proposed developments for a +10-year post-development scenario.

Traffic volumes on roads, such as Riverina Highway, are expected to increase with a natural growth rate of approximately 1% per annum. Based on the existing AADT on Riverina Highway would increase from 1,734 trips/day to 1,916 trips/day over 10 years. With peak hour traffic rising from 110 trips/hr to 121 trips/hr in the morning, and from 118 trips/hr to 130 trips/hr in the evening.

Although traffic volumes on surrounding roads may rise, the overall traffic generated by the Finley BESS is unlikely to change, meaning the relative potential impact from the Finley BESS will decrease over time.

6.7.3.5 Route assessment

Finley BESS involves multiple over-dimensional movements. The largest OSOM vehicle movement requiring escort the 36 m, required to deliver the transformer. To manage this movement, an OSOM Route Survey Report has been prepared by Ares Group (2025), provided in **Appendix S**.

During the construction period, heavy vehicles, special purpose vehicles and Class 1 OSOM vehicles are likely to come from different directions; however, OSOM Route Survey focuses on the transformer route, as the largest vehicle that will access the site.

The route is estimated to be approximately 320km long and as vehicles will be moving at slow speeds due to heavy load, it is anticipated that the inbound trip will be approximately 6-7 hours long. in principle the route, follows approved OSOM Class 1 route (NSW and VIC), although liaison with relevant authorities will be required on sections of the route that allow for a conditional access. The geometric analysis identified following requirements for modification:

- Pinch Point 07 – Right Turn Goulburn Valley Highway & River Road – one sign to be made moveable
- Pinch Point 16 – Left Turn – Newell Highway & Riverina Highway – one sign to be made moveable

The vehicle will require traffic management to complete left turn at the intersection of Riverina Highway and Canalla Road.

The proposed heavy vehicle crossover on Canalla Road will be designed to accommodate movements of the largest OSOM vehicle.

The vehicle will require relevant permits from the National Heavy Vehicle Regulator (NHVR), state and local government authorities and from other relevant third-party authorities such as electricity/telco authorities, rail/tram authorities, toll road and tunnel operators. Closer to the day of transport a field survey will be required to confirm findings of desktop analysis.

Bridge assessments will still be required from Victoria's Department of Transport and Planning and Transport for NSW to confirm that bridges along the route can be crossed.

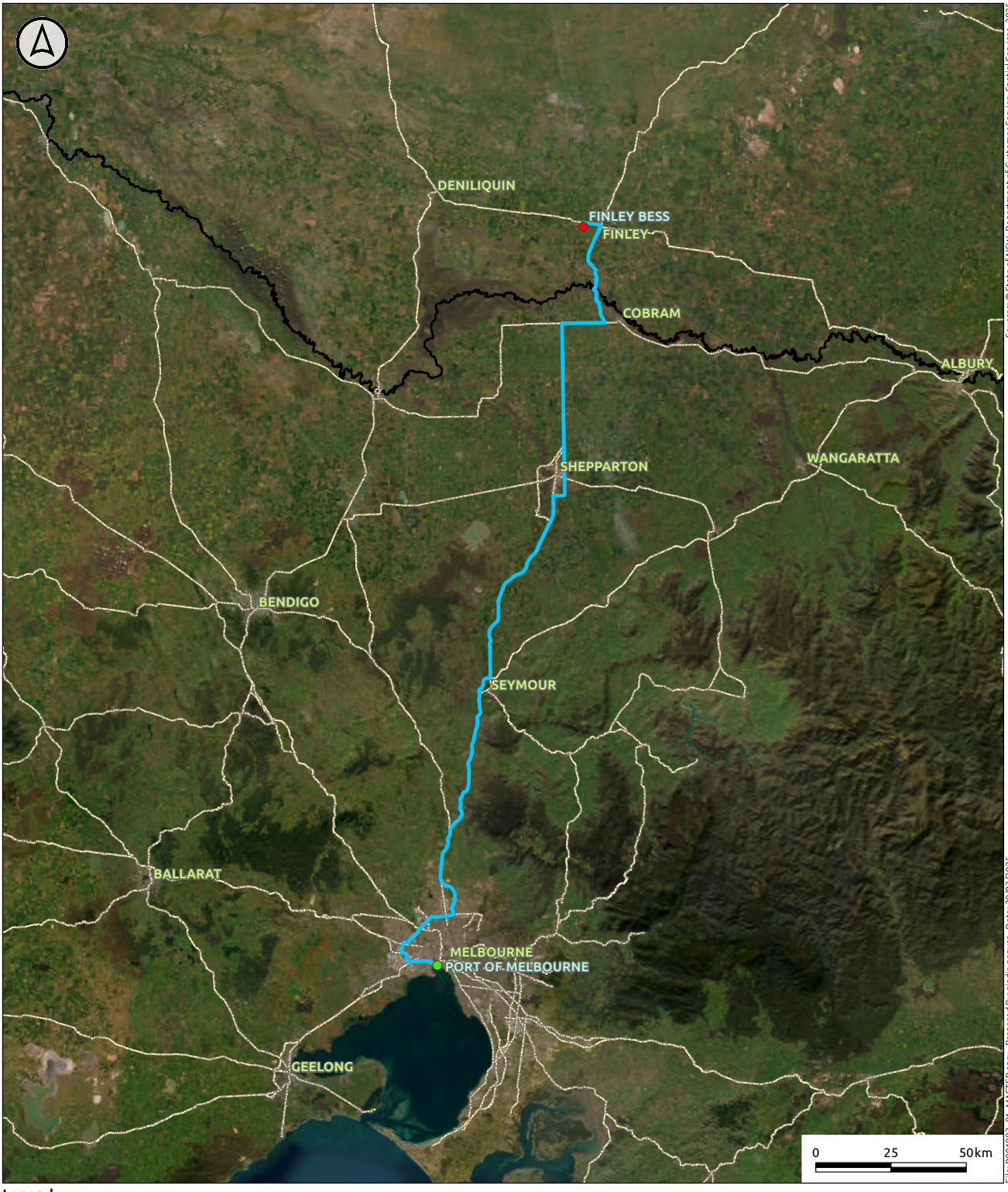


Figure 12: Materials Transport Route

6.7.4 MITIGATION MEASURES

The TIA recommends the following mitigation measures:

- No engine breaking is to be utilised when slowing to enter the development site entrance off Canalla Road;
- Drivers are not to hold vehicles when exiting the site onto Canalla Road;
- Excessive revving of engines is not permitted when exiting the development site;
- Trucks are not to stage on surrounding roads prior to entering the development site, adequate staging areas should be provided at the Finley BESS locations;
- One sign to be made moveable at Pinch Point 07 – Right Turn Goulburn Valley Hwy & River Rd;
- One sign to be made moveable at Pinch Point 16 – Left Turn – Newell Hwy & Riverina Hwy; and
- Implementation of the proposed Traffic Management Plan.

6.8 Water

6.8.1 INTRODUCTION

Premise have completed a Water Impact Assessment report and this is provided at **Appendix L**.

6.8.2 EXISTING ENVIRONMENT

The development site is situated within a flat agricultural landscape characterised by an extensive network of artificial irrigation infrastructure. No natural watercourses traverse the site; however, the Mulwala No. 19 Channel, managed by Murray Irrigation Pty Ltd, intersects the proposed transmission cable route at the northern extent of Lot B DP961693. Other nearby water features include the Ulupna Channel 700 m west, Mulwala Canal 1.4 km north, and the Murray River 17 km south.

The development site's soils are classified as Hydrologic Soil Group 'C', indicating slow infiltration due to fine textures or subsurface layers impeding water movement. While no specific Hydrogeological Landscape (HGL) unit is mapped for the site, available data indicate high salinity hazards, moderate salt export potential, and elevated instream electrical conductivity.

Located within the Murray Alluvium (GW8) and NSW Murray-Darling Basin Fractured Rock (GW11) Water Resource Plan Areas, both subject to Sustainable Diversion Limits under the Basin Plan. Due to the flat topography, local drainage is poorly defined and largely influenced by natural depressions and surrounding land uses, with runoff typically captured by irrigation channels and farm dams. Modelling of existing conditions has indicated that the proposed development is impacted by the 1% AEP flood event. The site of the development in its existing state is modelled with a maximum flood depth and 0.44 m and flow velocity of 0.08 m/s. The average flood depth and flow velocity applying to the site is identified as 0.27 m and 0.03 m/s. On the basis of flood modelling the existing site of the development is classified with a flood hazard of H1, which is considered low hazard.

The results of modelling for the post development scenario have demonstrated a slight increase to flood depth and velocity. The maximum flood depth rises to 0.46m, while the flow velocity increases to 0.14m/s. Additionally, the average flood depth and velocity have slightly increased to 0.28m and

0.04m/s, respectively. Despite these changes, there are no significant impacts on flood hazard classification, and

The FIA concludes that the proposed BESS will not significantly impact local flooding and accordingly no mitigation measures such as detention basins are required. Standard flood mitigation measures including proper site design and stormwater management infrastructure, however, are recommended. to ensure the development aligns with best practices in flood risk management.

6.8.3 ASSESSMENT IMPACTS

6.8.3.1 Water demand

Water supply for the development would be predominantly limited to the construction phase of the project (e.g. dust suppression, servicing to site office building and amenities and water tanks for firefighting purposes).

Water supply requirements for the construction of the project would be finalised during the detailed design stage and are subject to variations in construction methods, staging, quantities, measurements and the attainment of a construction contract for the proposed development.

There is no intent or need for any volumetric water licencing requirement. No water entitlement is needed or required to be purchased.

The quantity of water required for dust mitigation during construction can only be roughly estimated. Ultimately, it will be determined by the detailed design, the EPC contractor's approach to the construction program and the climatic conditions experienced at the time the works are undertaken.

A preliminary estimate of total water demand for the construction phase of the project is provided within the WIA provided in **Appendix L**. The total water demand estimated by the WIA is 1.81 ML. This equates to an approximate daily water use of 5.48 kL over the anticipated 11 month (330 days) construction phase.

During construction it is anticipated that potable water would be supplied via temporary amenities for construction personnel. Dry port-a-loos would be provided for amenities throughout construction minimising water demand and negating the need for on-site domestic sewage treatment.

No significant volumes of water will be required during the operational phase of the project will be monitored remotely and does not require a continuous water supply. Water use during operation would be restricted to ongoing maintenance commitments such as landscaping and refilling of static water supplies.

6.8.4 MITIGATION MEASURES

Detailed design:

- Water supply arrangements are subject to variations in construction methods, staging, quantities, measurements and the attainment of a construction contract for the proposed development. A detailed site water balance will be prepared prior to construction to confirm water requirements and supply arrangements for the proposed development.

- To minimise the potential for impacts to existing groundwater, it is recommended, that several shallow bores and/or geotechnical drillholes be drilled across the development site prior to construction to verify existing lithology, depth to water and to attain baseline groundwater quality.
- Subject to confirmation of groundwater depths via an on-site investigation during detailed design and the selection of an appropriate construction method (concrete footings or steel piling footings), no groundwater dewatering is anticipated as a requirement to facilitate construction of the development.
- Excavations should be limited to depths above the observed groundwater levels. Where deeper excavation is required, the groundwater assessment will be reviewed.
- The progression of detailed design for the project should include:
  - Ongoing consultation with Berrigan Shire Council, Murray Irrigation and other relevant stakeholders to ensure appropriate measures are implemented to minimise localised water impacts, including risks to surrounding land and irrigation networks.
  - The design of controls to minimise the potential for water impacts (i.e., bunding of areas presenting contamination risks); and
  - The design of proposed infrastructure including the proposed method for underboring activities developed in ongoing consultation with Murray Irrigation Pty Ltd.

Construction Phase:

- Prepare a Soil and Water Management Plan (SWMP) prior to construction to detail potential risks and appropriate measures designed in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004). The SWMP will be prepared as part of a Construction Environmental Management Plan (CEMP) to manage potential risks to soils, surface and ground water. Recommended measures for the construction SWMP include but are not limited to:
  - Measures to minimise and manage the potential for erosion and sediment transport within and from the Project area;
  - Measures to manage accidental spills and waste storage;

    Measures to manage stormwater and the potential for contaminated runoff from the Project site;

    Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination; and
  - Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical.
- Stockpiling of any excavated material shall be managed in accordance with the SWMP to minimise the mobilisation and transport of dust, sediment and leachate into downstream environments. Recommended measures to manage stockpiling include but are not limited to:
  - Ensuring stockpiles are located away from drainage lines, waterways, and areas susceptible to erosion;
  - Minimising the number, size and duration of stockpiles used;
  - Ensuring stockpiles are stabilised and implementing dust suppression methods as required;
  - Ongoing review and inspection of the use of heavy vehicles and/or machinery, including transport tracks used, for erosion risk; and

- Ensuring that vehicles transporting waste and/or excavated material are appropriately covered to reduce the potential for dust.

> The SWMP shall include procedures to reduce and manage the risk of emergency events and the potential for wastes and spills to contaminate soils, surface and ground water. Recommended measures to manage the potential for contaminated discharge include:

- The storage of all fuel chemicals and liquids in sealed bunded areas on level ground away from stormwater drainage lines and waterways;
- Ensuring refuelling and maintenance activities are restricted to designated areas with appropriate bunding and spill capture controls;
- Implementing controls as part of the construction SWMP that provide procedures to respond to emergencies and spills (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits);
- Ensuring visual inspections of drainage lines and disturbed areas are undertaken during construction to assess any potential soil or surface water issues; and
- The installation and maintenance of stormwater control measures including drainage networks and bunding that segregate stormwater runoff according to its potential for contamination.

> During operation procedures shall be developed to reduce the potential water impacts including the contamination of soils, surface and ground water, resulting from wastes, spills and/or emergency incidents. Suggested measures to control the potential for water impacts and contamination during operation include:

- The appropriate storage of equipment and hazardous substances during operation;
- Ensuring that plant and stormwater control measures are maintained to prevent contamination of soil; and
- Preparation of appropriate procedures to response to emergency incidents (i.e., floods, fires), spills and leaks from the development site, including operational equipment and maintenance activities (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits).

6.9 Contamination

6.9.1 INTRODUCTION

The Preliminary Hazard Analysis (PHA) (Riskcon, 2025) and Agricultural Impact Assessment (AIA) (Premise, 2025) reviewed aerial imagery to identify historical development site land uses, assess environmental factors on and around the development site, review of public records, soil sample collection, soil laboratory analysis and a subsequent assessment of whether there was a risk of contamination onsite.

6.9.2 EXISTING ENVIRONMENT

6.9.2.1 Potentially contaminating sources

From an analysis of historical land uses, the adjacent Transgrid Finley substation presents the highest risk of land contamination, due to the required maintenance activities, which can include dielectric fluid (used as an electrical insulator and coolant in high-voltage applications like transformers, capacitors,

and switchgear, preventing or rapidly quenching electric discharges) may be present in water run-off from the substation.

6.9.2.2 Contamination status

A search conducted of the NSW Environmental Protection Agency (EPA) contaminated land record of notices, on 24 March 2025, and list of notified sites dated March 2025, did not identify the development site or land within the locality as contaminated or potentially contaminated land.

As identified in the AIA, a review of historical aerial imagery available on the Historical Imagery Viewer (NSW Govt, 2024) identified that the land which Finley BESS is proposed to be constructed on has been used for cropping since at least 1968.

Current land management practices at the Finley BESS site, both identified at the site inspection for the AIA and in conversation with the landowner, was primarily dryland cropping during the winter season only. Alternating wheat, oats, canola and oaten hay have been successfully grown on the site in previous winter seasons. The site is allowed to fallow over the summer season with light cultivation and retained stubble from the previous winter crop.

Sheep are occasionally agisted on the site and are allowed to graze on the site for no more than one month following crop harvest to remove crop residue and stubble.

Contamination on rural sites is commonly attributed to historical agricultural practices, particularly the operation of shearing sheds, sheep dips and related infrastructure associated with sheep grazing activities. Within the Finley BESS site there is no existing infrastructure or evidence from historic aerial imagery of previous infrastructure (shearing sheds or sheep dips) to suggest that extensive sheep grazing was carried out previously on the site.

Historically Finley experienced a boom in the rice industry in the 1970's and it is reasonably speculated that the Finley BESS paddock was used for irrigated rice growing during this time, given the very level surface and evidence of previous irrigation including channels on each boundary.

A review of historic aerial imagery has identified that the development site and surrounding land has been utilised for agricultural activities, particularly irrigation cropping, since at least 1968. It is noted that the Berriquin Irrigation District was in operation from 1940, and that the irrigation channels were created to support irrigation cropping following severe drought in the 1930's.

6.9.3 ASSESSMENT IMPACTS

The site is not assessed as containing contaminated land requiring remediation and the site is considered to be suitable for the proposed purpose.

The obligations of the Hazards and Resilience SEPP have therefore been satisfied.

6.9.4 MITIGATION MEASURES

None required.

6.10 Risk and hazards

6.10.1 INTRODUCTION

The Preliminary Hazard Analysis (PHA) (Riskcon, 2025), attached as **Appendix M**, has been prepared in accordance with the Hazard Industry Planning Advisory Paper No. 4 - Risk Criteria for Land Use and Safety Planning, Hazard Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DOP, 2011), Multi-Level Risk Assessment (DOP, 2011) and to demonstrate compliance of the site with the relevant codes, standards and regulations (i.e. *Work Health and Safety Regulation 2017*).

The PHA is provided in **Appendix M**, providing:

- A summary of the assessment methodology within the site and project context;
- Hazard identification and assessed potential offsite impacts;
- Detailed consequence and frequency analysis for identified incidents with offsite impact;
- Risk assessment and mitigation measures; and
- Conclusions and recommendations.

The following sections provide a summary of the PHA and recommended mitigation measures.

6.10.2 EXISTING ENVIRONMENT

The site has historically been agricultural cropped land, within the context of hazard analysis, presents minimal risk due to its inherent characteristics.

The land is primarily used for crop production, with limited exposure to potentially hazardous activities or substances. Hazards, such as chemical runoff or soil erosion are low and are typically mitigated through standard agricultural practices and are not considered to be contributing factor to the hazards analysis.

6.10.3 ASSESSMENT IMPACTS

The PHA utilises the Multi-Level Risk Assessment (DOP, 2011) approach from the NSW Department of Planning, Housing and Infrastructure to determine the required level of risk assessment, considering the project's location, the quantity and nature of Dangerous Goods (DGs), the technical and safety management controls. The guidelines aim to assist industry, consultants and consent authorities in conducting and evaluating appropriate risk assessments for the project.

The Multi-Level Risk Assessment outlines three levels of risk assessment applicable to a PHA:

- Qualitative: No significant off-site consequences and societal risk is negligible;
- Partially Quantitative: Off-site consequences with a low frequency of occurrence; or
- Quantitative: When the thresholds of levels 1 and 2 are exceeded.

Based on the type of DGs to be used and handled at the proposed project, a Level 1 Assessment (qualitative) was selected for the site. This approach provides a qualitative assessment of those DGs of lesser quantities and hazard and a quantitative approach for the more hazardous materials to be used on-site.

The PHA considered a number of risks that did not present potential off-site impacts and for that reason did not warrant further assessment. Risks identified as having residual risks, were carried forward and required further assessment. Both are discussed in the following sections.

6.10.3.1 Li-ion battery fault, thermal runaway and fire

Despite improvement in battery technology there are several degradation mechanisms which can result in thermal runaway that are primarily a result of high discharge, overcharging, or water ingress into the battery which results in a host of by-products being formed within the battery during charge and discharge cycles.

As a result, Li-ion batteries are equipped with several safety features to prevent the batteries from overcharging or discharging at voltages which result in battery degradation, leading to shorting of the battery and thermal runaway.

The PHA includes a review of the Lithium Iron Phosphate (LiFePO4, or LFP) batteries proposed for the Finley BESS, which are considered to be one of the safest battery chemistries within the industry. Having a thermal rise of 1.50°C/min., compared to a rise of 200-4000°C/min in other lithium-ion chemistries. The gradual temperature rise of LFP does not result in a fire and incident propagation to other batteries.

In the event of ignition, LFP batteries release carbon dioxide, reducing oxygen concentration and suppressing combustion. Fires would be further mitigated by a fire suppression system built into each container, preventing escalation to other BESS units or the outside environment. Additional safety measures, such as physical separation of units during construction, battery monitoring and heat detection, can be implemented as needed.

The PHA concludes that LFP technology does not cause fires during thermal runaway and any fire within one container would not transfer to others due to safety design features and is not carried forward for further analysis.

6.10.3.2 Victorian Big Battery Fire Review

The Victorian Big Battery (VBB) fire in July 2021 serves as a relevant case study for understanding fire propagation to determine whether similar incidents could occur at the Finley BESS.

The VBB incident occurred in a back-to-back layout, though this arrangement was not the cause of fire propagation. The investigation determined that strong winds blew flames from one Megapack into the unprotected vent of an adjacent unit, igniting a plastic fan and impacting the battery modules below.

To prevent such occurrences, the project has integrated several fire safety measures based on lessons learned from the VBB fire. Specifically, container vents and vent covers will be constructed of non-combustible materials, ensuring that flammable materials are not located beneath ventilation openings. Additional recommendations include repositioning vents to avoid placement above battery packs and to require minimum separation distances between containerised units to prevent incident propagation. Propagation is unlikely to occur at a distance of 2m for the long side and 0.5m for the short side.

Considering the design improvements, separation distances exceeding the minimum recommendations and the fire safety measures adopted, the PHA concludes that fire propagation between units is highly unlikely.

As a result, the VBB incident is not carried forward for further analysis in for this project.

6.10.3.3 Li-ion battery fire and toxic gas dispersion

In the event of a BESS fire, toxic combustion by-products, including gases, may be formed, such as:

- Carbon dioxide;
- Carbon monoxide; and
- Fluorine gases.

These gases are discussed in further detail below.

6.10.3.3.1 Carbon Dioxide

Lithium-ion batteries primarily consist of metal structures, but during a fire, ancillary materials such as wiring, plastics and anodes may also burn, releasing carbon dioxide.

Toxicological impacts indicate that high concentrations would be needed to cause injury or fatality. Based on the analysis of sensitive areas and similar BESS incidents, such as the VBB, the formation of carbon dioxide in a fire is unlikely to cause significant downwind impacts. The released carbon dioxide would not produce a plume dense enough to displace sufficient oxygen and result in harm.

Consequently, this hazard was not carried forward for further analysis.

6.10.3.3.2 Carbon Monoxide

Carbon monoxide (CO) is an odorless, colourless gas that is slightly denser than air and occurs naturally at concentrations around 80 ppb. CO is toxic as it binds irreversibly with haemoglobin, impairing oxygen and carbon dioxide exchange. At concentrations of approximately 600 ppm (0.06%), this can lead to seizures, coma or death. CO is produced during incomplete combustion if there is insufficient oxygen present.

While a fire in the BESS units could produce CO if combustion is incomplete, the relatively low combustible load compared to the available oxygen in the surrounding atmosphere makes the formation of significant quantities of CO unlikely.

Therefore, the potential for substantial downwind impacts was not considered credible and further analysis of this hazard was not carried forward for further analysis.

6.10.3.3.3 Fluorine gases

Li-ion batteries typically use lithium hexafluorophosphate (LiPF6) or similar lithium salts containing fluorine as the electrolyte. During thermal runaway, the electrolyte expands and is vented, potentially releasing gases such as hydrogen fluoride (HF), phosphorous pentafluoride (PF5) and phosphoryl fluoride (POF3) when exposed to fire.

Of the fluorine gases produced, PF5 is short-lived and POF3 is a reactive intermediate, with the primary concern being HF.

HF is highly corrosive, dissolves in moisture and can cause chemical burns and disrupt nerve signalling by binding with calcium in tissues. The immediately dangerous to life or health (IDLH) concentration for HF is 30 ppm, with a 10-minute lethal concentration of 170 ppm.

However, for a toxic gas dispersion, a battery container fire is necessary as the initiating event. Given that the risk of fire in the battery units is considered negligible due to the stability of the battery chemistries proposed.

Therefore, a toxic gas dispersion impacting sensitive receptors was deemed unlikely and the hazard was not carried forward for further analysis.

6.10.3.4 Electrical equipment failure and fire

In the event of a fire, it may propagate to adjacent combustible materials, such as wiring.

Electrical equipment fires typically begin with smouldering, leading to slow fire development before full ignition occurs. The equipment used in the project is standard across multiple industries globally and thus, not a unique fire scenario. Based on fire development in similar settings, the fire is expected to grow slowly, making significant offsite impacts or incident propagation unlikely.

Therefore, this hazard was not carried forward for further analysis.

6.10.3.5 Transformer internal arcing, oil spill, ignition and bund fire

Transformers use oil for insulation and if arcing occurs (e.g., due to low oil levels), the high energy can vaporise the oil into light hydrocarbons (methane, ethane, acetylene, etc.), causing rapid pressurisation within the reservoir.

If the pressure exceeds the reservoir's structural integrity or relief devices, it can rupture, releasing oil into the bund and allowing oxygen to enter. When oxygen is present, the gases auto-ignite, generating enough heat to ignite the oil in the bund.

Despite this, transformers are common with low failure potential, each transformer is either self-bunded skid or placed within a concrete bund limiting the spread of an oil fire.

Further, the separation distance between battery units and to the site boundaries further reduces the likelihood of incident propagation or offsite impacts.

However, given the potential risk, this hazard was carried forward for quantitative analysis.

6.10.3.6 Transformer Electrical Surge Protection Failure and Explosion

Transformers generate significant amounts of heat due to high electrical currents and oil is used as an insulating material to protect their mechanical components.

However, in the event of an extreme energy surge, such as a lightning strike and failure of surge protection measures, the oil may decompose and vaporise, producing flammable gases like hydrogen and methane. At temperatures above their autoignition points, these gases can ignite, increasing pressure and potentially rupturing the transformer. The ingress of oxygen into the ruptured transformer can lead to an explosion, generating overpressure, sparks and a fire, resulting in a transformer fire.

While transformers are typically equipped with surge protection devices to prevent such incidents, these devices do not protect against all events, such as a major lightning strike, oil deterioration, water leakage or physical damage. Despite transformers being common with a low failure rate, the possibility of an explosion and its potential offsite impacts remains.

As such, this incident has been carried forward for further analysis.

6.10.3.7 Electromagnetic field impacts

Electric and Magnetic Fields (EMFs) occur naturally, such as during lightning storms and are also man-made, typically generated wherever electricity is used.

Extremely low frequency (ELF) EMFs, ranging from 0 to 3,000 Hz, are associated with electrically charged particles, primarily from artificial sources such as the generation, distribution and use of electricity at the frequency of 50 Hz in Australia. BESS operational equipment including transformers and inverters, have the potential to produce ELF EMFs in the 30 to 300 Hz range.

Currently there are no specific Australian standards that govern ELF EMF exposure limits, but the International Commission on Non-Ionizing Radiation Protection (ICNIRP) recommends limiting exposure to 2,000 milligauss (mG) for the public over a 24-hour period.

EMF levels decrease rapidly with distance from the source. A review of the site indicates that the closest residence is over 500 meters from the EMF generating sources at the BESS, therefore, the risk of exceeding ICNIRP exposure guidelines is considered negligible.

Therefore, this hazard has not been carried forward for further analysis.

6.10.3.8 Assessment conclusion

The PHA includes a hazard identification table for the Finley BESS to assess potential hazards associated with site operations and storage of materials.

Based on the identified hazards, scenarios were postulated that may result in an incident with the potential for offsite impacts. Postulated scenarios were discussed qualitatively and any scenarios that would not impact offsite were eliminated from further assessment. Of the incidents carried forward for further analysis indicates that there were no observed offsite impacts. The remaining scenarios showed no offsite impacts, leading to the conclusion that the project is classified as potentially hazardous but permissible within the current land zoning.

Mitigation measures have been recommended to ameliorate potential hazardous impacts and these are provided in **Section 6.10.4**.

6.10.4 MITIGATION MEASURES

- BESS units to be tested in accordance with UL9540A;
- Testing demonstrates clearances required to prevent propagation of fires between separated units;
- BESS units are to be installed in accordance with manufacturer and UL9540A report recommended clearances based on testing;

- BESS units to be installed with fire protection systems specified by the manufacturer and UL9540A report;
- UL testing information to be made available to the certifying authority;
- Vent covers of the BESS shall be constructed of non-combustible materials;
- Vents will not be located above battery packs within the BESS container; and
- All transformers are to be self-bunded on a skid, otherwise they will require a dedicated concrete bund.

6.11 Bush Fire

6.11.1 INTRODUCTION

A Bush Fire Assessment Report (BAR) has been completed for the project by Peak Land Management (2025) and is provided in **Appendix N**. The BAR was prepared to address the requirements of the NSW RFS publication *Planning for Bush Fire Protection - 2019* (PBP 2019).

The BAR has been prepared to:

- Address the SEARs for the project (SSD-72430958);
- Inform stakeholders of potential bushfire risks;
- Recommend mitigation measures to ensure the bushfire risk is at an acceptable level; and
- Demonstrate compliance with the aims and objectives of PBP 2019.

A summary of the BAR is provided in the following sections, as well as a summary of the recommended mitigation measures.

6.11.2 EXISTING ENVIRONMENT

The development site is not mapped as bushfire prone land pursuant to NSW Rural Fire Service Bushfire Prone Land mapping, however, the vegetation type and topography of the site and surrounding land contribute to at risk of a bushfire threat.

The site is generally flat and comprises grasslands and curing crop (hay), therefore considered a bushfire hazard and has been assessed as grassland pursuant to PBP 2019. It is noted that given the nature of the curing crop (hay), for certain periods of the year such as when the crop has been recently harvested, grassland if <100mm grass height is not classed as a bush fire hazard. However, this vegetation type has the potential to facilitate grass fires, therefore it is considered that a bushfire threat exists.

There is very little bushfire history mapped for the Finley locality, with the most recent and nearest recorded as the 1989-90 Wildfire located approximately 17 km south. The ignition source of this fire is unknown.

The Corowa Berrigan Bush Fire Risk Management Plan 2009 identifies the main sources of bushfire ignition as lightning strikes and machinery.

6.11.3 ASSESSMENT IMPACTS

The BAR notes the following characteristics of the development site:

- Predominant vegetation types over and within 140m of the development site are Grassland assessed as per PBP 2019;
- The slope surrounding the development site is generally flat;
- Bush Fire Site Assessment – Fire Danger Index (FDI) 80; and
- The project has been developed to achieve compliance with the aims and objectives of the PBP 2019 subject to the recommended mitigation measures identified in **Section 6.11.4**.

The development site is located in an area of low bush fire risk, with low risk from any fire caused by the project as determined by the PHA (Riskcon, 2025). The project is at low risk of being impacted by or contributing to bush fire risks after implementing recommended mitigation measures identified in **Section 6.11.4**.

6.11.4 MITIGATION MEASURES

The following mitigation measures would be implemented to achieve compliance with PBP 2019:

- Design and construction – equipment will be sited in a way that will not contribute to bush fire risk and will minimise the impact of bush fires on the capabilities of the infrastructure during bush fire emergencies by:
  - Spacing between BESS container accumulations (i.e. 4 containerised units) shall be a minimum of 3 m to prevent fire propagation:
    - End to end spacing (short side) of BESS containerised units shall be a minimum of 3 m; and
    - Back to back spacing (long side) of BESS containerised units shall be a minimum of 3 m.
  - BESS containerised units are provided with the following emergency protection systems as specified by the BESS manufacturer;
    - Smoke detector sensor;
    - Heat detector sensor;
    - Flammable gas sensor;
    - Off-gassing valve;
    - Explosion-proof valve;
    - Water detector sensor;
    - Fire strobe;
    - Alarm bell; and
    - All BESS containerised units can be shut down locally or remotely in an emergency.
  - Vents shall not be located above battery packs within the BESS container and will be constructed of non-combustible materials.
- During construction and for the life of the project, a 10m Asset Protection Zone (APZ) will be provided around project-related infrastructure. Temporary construction and laydown areas, site access and associated fencing do not require specific APZ. The following vegetation management requirements apply in the APZ:
  - Trees will not be located within the APZ;
  - Shrubs will not be located within the APZ;

- Grass should be kept mown to a height of < 100 mm in height;
- Leaves and vegetation debris should be removed to reduce fuel load;
- Roads and paved/cleared areas are suitable within the APZ.

> Landscape maintenance includes the APZ around infrastructure, the implementation of proposed vegetation screening and the ongoing management of the development site to reduce fire intensity and the rate of spread as it approaches structures in accordance with PBP 2019 and NSW planning guidelines.

> On-site static water supply 75,000 L dedicated for firefighting purposes, strategically positioned within the development site and fitted with Storz fittings.

> Main vehicular access, internal road network will provide for safe, reliable and unobstructed passage for firefighting vehicles and maintained for the life of the development, including:

- The trafficable surface has a minimum width of 4 m with 1 m traversable shoulders;
- Minimum vertical clearance of 4 m in height to any overhanging obstructions;
- Unsealed/sealed all weather traversable roads will be of suitable load bearing capacity, drainage structures and feature crossings;
- Road grade to be less than 10^{o}
- Allow for two way traffic flow, enabling safe ingress and egress to the development site.

A Bush Fire Emergency Management and Operations Plan (BEMOP) will be prepared to support emergency management for the Finley BESS ensuring bushfire protection mitigation measures are maintained, detailing:

> APZ and landscape fuel load management;

> Detailed measures to prevent or mitigate fires igniting;

> Work that should not be carried out during total fire bans;

> Availability of fire-suppression equipment, vehicular access and water;

> Storage and maintenance of fuels and other flammable materials;

> Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate;

> Appropriate bush fire emergency management planning; and

> Nominating an emergency meeting point, preferred evacuation route and methodology for ensuring all occupants are safe and accounted for.

The BEMOP will be developed in consultation with the local NSW RFS District Office and will be communicated to relevant stakeholders.

Regarding bush fire, the threat at the development site is considered low, being possible ember and smoke attack only assuming the APZ is maintained.

Further to the requirements of PBP 2019, the applicant will provide:

> Ongoing training for all on-site personnel regarding bush fire response procedures;

> Firefighting training for operational workers; and

> Operational vehicles will be fitted with basic firefighting equipment.

The BAR concludes that bush fire risks have been thoroughly assessed and effectively mitigated through the implementation of the aforementioned mitigation measures.

6.12 Waste

6.12.1 INTRODUCTION

Premise has conducted a review of the potential waste impacts associated with the construction and operation of the project. The legislative framework and impact assessment are outlined in the following sections.

6.12.2 EXISTING ENVIRONMENT

The management of waste in NSW, including recycling and resource recovery, is governed by the *Protection of the Environment Operations Act 1997* (POEO Act) and the *Waste Avoidance and Resource Recovery Act 2001* (WARR Act).

The WARR Acts promote the efficient use of resources and aim to reduce environmental harm in line with the principles of ecologically sustainable development. In particular the WARR Act establishes a clear hierarchy of waste management practices, prioritising the avoidance and reduction of waste, followed by the reuse of materials, recycling, processing or reprocessing and the recovery of energy. Disposal is considered only as a last resort when all other options have been exhausted. This structured approach ensures that resource management decisions in NSW are made with a focus on minimising waste, conserving resources and mitigating environmental impacts.

6.12.3 ASSESSMENT IMPACTS

6.12.3.1 Construction

The construction phase of the BESS is anticipated to produce various solid waste streams, including:

- Packaging materials;
- Construction debris;
- Scrap metal;
- Excess soil;
- Plastic and masonry products; and
- Vegetation cleared during site preparation.

Waste management strategies during construction and operation will adhere to a structured hierarchy prioritising avoidance and reduction, minimising waste generation through efficient planning and resource utilisation.

Where avoidance cannot be achieved, reuse and recycling will be implemented on-site such as converting cleared vegetation into mulch. Lastly, where these practices cannot be incorporated waste will be disposed of via off-site recycling facility or disposal at licensed facility where necessary.

Temporary facilities will be provided for the construction workforce for effluent management. These facilities will be serviced and maintained by qualified contractors and removed upon completion of construction.

This approach aligns with the WARR Act, which establishes a hierarchy of waste management practices to promote environmental sustainability. By implementing these comprehensive waste management strategies, the project aims to minimise environmental impacts and regulatory compliance.

6.12.3.2 Operation

Operational waste associated with the Finley BESS will be of a limited nature, likely limited to small amounts of packaging associated with plant maintenance/replacement and general waste from operational staff.

Noting the operational life of the Finley BESS is anticipated to be 20-25 years, it is possible that batteries may require replacement during the life of the project.

Batteries are classed as hazardous waste and their transport for disposal or recycling is regulated under the *Australian Code for the Transport of Dangerous Goods by Road and Rail* (National Transport Commission 2020, Ed. 7.7). This will include compliance with current hazardous materials handling and transport protocols, as outlined by relevant legislation and industry standards at the time of disposal. Waste management practices will be regularly reviewed and updated to align with evolving regulations, ensuring safe and compliant transportation of hazardous waste.

As the development of solar farms, large-scale batteries and adoption of electric vehicles continue to grow in Australia, driven by the transition to more sustainable energy generation and management methods, there is an increasing likelihood of a corresponding rise in the number of batteries requiring recycling or disposal. This trend presents significant opportunities for the expansion of domestic recycling operations, reducing the reliance on the export of these materials.

6.12.3.3 Decommissioning

Waste generated during the decommissioning phase will be managed in accordance with the same principles established during the construction phase, prioritising waste avoidance, followed by reuse and as a last resort, disposal.

Anticipated waste includes electrical infrastructure components such as batteries, inverters, transformers, cabling and other related materials. The Applicant will maximise the reuse and recycling of materials where feasible, with particular attention given to the disposal of batteries in compliance with the hazardous waste regulations in effect at the time of decommissioning. Materials that cannot be reused or recycled will be disposed of at licensed waste facilities in accordance with applicable regulations.

On-site materials that retain utility for the landowner, such as access roads, or for the electricity authority, such as the switching station or sub-station, will remain on site subject to agreements with the landowners.

The main objective of the decommissioning phase will be to repurpose and reuse materials to the greatest extent possible, ensuring minimal environmental impact and aligning with sustainability goals.

6.12.4 MITIGATION MEASURES

A Waste Management Plan incorporating all phases of the Finley BESS would be prepared and implemented prior to the commencement of any on-site works. The principles guiding the preparation of the future waste management plan are outlined in **Appendix P**.

6.13 Social

6.13.1 INTRODUCTION

The Social Impact Assessment (SIA) (Urbis, 2025) is provided in **Appendix O**. The assessment has been prepared in accordance with the *Social Impact Assessment Guideline* (DPIE, 2023), outlining:

- A social baseline of the social locality;
- An assessment of potential social impacts; and
- Identification of mitigation measures for potential social impacts.

A summary of the SIA is provided in the following sections, as well as the recommended mitigation measures.

6.13.2 EXISTING ENVIRONMENT

The SIA defines the social locality for Finley based on demographic data sourced from the Australian Bureau of Statistics (ABS) 2021 Census of Population and Housing, supplemented by data from the Department of Planning and Housing Infrastructure (DPHI, 2022). To contextualise local demographic trends, comparative data from the Berrigan LGA, and where applicable, the broader NSW region were also examined.

The delineation of the social locality was informed by a range of factors, including but not limited to demographic patterns, settlement structure and community linkages. Key considerations underpinning this determination are outlined below.

Within the nominated social locality the following characteristics are considered:

- In 2021, there were 2,456 residents in Finley, representing 35% of the residents in the Berrigan Shire Council (8,815).
- The largest age group in Finley is 60-69, comprising 7.9% of the population. The median age in Finley is 51, which is comparable to the LGA (52).
- Finley and Berrigan LGA have an average household size of 2.2 people, slightly lower than NSW (2.6 people).
- Finley has a higher proportion of people in the labour force (50.9%) than Berrigan LGA (48.7%), but a lower proportion than NSW (58.7%).
- The top industry of employment in Finley is dairy cattle farming (7.8%), followed by aged care residential services (6.3%) and secondary education (3.9%). Berrigan LGA has different top industries of employment, with the top sector being aged care residential services (4.8%), followed by supermarket and grocery (3.4%) and cheese and other dairy product manufacturing (3.3%).
- The most common method of travel to work for residents in Finley is by private vehicle (63.4%), a higher proportion than in NSW (43.1%) but comparable to Berrigan LGA (65.3%).

- A high proportion of residents also worked at home or did not go to work (11.4%); this is likely due to the high proportion of residents working in agricultural industries.
- Finley has a higher proportion of occupied dwellings (90.1%) than Berrigan LGA (86.6%).
- The majority of Finley residents live in separate houses (91.1%), which is slightly higher than Berrigan LGA (90.2%) and significantly higher than NSW (65.6%).
- High levels of home ownership in Finley, with 45% of Finley residents owning their homes outright, comparable to Berrigan \ LGA (46.5%) and significantly higher than NSW (31.5%). The study area has a similar proportion of renters (21.8%) compared to Berrigan Shire LGA (19.5%) and lower than NSW (32.6%).
- Data on the estimated levels of homelessness have been analysed according to the ABS 2021 Estimating Homelessness Census. This data is only available at the regional level and has been gathered for the Berrigan Shire LGA. Rates are per 10,000 population.
    - In 2021, there were no people recorded living in improvised dwellings, tents, or sleeping out.
    - There were 19 people recorded living in other crowded dwellings.
    - There were eight people recorded staying temporarily with other households.
    - There were four people recorded as marginally housed in caravan parks.

6.13.3 ASSESSMENT IMPACTS

Key non-enhanced positive and unmitigated negative impacts have been identified and summarised in **Table 9**.

Table 9 - Summary of assessed social impacts

Theme	Matter	Unmitigated/ unenhanced	Mitigated/ enhanced	Proposed mitigation, enhancement and management
Way of life	Social cohesion and short-term accommodation availability during construction	Medium negative	Low negative	> Before selecting a construction partner, prepare a Workforce and Accommodation Plan or Accommodation and Employment Strategy (AES) in consultation with Council. > Continue consulting with Council regarding the pipeline of proposed renewable energy projects in the local area and peak horticulture periods. This will enable the proponent to adequately consider cumulative construction impacts as part of their Workforce and Accommodation Plan or Strategy and/or stage their construction activities to minimise overlapping construction periods with competing renewable energy projects or horticulture periods. > Engage with local employment and training organisations to ensure that potential local employees are informed of opportunities associated with the proposal through various channels.
	Temporary increase in demand for social infrastructure and services	Low negative	Low negative	> Ensure community facilities and service providers are informed of the potential incoming workforce so they can plan accordingly. > Continue to consult with the Council to confirm the potential community benefits to be considered for the Community Benefit Sharing Scheme/VPA. > Consider preparing a Letter of Intent, a non-legally binding document outlining the community benefits or financial contribution a proponent intends to provide

				through a VPA. This allows for flexibility, given that community and Council priorities can change between lodgement and approval and allows the Council to coordinate community benefits associated with other renewable energy projects. > Prepare the final VPA, ensuring it is informed by Council consultation.
Community	Contribution to the renewable energy sector	High positive	High positive	> Continue educating the local community about the BESS infrastructure's role, function, and benefits. This could be included in future project newsletters and on the project website.
	Increased opportunities for social value creation	Medium positive	Medium positive	> Continue engagement with the Council and key stakeholders on the proposal's design, construction activities, benefit-sharing initiatives, and further opportunities to deliver local benefits to the local community and maintain a social licence to operate. > Develop and implement a stakeholder engagement and communication strategy so that residents can provide feedback on the proposal throughout its construction and operational periods.
Accessibility	Potential access impacts from increased construction traffic	Low negative	Low negative	> Implement the recommendations of the Traffic Management Plan and Construction Traffic Management Plan (2025). > As part of the community and stakeholder engagement strategy, advise the community and road users of significant traffic changes that may impact travel time or road access.

Culture	Potential disruption to Aboriginal objects and places	Low negative to negligible	Low negative to negligible	> Continue engagement with the relevant Registered Aboriginal Parties throughout project delivery. > Implement all recommendations outlined within the Aboriginal Cultural Heritage Assessment.
Health and wellbeing	Potential health and amenity impacts	Low negative	Low negative to negligible	> Prepare a project-specific Construction Environmental Management Plan to minimise potential noise, dust, and construction traffic impacts. This includes implementing all reasonable and feasible recommendations provided in the Noise and Vibrations Impact Assessment prepared by Assured Environmental (2025). > Provide a community liaison officer to liaise with the local community during construction. This would ensure that the local community is aware of the proposal updates and provide a point of contact for them should stakeholder complaints about increased noise or dust arise. > Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved).
	Perceived human safety risks	Low negative	Low negative - neutral	> Implement the Bush Fire Assessment Report and Preliminary Hazard Analysis recommendations. > Engage with the local Fire Services to gather feedback on the proposal, access requirements and how best to implement mitigation measures. > Continue stakeholder engagement with the community to address any potential perceived bushfire risk.
Surroundings	Change to visual character	Low negative	Low negative to negligible	> It is recommended that consultation with residents and further visual assessment from selected sensitive

				viewpoints on private property be undertaken, with additional assessment of landscape character or visual impacts. > Continue stakeholder engagement to identify the risk of perceived visual impacts.
Livelihoods	Perceived loss of productive agricultural land	Negligible to Low negative	Low negative	> Wherever possible and practical, engage with local business services to identify and maximise local procurement benefits derived from the proposal. > Encourage local employment during construction and operation by actively advertising available jobs in various communication means used by the local community, including community boards, local newspapers, and online community groups. > Engage with local employment and training organisations to ensure that potential local employees are informed of opportunities associated with the proposal through various channels. > Wherever possible and practical, prioritise sourcing materials and services from local businesses to stimulate the local economy.
	Contribution to the local economy through increased employment opportunities and spending at local businesses	Medium positive	High positive	> Wherever possible and practical, engage with local business services to identify and maximise local procurement benefits derived from the proposal. > Encourage local employment during construction and operation by actively advertising available jobs in various communication means used by the local community, including community boards, local newspapers, and online community groups.

				> Engage with local employment and training organisations to ensure that potential local employees are informed of opportunities associated with the proposal through various channels. > Wherever possible and practical, prioritise sourcing materials and services from local businesses to stimulate the local economy.
Decision making systems	Opportunity for the local community to have a say in the development of the area	Medium positive	High positive	> Utilise communication channels that are relevant and accessible to the local communities to keep stakeholders informed. > Ensure updates and opportunities for involvement are communicated efficiently and avoid consultation fatigue. > Consider establishing a dedicated community liaison officer before construction to be a consistent point of contact for residents, address concerns, and provide timely information. > Continue engagement with the Council and key stakeholders on the proposal's design, construction activities, benefit-sharing initiatives, and further opportunities to deliver local benefits to the local community and maintain a social licence to operate. > Continue presence and consultation in the community during planning stages to increase the perception of influence. > Continue stakeholder engagement and assess opportunities to further develop the VPA and/or good neighbour programs.

6.13.4 MITIGATION MEASURES

The SIA recommends the following mitigation measures to improve non-enhanced positive impacts and mitigate negative impacts:

Ongoing communication:

- Continue engagement with the Council and key stakeholders on the proposal's design, construction activities, benefit-sharing initiatives, and further opportunities to deliver benefits to the local community and maintain a social licence to operate.
- Continue presence and consultation in the community during planning stages to increase the perception of influence and foster trust.
- Develop and implement a stakeholder engagement and communication strategy so that residents can provide feedback throughout the construction period.
- Engage community stakeholders in identifying opportunities to develop a benefits sharing scheme or good neighbour programs.

During construction phase:

- Develop and implement an operational workforce accommodation strategy before construction that assesses the housing and accommodation environment, identifies potential accommodation and rental market pressures in the local and regional area, and details plans to accommodate the proposed workforce effectively.
- Continue engagement with the Council and relevant stakeholders and develop and implement a construction workforce accommodation strategy before construction.
- Consider liaising with other significant concurrent projects to understand their peak workforce requirements. Moreover, programming construction works for the proposal should be considered to align with reductions in workforce requirements for concurrent projects.
- Engage key stakeholders to inform the development of the procurement plan, which should outline commitments to achieving local content and diversity requirements as required by the relevant State and Federal Government policies.
- Identify and assess potential cumulative construction-related impacts associated with other surrounding developments. Mitigation and monitoring measures should be provided for all identified cumulative construction impacts.
- Explore programming construction works to align with reductions in workforce requirements for concurrent projects to enhance the potential availability of local workers, which can support the proposal.
- Develop a detailed Construction Management Plan that considers concurrent renewable and significant projects, particularly concerning cumulative traffic impacts, and aligning any workforce accommodation plans or employment strategies.

During operational phase:

- Consider engaging communities in the definition of the community benefit fund to ensure meaningful opportunities to deliver local benefits are identified and implemented to maintain social licence.

6.14 Economic impacts

6.14.1 CONSTRUCTION

Key economic impacts during construction would include:

- Increased employment;
- Investment in the local economy; and
- Pressure on local services.

During the peak of construction, the project would generate up to 55 jobs, which would positively contribute to the local economy. Where possible, local workers would be employed, however due to the nature of the some of the work and the quantity of workers required, may result in out of area workers being employed, who would need to be accommodated near to the project.

Given the limited size of Finley, it is anticipated that workers would reside in Finley, Tocumwal, Berrigan, Jerilderie and Deniliquin, travelling by bus or private car to the site each day. The potential exists to support local training and support services organisations during the construction and operation phase, and these opportunities would be explored through an Accommodation and Employment Strategy (AES).

There is also the potential for impacts to local services and employment. Mitigation measures are recommended for adoption so that any residual impacts can be managed proactively and in consultation with the local community.

The short-term loss of agricultural land during construction is likely to be of limited impact given the small area of land required to accommodate the BESS.

The economic impacts of the BESS project include significant benefits during the construction phase, such as increased employment, investment in the local economy, and pressure on local services. The project would generate up to 55 jobs, contributing to the local economy. While local workers would be prioritised, the need for specialised skills may require out-of-area workers, who would need accommodation in nearby towns like Finley, Tocumwal, Berrigan, Jerilderie, and Deniliquin. Local training and employment opportunities could be explored through an AES.

The construction phase would also bring investment into the local economy through procurement of goods and services. Local businesses, especially in accommodation, food and transport sectors, would benefit from increased demand as workers spend in the area. However, the influx of workers could place pressure on local services, including housing and healthcare. An AES could be explored to address this by providing temporary housing and managing transportation needs, such as bus services, to ease the impact on local infrastructure.

The short-term loss of agricultural land during construction is likely to be of limited impact given the approximately 3 ha of agricultural land (located within Lot 3) involved in the Finley BESS in the greater locality of agricultural land.

6.14.2 OPERATION

Once operational, the BESS will contribute approximately 2 full-time equivalent (FTE) positions for ongoing employment opportunities in system maintenance and monitoring. This has a positive impact for the local economy and provides training/value add opportunities for local workers. The change in land use from agriculture to renewable energy is likely to have a neutral economic impact given the bulk of the host lot will continue to generate an income.

Additionally, the facility will support the regional energy infrastructure and contribute to the transition to renewable energy.

While the BESS will temporarily impact agricultural land, this effect is expected to be limited, given the limited area required for the development. The land is anticipated be returned to agriculture post-operation and opportunities for land leasing for renewable energy purposes could be explored with local farmers, being mutually beneficial to the agricultural community. Mitigation measures, including proactive community consultation and a well-structured AES, will ensure that any residual impacts are managed and that the local community can derive long-term benefits from the project.

6.14.3 MITIGATION MEASURES

Ongoing consultation with key stakeholders is proposed to ensure that the benefits of the project are maximised and residual impacts appropriately managed.

The following mitigation measures would be implemented to manage residual economic impacts:

- Develop an AES that includes continuous engagement with local industry representatives that prioritises the use of local contractors, manufacturing facilities, and materials;
- Liaison with local representatives regarding accommodation options for staff, to minimise adverse impacts on local services;
- Liaison with local tourism industry representatives to manage potential timing conflicts with local events; and
- The Applicant or developer will consult with local employment agencies and training organisations and, where practicable, will consider supporting training and apprenticeships.

6.15 Cumulative impacts

6.15.1 INTRODUCTION

A cumulative impact assessment has been conducted by Premise.

Cumulative impacts have been identified and assessed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPIE, 2022).

6.15.2 EXISTING ENVIRONMENT

A review of the NSW Major Projects Portal for renewable projects within the region was completed. Four (4) nearby projects are identified that are considered to require assessment with regard to the potential for cumulative impacts. The identified renewable energy projects are detailed in **Table 10**.

Table 10 – SSD Renewable projects

Location:	Application number	Stage:	Distance (Direction) from Site:
Finley Solar Farm	SSD-8540	Operational	~388 m southwest
Berrigan BESS	SSD-78106206	Prepare EIS	~40 m west
South Coree BESS	SSD-77238990	Prepare EIS	~300 m east
Tarleigh Park Solar Farm	SSD-8436	Determined	~ 25.5km west
Finley South Solar Farm	SSD-10299	Withdrawn	~ 9.8 km southwest

A review of other major projects in the locality found that there were no non-renewable projects identified as likely to result in cumulative impacts.

Notably, the Finley Solar Farm is operational, while the Berrigan BESS and South Coree BESS are both in the 'EIS preparation' stage on the Major Projects Portal, with limited information available regarding the final proposals. According to the Cumulative Impact Assessment Guidelines (DPIE, 2022), a project must have sufficiently detailed information to enable the identification and evaluation of potential cumulative impacts before it can be considered in a cumulative impact assessment.

As the final proposals for Berrigan BESS and South Coree BESS have not yet been fully developed or disclosed, they do not provide the necessary level of detail regarding their scope, environmental effects or and potential interactions with other projects or developments. Therefore, these projects do not meet the criteria outlined in the guidelines and have not been carried forward in the cumulative impact assessment at this stage.

Further, Finley South Solar Farm was not considered for cumulative impacts as its development application was withdrawn following the issuance of SEARs on 9 May 2019.

6.15.3 ASSESSMENT IMPACTS

6.15.3.1 Biodiversity

6.15.3.1.1 Finley Solar Farm – 198 Canalla Road, Finley – 170 MW Solar Farm

The Finley Solar Farm, proposed by ESCO Pacific Pty Ltd in SSD-8540, is located on cropped farmland and pastures, with minimal native vegetation removal. The development site is mapped as non-native vegetation, with native vegetation limited to planted woodlots, windrows, and scattered paddock trees. The project removed up to 4.06 hectares of native vegetation and up to two hollow-bearing trees. However, more than 90% of the site consisted of low-value pasture and cropped land (Zone 1), with a site value of less than 17, exempting it from ecosystem credit requirements under the Biodiversity Offset Scheme (BOS).

Surveys conducted as part of the BAR (Ecolink, 2017a) indicate that the vegetation cleared did not provide habitat for threatened or migratory species protected under the EPBC Act or TSC Act. The site avoided high-value habitats, including wetlands, and was not expected to significantly impact Matters of National Environmental Significance (MNES), provided wetland areas are protected during construction and operation.

As discussed in **Appendix E,** Finley BESS, all targeted surveys were considered sufficient, and no threatened species were detected during searches.

With habitat avoidance and mitigation measures outlined in **Section 6.1.4**, cumulative biodiversity impacts are considered negligible.

6.15.3.1.2 Tarleigh Park Solar Farm – 260 Parfreys Road, Blighty – 90 MW Solar Farm and 88MW/44MWh BESS

The Tarleigh Park Solar Farm project is associated with several key potential environmental impacts and risks. Regarding vegetation communities, a total of 3.37 hectares of native vegetation will be cleared, including 0.026 hectares of NSW EEC Inland Grey Box Woodland in moderate to good condition, and 0.6 hectares of the EEC for paddock trees. This amounts to approximately 28% of the native vegetation in the project area. However, the majority of the cleared area consists of modified or degraded vegetation in highly altered environments, and the removal of native vegetation will be offset through a Biodiversity Offset Scheme (BOS).

In terms of threatened flora, the site contains small areas of suitable habitat for some threatened species, but much of the project area is not considered suitable for any candidate threatened flora species.

For threatened fauna and habitat, the proposal includes the removal of 19 isolated paddock trees, nine of which contain hollows, though no significant raptor nests were detected. No threatened bird species were observed during site surveys, but there is potential for occasional roosting and foraging within the site.

Given this basis it is considered unlikely that the Finley BESS will result in any significant cumulative impacts relating to biodiversity.

6.15.3.2 Land Use

As discussed in **Section 6.4** and **Appendix G**, while there are renewable projects located in close proximity to the site, it is considered that ongoing consultation with other developers will allow for suitable management of cumulative impacts throughout the construction and operation phases.

The Finley BESS is not expected to prevent the establishment of other future land uses. The development site would be able to support a variety of future land uses after decommissioning such as agriculture, or other developments subject to the attainment of development consent. The majority of infrastructure associated with the proposed development would be removed at the end of the project life. A determination during project decommissioning would be made in regard to the retention of any development infrastructure.

In terms of surrounding land uses, the surrounding agricultural uses in conjunction with the Finley BESS is anticipated to result in cumulative impacts. Furthermore, the Finley BESS is not anticipated to prevent the establishment of other future land uses in the locality.

6.15.3.3 Noise

With reference to **Section 6.6**, **Appendix J** and the NSW Major Projects Portal, an assessment of potential cumulative impacts is provided for the following projects:

6.15.3.3.1 Finley Solar Farm – 198 Canalla Road, Finley – 170 MW Solar Farm

The Finley Solar Farm is located southeast of the development site and is in operation. As a result, there are no potential cumulative construction noise impacts. A modification application (SSD-8540-MOD-1) for substation upgrades was determined in 2018 and any associated construction works are expected to be complete. No construction noise was discussed in the modification's Environmental Assessment, so no further comment can be made on potential construction noise impacts.

6.15.3.3.2 Assessment of Cumulative Operational Impacts

The Finley Solar Farm, now operational, can be assessed for cumulative impacts with the proposed Finley BESS. The PHA identified common receptors for both projects and prepared a cumulative impact analysis. The cumulative impact is calculated using a simple logarithmic addition based on worst-case meteorological conditions.

Compliance with operational assessment criteria is achieved at all common receptor locations except R1, where an exceedance of 1 dB is predicted. Even though the receptor is located immediately south of the solar farm, the noise exceedance is contributed to from the development site. The NIA makes the following points regarding the exceedance:

- An exceedance of 1-2 dB is generally imperceptible to the average listener;
- The exceedance is primarily due to noise from the development site, with minimal contribution from the existing Solar Farm. Predictions assume simultaneous operation of all equipment and noise-enhancing weather conditions; and
- To bring the cumulative noise level to compliance at the closest common residential receiver, a 3.5-meter-high, 90-meter-long noise barrier would be required. However, the costs of such a barrier may not justify the marginal benefit, especially when the benefit would be observed only at a single receptor.

Therefore, the NIA concludes that the predicted cumulative impact at the closest common residential receiver (located within the Solar Farm footprint) is acceptable and further mitigation is not considered reasonable.

6.15.3.3.3 Tarleigh Park Solar Farm – 260 Parfreys Road, Blighty – 90 MW Solar Farm and 88MW/44MWh BESS

The approved but not yet constructed, Tarleigh Park Solar Farm is located west of the development site ~ 25.5km west.

As the solar farm has yet to be constructed, it is anticipated that construction of the Tarleigh Park Solar Farm has the potential to occur concurrently with Finley BESS.

It is expected to generate noise primarily during daytime hours, with noise levels at residential properties potentially exceeding the management level by up to 2 dB(A) under worst-case conditions, particularly when multiple noisy machines operate near the site boundary (NGH, 2017).

Both projects may have traffic movements that potentially overlap along the Riverina Highway. Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads for both projects are not identified to adversely contribute to the existing traffic noise levels.

Given the significant distance between the two projects, construction noise from the Tarleigh Park Solar Farm and Finley BESS are not anticipated to contribute to cumulative impacts on construction or road noise that would adversely affect the amenity of the locality.

6.15.3.4 Traffic

With reference to **Section 6.7**, **Appendix K** and the NSW Major Projects Portal, an assessment of potential cumulative impacts is provided for the following projects:

6.15.3.4.1 Finley Solar Farm – 198 Canalla Road, Finley – 170 MW Solar Farm

Finley Solar Farm anticipated operational phase traffic generation (Environmental Impact Statement, Esco Pacific, 2017), includes the addition of two daily movements on the Riverina Highway and Canalla Road will not significantly affect future traffic operations, the level of service, or traffic safety. This minimal increase in traffic is unlikely to have noticeable effects on the traffic conditions or safety of these routes in the long term.

During the decommissioning phase, traffic impacts are expected to be similar to those experienced during construction, with daily traffic increases having only minimal effects on traffic operations, level of service, or safety. Given Finley BESS project has an anticipated lifespan of 20-25 years, which is unlikely to overlap with the decommissioning phase of the Finley Solar Farm, which has a 40-year operational lifespan, the potential for cumulative impacts on the local traffic network are not anticipated.

6.15.3.4.2 Tarleigh Park Solar Farm – 260 Parfreys Road, Blighty – 90 MW Solar Farm and 88MW/44MWh BESS

Tarleigh Park Solar Farm vehicle movements identify an overall traffic increase of 3.7%, averaged over a year, and an increase of 22.6% in total vehicle movements during the 2 month peak period of construction (NGH, 2017), which is significantly below the capacity of the network

The Riverina Highway, serving as a primary freight and transport corridor, is equipped with adequate turning treatments to maintain its level of service. Consequently, the potential cumulative impact on traffic from the concurrent construction of both projects is unlikely to surpass the road's existing capacity, ensuring that user safety, convenience, and traffic efficiency would not be significantly affected.

6.15.3.5 Social and economic

With reference to **Section 6.13, 6.14**, **Appendix O** and the NSW Major Projects Portal, an assessment of potential cumulative impacts is summarised for the following projects:

6.15.3.5.1 Finley Solar Farm – 198 Canalla Road, Finley – 170 MW Solar Farm

Given the Finley Solar Farm is operational and the estimated 4 operational staff are required, the potential for cumulative impacts on the workforce or accommodation needs are not anticipated.

6.15.3.5.2 Tarleigh Park Solar Farm – 260 Parfreys Road, Blighty – 90 MW Solar Farm and 88MW/44MWh BESS

Assessment of the of social and economic impacts identify the potential for several cumulative effects, including an increased demand for the workforce, a corresponding rise in accommodation needs, and traffic-related impacts. Cumulative traffic impacts are discussed in **Section 6.15.3.4**. With regard to

cumulative workforce impacts, a worst-case scenario has been calculated, projecting a demand for up to 205 staff across between the projects. To mitigate the potential impacts, project timelines will be developed with consideration of other renewable energy development projects, ensuring the distribution and sequencing of workforce demand to minimise the potential pressures on local resources.

6.15.4 MITIGATION MEASURES

Mitigation measures for cumulative impacts have been addressed in the relevant impact assessments. In addition to the previously discussed measures, the following recommendation is made:

- Maintain ongoing communication with surrounding renewable energy developers and accommodation providers to manage potential cumulative impacts and where possible, coordinate and sequence the workforce.

7. JUSTIFICATION OF THE PROJECT

This section provides a justification and evaluation of the project, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development

7.1 Design of the project

The project design has been carefully designed and informed by the findings of specialist reports completed in relation to the project, to ensure that impacts are avoided and minimised where possible.

Finley BESS will be designed to provide grid flexibility services and will support the efficiency of the electrical network by charging from the grid during periods of low demand and discharging back to the grid during periods of higher demand. It would also have the capacity to charge or discharge when power system services are required to maintain the stability of the broader electricity grid.

The transition to a more renewable and decentralised energy system within the Australian National Energy Market (NEM) is driving a critical need for increased 'firming capacity' to maintain grid stability. BESS developments provide a fast response energy dispatch, making them a key enabler for addressing short term fluctuations in supply and demand caused by variable renewable generation, changing weather patterns and unplanned outages of conventional generators.

Additionally, forecasting and control technologies will allow Finley BESS to be strategically charged and discharged to support peak demand and system reliability, contributing to meeting this need by enhancing the flexibility, resilience, and efficiency of the energy network, consistent with national energy transition objectives.

Several feasible alternatives have been considered (refer **Section 2.4**) have been considered, and it was concluded that proceeding with the project with the current design (Option 4) was the preferred pathway. The development site has been carefully selected to identify a site that is immediately adjacent to the existing Transgrid Finley Substation, located in a way that minimises fragmentation of agricultural land.

The construction schedule for the project will consider the timing of other major projects in the region to ensure that cumulative impacts are minimised.

Where impacts have been identified or are unavoidable, mitigation measures have been identified to mitigate impacts on the local or regional environment. These mitigation measures have been identified throughout the EIS and summarised in **Appendix D**.

7.2 Consistency with the project with the strategic context

The NSW Government has recognised that the NSW electricity system needs to change, acknowledging that traditional generators are ageing and the State's transmission system is congested. Further, electricity prices are putting pressure on households and businesses. This realisation has informed the preparation of Government policies and documents, the provisions of which have filtered to the local scale and informed local plan making.

The project will contribute to the provision of renewable energy in NSW and facilitate private investment in the state's electricity system over the next decade and beyond, a key consideration of the NSW

Electricity Strategy. The BESS has an anticipated lifespan in the order of 20-25 years and will contribute to the NSW Government's three objectives for the electricity system: reliability, affordability and sustainability.

Refer to the detailed discussion at **Section 2.2** of this EIS.

7.3 Compliance with relevant statutory requirements

The project is characterised as SSD as the proposal is for the purpose of electricity generating development works with an EDC of more than $30 million, pursuant to Clause 20 of Schedule 1 of the Planning Systems SEPP.

Pursuant to the LLEP, the project is on land zoned as RU1 Primary Production.

Electricity generating works are permitted with consent in the RU1 land use zone via the Infrastructure SEPP. The BESS is wholly located within the RU1 zoned land, including the proposed transmission line connecting to the substation and the existing and proposed access driveways.

Refer to **Section 4** of this EIS for a detailed discussion.

7.4 Community views

Consultation with the community about the project identified general interest in the project, with limited responses to engagement activities. Of the responses, areas of interest included fire risk, workforce engagement and visual impacts. While four community members attended the information sessions and raised specific concerns relating to potential impacts, the discussions remained balanced and constructive, with attention given to proposed mitigation measures. Similar themes were reflected in responses received through the Social Impact Assessment (SIA) survey, from 20 January until late February and received 20 responses in total.

Refer to **Section 5** of this EIS for a detailed discussion.

7.5 Economic, social, environmental and cumulative impacts

The proposed development is likely to have a net positive economic impact derived from creating local employment opportunities during the construction, operation and decommissioning phases, as well as by contributing to electricity supply from renewable sources and stability. Improved electricity supply and stability are expected to contribute towards downward pressure on electricity prices paid by residents of the local area, as well as by users of the broader electricity network.

The unmitigated social impacts assessed in the SIA resulted in an overall impact significance of low to negligible for negative impacts and medium to high significance for positive impacts. It is expected that the mitigation measures recommended in the SIA will further improve these impacts

With consideration of the specialist reports relating to the project, the project has been sited and designed to minimise environmental impacts. Where environmental impacts cannot be avoided mitigation measures have been included.

A review of the NSW Major Projects Portal and NSW Planning Portal Application Tracker has been completed to identify potentially significant projects within the LGA. Whilst there are a range of projects in development or in operation within the locality of the project, there is limited capacity for the opportunity for cumulative impacts. Refer to **Section 6.15** for a detailed discussion of impacts.

7.6 Compliance monitoring and communication

Throughout construction, mitigation measures will be implemented through the adoption of a Construction Environmental Management Plan (CEMP), which will consist of a range of supporting plans, including but not limited to the following:

- Traffic Management Plan;
- Bushfire Management Plan;
- Soil and Water Management Plan;
- Erosion and Sediment Control Plan;
- Emergency Response Plan;
- Fire Safety Study;
- Emergency Plan;
- Community Stakeholder Engagement Plan;
- Waste Management Plan; and
- Environmental Management Strategy.

Operation and monitoring of the facility would be governed by an adopted Operational Environmental Management and Monitoring Plan (OEMMP), clearly identifying any residual matters requiring ongoing attention during operation. Emphasis will be on monitoring of hazards and environmental impacts and ongoing noise monitoring to ensure ongoing compliance with adopted criteria.

The site is expected to have an operational lifespan of 20-25 years, at that time will either be modified to an extended timeframe or be decommissioned. Decommissioning will be in accordance with the measures outlined in an endorsed Decommissioning Management Plan.

7.7 Key Uncertainties

Due to the extent of technical studies undertaken to inform the project and the mitigation measures proposed to address impacts of the development, there are no uncertainties with the project. All impacts can be adequately mitigated through the location and design of the BESS and on-going management practices and monitoring.

7.8 Public interest

The public interest may be determined by consideration of relevant national, state and local government goals, as well as community priorities, which are expressed through a range of documentation. Relevant strategic documents are considered in **Section 2**.

It also requires the consideration of the principles of ecologically sustainable development, discussed in **Section 7.9.** It has been consistently held through a range of determinations in the NSW Land and Environment Court that the ESD precautionary intergenerational equity principles include

considerations associated with climate change (impact of the development on climate change and impacts of climate change on development).

Mostly recently, the LEC held that the downstream impacts of mining projects, including the burning of fossil fuels for energy production, is a public interest consideration. Namely, in Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7, Preston J stated at 499:

> *Many courts have held that indirect, downstream GHG (greenhouse gas) emissions are a relevant consideration to take into account in determining applications for activities involving fossil fuel extraction or combustion or electricity generated by fossil fuel combustion.*

In summing up, Preston noted that the impacts associated with climate change, among others, were sufficient to justify refusal of the project.

It follows that a project that seeks to provide for improved grid stability and support and encourage the uptake of renewable forms of energy is in the public interest as it reduces the reliance on forms of electricity generation that rely on the consumption and burning of fossil fuels and that negatively contribute to the impacts of climate change as a result. Adoption of forms of development that counter the need for these high impact uses is therefore positive in the context of the ESD principles and is in the public interest.

The proposed development is in the public interest on the basis that it:

- Offers an opportunity for productive and sustainable economic activity within the area;
- Presents an excellent opportunity to the local region to provide local employment opportunities;
- Has been designed with appropriate consideration to social, environmental and sustainability interests of the community;
- Aims to minimises impacts to natural resources through minimising the land required to support energy supply; and
- Assists to reduce reliance on traditional, fossil fuel burning forms of electricity generation, thereby assisting in curbing the long-term impacts of climate change.

7.9 Ecologically sustainable development

The *National Strategy for Ecological Sustainable Development* (NSESD) (Department of Environment and Heritage 1992) defines Ecologically Sustainable Development (ESD) as:

> *using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased (refer website)*

The concept of ESD gives formal recognition to environmental and social considerations in decision-making to ensure the current and future generations can enjoy an environment that functions as well as or better than the environment they inherit.

The core objectives of the NSESD are:

- To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- To provide for equity within and between generations; and
- To protect biological diversity and maintain essential ecological processes and life-support systems.

As outlined in Section 193 of the *Environmental Planning and Assessment Regulation 2021*, the four principles of ESC are listed below. These are discussed in the following sections.

- Precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources

7.9.1 PRECAUTIONARY PRINCIPLE

The precautionary principle states where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a justification for not implementing mitigation measures or strategies to avoid potential impact. This has been held in various decisions in the NSW Land and Environment Court to include considerations associated with climate change (impact of the development on climate change and impacts of climate change on development).

The potential impact from the Finley BESS has been identified in the environmental assessment section of this EIS and all mitigation measures are summarised in **Appendix D**.

The proposal supports improvements to grid efficiency, including the uptake of renewable forms of renewable energy. This assists in reducing the long-term impacts of climate change and is therefore in the public interest. The potential outcome of climate change, being higher temperatures and greater periods of sunlight, also suggests that increasing reliance on renewable forms of energy generation is sustainable.

7.9.2 INTERGENERATIONAL EQUITY

The second principle of ESD is intergenerational equity, such that the present generation should ensure the health, diversity and productivity of the environment are equal to or better for future generations.

All work would be carried out in accordance with the environmental safeguards summarised in **Appendix D** to mitigate potential impact associated with noise and vibration, traffic and transport, drainage and water quality, risk, bushfire, Aboriginal heritage, soils and waste.

The proposal supports the development of sustainable forms of renewable energy and in doing so reduces reliance on traditional forms of electricity generation, including the burning of fossil fuels. This assists in reducing the impacts of climate change and therefore assists in ensuring the health of future generations is protected; the development is therefore in the public interest.

7.9.3 CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY

The third principle of the ESD is conservation of biological diversity and ecological integrity such that ecosystems, species and genetic diversity within species are maintained.

The proposed development has been the subject of a comprehensive assessment in accordance with the provisions of the *Biodiversity Conservation Act 2016* by reference to **Appendix D** and summarised in **Section 6.1**.

The mitigating measures for protecting biodiversity at the site are provided in **Section 6.1.4**.

7.9.4 IMPROVED VALUATION, PRICING AND INCENTIVE MECHANISMS

The final principle of ESD is improved valuation and pricing of environmental resources which establishes the need to determine economic values for services provided by the natural environment such as the atmosphere's ability to receive gaseous emissions, cultural values and visual amenity. The principle is designed to improve methods of carrying out valuation of environmental costs and benefits and use this information when making decisions.

The development of policy to guide pricing and incentive mechanisms in delivering ecologically sustainable development is the responsibility of governments and regulatory stakeholders.

7.10 Site suitability

As outlined throughout this EIS, the site is suitable for the proposed purpose on the basis that:

- The site is within an agricultural area with limited residential receivers;
- The site is not unduly constrained such that the development would result in significant impacts to the receiving environment;
- The site is proximal to existing electrical infrastructure (substation and transmission lines) to meet the objectives of the project and substantial upgrades are not required;
- The co-location with the existing substation, and the proximity to the nearby Finley Solar Farm, ensures that the project would not result in a radical transformation of the locality; and
- The project has been refined to ensure the design and delivery of the project would not lead to unreasonable impacts.

7.11 Conclusion

This EIS has been prepared pursuant to Part 4, Division 4.7 of *the Environmental Planning and Assessment Act 1979* (the EP&A Act), Part 8, Division 5 of the *Environmental Planning and Assessment Regulation 2021* (the EP&A Regulation), *State Significant Development Guidelines – Preparing an Environmental Impact Statement* (DPIE, 2022) and SEARs issued by DPHI on 18 July 2024 in response to the Scoping Report.

An assessment of potential environmental impacts has identified limited minor adverse residual impacts to the environment that would require the implementation of appropriate controls to ensure compliance in accordance with relevant legislation, standards and guidelines. Measures are proposed during both construction and operation to ensure impacts are appropriately managed. These measures would ensure compliance with relevant legislation and any conditions of approval.

8. REFERENCES

Table 11 – References

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APPENDIX A

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Table 12 – SEARs requirements

	Details	Section of EIS where issue addressed
General Requirements	In particular, the EIS must include: > a stand-alone executive summary;	The EIS contains an executive summary at the front of the document that summarises the project, key impacts identified and the compliance of the project with relevant statutory and regulatory provisions. It incorporates a summary of the project justification and draws conclusions about the suitability of the project for approval.
	> a full description of the development, including: • details of construction, operation and decommissioning, including any staging of the development; • a high quality site plan at an adequate scale showing all infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process); • the Project Area (as per Table 1 of the SSD guidelines - preparing an environmental impact statement) and Development Footprint (disturbance area including but not limited to areas for infrastructure, road works, access tracks, defendable space, fencing and temporary laydown); • a high quality detailed constraints map identifying the key environmental and other land use constraints that have informed the final design of the development; and • confirmation if the project is designated development in accordance with the Environmental	The project description is contained within **Section 3** of this EIS and details the project components including the connecting infrastructure necessary to integrate the project into the electricity grid. This section includes a site plan, constraints plan and confirmation of the project's designated development

	Details	Section of EIS where issue addressed
	Planning and Assessment Act 1979 (EP&A Act) and the Regulation;	status under the EP&A Act and Regulation.
	> consistency in information presented in the EIS and all technical reports, including distances, development footprint, project design and infrastructure proposed, construction timeframes and receiver numbers;	**Section 6.**
	> a table of commitments including mitigation measures;	The table of commitments and mitigation measures is included in **Appendix D**.
	> a strategic justification of the development focusing on site selection and the suitability of the proposed site with respect to potential land use conflicts with existing and future surrounding land uses (including existing land use, other proposed or approved energy facilities, major projects, rural/residential development, Crown lands within and adjacent to the project site and subdivision potential);	The strategic justification of the project is detailed in **Section 7.2** of this EIS.
	> a risk assessment of the potential impacts of the development, identifying the key issues for further assessment;	**Section 6.** The potential risks and associated impacts are detailed in **Section 6.10** of this EIS. The full risk assessment is contained within the Preliminary Hazard Assessment in **Appendix M**.
	> an assessment of the likely impacts of the development on the environment, and any other significant issues identified in the above risk assessment, focusing on the specific issues identified below, including: • a description of the existing environment likely to be affected by the development using sufficient baseline data;	**Section 6**

	Details	Section of EIS where issue addressed
	• an assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), including any cumulative impacts of the site and existing, approved or proposed developments in the region and impacts on the site and any road upgrades, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice including the Cumulative Impact Assessment Guideline (DPIE, 2022); • a description and assessment if staging of the project is proposed, including any site mobilisation or pre-construction works • a description of the measures that would be implemented to avoid, mitigate and/or offset the impacts of the development (including draft management plans for specific issues as identified below); and • a description of the measures that would be implemented to monitor and report on the environmental performance of the development;	It is not proposed to stage the development. Mitigation measures are described in **Appendix D** of the EIS. The measures to implement monitoring and reporting on environmental performance is located in **Appendix D**.
	> a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS;	The consolidated summary of commitments is located in **Appendix D** of the EIS.
	> a detailed evaluation of the merits of the project as a whole, having regard to: • the requirements in Section 4.15 of the Environmental Planning and Assessment Act 1979, including the objects of the Act and how the principles of ecologically sustainable development have been incorporated in the design, construction and ongoing operations of the development;	• **Section 4**.

	Details	Section of EIS where issue addressed
	• the suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses; • feasible alternatives to the development and its key components, including siting and project design alternatives to avoid areas of biodiversity value, opportunities for shared infrastructure with proposed developments in the region, and the consequences of not carrying out the development; and • a detailed consideration of the capability of the project to contribute to the security and reliability of the electricity system in the National Electricity Market, having regard to local system conditions and the Department's guidance on the matter.	• **Section 7.10** • Feasible alternatives are considered in **Section 2.4**. • **Sections 2.2** to **2.4**.
	Estimated Development Cost and Employment > Provide the estimated development cost (EDC) of the development prepared in accordance with the relevant planning circular using the Standard Form of EDC Report; > Provide an estimate of the retained and new jobs that would be created during the construction and operational phases of the development, including details of the methodology to determine the figures provided; > The development application must also be accompanied by: • the consent of the owner/s of the land (as required in Section 23(1) of the EP&A Regulation); and • a declaration from a Registered Environmental Assessment Practitioner that the EIS includes the information specified in the Department's Registered Environmental Assessment Practitioner Guidelines.	The number of construction and operational jobs expected with the Finley BESS is considered in **Section 6.14** Economic Impacts in this EIS. Owners Consent is provided under separate cover. The declaration by the Registered Environmental Assessment Practitioner can be found at the front of this EIS.
Key Issues	The EIS must address the following specific matters: Biodiversity – including: > an assessment of the biodiversity values, and the likely biodiversity impacts of the project, in accordance with	Biodiversity impacts are addressed in **Section 6.1**,

	Details	Section of EIS where issue addressed
	Section 7.9 of the Biodiversity Conservation Act 2016 (NSW) (BC Act), having regard to the Biodiversity Assessment Method (BAM) 2020 and documented in a Biodiversity Development Assessment Report (BDAR), unless a BDAR Waiver is issued for the development. The BDAR must: • be prepared using the approved BDAR template; • document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; • assess the impacts associated with all ancillary infrastructure, including the transport route road upgrades; • - include an assessment for serious and irreversible impacts (SAII) in accordance with Section 9.1 of the BAM; • - include a strategy to offset any residual impacts of the development in accordance with the BC Act; and • - be finalised by an accredited assessor as BAM-compliant within 14 days of submission. • unless BCS and DPHI determine the proposed development is not likely to have any significant impacts on biodiversity values;	supported by the BDAR in **Appendix E**.
	> an assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities, scheduled under the Fisheries Management Act 1994, and a description of the measures to minimise and rehabilitate impacts;	No aquatic threatened species, populations or ecological communities occur within the study area.
	> a cumulative impact assessment of biodiversity values in the region from nearby developments; and	Cumulative impacts on biodiversity values are considered in **Section 6.15.3.1**.
	> if an offset is required, details of the measures proposed to address the offset obligations.	Biodiversity Offsets are required and are identified in **Section 6.1.3.1**.
	Heritage – including:	An ACHAR has been prepared for

	Details	Section of EIS where issue addressed
	> An Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site (including impacts from any proposed earthworks, construction works, and road works), and including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements;	the subject site and is included within **Appendix F** of this EIS. Heritage impacts are discussed in **Section 6.2**.
	> evidence of adequate and ongoing consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate and mitigation measures (including the final proposed measures), having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010), including the consultation process within; and	**Section 6.2**. The ACHAR, **Appendix F**, includes the record of engagement with Local Aboriginal Land Council
	> assess the impact to historic heritage having regard to the NSW Heritage Manual.	**Section 6.3**.
	Land – including: > a detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, land contamination, permissibility, strategic context and existing site constraints;	Land capability and impacts of land use in **Section 6.4**, supported by the LUCRA in **Appendix G**. **Section 6.9** addresses land contamination. Strategic context is addressed in **Section 2**.
	> an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: • agricultural land, flood prone land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights (if relevant);	**Section 6.4** supported by the LUCRA in **Appendix G** and the AIA in **Appendix H**.

	Details	Section of EIS where issue addressed
	• a soil survey to determine the soil characteristics and consider the potential for salinity, acid sulfate soils, and erosion to occur; and • a cumulative impact assessment of nearby developments;	
	> an assessment of the compatibility of the development, including any proposed accommodation camps with existing land uses, during construction, operation and after decommissioning, including: • consideration of the zoning provisions applying to the land, including subdivision in consultation with Council (if proposed); • completion of a Land Use Conflict Risk Assessment in accordance with the Department of Industries Land Use Conflict Risk Assessment Guide; and • an assessment of impact on agricultural resources and agricultural production on the site and region	**Section 6.14** addresses accommodation during construction and operation and decommissioning. **Section 4** includes consideration of the statutory land use planning provisions. The LUCRA is in **Appendix G**. The AIA is in **Appendix H**.
	Visual – including a detailed assessment of the likely visual impacts (including night lighting) of all components of the project (including transmission lines, substations and any other ancillary infrastructure) on surrounding residences (including approved developments, lodged development applications and dwelling entitlements) and key locations, scenic or significant vistas and road corridors in the public domain and provide details of measures to mitigate and/or manage potential impacts.	**Section 6.5**.
	Noise – including an assessment of the construction noise impacts (including impacts from proposed road upgrades) of the development in accordance with the Interim Construction Noise Guideline (ICNG), operational noise impacts in accordance with the NSW Noise Policy for Industry (2017), cumulative noise impacts (considering other developments in the area), including (where appropriate): > identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours;	**Section 6.6**. The NIA is in **Appendix J**.

	Details	Section of EIS where issue addressed
	> details of noise monitoring survey, background noise levels and amenity noise levels at the most-affected residential receivers;	**Section 6.6**. The NIA is in **Appendix J**.
	> details of manufacturer specifications for plant and equipment and noise source inventory (demonstrating worst-case modelling of plant and equipment);	**Section 6.6**. The NIA is in **Appendix J**.
	> an assessment of 'worst case' noise emission scenarios;	**Section 6.6**. The NIA is in **Appendix J**.
	> consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area; and	**Section 6.6**. The NIA is in **Appendix J**.
	> details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration impacts following application of these mitigation measures and details of any proposed compliance monitoring programs.	**Section 6.6**. The NIA is in **Appendix J**.
	Transport – including: > an assessment of the peak and average traffic generation, including light vehicles, shuttle buses, heavy vehicles and high risk heavy vehicles requiring escort and construction worker transportation;	**Section 6.7**. The Traffic Impact Assessment is in **Appendix K**.
	> an assessment of the likely transport impacts to the site access route(s), including the above listed vehicles, site access point(s), any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance;	**Section 6.7**. The Traffic Impact Assessment is in **Appendix K**.
	> a cumulative impact assessment of traffic from nearby developments (including mining operations); and	**Section 6.7**. The Traffic Impact Assessment is in **Appendix K**.
	> provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) • a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes),	**Section 6.7**. The Traffic Impact Assessment is in **Appendix K**.

	Details	Section of EIS where issue addressed
	• clear figures of proposed road upgrades (including the site access point), and • road maintenance contributions, and any other traffic control measures.	
	Water – including: > an assessment of the likely impacts of the development (including flooding and flood modelling) on surrounding watercourses (including their Strahler Stream Order), groundwater resources and surface water movements, and measures proposed to monitor, reduce and mitigate these impacts including water management issues;	**Section 6.8**. The Water Impact Assessment is in **Appendix L**.
	> a site water balance for the development;	**Section 6.8**. The Water Impact Assessment is in **Appendix L**.
	> details of water requirements and supply arrangements for construction and operation (including consultation with suppliers);	**Section 6.8**. The Water Impact Assessment is in **Appendix L**. Construction water usage is detailed in **Section 6.8.3.1**.
	> a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with Managing Urban Stormwater: Soils & Construction (Landcom, 2004) and Managing Urban Stormwater: Soils and construction - Volume 2A manual (Landcom, 2008);	**Section 6.9.4.** The Water Impact Assessment is in **Appendix L**.
	> assessing the impacts of the development, including any changes to flood risk and overland flows on-site or off-site, and detail design solutions and operational procedures to mitigate flood risk where required; and	**Section 6.8**. The Water Impact Assessment is in **Appendix L**.
	> where the project involves works within 40 metres of any river, lake or wetlands (collectively waterfront land), identify likely impacts to the waterfront land, and how the activities are to be designed and implemented in accordance with the DPI Guidelines for Controlled Activities on Waterfront Land (2018) and (if necessary) Why Do Fish Need to Cross the Road? Fish Passage	**Section 6.1** and **6.8**. The Water Impact Assessment is in **Appendix L** and

	Details	Section of EIS where issue addressed
	Requirements for Waterway Crossings (DPI 2003), and Policy & Guidelines for Fish Habitat Conservation & Management (DPE, 2013);	BDAR is in **Appendix E**.
	> identification of any flood risk on site having regard to adopted flood studies, the potential effects of climate change and any relevant provisions of the NSW Flood Risk Management Manual; • where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01; • detailed design solutions and operational procedures to mitigate flood risk where required.	**Section 6.8**. The Water Impact Assessment is in **Appendix L**.
	Hazards – including: > Dangerous Goods - a preliminary risk screening completed in accordance with the State Environmental Planning Policy (Resilience and Hazards);	**Section 6.10**. Preliminary Hazard Analysis in **Appendix M**.
	> Battery Energy Storage System - a Preliminary Hazard Analysis (PHA) prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011). The PHA must consider all recent standards and codes and verify separation distances to on-site and off-site receptors to prevent fire propagation and compliance with the Department's Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011). The PHA must consider the effect of bushfires on batteries or other components of the BESS;	**Section 6.10**. Preliminary Hazard Analysis in **Appendix M**.
	> Health – an assessment of potential hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guideline for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields; and	**Section 6.10**. Preliminary Hazard Analysis in **Appendix M**. **Section 7.9.2** for Intergenerational Equity health considerations.
	> Bushfire - identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a BESS would cause a bush fire and	**Section 6.11**.

	Details	Section of EIS where issue addressed
	demonstrate compliance with the RFS Planning for Bush Fire Protection 2019.	The Bushfire Assessment is in **Appendix N**.
	Social – including an assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with the Social Impact Assessment Guideline (DPE, 2023), including consideration of any increase in demand for community infrastructure services, and consideration of construction workforce accommodation.	Social impacts are addressed in **Section 6.13**. The SIA is included in **Appendix O**.
	Economic – including an assessment of the economic impacts or benefits of the project for the region and the State as a whole and provide details of any proposed voluntary benefit sharing programs.	Economic Impacts are addressed in **Section 6.14** and **Section 5.**
	Waste – including > identify, quantify and classify the likely waste stream to be generated during construction, operation, and decommissioning, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste (in consultation with waste facilities, including Council); and	Waste is addressed in **Section 6.12**.
	> provide a waste management plan (as appropriate).	The waste management principles are outlined in **Appendix P**.
Plans and Documents	The EIS must include all relevant plans, diagrams and relevant documentation required under Part 3 of the EP&A Regulation. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include high quality files of maps and figures of the subject site and proposal.	Included where relevant.
Legislation, Policies & Guidelines	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. A list of some of the legislation, policies and guidelines that may be relevant to the assessment of the project can be found at: > https://www.planning.nsw.gov.au/Policy-and-Legislation/Planning-reforms/Rapid-Assessment-Framework/Improving-assessment-guidance;	Relevant guidelines, policies and plans are identified in **Section 2** Strategic Context and **Section 4** Statutory Context. Statutory Compliance is outlined in the

	Details	Section of EIS where issue addressed
	> https://www.planningportal.nsw.gov.au/major-projects/assessment/policies-and-guidelines; and > http://www.environment.gov.au/epbc/publications#assessments.	table in **Appendix C**.
Consultation	> During the preparation of the EIS, you should consult with the relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups, affected landowners and any exploration licence and/or mineral title holders. > In particular, you must undertake detailed consultation with affected landowners surrounding the development, relevant government agencies, including the relevant local Council. The EIS must: > detail how engagement undertaken was consistent with the Undertaking Engagement Guidelines for State Significant Projects (DPIE, 2024); and	**Section 5** outlines the consultation activities.
	> describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, an explanation should be provided.	**Section 5**.

APPENDIX B

DETAILED MAPS AND PLANS

APPENDIX C

STATUTORY COMPLIANCE TABLE

Table 13 - Commonwealth Legislation

Statutory Reference	Pre-Condition	Relevance	Section in EIS
Environment Protection and Biodiversity Conservation Act 1999	Direct or indirect impacts to a Matter of National Environmental Significance (MNES)	The study area is unlikely to be important habitat for EPBC Act listed species, therefore the BDAR states that an EPBC referral to the Commonwealth minister for the environment is not recommended.	**Section 6.1**
Native Title Act 1993	Objective of the Act is to recognise and protect Native Title.	No sites listed on the Native Title register are impacted by the project	**N/A**

Table 14 - NSW Legislation

Statutory Reference	Section/Clause	Pre-Condition	Relevance	Section in EIS
Aboriginal Land Rights Act 1983	Section 36	The NSW Aboriginal Land Council may make a claim for land on its own behalf or on behalf of one or more Local Aboriginal Land Council.	No impacts to land the subject of an Aboriginal land claim as a result of the project	**N/A**
Biodiversity Conservation Act 2016	Section 7.9	Any SSD or SSI application is required to be accompanied by a BDAR unless the Planning and Environment Agency Heads determine that the proposed development is not likely to have any significant impact on biodiversity values.	The proposed development is SSD and has not been assessed by the Planning and Environment Agency Heads. A BDAR is required.	**Section 6.1**

Statutory Reference	Section/Clause	Pre-Condition	Relevance	Section in EIS
Contaminated Land Management Act 1997	Section 11	The EPA may declare any land it believes to significantly contaminated as significantly contaminated land.	An investigation of potential contamination has determined that the site is suitable for the proposed purpose without the need for remediation.	**Section 6.9**
Electricity Infrastructure Investment Act 2020	Section 19	The Minister may declare a renewable energy zone (REZ) by reference to a specified geographical area of the State and a specified generation, storage or network infrastructure (including planned or existing infrastructure).	The development site is not within a REZ.	**N/A**
Environmental Planning and Assessment Act 1979	Section 1.3	Objects of the Act	The proposed development is consistent with each of the Objects of the Act, with the exception of Object (d) which relates to the delivery and maintenance of affordable housing which is not relevant to this proposal.	**N/A**
	Section 4.15(1)	Consideration of the relevant provisions of any environmental planning instruments	> State Environmental Planning Policy (Resilience and Hazards) 2021; > State Environmental Planning Policy (Transport and Infrastructure) 2021; > State Environmental Planning Policy (Planning Systems) 2021; > State Environmental Planning Policy (Biodiversity and Conservation) 2021; and > Berrigan Local Environmental Plan 2013.	**Section 4**

Statutory Reference	Section/Clause	Pre-Condition	Relevance	Section in EIS
		Consideration of the relevant provisions of any proposed environmental planning instruments	No draft environmental planning instruments apply.	**N/A**
		Consideration of the relevant provisions of any development control plans	Development control plans do not apply to SSD by way of clause 2.10 of the Planning Systems SEPP.	**N/A**
		Consideration of the relevant provisions of any planning agreements or draft planning agreements	No planning agreements or draft planning agreements apply.	**N/A**
		Consideration of the relevant provisions of the regulations	Refer next section of this table	**This table**
		Consideration of the likely impacts of the development		**Section 6**
		Consideration of the suitability of the site for the development		**Section 7.10**
		Consideration of any submissions made in accordance with this Act or the regulations	The proponent will be required to prepare a Submissions Report in accordance with Appendix C to the SSD Guidelines following the completion of the mandatory public exhibition period.	**N/A**
		Consideration of the public interest		**Section 7.8**
Environmental Planning and Assessment Regulation 2021	Section 23	Requires the consent of all landowners to be obtained for the making of a Development Application.		**Attached to the EIS submission**

Statutory Reference	Section/Clause	Pre-Condition	Relevance	Section in EIS
Environmental Planning and Assessment Regulation 2021	Clause 192	(1) An environmental impact statement must contain the following—		
		(a) a summary of the environmental impact statement,		**Executive Summary**
		(b) a statement of the objectives of the development, activity or infrastructure,		**Section 7.8**
		(c) an analysis of feasible alternatives to the carrying out of the development, activity or infrastructure, considering its objectives, including the consequences of not carrying out the development, activity or infrastructure,		**Section 2.4**
		(d) an analysis of the development, activity or infrastructure, including—		
		(i) a full description of the development, activity or infrastructure, and		**Section 3**
		(ii) a general description of the environment likely to be affected by the development, activity or infrastructure and a detailed description of the aspects of the environment that are likely to be significantly affected, and		**Section 2.1**
		(iii) the likely impact on the environment of the development, activity or infrastructure, and		**Section 6**
		(iv) a full description of the measures to mitigate adverse effects of the		Throughout **Section 6**

Statutory Reference	Section/Clause	Pre-Condition	Relevance	Section in EIS
		development, activity or infrastructure on the environment, and		and summarised in **Appendix D**
		(v) a list of the approvals that must be obtained under another Act or law before the development, activity or infrastructure may lawfully be carried out,		**This table**
		(e) a compilation, in a single section of the environmental impact statement, of the measures referred to in paragraph (d)(iv),		**Appendix D**
		(f) the reasons justifying the carrying out of the development, activity or infrastructure, considering biophysical, economic and social factors, including the principles of ecologically sustainable development set out in section 193.		**Section 7**
Heritage Act 1977	Section 58	Approval in respect of the doing or carrying out of an act, matter or thing referred to in s 57(1)	No interim heritage order/s or listing/s apply to the site under the State Heritage Register. The proponent will develop a Chance Finds Protocol following receipt of development consent in consultation with Heritage NSW.	**Sections 6.2** and **Section 6.3**
Local Land Services Act 2013			Clearing of native vegetation is dealt with within this application.	N/A

Statutory Reference	Section/Clause	Pre-Condition	Relevance	Section in EIS
National Parks and Wildlife Act 1974	Section 90	Grant of Aboriginal heritage impact permit	The results of the ACHAR indicate that impacts to Aboriginal cultural heritage values are unlikely.	**Section 6.2**
Protection of the Environment Operations Act 1997	Sections 43(a), 43(b), 43(d), 47, 55 and 122	Various environmental protection licences	The proposed Finley BESS is not considered to comprise a scheduled activity under the POEO Act.	N/A
Roads Act 1993	Section 138	Various activities within road reserves	The project will utilise the existing access to Broockmanns Road and will involve two new access points, one to Broockmanns Road and one to Canalla Road. No road upgrades are proposed or required. Approval for the new access points is required under the Roads Act.	**Section 6.7**
Water Management Act 2000	Sections 89, 90 and 91	Water use approval, water management work approval or activity approval under Part 3 of Chapter 3	Dewatering activities during construction of footings may be required. If works are necessary, approval under the Water Management Act 2000 will be required.	**Section 6.8**

APPENDIX D

MITIGATION MEASURES

MITIGATION MEASURES

Summary of Mitigation Measures

Table 15 provides a summary of proposed mitigation measures recommended through this EIS.

Table 15 – Summary of Mitigation Measures for the Finley BESS

Impact	Mitigation Measures
Biodiversity	> Planning the timing of vegetation removal to avoid the breeding seasons of threatened migratory and resident species; > Undertake pre-clearing surveys to determine the presence of resident fauna in vegetation; > Implementation of best practice clearing protocols; > Prior to commencing vegetation clearing, daily site briefings are to occur to identify the development site boundary, the presence of any adjacent remnant vegetation to be retained and methods to relocate habitat features into adjacent habitat; > Clearly demark any vegetation to be retained; > Construction activities are to occur generally during daylight hours minimising light spill and noise disturbance; > Implementation of hygiene protocols. Vehicles, machinery and equipment to be clean prior to mobilisation to site; > Application of herbicides to HTW is to occur as per the NSW Department of Primary Industries guidelines (NSW DPE, 2024.). Spraying is to occur during suitable weather conditions; and > Implementation of best practice erosion management and monitoring.
Aboriginal heritage	> Prior to works commencing a Chance Finds Protocol (CFP) is to be developed for the site. The CFP must include the procedure and management of unexpected finds relevant to Aboriginal cultural heritage. > The CFP must include procedures for: • Notifying Heritage NSW, a heritage consultant and RAPs or the Local Aboriginal Land Council (LALC) where unexpected finds are identified; and • If suspected human remains are located during any stage of the proposed works, work must stop immediately and the NSW Police notified. An Archaeologist or Physical Anthropologist should be contacted in the first instance where there is uncertainty whether the remains are human. > All impacts must remain within the assessed study area or further archaeological investigation may be required.
Historic heritage	Although no historic heritage sites have been identified within or in proximity to the development site and the site has not been assigned heritage significance, there is the potential for unknown archaeological remains to be discovered and encountered during the construction of the BESS.

Impact	Mitigation Measures
	While the potential to discover items of heritage significance is considered extremely low, a precautionary principle applies. Appropriate mitigation measures would be implemented during the construction phase of the project to minimise the potential for adverse impacts in the form of an unexpected finds protocol.
Land	> Compliance with mitigation measures specified in the EIS is anticipated to reduce the risk of land use conflicts; > The reversibility of the project would allow the site to be returned to its existing land use, therefore minimising potential for long term conflict and impacts to future agricultural activities. > Compliance with the following crime management measures is anticipated to reduce the risk of conflict related to the increased risk of vandalism and theft for surrounding residents: • Maintenance of the existing key access point to ensure the delineation between private and public is clear; • Existing boundary fencing is to be maintained and/or installed to ensure site access is controlled; • Appropriate signage should be installed; and • Landscaping is to be maintained to remove opportunities for concealment. > Ongoing consultation with stakeholders will identify and address concerns if they arise; and > Implement all measures specified in management plans identified in the EIS and/or consent conditions (if approved).
Visual	> Plant a landscaping treatment around the perimeter of the Finley BESS site comprising of two (2) staggered rows of fast-growing native tree species, planted at 1.5 m in height, capable of achieving a mature height of up to three (3) metres, to be planted around the perimeter security fencing and maintained for the life of the project. > Abide with AS/NZS 4282:2023 Control of the obtrusive effects of outdoor lighting.
Noise	> Implement community consultation or notification measures regarding noise generating activities; > Ensure workers and contractors are aware of noise management requirements in approvals consents or licenses, site inductions and “toolbox talks” providing a summary of relevant project requirements for reference; > Inform truck drivers of designated vehicle routes, parking locations and acceptable delivery hours or other relevant practices, such as minimising use of engine brakes and avoiding engine idling; > Use broad band reversing alarms on all mobile plant and equipment where possible; > Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine;

Impact	Mitigation Measures
	> Operate plant in a quiet and efficient manner; > Reduce throttle setting and turn off equipment when not being used; > Regularly inspect and maintain equipment to ensure it is in good working order including checking the condition of mufflers; > Avoid unnecessary dropping of materials from a height and metal to metal contact on equipment; > During any work generating high noise levels that have impulsive, intermittent, low frequency or tonal characteristics, consultation with sensitive receptors occurs regularly; and > During works, the applicant will incorporate staff training regarding excessive noise from machinery use the importance of the recommended mitigation measures.
Transport, traffic and access	> No engine breaking is to be utilised when slowing to enter the development site entrance off Canalla Road; > Drivers are not to hold vehicles when exiting the site onto Canalla Road; > Excessive revving of engines is not permitted when exiting the development site; > Trucks are not to stage on surrounding roads prior to entering the development site, adequate staging areas should be provided at the Finley BESS locations; > One sign to be made moveable at Pinch Point 07 – Right Turn Goulburn Valley Hwy & River Rd; > One sign to be made moveable at Pinch Point 16 – Left Turn – Newell Hwy & Riverina Hwy; and > Implementation of the proposed Traffic Management Plan.
Water	> Water supply arrangements are subject to variations in construction methods, staging, quantities, measurements and the attainment of a construction contract for the proposed development. A detailed site water balance will be prepared prior to construction to confirm water requirements and supply arrangements for the proposed development. > To minimise the potential for impacts to existing groundwater, it is recommended, that several shallow bores and/or geotechnical drillholes be drilled across the development site prior to construction to verify existing lithology, depth to water and to attain baseline groundwater quality. > Subject to confirmation of groundwater depths via an on-site investigation during detailed design and the selection of an appropriate construction method (concrete footings or steel piling footings), no groundwater dewatering is anticipated as a requirement to facilitate construction of the development. > Excavations should be limited to depths above the observed groundwater levels. Where deeper excavation is required, the groundwater assessment will be reviewed. > The progression of detailed design for the project should include: • Ongoing consultation with Berrigan Shire Council, Murray Irrigation and other relevant stakeholders to ensure appropriate measures are

Impact	Mitigation Measures
	implemented to minimise localised water impacts, including risks to surrounding land and irrigation networks. • The design of controls to minimise the potential for water impacts (i.e., bunding of areas presenting contamination risks); and • The design of proposed infrastructure including the proposed method for underboring activities developed in ongoing consultation with Murray Irrigation Pty Ltd. Construction Phase: > Prepare a Soil and Water Management Plan (SWMP) prior to construction to detail potential risks and appropriate measures designed in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004). The SWMP will be prepared as part of a Construction Environmental Management Plan (CEMP) to manage potential risks to soils, surface and ground water. Recommended measures for the construction SWMP include but are not limited to: • Measures to minimise and manage the potential for erosion and sediment transport within and from the Project area; • Measures to manage accidental spills and waste storage; • Measures to manage stormwater and the potential for contaminated runoff from the Project site; • Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination; and • Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical. > Stockpiling of any excavated material shall be managed in accordance with the SWMP to minimise the mobilisation and transport of dust, sediment and leachate into downstream environments. Recommended measures to manage stockpiling include but are not limited to: • Ensuring stockpiles are located away from drainage lines, waterways, and areas susceptible to erosion; • Minimising the number, size and duration of stockpiles used; • Ensuring stockpiles are stabilised and implementing dust suppression methods as required; • Ongoing review and inspection of the use of heavy vehicles and/or machinery, including transport tracks used, for erosion risk; and • Ensuring that vehicles transporting waste and/or excavated material are appropriately covered to reduce the potential for dust. > The SWMP shall include procedures to reduce and manage the risk of emergency events and the potential for wastes and spills to contaminate soils, surface and ground water. Recommended measures to manage the potential for contaminated discharge include: • The storage of all fuel chemicals and liquids in sealed bunded areas on level ground away from stormwater drainage lines and waterways;

Impact	Mitigation Measures
	• Ensuring refuelling and maintenance activities are restricted to designated areas with appropriate bunding and spill capture controls; • Implementing controls as part of the construction SWMP that provide procedures to respond to emergencies and spills (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits); • Ensuring visual inspections of drainage lines and disturbed areas are undertaken during construction to assess any potential soil or surface water issues; and • The installation and maintenance of stormwater control measures including drainage networks and bunding that segregate stormwater runoff according to its potential for contamination. During operation procedures shall be developed to reduce the potential water impacts including the contamination of soils, surface and ground water, resulting from wastes, spills and/or emergency incidents. Suggested measures to control the potential for water impacts and contamination during operation include: > The appropriate storage of equipment and hazardous substances during operation; > Ensuring that plant and stormwater control measures are maintained to prevent contamination of soil; and > Preparation of appropriate procedures to response to emergency incidents (i.e., floods, fires), spills and leaks from the development site, including operational equipment and maintenance activities (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits).
Hazards	> BESS units to be tested in accordance with UL9540A; > Testing demonstrates clearances required to prevent propagation of fires between separated units; > BESS units are to be installed in accordance with manufacturer and UL9540A report recommended clearances based on testing; > BESS units to be installed with fire protection systems specified by the manufacturer and UL9540A report; > UL testing information to be made available to the certifying authority; > Vent covers of the BESS shall be constructed of non-combustible materials; > Vents will not be located above battery packs within the BESS container; and > All transformers are to be self-bunded on a skid, otherwise they will require a dedicated concrete bund.
Bushfire	> Design and construction – equipment will be sited in a way that will not contribute to bush fire risk and will minimise the impact of bush fires on the capabilities of the infrastructure during bush fire emergencies by: • Spacing between BESS container accumulations (i.e. 4 containerised units) shall be a minimum of 3 m to prevent fire propagation: > End to end spacing (short side) of BESS containerised units shall be a minimum of 3 m; and

Impact	Mitigation Measures
	> Back to back spacing (long side) of BESS containerised units shall be a minimum of 3 m. • BESS containerised units are provided with the following emergency protection systems as specified by the BESS manufacturer; > Smoke detector sensor; > Heat detector sensor; > Flammable gas sensor; > Off-gassing valve; > Explosion-proof valve; > Water detector sensor; > Fire strobe; > Alarm bell; and > All BESS containerised units can be shut down locally or remotely in an emergency. • Vents shall not be located above battery packs within the BESS container and will be constructed of non-combustible materials. > During construction and for the life of the project, a 10m Asset Protection Zone (APZ) will be provided around project-related infrastructure. Temporary construction and laydown areas, site access and associated fencing do not require specific APZ. The following vegetation management requirements apply in the APZ: • Trees will not be located within the APZ; • Shrubs will not be located within the APZ; • Grass should be kept mown to a height of < 100 mm in height; • Leaves and vegetation debris should be removed to reduce fuel load; • Roads and paved/cleared areas are suitable within the APZ. > Landscape maintenance includes the APZ around infrastructure, the implementation of proposed vegetation screening and the ongoing management of the development site to reduce fire intensity and the rate of spread as it approaches structures in accordance with PBP 2019 and NSW planning guidelines. > On-site static water supply 75,000 L dedicated for firefighting purposes, strategically positioned within the development site and fitted with Storz fittings. > Main vehicular access, internal road network will provide for safe, reliable and unobstructed passage for firefighting vehicles and maintained for the life of the development, including: • The trafficable surface has a minimum width of 4 m with 1 m traversable shoulders; • Minimum vertical clearance of 4 m in height to any overhanging obstructions;

Impact	Mitigation Measures
	• Unsealed/sealed all weather traversable roads will be of suitable load bearing capacity, drainage structures and feature crossings; • Road grade to be less than 10° • Allow for two way traffic flow, enabling safe ingress and egress to the development site. A Bush Fire Emergency Management and Operations Plan (BEMOP) will be prepared to support emergency management for the Finley BESS ensuring bushfire protection mitigation measures are maintained, detailing: > APZ and landscape fuel load management; > Detailed measures to prevent or mitigate fires igniting; > Work that should not be carried out during total fire bans; > Availability of fire-suppression equipment, vehicular access and water; > Storage and maintenance of fuels and other flammable materials; > Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate; > Appropriate bush fire emergency management planning; and > Nominating an emergency meeting point, preferred evacuation route and methodology for ensuring all occupants are safe and accounted for. The BEMOP will be developed in consultation with the local NSW RFS District Office and will be communicated to relevant stakeholders. Regarding bush fire, the threat at the development site is considered low, being possible ember and smoke attack only assuming the APZ is maintained. Further to the requirements of PBP 2019, the applicant will provide: > Ongoing training for all on-site personnel regarding bush fire response procedures; > Firefighting training for operational workers; and > Operational vehicles will be fitted with basic firefighting equipment.
Waste	A Waste Management Plan incorporating all phases of the Finley BESS would be prepared and implemented prior to the commencement of any on-site works. The principles guiding the preparation of the future waste management plan are outlined in **Appendix P**.
Social	Ongoing communication: > Continue engagement with the Council and key stakeholders on the proposal's design, construction activities, benefit-sharing initiatives, and further opportunities to deliver benefits to the local community and maintain a social licence to operate. > Continue presence and consultation in the community during planning stages to increase the perception of influence and foster trust. > Develop and implement a stakeholder engagement and communication strategy so that residents can provide feedback throughout the construction period.

Impact	Mitigation Measures
	> Engage community stakeholders in identifying opportunities to develop a benefits sharing scheme or good neighbour programs. During construction phase: > Develop and implement an operational workforce accommodation strategy before construction that assesses the housing and accommodation environment, identifies potential accommodation and rental market pressures in the local and regional area, and details plans to accommodate the proposed workforce effectively. > Continue engagement with the Council and relevant stakeholders and develop and implement a construction workforce accommodation strategy before construction. > Consider liaising with other significant concurrent projects to understand their peak workforce requirements. Moreover, programming construction works for the proposal should be considered to align with reductions in workforce requirements for concurrent projects. > Engage key stakeholders to inform the development of the procurement plan, which should outline commitments to achieving local content and diversity requirements as required by the relevant State and Federal Government policies. > Identify and assess potential cumulative construction-related impacts associated with other surrounding developments. Mitigation and monitoring measures should be provided for all identified cumulative construction impacts. > Explore programming construction works to align with reductions in workforce requirements for concurrent projects to enhance the potential availability of local workers, which can support the proposal. > Develop a detailed Construction Management Plan that considers concurrent renewable and significant projects, particularly concerning cumulative traffic impacts, and aligning any workforce accommodation plans or employment strategies. During operational phase: > Consider engaging communities in the definition of the community benefit fund to ensure meaningful opportunities to deliver local benefits are identified and implemented to maintain social licence.
Economic	> Develop an AES that includes continuous engagement with local industry representatives that prioritises the use of local contractors, manufacturing facilities, and materials; > Liaison with local representatives regarding accommodation options for staff, to minimise adverse impacts on local services; > Liaison with local tourism industry representatives to manage potential timing conflicts with local events; and > The Applicant or developer will consult with local employment agencies and training organisations and, where practicable, will consider supporting training and apprenticeships.

Impact	Mitigation Measures
Cumulative	Maintain ongoing communication with surrounding renewable energy developers and accommodation providers to manage potential cumulative impacts and where possible, coordinate and sequence the workforce.

APPENDIX E

BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT

APPENDIX F

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

APPENDIX G

LAND USE CONFLICT RISK ASSESSMENT

APPENDIX H

AGRICULTURAL IMPACT ASSESSMENT

APPENDIX I

VISUAL IMPACT ASSESSMENT

APPENDIX J

NOISE IMPACT ASSESSMENT

APPENDIX K

TRAFFIC IMPACT ASSESSMENT

APPENDIX L

WATER IMPACT ASSESSMENT

APPENDIX M

PRELIMINARY HAZARD ANALYSIS

APPENDIX N

BUSH FIRE ASSESSMENT

APPENDIX O

SOCIAL IMPACT ASSESSMENT

APPENDIX P

WASTE MANAGEMENT PRINCIPLES

Finley BESS

Table 16 - Construction Phase

MATERIALS ON SITE		TREATMENT/REUSE/RECYCLING		DISPOSAL
Type of Material	**Description**	**Onsite**	**Offsite**	**Residual**
Excavated material	Excess soil	Stockpile at a suitable location and re-use on site as fill. Stockpiles have suitable temporary erosion and sediment control measures installed.	Any excess to be re-used off-site.	None
Concrete – construction wastes	Surplus pours	Ensure that quantities are correctly estimated prior to pour. Use pre-cast concrete as far as practicable. Crush and use any surplus as fill where possible.	Concrete waste to be separated and collected by concrete recycling contractor.	Dispose any surplus to concrete crushing facility for recycling.
Timber	Packaging from materials delivered	Nil	Recyclable timber to be separated and collected for recycling by recycling contractor.	Any non-recyclable timber.
Metals	Wiring off-cuts, packing straps, steel off-cuts, aluminium off-cuts	Nil	Recyclable metal to be separated and collected for recycling by recycling contractor.	Nil

MATERIALS ON SITE		TREATMENT/REUSE/RECYCLING		DISPOSAL
Plastic/HDPE	Wrap from materials delivered and packaging	Nil	Collection by recycling contractor for recycling	Dispose non-recyclable material to licensed waste disposal facility
Cardboard	Packaging from materials delivered	Nil	Collection by recycling contractor for recycling	Nil
General Waste	Contractors/work force	All waste streams to be separated and recycled	Collection by recycling contractor for recycling	Dispose non-recyclable material to licensed waste disposal facility

Table 17 - Operational Phase

TYPE OF WASTE TO BE GENERATED	PROPOSED ON SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Cardboard packaging / Office paper	Paper and Cardboard to be separated for recycling at source. Paper and Cardboard to be reused where possible, or compacted for recycling.	Recycling contractor for recycling.
Plastic packaging	Bale up on-site. Storage in waste storage and recycling area(s).	Recycling contractor for recycling. Non-recyclable plastics to be disposed as general waste.
Pallets from spare parts	Stored on-site in designated areas suitably screened from public areas.	Supplier for reuse.
Waste/reject product	Storage in waste storage and recycling area(s) or in racks.	Returned to supplier.

TYPE OF WASTE TO BE GENERATED	PROPOSED ON SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Recyclable glass, aluminium, metal, and plastic containers	To be separated at source as far as practicable for recycling by recycling contractor.	Recycling contractor for recycling.
Used Toner Cartridges	To be stored on site for collection by toner supplier.	Toner supplier for recycling.
General waste	To be stored in designated bin(s) screened from public areas	Disposed by licenced waste contractor to licenced waste disposal facility
Waste storage and recycling receptacles to be located nearby all generation sources. Waste storage and recycling bins to be clearly labelled. The site manager or representative would be responsible for maintaining the waste storage and recycling area, for ensuring bins are emptied and collected as required, and for ensuring that no contamination of waste streams is occurring.		

Table 18 - Decommissioning Phase

TYPE OF WASTE TO BE GENERATED	PROPOSED ON SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Batteries	The inverter, transformer and batteries will be removed from the site via a crane onto a semitrailer for e-waste dismantling, recycling, scrapping and safe disposal at an appropriate waste disposal facility. If possible, the transformer can be reconditioned and refurbished for additional service life at another site.	The approach to batteries would be identify opportunities for recycling. A number of opportunities for battery recycling are currently emerging (including the Reclaim PV facility in SA) and it is expected that by the end of life of the BESS that other options will have been developed (noting the significant amount of facilities currently in delivery with similar lifespans as the development site).

TYPE OF WASTE TO BE GENERATED	PROPOSED ON SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Concrete foundations	The concrete foundations of the inverter, transformer will be excavated and the concrete recycled.	Either recycled/reused off site or disposal to a suitable waste facility.
Recyclable glass, aluminium, metal, and plastic containers	To be separated at source as far as practicable for recycling by recycling contractor,	Recycling contractor for recycling.
General waste	To be stored in designated bin(s) screened from public areas and secured from wildlife.	Disposed by licenced waste contractor to licenced waste disposal facility.
Waste storage and recycling receptacles to be located nearby all generation sources. Waste storage and recycling bins to be clearly labelled. The site manager or representative would be responsible for maintaining the waste storage and recycling area, for ensuring bins are emptied and collected as required, and for ensuring that no contamination of waste streams is occurring.		

APPENDIX Q

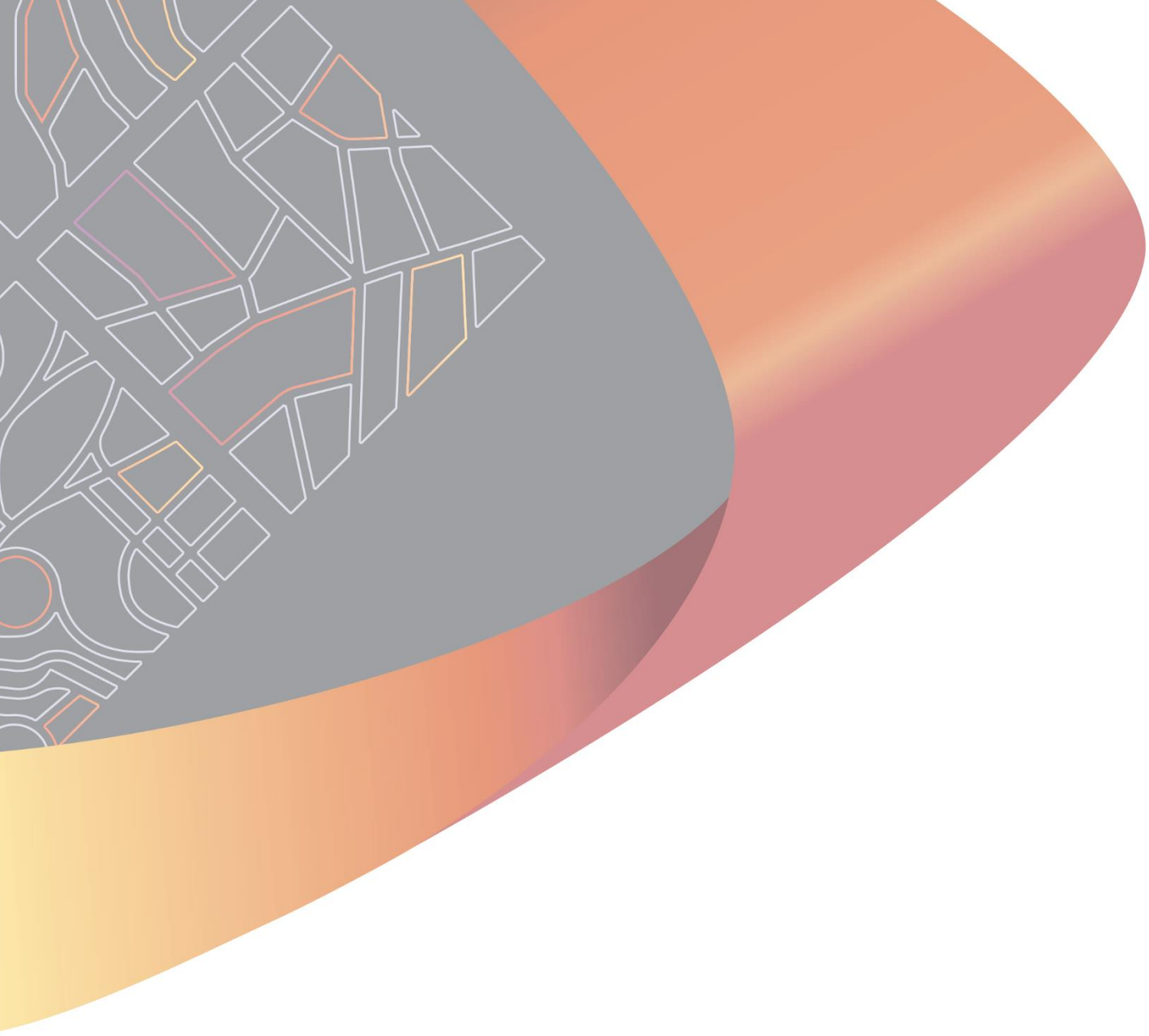
LAND TITLES

APPENDIX R

ENGAGEMENT OUTCOMES REPORT

APPENDIX S

OSOM ROUTE STUDY



Premise