



PREPARED FOR



SAMSUNG C&T

Romani BESS

Environmental Impact Statement

DATE
7 October 2025

REFERENCE
0704056



DOCUMENT DETAILS

DOCUMENT TITLE	Romani BESS
DOCUMENT SUBTITLE	Environmental Impact Statement
PROJECT NUMBER	0704056
DATE	7 October 2025
VERSION	Final
AUTHOR	Rosetta Todaro
CLIENT NAME	Samsung C&T Renewable Energy Australia Pty Ltd

DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		
VERSION	REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENTS
Draft	01	R. Todaro	S. Bennett	L. Baker	13.06.25	Client review
Final	02	R. Todaro, L. Wonhas	S. Bennett	L. Baker	30.06.25	
Final	03	-	S. Bennett	L. Baker	12.08.25	
Resubmission	04	-	-	-	7.10.25	-

Romani BESS

Environmental Impact Statement

0704056



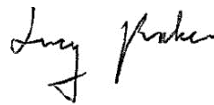
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ACRONYMS AND ABBREVIATIONS

Acronym	Description
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability
AHD	Australian height datum
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method
BC Act	Biodiversity Conservation Act 2016
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BOM	Bureau of Meteorology
BOS	Biodiversity Offsets Scheme
CEMP	Construction Environmental Management Plan
CIA	Cumulative impact assessment
CNVMP	Construction noise and vibration management plan
COP	Conference of Parties
CSEP	Community and Stakeholder Engagement Plan
CTMP	Construction Traffic Management Plan
DCCEEW	Department of Climate Change, Energy, the Environment and Water
EDC	Estimated development cost
EIS	Environmental Impact Statement
EMF	Electromagnetic field
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ERM	Environmental Resources Management Pty Ltd
ESD	Ecologically Sustainable Development
ESOO	Electricity Statement of Opportunities
FAQs	Frequently Asked Questions
FTE	Full Time Employee
HHDDA	Historic Heritage Due Diligence Assessment
ICNG	NSW Interim Construction Noise Guideline
IO	Input-output

Acronym	Description
ISP	Integrated System Plan
LALC	Local Aboriginal Land Council
LCZs	Landscape character zones
LEP	Local Environmental Plan
LFP	lithium-ion phosphate
LGA	Local Government Area
Li-ion	Lithium-ion
LLS Act	Local Land Services Act 2013
LSPS	Local Strategic Planning Statement
LUCRA	Land Use Conflict Risk Assessment
LVIA	Landscape Character and Visual Impact Assessment
MNES	Matters of National Environmental Significance
NEM	National Electricity Market
NIA	Noise Impact Assessment
NML	Noise Management Levels
NPI	NSW Noise Policy for Industry
OEMP	Operations Environmental Management Plan
O&M	Operations and maintenance
OSOM	Oversize Overmass
PBP	Planning for Bushfire Protection 2019
PCT	Plant Community Type
PHA	Preliminary Hazard Analysis
PMF	Probable Maximum Flood
PNTL	Point Noise Trigger Levels
PEC	Project EnergyConnect
PSI	Preliminary Site Investigation
RAPs	Registered Aboriginal Parties
RBL	Rating Background Levels
REAP	Registered Environmental Assessment Practitioner
RET	Renewable Energy Target
REZ	Renewable Energy Zone
RFS	Rural Fire Service
RNP	NSW Road Noise Policy
SEARs	Secretary's Environmental Assessment Requirements

Acronym	Description
SEPP	State Environmental Planning Policy
SIA	Social impact assessment
SLAIA	Soils, Land and Agricultural Impact Assessment
SREA	Samsung C&T Renewable Energy Australia Pty Ltd (the Applicant)
SSAL	State Significant Agricultural Land
SSD	State Significant Development
TECs	Threatened Ecological Communities
TIA	Traffic Impact Assessment
UNFCCC	United Nations Framework Convention on Climate Change
VPA	Voluntary Planning Agreement
WAL	Water Access Licence

GLOSSARY

Term	Description
Project Area	The total Project Area extends over 2 freehold lots. This area encompasses the temporary and permanent disturbance footprints.
Temporary Disturbance Footprint	The Temporary Disturbance Footprint is the area of land that would be temporarily disturbed during the construction of the Project.
Permanent Disturbance Footprint	The Permanent Disturbance Footprint is the area of land subject to permanent disturbance as a result of the Project (until decommissioning and rehabilitation).

REAP DECLARATION

EIS declaration	
Project details	
Project name	Romani BESS
Application number	SSD-67105475
Address of the land	North of Booroorban-Tchelery Road, Booroorban NSW
Applicant details	
Applicant name	Samsung C&T Renewable Energy Australia Pty Ltd
Applicant address	Suite 8.04, Level 8, 227 Elizabeth Street, Sydney NSW 2000
Details of person by whom this EIS was prepared	
Name	Simon Bennett
Address	Level 14, 207 Kent Street Sydney NSW 2000
Professional qualifications	Bachelor of Science (Applied Geography)
Declaration by registered environmental assessment practitioner	
Name	Simon Bennett
Registration number	9239
Organisation registered with	Planning Institute of Australia
Declaration	The undersigned declares that this EIS: • Has been prepared in accordance with 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.
Signature	
Date	07.10.2025



EXECUTIVE SUMMARY

Romani Battery Energy Storage System

ENVIRONMENTAL IMPACT STATEMENT

This summary provides a non-technical overview of the project and assessment outcomes only and should be read in conjunction with the environmental impact statement (EIS) and supporting technical reports.

Sustainability is our business



What is the Project?

The Romani Battery Energy Storage System (BESS) (the Project) would involve the construction, operation, and decommissioning of the Romani BESS and associated infrastructure.

The Project aims to store renewable energy to provide cheap, reliable and clean electricity for homes and businesses in NSW.

The Romani BESS would provide significant economic benefits to the Edward River Council LGA and would support the stabilisation and reliability of electricity supply by storing energy generated by solar, wind and low-carbon alternatives and storing it for release during peak times.

The BESS would be located on land predominately used for agricultural activities and would be located within Booroorban, approximately 44 km southwest of the town of Hay in NSW.

The BESS would be constructed within a fenced compound that would also include the substation, switching station, laydown and construction compound footprint area, and road upgrades occupying an area of approximately 19 ha.

The BESS would use lithium-ion technology with a nameplate capacity of approximately 200 MW / 800 MWh. The BESS would use pre-assembled and pre-tested systems, that may either be segregated into separate Power Conditioning Units and BESS units, or a fully integrated system that includes the battery modules, inverters, thermal management system, circuit breakers, fire protection system as specified by the BESS manufacturer and other controls.

The Project would connect to the existing 220 kV transmission line (X5 transmission line) located along the northern boundary of the Project Area.

**200 MW /
800 MWh**

Capacity

19 Ha

**Development
Footprint**



SAMSUNG C&T

Who we are?

The Applicant, Samsung C&T Renewable Energy Australia Pty Ltd is a global leader in innovative technology and sustainability. SREA is a wholly owned company of Samsung C&T Corporation, Korea.

Samsung has successfully delivered similar renewable energy projects across Europe, Korea, Canada, and the USA. SREA has recently entered the Australian renewable energy market and have been developing solar farm, BESS and other similar projects as a developer.

Project Description



Located on Boooroorban-Tchelery Road, Boooroorban NSW



A centralised large-scale battery energy storage system (BESS) with a capacity of up to 200 MW / 800 MWh



Project Area approximately 21 ha



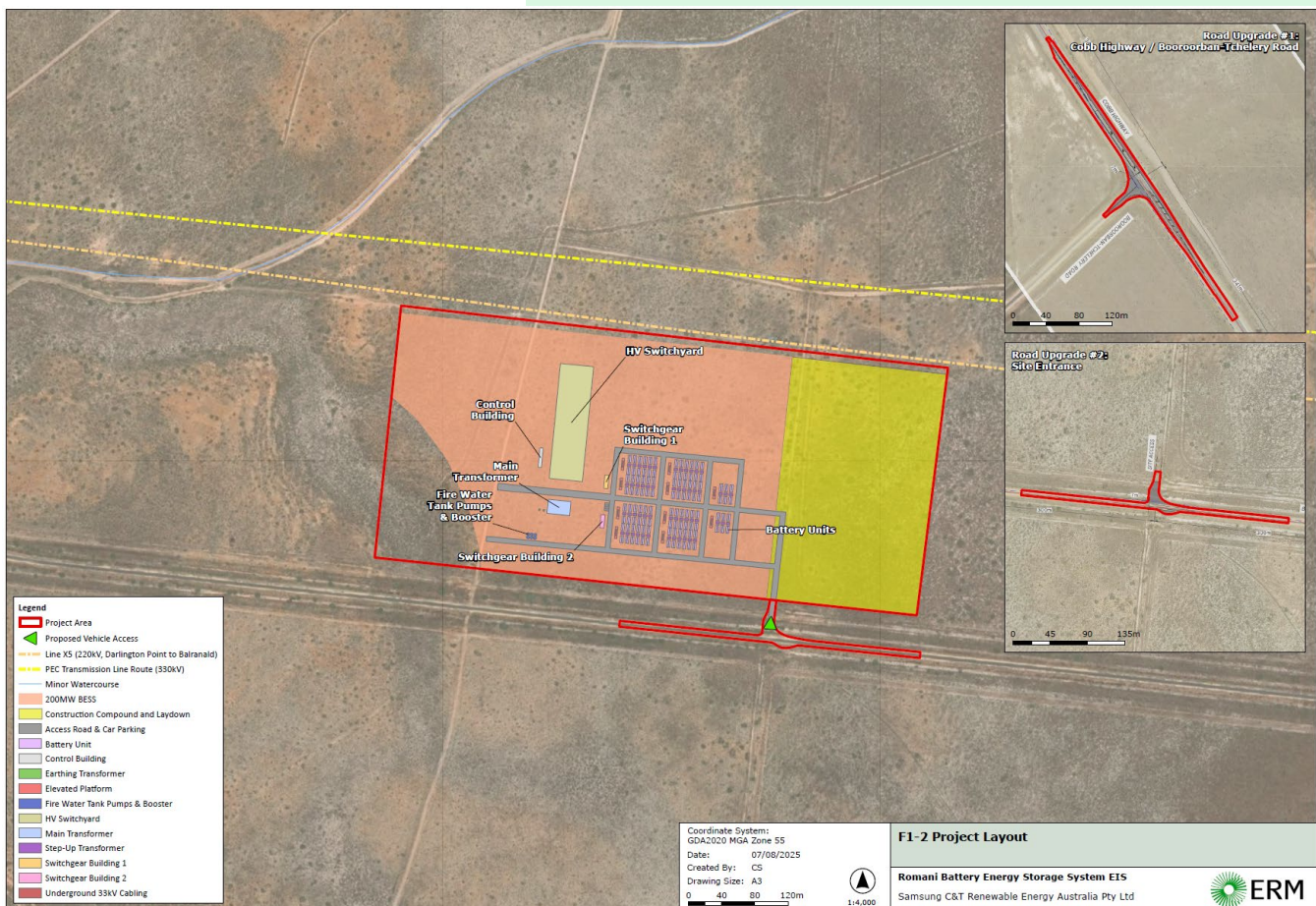
New site access and road upgrades on Boooroorban-Tchelery Road in the south



Temporary construction facilities



Grid connection via existing 220kV transmission line (X5 transmission line)



Why is the project needed?

Both the Commonwealth and NSW Governments have made commitments to increase renewable energy generation and reduce carbon emissions. The Romani BESS would help provide a reliable source of renewable energy storage while also reducing greenhouse gas emissions and the impacts of climate change.

The long-term, regional benefits of the Project:



Minimise adverse environmental impacts through design development and refinement;



Ensure quality, safety and environmental standards are maintained;



Approximately 40 jobs on average during construction, with a peak construction workforce of 80-100 FTEs, plus 56 direct and indirect operational jobs;



Economic benefits to the local economy, through procurement of local goods and services and community benefit programs;



Recycle and reuse materials where practical and economically feasible; and



Establishment of a Voluntary Planning Agreement (VPA) between the Applicant and the Edward River Council.



What is the planning process?

The Romani BESS requires approval under NSW environmental and planning legislation. Under NSW planning legislation, the Project is a State Significant Development (SSD) and therefore requires approval under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

An EIS has been prepared to outline the Project, its potential impacts (positive and negative), how these impacts are proposed to be mitigated, managed and offset.



What is the planning process?



01. Early Consultation

Prior to lodging a development application (DA) for an SSD project, the Applicant must consult with the Department. Following consultation, the Applicant must prepare a Scoping Report to request the environmental assessment requirements (SEARS) for the project.

The SEARS will identify the information that must be included in the Environmental Impact Statement (EIS) for the project and the community engagement that must be undertaken.



02. Prepare EIS

The Applicant must prepare the EIS in accordance with the SEARS.

The purpose of the EIS is to assess the economic, environmental and social impacts of the project and help the community, government agencies and the consent of authority to make informed submissions or decisions on the merits of the project.



03. Exhibit DA

All SSD DAs must be exhibited publicly for at least 28 days.

This acknowledges the importance of community participation in the SSD process and gives the community a right to have a say on these projects before a final decision is made.



04. Respond to submissions

After exhibition, the NSW Department of Planning Housing and Infrastructure (DPHI) will publish all submissions and ask the Applicant to prepare a Response to Submissions Report.

The purpose of the Response to Submissions Report is to respond to the issues raised in submissions and help the consent authority evaluate the merits of the DA.



05. Assess DA

After publishing the Response to Submissions Report, DPHI will assess the merits of the DA in accordance and prepare an Assessment Report.

This may include further community engagement, requesting additional information from the applicant, seeking advice from government agencies' and independent experts and preparing recommended conditions of consent.



06. Determine DA

The Minister of Planning or the Independent Planning Commission will be the consent authority for the DA.

The consent authority must evaluate the merits of the DA having regard to the matters in Section 4.15 of the EP&A Act and may approve the DA subject to modifications or conditions or can refuse it.

Key Strategies to Avoid, Minimise or Offset Impacts



The BESS has been designed in consideration of environmental, social and engineering constraints, including feedback from landowners and the surrounding community. Key drivers to minimise and avoid environmental and social impacts included:

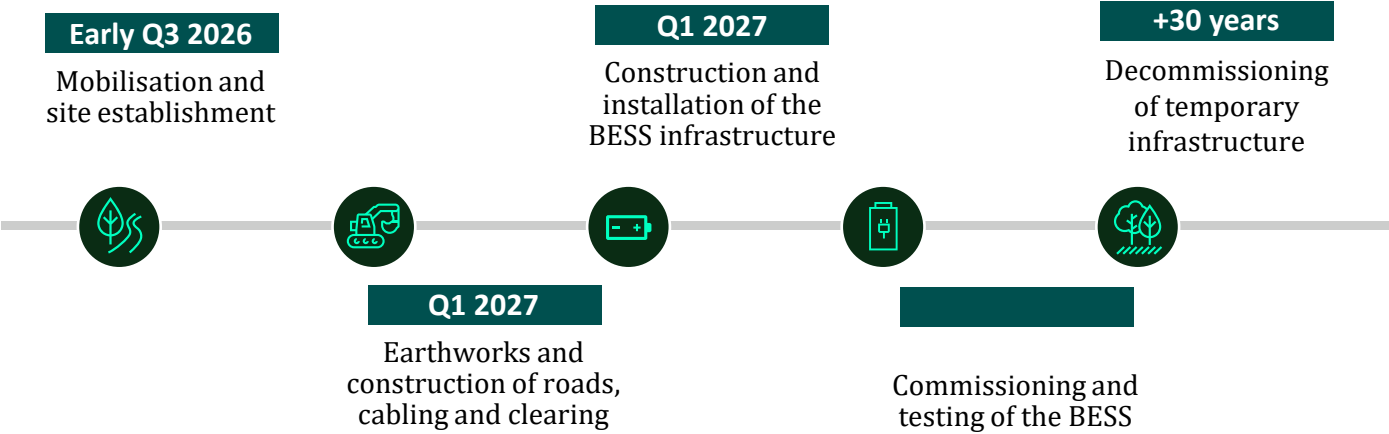
- **Avoid** – in the first instance, all efforts were made to avoid potential environmental and social impacts;
- **Minimise** – where potential impacts could not be avoided, design principles aimed to minimise environmental and social impacts, as far as feasibly possible;
- **Mitigate** – mitigation strategies will be implemented to manage the extent and severity of remaining environmental and social impacts; and.
- **Offset** – environmental and social offsets will only be used following all efforts to first avoid, minimise and mitigate environmental impacts.



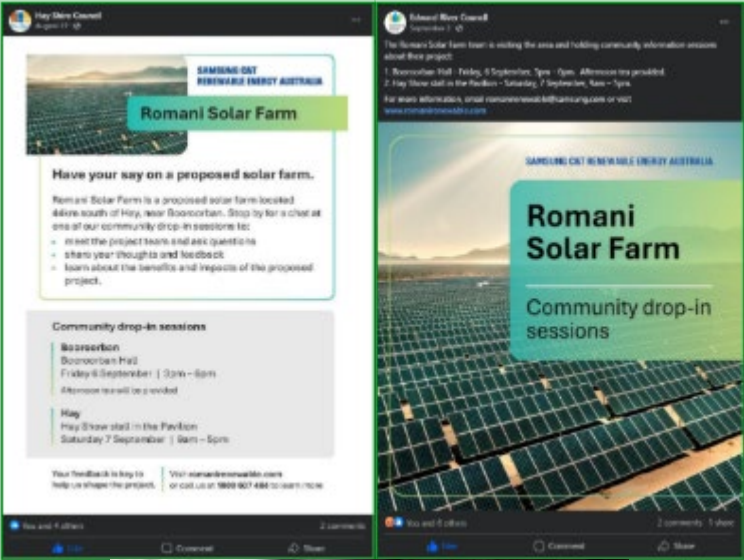
Key Design Principles Included:

- **Transmission line:** The BESS required to be placed on the southern side of the X5 transmission line so the BESS could be connected to transmission without having to cross the Project EnergyConnect (PEC) transmission corridor;
- **Flooding:** The BESS was sited to avoid the flooding areas and to provide a 40m setback to waterfront land;
- **Noise:** The noise modelling from the Hybrid Project determined that the BESS be required to be placed a sufficient distance from the residential receivers R7 and R9 (to the south) to comply with the Noise Policy for Industry; and
- **Heritage and Biodiversity constraints:** The updated Project layout avoids areas of high biodiversity value native vegetation and habitat, and sites of Aboriginal cultural heritage significance identified during site surveys conducted by ERM. All Project infrastructure is located within the southern portion of the Project area, located on low biodiversity value land away from environmental sensitivities.

Development Timeline



Community and Stakeholder Engagement



SREA recognises that individual communities are both diverse and unique. Across their renewable energy portfolio, they work closely with local communities to deliver projects that leave a positive, long-term impact in the regions they operate. SREA is committed to ensuring public concerns and comments are considered, and that attempts are made to avoid, minimise or mitigate potential impacts where possible. Engagement was conducted in accordance with International Association of Public Participation (IAP2) Quality Assurance Standard as the engagement best practice guideline.

A large number of engagement interactions have been recorded since Project inception. These engagement have been through letters, face-to-face meetings, community drop-in sessions, phone calls, emails and meetings.

Ongoing engagement with the community and all stakeholder groups is planned through construction and operations, with all interactions to be recorded in SREA's stakeholder database.

Project collateral will be updated and refined as the Project moves through the stages, to ensure up-to-date and accurate information is always available.

Biodiversity Impacts

During the preparation of the BDAR, the design of the Project has evolved to avoid impact on biodiversity features, including complete avoidance of the following species: The Southern Bell Frog (*Litoria raniformis*), Little Eagle (*Hieraaetus morphnoides*); Masked Owl (*Tytonovaehollandiae*); White-fronted Chat (*Epthianura albifrons*); Chariot Wheels (*Maireana cheelii*); Lanky Buttons (*Leptorhynchus orientalis*); Slender-darling Pea (*Swainsona murrayana*); and Winged Peppercress (*Lepidium monoplocoides*).

The development footprint comprises 18 ha of native vegetation cover in three plant community types (PCT). No Threatened Ecological Communities (TECs) are present within the Project Area.

The Project requires ecosystem credits for PCTs 157, 163 and 164 to offset the direct impacts of the Project:

- 14.15 ha of PCT 164 (Moderate);
- 1.86 ha of PCT 164 (Seasonally moist);
- 1.71 ha of PCT 164 (Heavily grazed);
- 0.05 ha of PCT 157 (Roadside); and
- 0.12 ha of PCT 163 (Intersection).

No prescribed impacts or residual indirect impacts are deemed to occur within the Project Area.

A burr-daisy (*Calotis moorei*) has been assumed present across 0.12 ha within the Development Footprint due to a lack of survey effort within areas of associated PCTs. An assessment of SAI has been conducted for the species.



During the preparation of the EIS, the Project has been subject to an ongoing iterative design and siting process with the objective of developing an efficient Project that avoids and minimises environmental impacts. The Project layout has considered identified environmental constraints, notably the occurrence of high biodiversity values to the north and outside of the Subject Land. Native vegetation with high vegetation integrity comprising threatened species (both ecosystem and species credit species) have been avoided.

Where the potential for impacts could not be avoided, design principles were sought to minimise environmental impacts and/ or mitigation measures were proposed to manage the extent and severity of any residual impacts. Impacts to high biodiversity value land and known threatened species have been avoided.

Aboriginal Cultural Heritage

ERM and SREA would like to acknowledge the Traditional Owners and pay respects to their Elders past, present, and emerging. We acknowledge and respect their Indigenous knowledge systems and recognise continuing connection to lands, waters, culture, and community.

The Project Site is located within the Deniliquin Local Aboriginal Land Council (LALC) area. An Aboriginal cultural heritage assessment has been prepared by ERM to assess the potential impacts of the Project on Aboriginal cultural heritage.

Aboriginal cultural heritage values for the Project Area were identified through a combination of desktop assessment and consultation undertaken during the field surveys and preparation of the report. Archaeologists were accompanied by registered Aboriginal parties (RAPs) on each day of the survey, including representatives from Deniliquin LALC.

There are no sites or items of Aboriginal heritage within the Project Area. However, there is the potential for unexpected finds of Aboriginal heritage significance during the construction of the Project.

Proposed key measures to manage and mitigate impacts to the unexpected finds of Aboriginal heritage sites include:

- Where required, a buffer of 100-200 m would be maintained to preserve and manage Aboriginal sites and cultural heritage values; and
- An Aboriginal Cultural Heritage Management Plan (ACHMP) would be developed to record and describe the processes and procedures required to be implemented regarding Aboriginal cultural heritage prior and during the construction and operational phases of the Project in consultation with the RAPs.



Landscape and Visual

The Landscape Character and Visual Assessment considered the potential visual impacts on public receptors within 2.5 km and private receptors within 4 km from the Development Footprint. There were three Landscape Character Zones within a 5 km radius that were assessed to have landscape character impact ratings of Very Low to Low.

Visual impact to private receptors

Field investigations identified two sensitive residential receivers with 2.5km radius of the Project Area. The assessment further determined that one of the seven public viewpoints identified, PVP07, required an intermediate assessment. The intermediate assessment determined that all dwellings and PVP07 would have a low visual impact rating.

Associated Infrastructure

Due to the relatively low scale and siting of the Project, access roads, transmission lines and other ancillary infrastructure are unlikely to alter the existing visual landscape outside of the immediate vicinity. The undulating topography and existing intervening elements also provide visual screening, with overall visual impact is considered low.

Night lighting requirements would generally be limited to low-level security lighting, maintenance and emergency purposes, primarily within the substation and operations & maintenance facility. The proposed ancillary infrastructure has been carefully sited to minimise visibility from existing visual receptors, and therefore night lighting is not anticipated to create a noticeable impact on the existing night time landscape.

The Project would consider good design principles and best practice guidelines to significantly reduce visual impacts associated with the Project and associated infrastructure. This includes minimal colour contrast, infrastructure height, and lighting practices.



Noise

Background noise levels in rural areas, such as the area surrounding the Project, are typically low. There are two sensitive noise receivers within 2 km of the Project, with the closest being about 800 m from the Project boundary.

Based on assessment against the noise criteria provided by the Noise Policy for Industry and the Interim Construction Noise Guidelines, there is potential for construction noise impacts to be experienced by nearby sensitive receivers. It is noted the highest construction noise impact would only be experienced for a short duration when activities are closest to the receivers. Although construction noise may be audible, the noise impact to residents and other noise sensitive receivers surrounding the site can be managed.

Predicted operational noise levels are unlikely to be exceeded at any receivers.

Mitigation measures have been provided to manage and mitigate construction noise, construction traffic noise and operational noise.



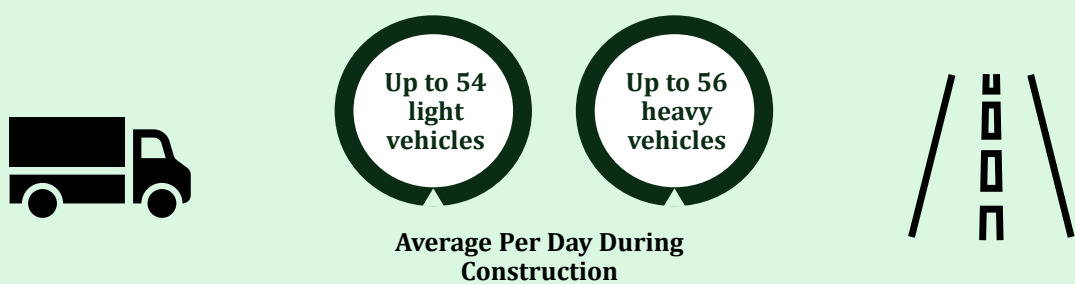
A Draft Construction Noise and Vibration Management Plan has been prepared and includes noise mitigation and management measures.

Transport

Traffic accessing the BESS is proposed via a connection via Booororban-Tchelery Road. The Project materials are expected to be delivered from the Port of Geelong and/or the Port of Melbourne.

- It is anticipated that during peak construction, the Project could generate up to 56 heavy and 54 light vehicle movements per day. The average traffic movements during construction would be up to 28 heavy and 34 light vehicle movements per day;
- It is advised that three High Risk Oversize Overmass (OSOM) vehicles would be required during the construction period for the transport of transformers and would travel outside of peak periods;
- During operation, the Project is expected to generate a minimal level of traffic associated with maintenance and operation services. The Project is expected to be operated by up to 3-5 maintenance staff resulting in minimal traffic generation;
- Based on the assessment of the State Road intersections impacted by the Project, it was identified that a Basic Left (BAL) and Short Channelised Right (CHR(s)) turn treatment is required at the Cobb Highway / Booororban-Tchelery Road intersection to comply with the requirements of the Austroads Guide. A concept plan has been prepared for the proposed intersection upgrade which has been designed for simultaneous B-double movements and the largest OSOM vehicle expected to access the site;
- A swept path assessment of the site access location demonstrates that vehicles can suitably turn to/from Booororban-Tchelery Road; and
- The sight distance available at the access location exceeds the Austroads requirements given the relatively flat and straight alignment of the road network with vegetation generally limited to low-level ground cover.

Prior to the commencement of construction, a Traffic Management Plan (TMP) would be prepared in consultation with Transport for NSW and Edward River Council to make sure road safety and road network operations are maintained. A community information and awareness program would be implemented prior to construction to assist in managing the traffic impacts.



Road upgrades would be provided as part of the Project which are to be constructed prior to construction.

The turning treatments proposed include a short CHR and a BAL treatment at the site access location on Booororban-Tchelery Road to accommodate potential cumulative impacts with nearby projects.

Flooding



The Project Area is located within the Murrumbidgee catchment area as part of the broader Murray Darling catchment. There is a dominant surface water feature within proximity to the Project, named The Forest creek, located around 700 m south-east of the Project Area boundary. There is one unnamed mapped ephemeral waterbody located within the south-western corner of the Project Area. Existing irrigation drains and dams are mapped surrounding the Project area and have an undefined Strahler classification. Key findings of the flooding and hydrology assessment include:

- Local impacts up to 50 mm are predicted in both the 1% AEP and PMF events. These impacts extend outside of the Project Area. The 5% AEP event predicts negligible impacts around the Project Area;
- The flood hazard in the Project Area is generally classified as H1 (generally safe for vehicles, people and buildings). The PMF event continues to report H3 (Unsafe for vehicles, children and the elderly);
- The Project would have potential to impact surrounding properties in the 5%, 1%, 0.5%, 0.2% AEP and PMF events. It is noted that these impacts are limited to adjacent farmland and no residential dwellings or buildings are affected; and
- The only external impacts are potential minor increases to flood depths (by 0.01 m in the 5% AEP) across Denman Road. Denman Road is typically used by vehicle traffic and not pedestrians and a 0.01 m increase is therefore considered minor.

Soils and Agriculture



The Project Area is currently used for small scale cattle grazing. Key findings of the Land and Agricultural Impact Assessment include:

- **Agricultural Land:** The Project Area contains Land Soil Capability Classes 6 and 7 land. There is no Biophysical Strategic Agricultural Land within the Project Area. The Project would temporarily remove 18 ha of land currently used for small scale cattle grazing, which would be returned to the current level of agricultural productivity following decommissioning;
- **Agricultural Productivity:** The annual productivity of the Project Area is estimated up to \$18,144, which would be lost as a result of the Project. This is considered negligible compared to the overall agricultural activity of the Riverina region;
- **Erosion and Sedimentation:** Project construction activities have the potential to lead to erosion and sediment impacts due to removal of groundcover and minor changes to flow paths. However, due to the flat nature of the landform, the risk of erosion and sedimentation impacts on agriculture as a result of the Project is low; and
- **Land Use Conflict Risk:** three items that could represent a potential moderate impacts to surrounding agricultural land uses and activities were identified, including biosecurity breaches, risk of fires occurring at site and poor rehabilitation outcomes and the resulting long term environmental and agricultural consequences.

A Construction Environmental Management Plan, Operational Environmental Management Plan and Erosion and Sedimentation Control Plan would be implemented during the construction and operation of the Project to manage hydrology and flooding impacts and soil and agriculture impacts.

Social Impacts

The key drivers of social change as a result of the Project are generally positive and include:

- Procurement opportunities for Local/Regional Businesses and employment opportunities for the local workforce;
- Disruptions due to construction related activities (noise, dust, transportation of materials and workers, etc.);
- Accommodation arrangements for construction workforce; and
- Amenity (noise, visual) and other land use and landscape changes due to altered landscapes.

A range of social management and mitigation measures to be adopted for the Project. A Voluntary Planning Agreement with the Edward River Council is proposed and would be implemented prior to construction of the project.



Economics

The construction and operation of the Project would have net positive impacts on the level of economic activity in the regional and NSW economy. SREA proposes to work in partnership with Edward River Council and the local community so that, as far as possible, the benefits of the projected economic growth in the region are maximised and impacts minimised.

Annual direct construction employment from the Project is estimated at 40 FTE workers, and 80-100 FTE during peak construction. The annual construction impacts of the Project on the regional economy and the NSW economy (during the 20-month construction phase) are estimated at up to:

Regional Economy

- \$23M in direct and indirect output.
- \$8M in direct and indirect value-added.
- \$5M in direct and indirect household income.
- 56 direct and indirect jobs.

NSW Economy

- \$49M in direct and indirect output.
- \$21M in direct and indirect value-added.
- \$13M in direct and indirect household income.
- 137 direct and indirect jobs.

The construction of the Project would create demand for regional labour resources and regional inputs to production. However, this is not expected to lead to any significant impacts on regional wages or prices. The Project is estimated to make the following maximum total annual contribution to the regional economy and the NSW economy during operation:

Regional Economy

- \$7M in direct and indirect output.
- \$2M in direct and indirect value-added.
- \$1M in direct and indirect household income.
- 10 direct and indirect jobs.

NSW Economy

- \$10M in direct and indirect output.
- \$4M in direct and indirect value-added.
- \$2M in direct and indirect household income.
- 21 direct and indirect jobs.

Hazards



Bushfire

Bushfires have occurred in most years in this district, and natural ignitions such as lightning strikes are likely and historically common across the region. Human induced ignitions (both accidental and arson) are also known to occur across the region.

The risk that the BESS itself would cause a fire is considered low given the application of appropriate protection measures.

The Project Area is currently in Vegetation Category 3 bushfire prone land within the current NSW bushfire prone land mapping. For this reason, we have considered these as a bushfire hazard and the following mitigation measures would be implemented:

- A Bushfire Emergency Management and Operations Plan would be prepared in conjunction with relevant stakeholders, including NSW RFS, NSW Fire and Rescue, landowners and adjoining property owners;
- A minimum 6 m APZ would be established around the perimeter of the BESS, and on all sides of the substations, switching station, and O&M Buildings;
- The APZ and access road would be constructed prior to the installation of any BESS modules or related infrastructure;
- A dedicated water supply with appropriate access would be established at the site to assist in the event of a fire. Any static water storage tank(s) must be capable of being completely refilled automatically or manually within 24 hours; and
- Vegetation fuels throughout Project Area would be maintained in a minimal condition by grazing, or with additional slashing or mowing if required.



Battery Storage

There are no dwellings immediately adjacent to the Project Area. The potential for Electric and Magnetic Fields (EMFs) to exceed acceptable levels is considered to be negligible.

The BESS would use lithium-Ion phosphate (LFP) batteries which do not cause fire, but there can be circumstances where battery modules catch fire due to leaking coolant or electric faults. In those cases, fire would be constrained by the stainless-steel enclosure and the built-in fire protection devices and would not transfer and propagate to nearby containers.

Land Contamination

A review of publicly available records was conducted to ascertain the potential for current and historical land contaminating activities. This included a review of public databases such as the EPA Contaminated Land Register, related documents such as the Historical Heritage assessment, and aerial photographs to survey for historically contaminating activities.

These reviews concluded that the potential for land contamination on site is very low.

Conclusion

The Project would contribute significantly to reducing carbon emissions and human induced climate change as part of the necessary and ongoing clean energy transition from fossil fuels. The Project has been carefully designed and sited to minimise environmental impacts in consultation with the local community and relevant stakeholders. The residual environmental and social impacts identified throughout the EIS, and technical assessments would be managed through the proposed mitigation and management measures.

The Project would not result in significant impacts on the environment, or the local community and these impacts would be significantly outweighed by the strong strategic and economic benefits which the Project would deliver. The Project would:

- Assist the Federal and NSW Governments to fulfil their targets and policies to increase renewable energy supply and reduce carbon emissions;
- Assist in meeting energy demand as part of the market transition from traditional energy sources; and.
- Deliver economic benefits to regional and local communities.

The Project represents a positive addition to the local and wider NSW economy and the NEM. Through the implementation of proposed mitigation and management measures, it is considered that this Project is consistent with the objects of the EP&A Act and is in the public interest.



1. INTRODUCTION

This Environmental Impact Statement (EIS) has been prepared for Samsung C&T Renewable Energy Australia Pty Ltd (SREA) (the Applicant) to assess the environmental impacts relating to the development of the Romani Battery Energy Storage System (Romani BESS) (the Project) at Boooroorban, NSW.

The Project is situated north of Boooroorban-Tchelery Road, Boooroorban NSW. The Project is wholly located within the Edward River Council Local Government Area (LGA). The Project Area is approximately 21 ha and is currently used for agricultural activities such as livestock grazing.

The Project proposes to construct and operate a BESS with an anticipated storage capacity of up to 200 megawatts (MW) / 800 megawatt hours (MWh), with grid connection to the existing 220 kV transmission line (X5 line) that is adjacent to the northern boundary of the Project. Road upgrades are proposed at the intersection of Cobb Highway and Boooroorban-Tchelery Road and at the site entry on Boooroorban-Tchelery Road. The Project also includes the decommissioning and rehabilitation of the land at the conclusion of the Project's life.

The Applicant is seeking State Significant Development (SSD) consent under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Project. Environmental Resources Management Australia Pty Ltd (ERM) have prepared this EIS on behalf of the Applicant to support the SSD application for the Project.

1.1 THE APPLICANT

Samsung is a global leader in innovative technology and sustainability. Samsung has successfully delivered similar renewable energy projects across Europe, Korea, Canada, and the USA. SREA has recently entered the Australian renewable energy market and have been developing solar farm, BESS and other similar projects as a developer. SREA is a wholly owned company of Samsung C&T Corporation, Korea.

The Applicant details are listed below:

- **Applicant name:** Samsung C&T Renewable Energy Australia Pty Ltd;
- **Address:** Suite 8.04, Level 8, 227 Elizabeth Street, Sydney NSW 2000; and
- **ABN:** 74 661 046 331

1.2 PROJECT OBJECTIVES

The Project has the following social, environmental, and economic objectives:

- Support the transition in the energy sector away from a centralised system of large fossil fuel generation, towards a decentralised system of renewable energy production;
- Provide alternative, renewable energy production to offset the forecast retirement of coal-fired power stations in NSW;
- Contribute to meeting the increasing energy demand in NSW and throughout the National Electricity Market (NEM);
- Provide dispatchable energy through the grid scale BESS components;
- Contribute to NSW state and Australian Government's renewable energy targets;

- Create employment opportunities for the local community which would deliver economic benefits;
- Minimise environmental to areas of high biodiversity and Aboriginal cultural heritage value through design development;
- Collaborate with other renewable energy developers to identify opportunities to reduce combined disruption as well as community fatigue from renewable projects; and
- Undertake early and meaningful engagement with the local community and other Project stakeholders.

1.3 PROJECT OVERVIEW

The Project is situated north of Booororban-Tchelery Road, Booororban NSW and is wholly located within the Edward River Council LGA. The Project Area is approximately 21 ha over 2 freehold lots and is currently used for agricultural activities such as livestock grazing. The Project Area and the Project Locality are shown in **Figure 1-1**.

The Project would involve the construction, operation, and decommissioning a BESS and associated infrastructure. The BESS would have a storage capacity of 200 MW / 800 MWh and would connect to the electricity grid through the existing Transgrid 220 kV transmission line (X5 line) to the north of the Project Area. Road upgrades are proposed at the intersection of Cobb Highway and Booororban-Tchelery Road and at the site entry to accommodate turn movements of oversized and overmass (OSOM) vehicles.

The Project layout assessed in this EIS is shown in **Figure 1-2**. The development footprint is approximately 19 ha. This includes a temporary disturbance footprint of approximately 6 ha including the construction compounds, laydown area and car parking, a permanent disturbance footprint of approximately 12 ha, which includes the BESS, substations, associated infrastructure, internal access road, and approximately 1 ha for road upgrades at the site entrance and at the intersection of Booororban-Tchelery Road and Cobb Highway.

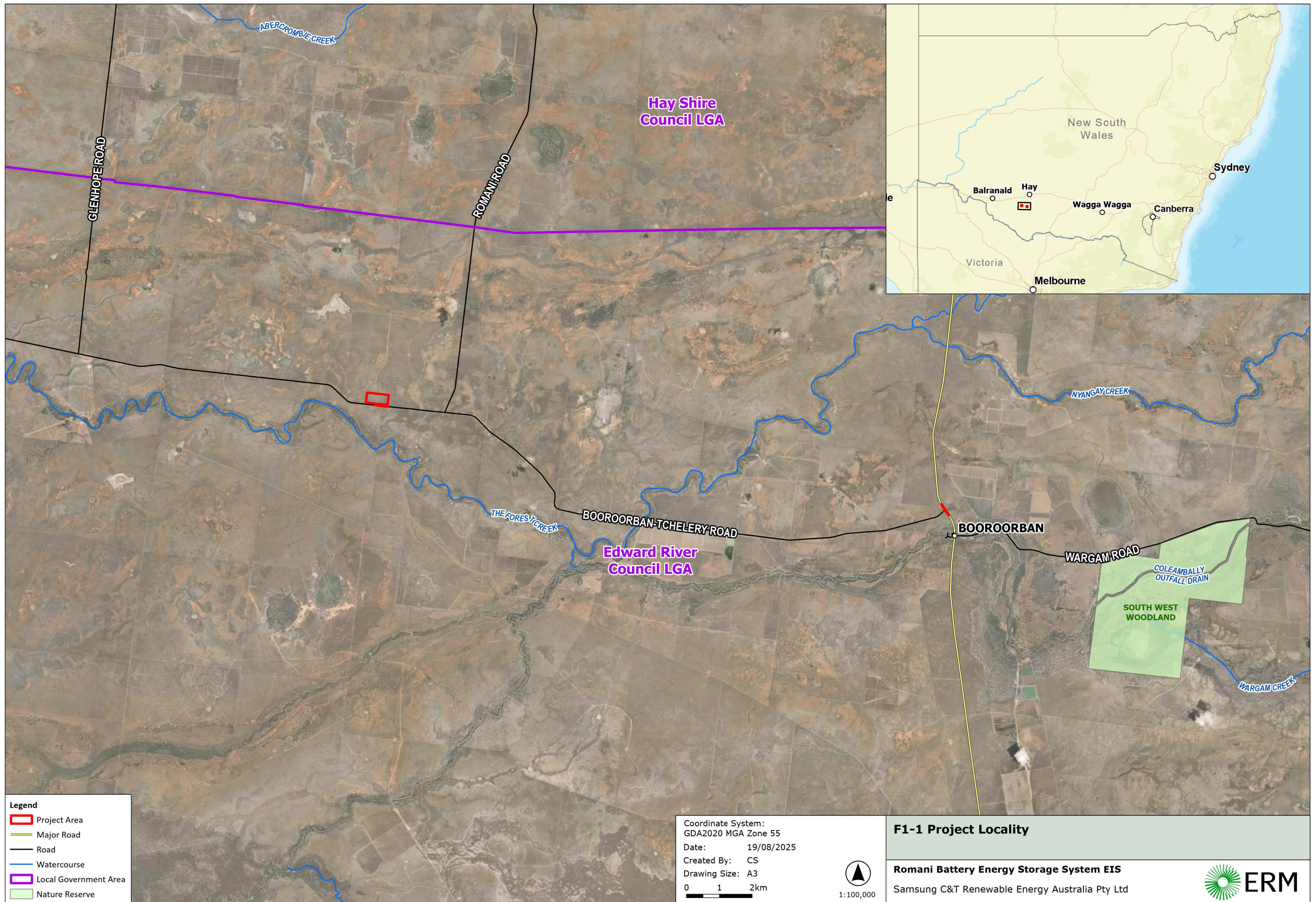
1.4 PROJECT BACKGROUND

The Applicant initially proposed to construct and operate a 250 MW solar farm and a 150 MW / 600 MWh BESS and associated infrastructure that could be connected to either the X5 transmission line or Project Energy Connect (PEC). The solar farm and BESS had an indicative development footprint of 870 ha. Consultation with the host landowner commenced in 2022 and preliminary studies were completed in 2023. A Scoping Report was lodged with the Department of Planning, Housing and Infrastructure in January 2024 and the Secretary's Environmental Assessment Requirements were issued 1 March 2024.

Subsequently, the project was amended in August 2024 to include a second BESS located along the Booororban-Tchelery Road frontage of the property. The second BESS would have a storage capacity of 200 MW / 800 MWh and be connected to the X5 transmission line. In September 2024, DPHI confirmed the revised project did not require updates to the SEARs. Community and stakeholder engagement commenced at this time, as did the preparation of technical studies for the EIS.

In May 2025, the project was further amended and removed the solar farm and associated BESS components (the Applicant may propose these components again in the future subject to a separate application).

An Amended Scoping Report was submitted. The Project comprises the construction, operation and decommissioning of a BESS with storage capacity of 200 MW / 800 MWh with grid connection to the existing 220 kV transmission line (X5 line). Amended SEARs were issued on 19 June 2025.



Legend

- Project Area
- Major Road
- Road
- Watercourse
- Local Government Area
- Nature Reserve

Coordinate System:
GDA2020 MGA Zone 55

Date: 19/08/2025

Created By: CS

Drawing Size: A3

0 1 2km

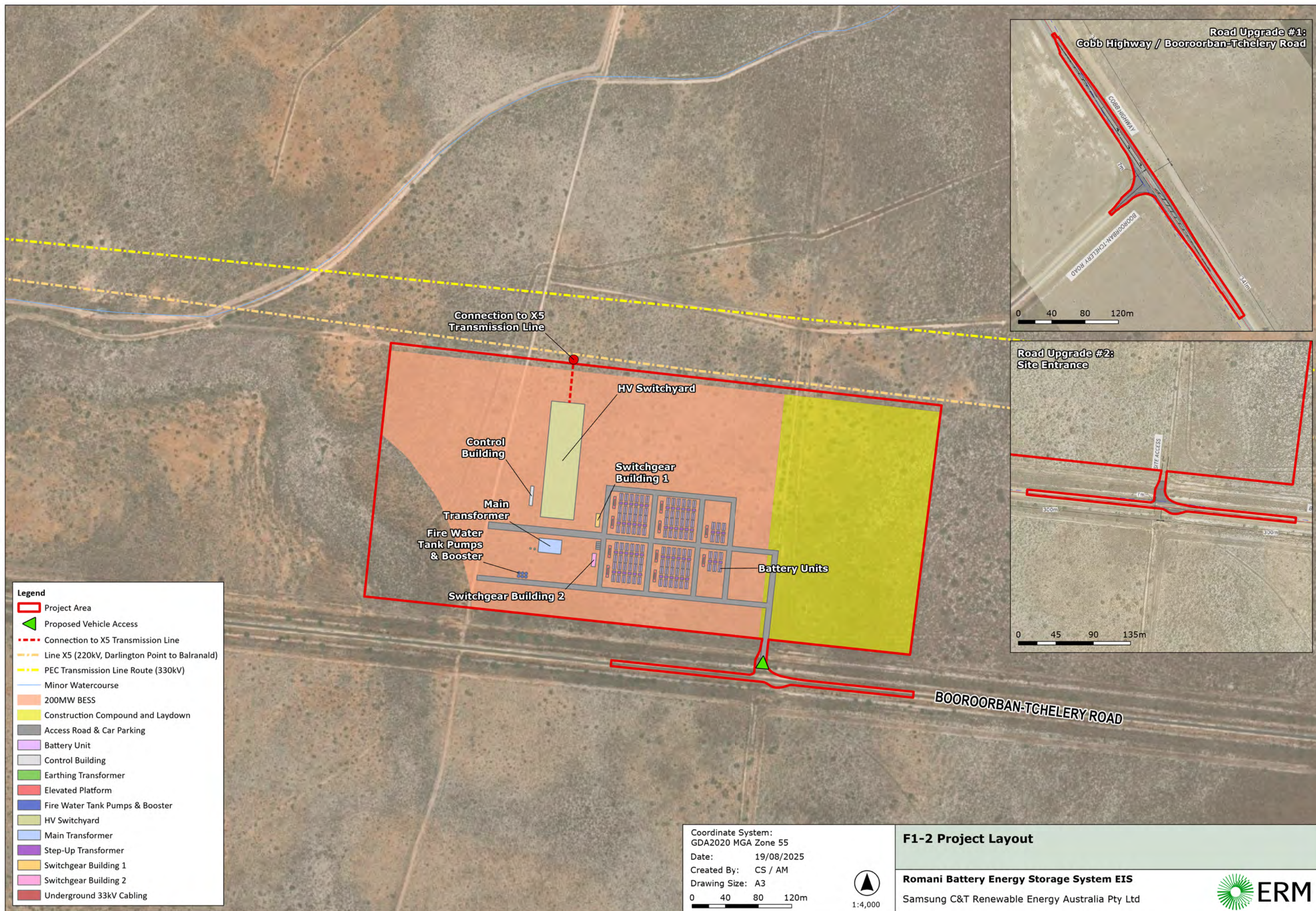
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F1-1 Project Locality

Romani Battery Energy Storage System EIS

Samsung C&T Renewable Energy Australia Pty Ltd

ERM



2. STRATEGIC CONTEXT

2.1 TRANSITION TO RENEWABLE ENERGY

The Australian Energy Market Operator (AEMO) Integrated System Plan (ISP) 2024 highlights the planned retirement of all of NSW existing coal fired electricity generation by 2040, including three that account for 6 GW of generation, that are planned to retire before 2030. The NSW power stations are:

- Liddell Power Station (1.26 GW), closed in April 2023;
- Eraring Power Station (2.92 GW) is scheduled to close in August 2027;
- Vales Point B Power Station (1.32 GW) is expected to close in 2033;
- Bayswater Power Station (2.64 GW) is expected to close in 2033; and
- Mount Piper (1.4 GW) is expected to operate until at least 2040.

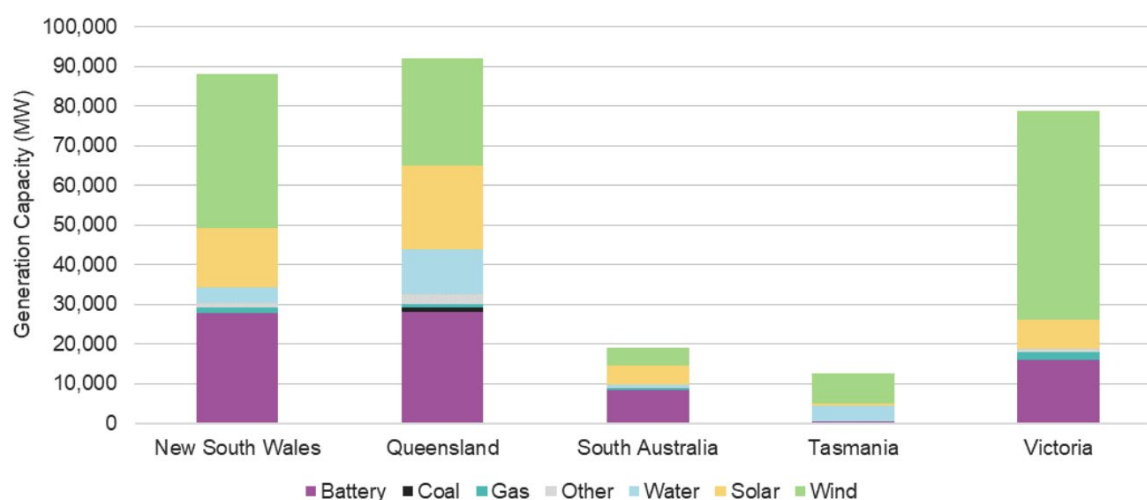
These power stations currently provide around three quarters of NSW's electricity supply. Across Australia coal-fired energy generation accounted for 46% of total generation in 2024 and renewables supplied 35% of Australia's total electricity generation.

The ISP states that due to the imminent retirement of a significant portion of the NSW coal-fired power generation, the NEM would require an almost nine-fold increase in renewable energy generation to replace the retiring power stations (AEMO, 2024a). Firming technologies such as battery systems would be needed across the NEM to smooth out the peaks and troughs in renewable energy generation and maintain grid stability and inertia (i.e. batteries can store electricity when supply is greater than demand and dispatch it when needed).

The AEMO's 2024 Electricity Statement of Opportunities (AEMO, 2024b) (ESOO) report notes a substantial pipeline of future renewable projects in various stages of development. In 2023, 1 GW of large-scale solar, 0.4 GW of wind, 0.2 GW of hydrogen, and 3.9 GW / 13.5 GWH of battery storage progressed sufficiently to be included in the ESOO. The ESOO shows the proposed projects by NEM and type of generation/storage (AEMO, 2024b) (**Figure 2-1**).

AEMO is currently developing the 2026 ISP, which would identify the optimal development path for the NEM, including actionable and future ISP projects as well as development opportunities (AEMO, 2025).

FIGURE 2-1 PROPOSED PROJECTS BEYOND THOSE ALREADY COMMITTED (AEMO, 2024)



2.1.1 FEDERAL GOVERNMENT STRATEGIES, POLICIES AND PLANS

The Australian Government recognises that the transition away from traditional fossil fuel energy production towards the increased adoption of renewable energy would assist in minimising effects of climate change and benefit current and future generations.

Fossil fuel energy generation is linked to anthropogenic climate change, atmospheric pollution, water pollution, land pollution, and human health impacts. In order to mitigate these impacts the Australian and NSW Governments have committed a range of strategies, policies, and plans. These are detailed in the subsequent sections below.

The following are Australian Government strategies, policies, and plans considered in this EIS:

- United Nations Paris Agreement on Climate Change: 195 countries including Australia signed the Paris Agreement to reduce emissions by 26-28% below 2005 levels by 2030;
- United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties 29 (COP 28): the 28th COP was held in Dubai, United Arab Emirates in 2023. The key message of COP 28 is that the transition towards renewable energy needs to be accelerated;
- Australian Government Renewable Energy Target (RET): Australian Government's RET is currently 82% of the NEM to be generated using renewable energy. The RET is governed by the *Renewable Energy (Electricity) Act 2000*; and
- *Climate Change Act 2022*: legislates the Australian Government's target of a reduction of 43% from 2005 levels by the year 2023.

2.1.2 NSW NET ZERO PLAN STAGE 1 2020-2030

The Net Zero Plan Stage 1 2020-2030 (Net Zero Plan) is the NSW Government's overarching strategy to reduce greenhouse gas emissions and mitigate the impacts of climate change. This includes the NSW Government's objective to achieve net zero emissions by 2050. This strategy is financially supported by a bilateral Memorandum of Understanding on Energy and Emissions Reduction Policy between the Commonwealth and NSW governments.

The current goal introduced by the NSW government in December 2022 is to achieve a reduction of 70% on 2005 levels by 2035. This is to be achieved through promoting initiatives in renewable energy, electric vehicles, hydrogen, primary industries, technology, and organic waste.

The Net Zero Plan works in tandem with the NSW Electricity Infrastructure Roadmap and is governed by the NSW *Climate Change (Net Zero Future) Act 2023*. The Act legislates the following targets:

- 50% reduction on 2005 levels by 2023; and
- 70% reduction on 2005 levels by 2035.

2.1.3 NSW ELECTRICITY STRATEGY

The NSW Electricity Strategy is the NSW Government's plan for promoting a reliable, affordable, and sustainable electricity network in the state. The Electricity Strategy is expected to support an estimated \$8 billion of private investment in NSW electricity network over the next decade and includes an estimated \$5.6 billion of investment in regional NSW.

The Electricity Strategy outlines the commitment to energy security through increasing capacity by interconnector projects such as transmission lines and the declaration of Renewable Energy Zones (REZ). This aligns with the Net Zero Plan through:

- Delivering the coordinated Renewable Energy Zone in the Riverina region;
- Saving energy via the Energy Security Safeguard;
- Supporting the development of new electricity generators;
- Setting a target to increase the state's energy resilience; and
- Making it easier to do energy business in NSW.

2.1.4 NSW TRANSMISSION INFRASTRUCTURE STRATEGY

The NSW Transmission Infrastructure Strategy aims to promote the development of high voltage transmission projects. This strategy seeks to meet future energy needs by supporting up to 17,700 MW of new electricity generation. This forms part of the NSW Government's broader plan to increase affordability and secure investment in new power generation, ultimately benefiting consumers through access to cheaper and reliable electricity.

2.1.5 NSW ELECTRICITY INFRASTRUCTURE ROADMAP

The NSW Electricity Infrastructure Roadmap (The Roadmap) outlines the NSW Government's plan to attain an energy sector that is affordable, clean and reliable. The Roadmap builds on the objectives of the Electricity Strategy and the Transmission Infrastructure Strategy.

The Roadmap sets out the plan to replace NSW's coal-fired power stations with renewable energies including wind and solar farms, and battery storage. The Roadmap seeks to support the delivery of up to 12 GW of renewable electricity generation and up to 2 GW of long duration storage. This is enabled through the NSW *Electricity Infrastructure Investment Act 2020*.

2.1.6 SOUTH-WEST RENEWABLE ENERGY ZONE

As part of the Electricity Infrastructure Roadmap, the NSW Government has committed to deliver at least five renewable energy zones (REZs). The planned REZs are in the Central West Orana, New England, South-West, Hunter Central Coast and Illawarra regions of NSW. The NSW Government is encouraging development in REZs to support a transition to renewable energy and ensures that development occurs in areas close to existing infrastructure and with fewer environmental and land-use constraints than other parts of NSW (DPHI, 2022a).

The South-West REZ extends from the Dinawan Substation in the east to the Buronga Substation in the west and includes two new transmission lines (Project EnergyConnect and Victoria NSW Interconnector West) and four renewable energy projects that adds 3.56 GW of generation capacity to the NSW grid. The Project is located within the SouthWest REZ, however, it would be connecting to the grid via the existing transmission network rather than connecting to the REZ transmission lines.

2.2 LAND USE PLANNING

2.2.1 RIVERINA MURRAY REGIONAL PLAN 2041

The Riverina Murray Regional Plan 2041 (Regional Plan) is an updated 20-year land-use plan that covers employment, town centres, housing, infrastructure, the natural environment and future hazards. This document encompasses all the LGAs in the Riverina Murray, including the Edward River Council. The Regional Plan would be implemented through high level objectives and strategies and immediate actions to be implemented in the next five years. These objectives seek to ensure the region has the facilities required for the future.

Key outcomes sought through the Regional Plan are to capitalise on the changing regional economy and catalyst projects such as the South-West REZ and to support the transition to a net zero carbon emission State by 2050, including enabling the establishment of the South-West REZ. The Regional Plan acknowledges the housing stress in some towns from an influx of workers during the construction of large-scale developments and recommends that such projects be supported by a workforce accommodation strategy.

2.2.2 EDWARD RIVER COUNCIL LOCAL STRATEGIC PLANNING STATEMENT

The Edward River Local Strategic Planning Statement (LSPS) sets out the 20-year plan for land use planning in the Edward River LGA, outlining how change would be managed to maintain the high levels of liveability and the landscape quality that characterises the Edward River region. The LSPS was adopted in February 2020. The LSPS identifies the special characteristics that contribute to the regions local identity and recognises the shared community values to be maintained and enhanced. The LSPS describes planning priorities and actions for managing change and growth into the future.

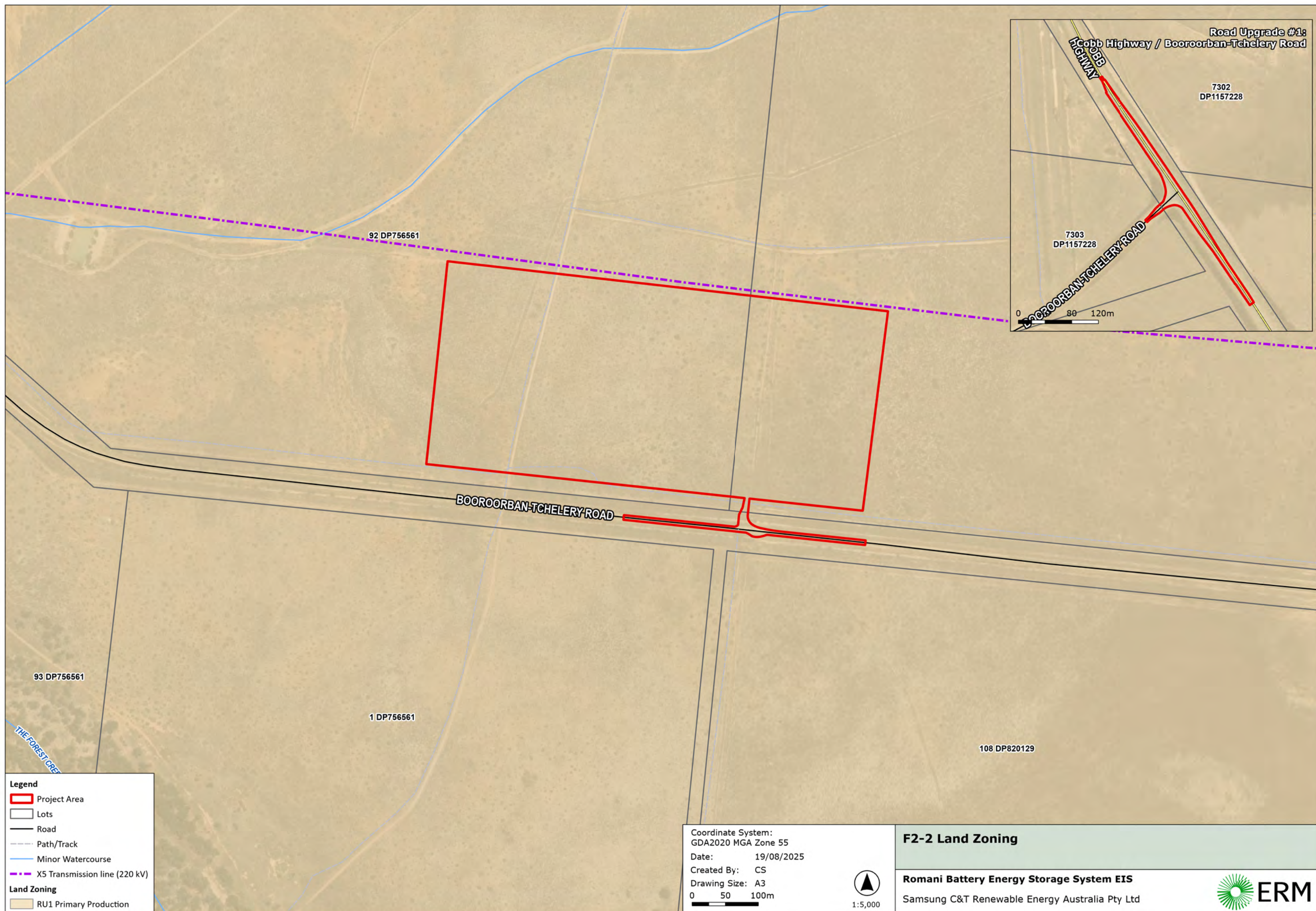
2.2.3 EDWARD RIVER COUNCIL COMMUNITY STRATEGIC PLAN 2022-2050

The Edward River Council Community Strategic Plan 2022-2050 identifies the community's main priorities and aspirations for the future. The Plan outlines five strategic outcomes to align the future of the LGA with the community vision. The Plan supports renewable energy initiatives and economic development and growth for the Edward River region.

2.2.4 EDWARD RIVER LOCAL ENVIRONMENTAL PLAN 2013

The Edward River Local Environmental Plan 2013 (LEP) encourages sustainable economic growth and development that would protect and enhance the environment, cultural heritage and natural assets of the area and provide a range of development opportunities to support the long-term and economic viability of the local community.

The Project Area is zoned RU1 Primary Production under the LEP. **Figure 2-2** shows the Land Zoning which covers the Project Area.



2.3 KEY FEATURES OF THE SITE AND SURROUNDS

Project Location

The Project is located off Booroorban-Tchelery Road approximately 2km west of the junction with Romani Road. The project address is 377 Romani Road, Booroorban NSW. The Project Area comprises two freehold parcels of land Lot 57 and 92 DP 756561. The Project is located within the Edward River LGA. The land cadastre is shown in **Figure 2-3**. The site and surrounding land uses are shown in **Figure 2-4**.

Local and Regional Community

The Project is within proximity to the agricultural service centres of Hay (44 km northeast), Deniliquin (83km southeast) and Griffith (144 km northeast). Booroorban had a total population of 36 people at the 2021 Census (ABS, 2021). The predominant land use surrounding the Project is agricultural, consisting primarily of livestock grazing. Agriculture is the predominant economic activity in the region. The Project is located within the broader Riverina Murray region, which covers approximately 115,000 km² and has a long history of pastoral activity. Agriculture in the surrounding region includes beef and sheep grazing and irrigation cropping such as cotton, rice and maize.).

Natural Features

The Project is located on the Hay Plain. There are slight variations in topography across the site, although the area is generally flat with limited undulations. The predominant vegetation on site is native and improved pastures used for livestock grazing. One PCT has been identified within the Project Area, being PCT 164 Cotton Bush open shrubland of the semi-arid (warm) zone.

The Project Area consists of vertosols - clay soils characterised by the presence of lenticular peds (soil aggregates) due to aggressive shrink-swell properties. The Land Suitability Classification (LSC) for agriculture ranges from LSC Class 6 (14 ha) to Class 7 (6 ha), representing low to very low capability land for agriculture. The surface geology of the project consists of the Shepparton formation, a Cenozoic deposit characterised by poorly consolidated clay, sand and gravel, typical of the riverine plain environment of the region.

The Project is within of the Murrumbidgee River Catchment, which is within the larger Murray Darling Basin. The Forest Creek is located approximately 1km to the south for the Project. An ephemeral creek runs across the south-western corner of the Project Area and drains into a swamp in the northern part of the host property

Built Features

Transmission infrastructure is available in proximity to the Project. There is an existing 220 kV transmission line (X5 transmission line) that runs along the northern boundary of the Project parallel to Booroorban-Tchelery Road. The X5 transmission line is owned and operated by Transgrid. PEC, a 330 kV transmission line that would run from Buronga to Wagga Wagga in NSW, is being constructed on the northern side of the X5 transmission line.

Booroorban-Tchelery Road adjoins the southern boundary of the Project Area. Booroorban-Tchelery Road connects to the Cobb Highway to the east at Wanganella. The Sturt Highway can be accessed via Romani Road to the north and via Maude Road to the west. There are unsealed tracks across the site.

The Sturt Highway is used for intra-regional transportation consisting of agricultural trucks, freight trucks and local farming traffic as well as low levels of tourist traffic, between the towns of Hay and Balranald. The Sturt Highway and Cobb Highway are part of the NSW Oversize Overmass (OSOM) Load Carrying Vehicles Network. There is a single dwelling and associated agricultural infrastructure on the host property which is accessed from Romani Road and Booroorban-Tchelery Road.

There is an existing dwelling on the host property located to the north outside the Project Area. The host property includes farm buildings, dams and irrigation channel that are outside the Project Area and would be retained. There are two sensitive residential receivers to the south of the Project. One is a dwelling that has been vacant from some time and the other is an unoccupied caravan which is occasionally used for camping trips by the landowner.

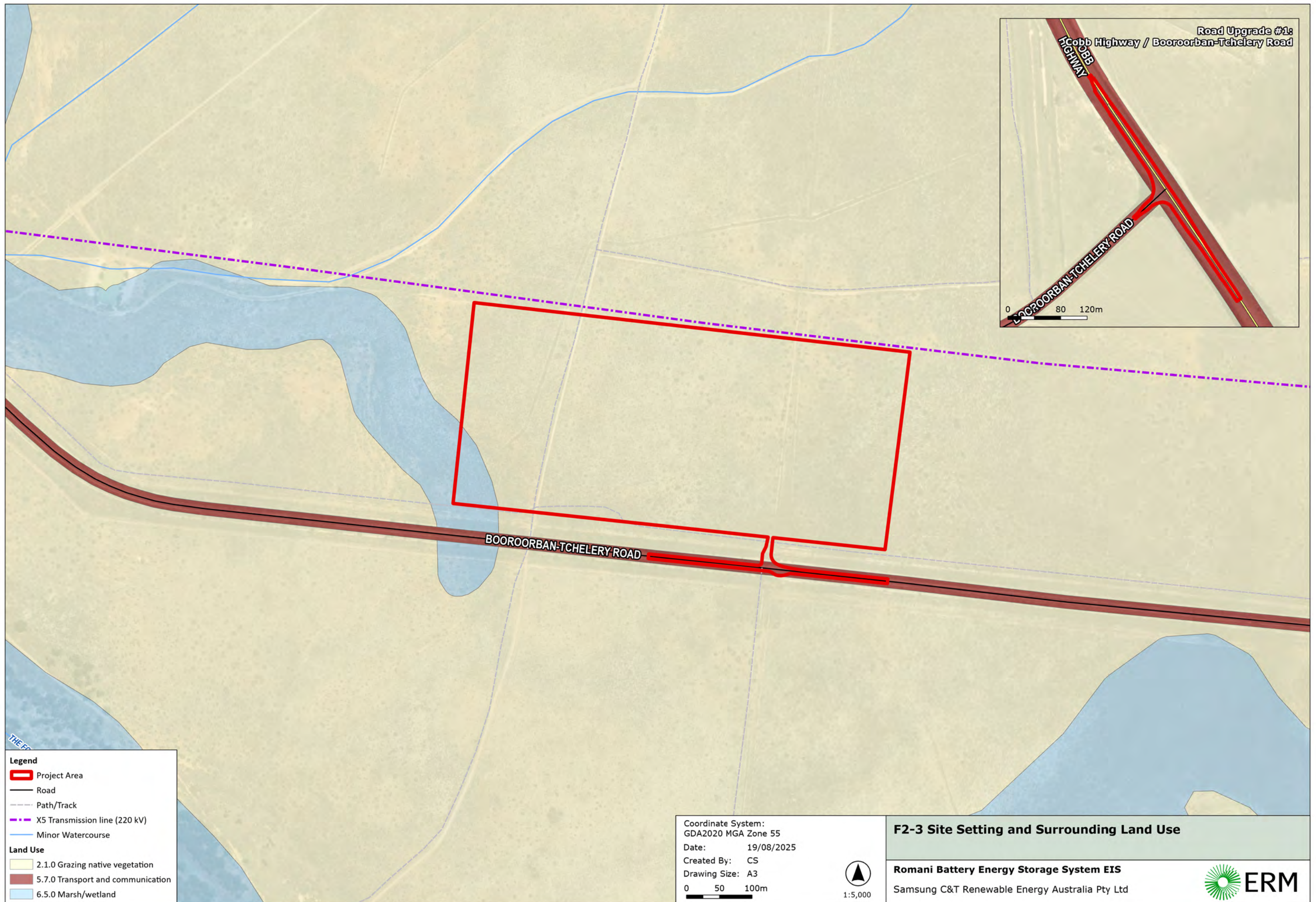
There are several groundwater bores in the vicinity of the Project and associated farm dams and irrigation channels, constructed for the purposes of irrigation and watering livestock. The Project is located within the Coleambally Irrigation Co-Operative Limited (CICL) West Coleambally Management Area. The Coleambally Outfall Drain runs in an east to west direction, located to the south of the Project Area.

Hazards

The existing flood environment of the Project Area is modelled to be dominated by ponding from downstream flow paths due to the flat topography of the area. The eastern edge of the Project Area is located on the downstream end of a minor overland flow path that drains to The Forest Creek to the south. Flood depths typically do not exceed 0.5 m across the Project Area in events up to the 1% Annual Exceedance Probability (AEP). In the Probable Maximum Flood (PMF) event, flood depths max out at 1.2 m in the southern part of the Project Area due to the tailwater impacts from The Forest Creek. Flood velocity through the Project Area generally remains below 0.5 m/s in all modelled events.

The flooding and hydrology assessment, described in **Section 6.9**, determined that the Project has potential to impact surrounding properties in the 1% Annual Exceedance Probability (AEP) and Probable Maximum Flood (PMF) events.

The Project Area and surrounding land are mapped as Category 3: medium bush fire risk vegetation, under the NSW bush fire prone lands database. Category 3 typically consists of grasslands, freshwater wetlands, and semi-arid woodlands. The Project and surrounds are comprised of these vegetation types. The key project constraints are shown in **Figure 2-5**.



Legend

- Project Area
- Road
- Path/Track
- X5 Transmission line (220 kV)
- Minor Watercourse

Land Use

- 2.1.0 Grazing native vegetation
- 5.7.0 Transport and communication
- 6.5.0 Marsh/wetland

Coordinate System:
GDA2020 MGA Zone 55

Date: 19/08/2025

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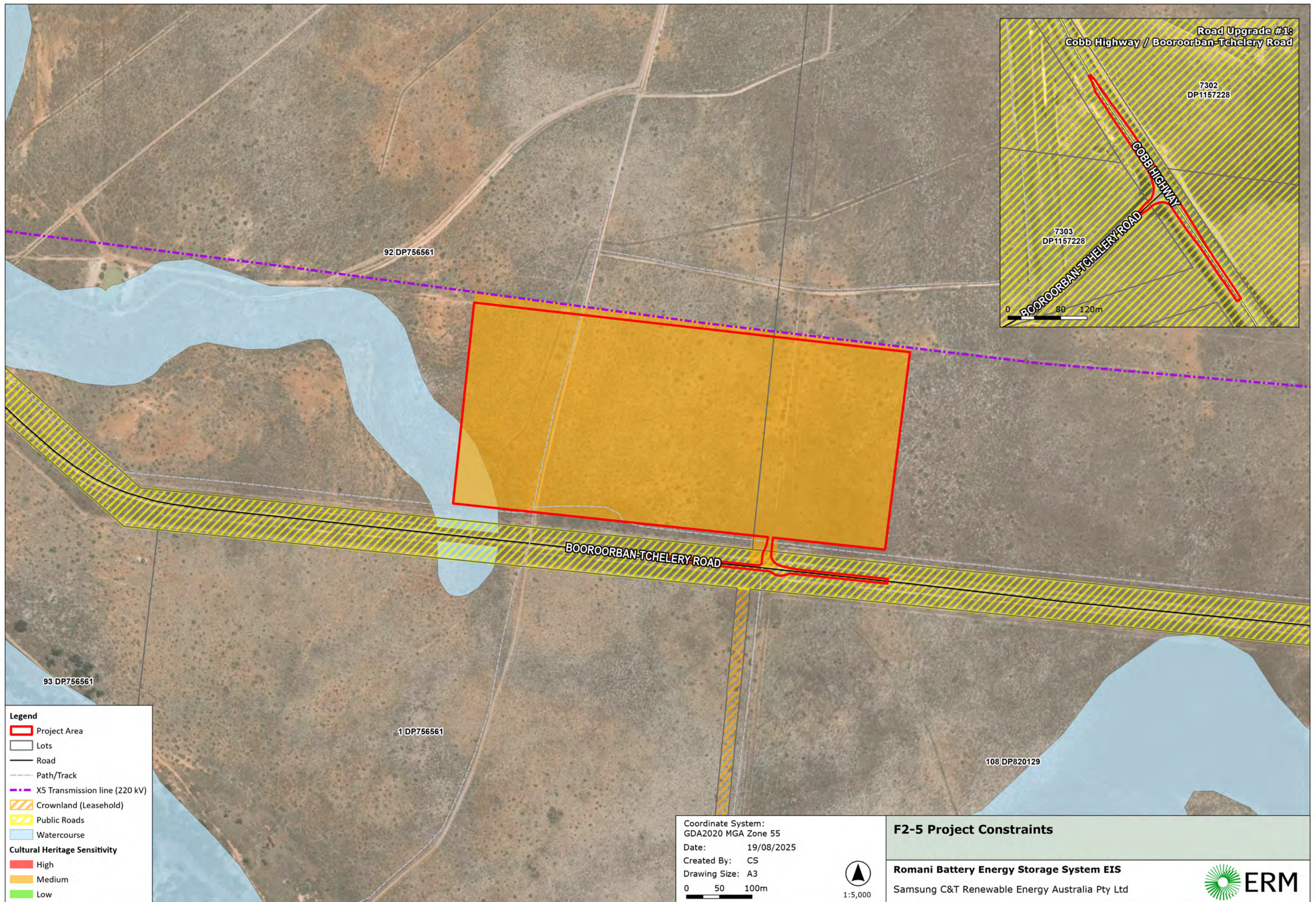

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F2-3 Site Setting and Surrounding Land Use

Romani Battery Energy Storage System EIS

Samsung C&T Renewable Energy Australia Pty Ltd





2.4 KEY POTENTIAL RISKS

The key potential risks that could impact the Project are summarised in **Table 2-1**. The social, economic and environmental risks and hazards for the Project are addressed in further detail in **Section 6**.

TABLE 2-1 KEY PROJECT RISKS AND HAZARDS

Key Risks or Hazards	Description
Biodiversity	Battery energy storage systems typically require access to relatively flat or gently sloping land in areas within proximity to electricity transmission networks. Land suitable for battery energy storage is typically clear of large stands of trees, and often has been used for livestock grazing, which can have historically impacted the biodiversity value of the land. Notwithstanding, there is still potential for parts of the Project Area to have biodiversity value which requires assessment.
Agriculture, soils and land uses	Battery energy storage systems are typically sited on rural land and development of this land can impact high capability agricultural land. Other potential risks include compatibility of battery storage operations with surrounding agricultural uses and impacts to soils from erosion
Noise	There are two sensitive receivers within 2 km of the Project. Battery energy storage systems and ancillary infrastructure emit noise, which can be audible for sensitive receptors in proximity to the Project and impact upon amenity.
Landscape and visual	The placement of battery energy storage systems can alter the landscape character of the area. Sensitive receivers, either private residents or public view points, may experience reduced visual amenity particularly to the west of the Project Area.
Traffic and transport	Battery energy storage systems require the delivery of construction components, equipment, plant and machinery. Some of the equipment is large and heavy and requires delivery by heavy vehicles and over-size over-mass (OSOM) vehicles on local and state roads. In some instance, upgrade to the road network may be needed to facilitate the movement of these components.
Aboriginal heritage	Battery energy storage systems are typically located in rural settings and require a large land area. There is potential for Aboriginal artefacts and potential archaeological deposits to be discovered in this setting. Disturbance to landscape from construction and operational activities could lead to the harm of items of Aboriginal cultural value and requires assessment.
Hazards and risks	Potential hazards associated with BESS projects include lithium-ion battery faults leading to thermal runaway, battery, electrical equipment failure fires, electrical surges and/or explosions in transformers. The storage of dangerous goods and the fire safety and protection require technical assessment in accordance with HIPAP 4 and 6 to ensure the risks are adequately identified and can be managed.
Water	Battery energy storage developments can alter natural watercourses through change of natural site topography, increased water run off from the battery modules can lead to erosion and sedimentation impacts during the construction phase.
Social and economic	While battery energy storage projects would create jobs in the local area, they can also lead to social impacts such as increased demand for housing and competition with other projects for the available local workforce which can drive up costs and wages.

2.5 NEARBY STATE SIGNIFICANT DEVELOPMENT PROJECTS

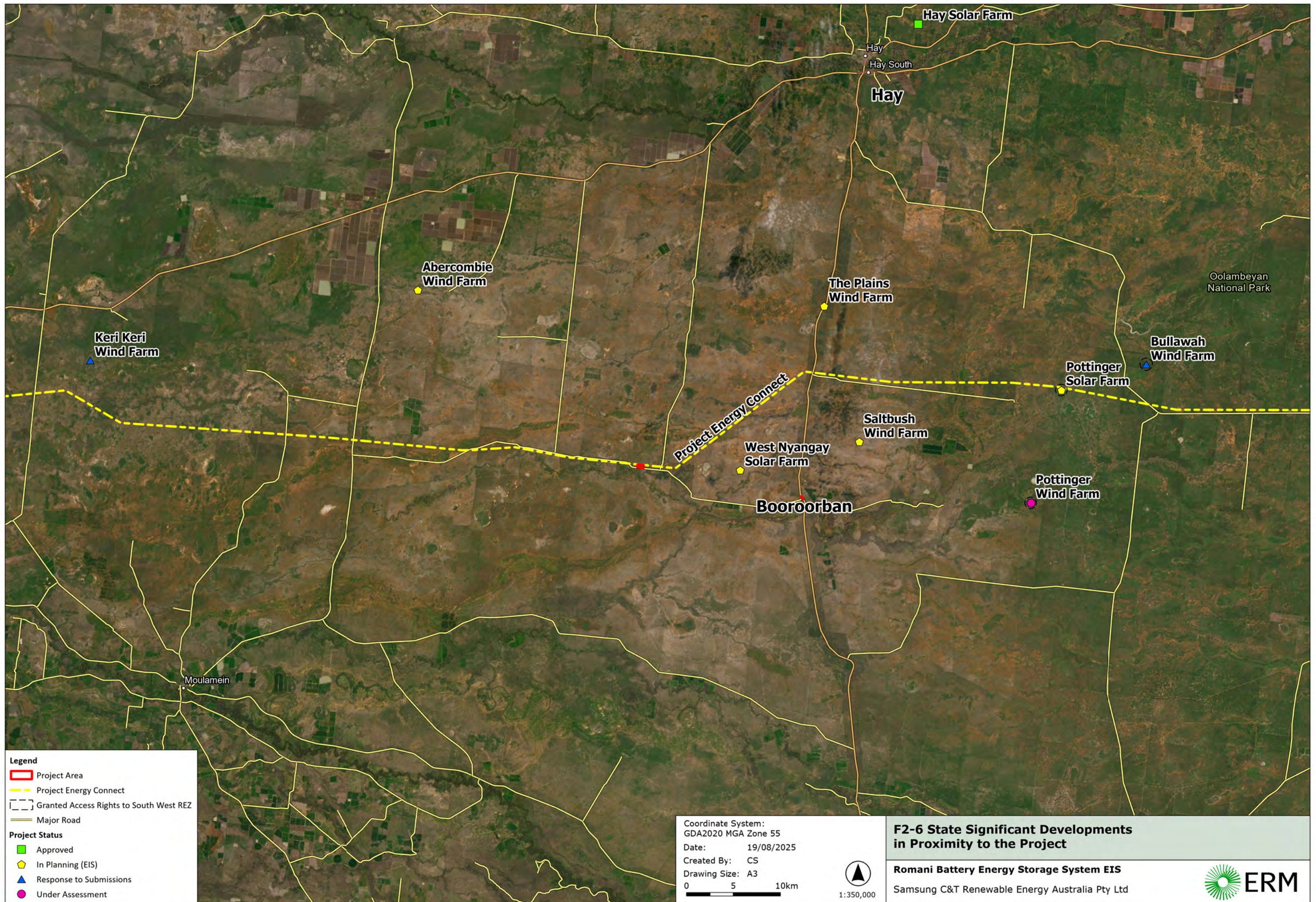
The Project is located within the South West REZ where a number of large-scale electricity generating and storage developments are proposed. Consequently, the planned number of renewable energy projects and other major infrastructure projects in the area may lead to cumulative impacts relating to land use conflicts, biodiversity, Aboriginal cultural heritage, landscape and visual changes, increased demand on the existing transport network, noise and vibration, aviation safety, as well as social and economic impacts.

Table 2-2 and **Figure 2-6** identifies major developments within a 100km radius of the Project that are currently proposed or approved. Where relevant, the cumulative impacts of these projects have been considered during the preparation of technical assessments for the EIS in accordance with *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPHI, 2022b). Cumulative impacts are discussed further in **Section 6** of the EIS.

TABLE 2-2 MAJOR DEVELOPMENTS (WITHIN 100 KM)

SSD	Project	Capacity	Distance	Status	Construction start
SSI-9172452	Project Energy Connect (NSW East Section)	-	1 km	Approved	2026
SSI-72887208	Victoria to NSW Interconnector West	-	1 km	Prepare EIS	2026
SSD-74990235	West Nyangay Solar Farm	800 MW	1 km	Prepare EIS	Unknown
SSD-50629707	The Plains Wind Farm	1,800 MW	4 km	Response to Submissions	2027
SSD-77340978	Abercrombie Wind Farm	870 GW	9 km	Prepare EIS	2028
SSD-70636459	Booroorban (Saltbush) Wind Farm	400 MW	20 km	Prepare EIS	2028
SSD-59254709	Pottinger Solar Farm	300 MW	30 km	Prepare EIS	2026
SSD-59235464	Pottinger Wind Farm	831 MW	30 km	Recommendation	2026
SSD-59701722	Tchelery Wind Farm	577 MW	35 km	Prepare EIS	2026
SSD-40138508	Baldon Wind Farm	1,400 MW	35 km	Assessment	2025
SSD-8113	Hay Solar Farm	110 MW	50 km	Approved	Commenced
SSD-50505215	Bullawah Wind Farm	1,000 MW	55 km	Assessment	2025
SSD-51306206	Wilan Wind Farm	800 MW	61 km	Prepare EIS	2025

SSD	Project	Capacity	Distance	Status	Construction start
SSD-38358962	Keri Keri Wind Farm	884 MW	65 km	Response to Submissions	2027
SSD-50725708	Dinawan Wind Farm	1,200 MW	70 km	Response to Submissions	2025
SSD-50725959	Dinawan Solar Farm	800 MW	70 km	Assessment	2025
SSD-41743746	Yanco Delta Wind Farm	1,500 MW	85 km	Approved	2026
SSD-30448824	Junction Rivers Wind Farm	750 MW	90 km	Response to Submissions	2025



2.6 CONTRIBUTIONS AND AGREEMENTS

2.6.1 VOLUNTARY PLANNING AGREEMENT

SREA intends to enter into a Voluntary Planning Agreement (VPA) with Edward River Council to provide community benefits to the region and discussions with Council are well progressed. The proposed community benefits would be equivalent of up to \$150 per MW of storage capacity per annum for the life of the Project consistent with DPHI's Benefit-Sharing Guideline (DPHI, 2024a).

2.7 PROJECT ALTERNATIVES

2.7.1 DESIGN EVOLUTION

The Project has been sited to minimise the potential impacts to flooding, biodiversity, Aboriginal cultural heritage and sensitive residential receivers. Where possible, the temporary and permanent disturbance footprint has been located in areas with fewer environmental constraints as described below:

- **Flooding:** Avoidance of flooding areas and providing a 40 m setback to waterfront land, a mapped unnamed ephemeral waterbody located within the south-western corner of the Project Area;
- **Biodiversity:** Avoidance of high biodiversity value land. All Project infrastructure is located within the southern portion of the former Project Area (of hybrid and BESS project), located on low biodiversity value land away from environmental sensitivities;
- **Aboriginal cultural heritage:** avoidance of sites of Aboriginal cultural heritage significance identified during site surveys conducted by ERM; and
- **Sensitive residential receivers:** Based on the preliminary noise modelling results, the development footprint was adjusted to provide sufficient setback to sensitive receivers R7 and R9.

3. PROJECT DESCRIPTION

3.1 OVERVIEW

The Project would involve the construction, operation, and decommissioning of the Romani BESS and associated infrastructure. The BESS would connect to the existing 220 kV transmission line (X5 transmission line) that runs along the northern boundary of the Project Area. The indicative Project layout is shown in **Figure 1-2**.

The estimated development cost (EDC) is provided in **Appendix F**.

The key project elements are summarised in **Table 3-1**.

TABLE 3-1 PROJECT SUMMARY

Project Aspect	Description
Project Area	Approximately 21 ha comprising temporary and permanent disturbance area and avoidance areas.
Temporary Disturbance Area	Approximately 6 ha comprising the temporary construction laydown area.
Permanent Disturbance Area	Approximately 13 ha comprising the Romani BESS, associated infrastructure, and external road intersection upgrades.
Project Elements	
X5 BESS	The X5 BESS consists of the following components: • A lithium-ion BESS with a storage capacity of 200 MW / 800 MWh; and • Electrical reticulation network that is comprised of a 220 kV substation and grid connection to the existing X5 transmission line.
On-site Supporting Infrastructure	Permanent Operations and Maintenance (O&M) compound including: • Landscaping works; • Asset protection zones; and • Access tracks, drainage and access point.
Connection to electricity grid	Connection to existing 220 kV transmission line including 220kV switching station; and 220/33kV grid connection substation. An optic fibre cable is expected to extend from the BESS to the future PEC transmission line (location and design subject to further consultation with Transgrid).
Road intersection upgrades	• Upgrades of the Booororban-Tchelery Road and Cobb Highway intersection will be required including additional trafficable area, and possible relocation of road signs; • Upgrades of Booororban-Tchelery Road at the proposed site entrance will also be required including additional trafficable area, and possible installation of new road signs; and • The total area subject to upgrades encompasses 1 ha.
Project Phases	
Phase 1 Construction of the Project	Phase 1 of the Project would involve the construction of the X5 BESS. This stage is expected to occur over 20 months. Construction of the project would involve: • Delivery of Project components; • Installation of underground and overhead cabling, maintenance and environmental management processes and equipment; • Access roads upgrade; • Temporary construction compounds with offices, car parking and amenities; and • Water sourcing, power supply, access and communications.

Project Aspect	Description
	Construction would occur within standard daytime construction working hours. Construction of the Project is further detailed in Section 3.4 .
Phase 2 Commissioning and Operation	Phase 2 of the Project would involve the testing, commissioning and transition to operation. Project infrastructure is expected to have a minimum lifetime of 30 years before components would be retired or reenergised. The Project would operate 24 hours a day, seven days a week. The operational workforce is expected to be comprised of 3-5 Full time equivalents (FTEs) excluding contractors that are expected to be required for Project maintenance. Operation of the Project is further discussed in Section 3.5.
Phase 3 Decommissioning and Rehabilitation	Phase 3 of the Project would involve the decommissioning of Project infrastructure including the recycling of Project components, where possible. Project components would be removed from site and transported to facilities to be repurposed, reused or recycled. In the event this is not possible Project components would be disposed of accordingly. This stage would also include the rehabilitation of the land. Decommissioning and rehabilitation of the Project is further discussed in Section 3.6.

3.2 PROJECT AREA

The Project Area is located on Boooroorban-Tchelery Road, at 377 Romani Road, Boooroorban NSW. The Project Area comprises two freehold parcels of land. The land parcels associated with the Project are listed in **Table 3-2**.

TABLE 3-2 LAND CADASTRE OF THE PROJECT AREA

Lot	Deposited Plan	Title
57	756561	FREEHOLD
92	756561	FREEHOLD

The development footprint is located within the Project Area and is approximately 21 ha. The disturbance footprint is 19.12 ha (i.e. includes permanent and temporary disturbance footprint and road upgrades) This represents the maximum extent of permanent disturbance as a result of the Project.

3.3 PHYSICAL LAYOUT AND DESIGN

The physical layout and design of the Project would comprise of the following elements:

- BESS;
- Electrical reticulation network and grid connection;
- Operations and maintenance compound; and
- Site access and internal access tracks.

The Project is subject to a detailed design phase after this EIS. Project aspects such as final location and orientation of Project elements, construction methodology, and specifications of components used are subject to change. Amendments to these aspects would not occur outside of the development footprint or Project Area identified in this EIS.

3.3.1 BATTERY ENERGY STORAGE SYSTEM

The BESS would deliver electricity generated by the Project to the electricity network via the X5 transmission line that intersects the northern part of the Project Area. The BESS would utilise lithium-ion technology and have a storage capacity of 200 MW / 800 MWh.

The BESS would be constructed with concrete footings within a fenced compound that would include the substation, switching yard connected via overhead or underground transmission lines. The BESS is expected to occupy an area of 12 ha and located north of Booroorban-Tchelery Road. This location was selected due to the proximity to the X5 transmission line.

The primary component of the Project is a centralised large-scale BESS facility. The BESS would store, and discharge electricity to and from the NEM. The BESS would store electricity during periods of oversupply or low demand. Subsequently, the BESS would discharge stored electricity during times of peak demand. This would assist in the stabilisation of the NEM during periods of disruption, or when the solar and wind farms, and other generators, are not supplying energy. The BESS would consist of lithium-ion battery units housed in shipping container style enclosures with inverters, transformers and other associated electrical equipment.

Detailed specifications of the technology used for the X5 BESS would be confirmed during detailed design.

3.3.2 ELECTRICAL RETICULATION AND GRID CONNECTION

3.3.2.1 SUBSTATIONS

The X5 BESS would have a dedicated 22/220 kV substation. The substation would be located with the BESS facility in the northern part of the Project Area. These locations are identified in **Figure 1-2**.

The substations would comprise transformers, voltage controls, associated high voltage switchgear, storage units, potentially power quality control equipment, and control and protection equipment as well as a communication tower, and drainage and oil containment system.

Gravel would be placed under and around the substations to restrict vegetation growth and provide a safe working environment. A minimum 6 m bushfire Asset Protection Zone (APZ) is to surround the substations and switching stations.

Internal structures within the substation compounds would include:

- Control building / control room, switch room with a height of approximately 5 m;
- One 220 kV power transformer with a height of approximately 6 m;
- Overhead line gantry structures of approximately 15 m height;
- Transformer bunding and environmental controls for oil;
- Drainage and civil work including footing support for equipment;
- Cable trenching and cable conduits;
- Associated high voltage switchgear including busbars, conductors, circuit breakers, and disconnectors, with a height of approximately 6m; and
- Communication infrastructure.

Security fencing would surround the substations, and maintenance lighting would be installed for occasional night work including emergency operations; however, the substation would normally be unlit, apart from low-level security lighting.

3.3.2.2 HIGH VOLTAGE TRANSMISSION LINE

The X5 BESS would be expected to use 33 kV electrical reticulation to power the MV substations to the main high voltage substation, which would then connect to the existing 220 kV X5 transmission line to the north of the Project Area. The internal electrical reticulation network comprises underground and/or overhead 33kV cables, which would be finalised during detailed design.

3.3.3 OPERATIONS AND MAINTENANCE COMPOUND

A O&M compound would be constructed to provide for all operations and maintenance activities associated with the Project.

The O&M compound would contain at least the following:

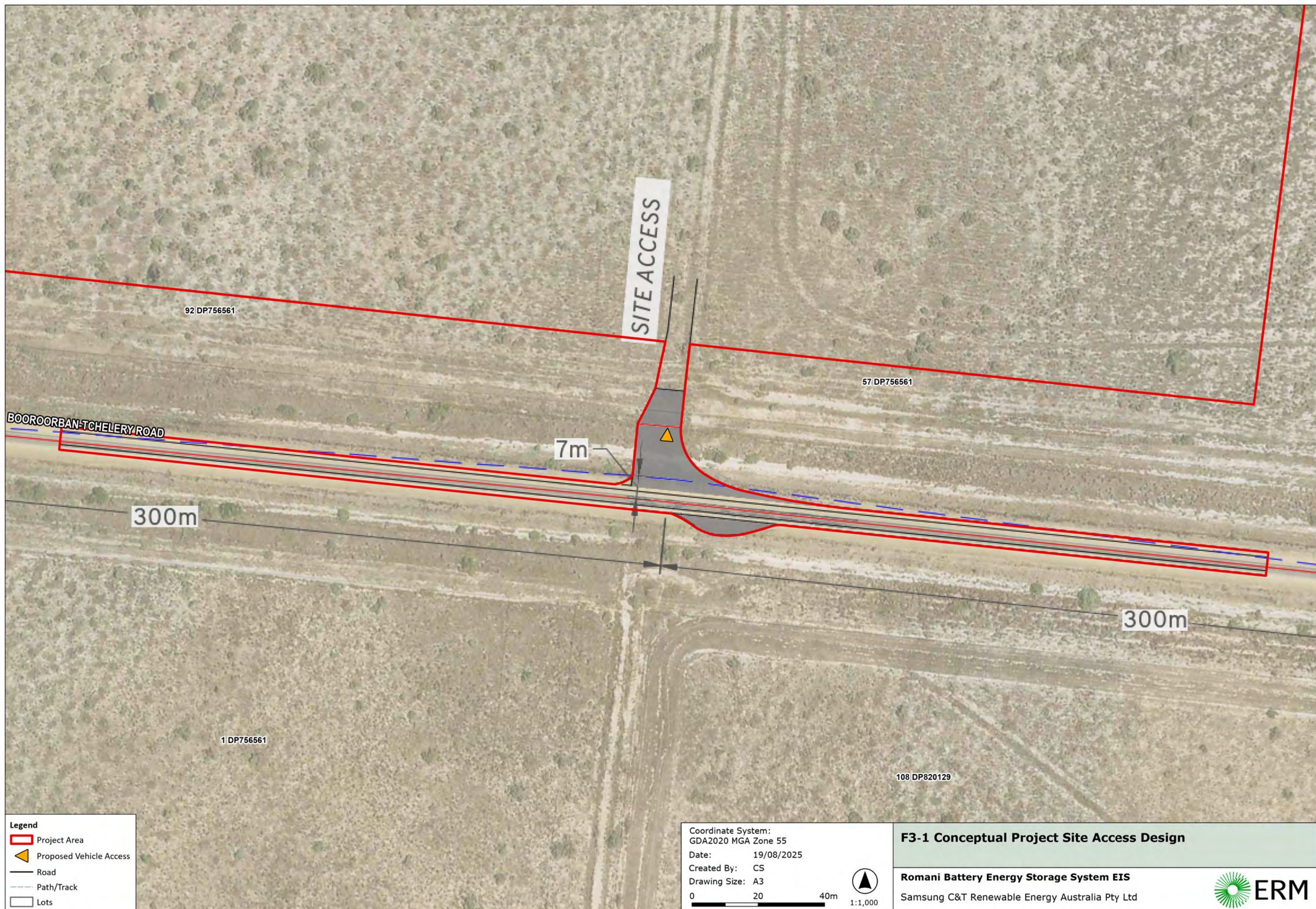
- Control room, an office, communications equipment, and staff amenities (toilet, kitchen, first aid, potable water supply, etc.);
- Static water supply for firefighting/bushfire management (may be part of above water supply) and septic system;
- Storage shed (including workshops area);
- Essential fire safety equipment would be provided at each facility within the O&M compound as required;
- Adequate rubbish waste/facilities providing appropriate waste stream separation using on-site skip bins emptied weekly or as required. Waste would not be retained permanently on-site; and
- Car parking facilities.

3.3.4 COMMUNICATIONS

A fibre optic communication system would be provided for the BESS to ensure there is a robust and efficient solution for transmitting data across large distances with minimal signal loss and electromagnetic interference. The communication system would be connected to cloud control systems. A fibre cable would extend from a fibre pit at the BESS to a fibre joining pit near one of the proximate PEC transmission line poles. It would likely extend underground between the fibre pits.

3.3.5 SITE ACCESS AND INTERNAL ACCESS TRACKS

Vehicles would access the Project from Booroorban-Tchelery Road in the south. The Project would utilise a combination of existing and newly constructed access tracks for ongoing maintenance and emergency access. The conceptual site access is shown in **Figure 3-1**.



3.3.6 NOT CARRYING OUT THE DEVELOPMENT

The consequence of not undertaking the development would be to forgo the benefits of the Project, in particular, the contribution the Project would make to meeting the Commonwealth and NSW governments emissions reductions targets. Similarly, not proceeding with the Project would forgo the social and economic benefits detailed in this EIS, including the provision of direct and indirect employment and economic stimulus, and contributions to local community facilities. If the Project was not to occur, the Project Area would retain its existing land use and continue to operate as agricultural land.

3.3.7 LIGHTING

The requirements for night lighting of ancillary infrastructure for this Project would generally be limited to security lighting to the substation, and within the operations and maintenance facility. The light sources would be limited to low-level lighting for security, night-time maintenance and emergency purposes. All lighting would be designed, managed and operated in accordance with 'AS 4282 Control of Obtrusive Effects of Outdoor Lighting'.

3.4 CONSTRUCTION

3.4.1 CONSTRUCTION STAGING

The Project would be completed over 20 months and is expected to commence in mid 2026. Establishment of a temporary construction compound, upgrade of existing/creation of new access tracks, and site utilities would be the first construction activities completed. Subsequently installation of BESS and substation facilities would occur.

3.4.2 CONSTRUCTION WORKFORCE

The Project is expected to have a peak construction workforce for 80-100 FTE with an average of 30-50 FTE on site at any one time.

SREA would endeavour to procure local resources and Aboriginal employment where possible. These efforts would be focused on the areas of the Edward River, Hay, Murrumbidgee, and Griffith LGAs.

3.4.3 CONSTRUCTION HOURS OF OPERATION

The proposed construction hours of operation are:

- 7:00 am to 6:00 pm (Monday to Friday);
- 8:00 am to 1:00 pm (Saturday); and
- No construction would occur on Sundays or Public Holidays.

Construction that is required to occur outside these hours would be undertaken in accordance with the 'Interim Construction Noise Guideline' as follows:

- For the delivery of materials required by the NSW Police or other authorities for safety reasons; and
- Where it is required in an emergency to avoid the loss of lives, property and / or prevent environmental harm.

In addition, construction outside recommended standard hours might be undertaken as follows:

- Activities that are inaudible at non-associated dwellings; and
- With agreement by the Department of Planning, Housing and Infrastructure.

3.4.4 SITE PREPARATION

Site preparation works are expected to include vegetation clearing within the development footprint, establishment of erosion and sediment controls, site levelling (where required), creation or upgrades of access tracks, site fencing, and establishment of a temporary construction compound to be used by the construction workforce.

The components of the temporary construction compound would be prefabricated offsite and installed in the area identified in **Figure 1-2**. This area would also include a laydown area and is to be located adjacent to the BESS.

3.4.5 TEMPORARY CONSTRUCTION COMPOUND

Temporary facilities would be required to facilitate the construction of the project. A temporary construction compound would be established for the duration of the construction works and would be subsequently removed upon completion of construction. The temporary construction compound would occupy an area of approximately 6 ha. The construction compound would be comprised of:

- Storage areas to accommodate storage of construction materials, plant, equipment solar module and other infrastructure elements;
- Material stockpile;
- Temporary power supply for construction; and
- Security fencing approximately 2.4 m high and CCTV.

Upon completion of construction works, all temporary facilities would be removed, and the land rehabilitated in line with agreements with the landowner and the NSW Government.

3.4.6 SERVICES AND UTILITIES

3.4.6.1 WATER SUPPLY

Construction of the Project would require approximately 8.3-8.7 megalitres (ML) per annum of water for use in road works and earthworks, dust suppression and potential watering of revegetated areas.

Water required for construction of the project would be supplied by truck from offsite sources either from Edward River Council or private suppliers. Potable water required during the operation of the project would be transported by truck to the site.

It is not proposed to use ground water bores. Edward River Council has confirmed that it can supply potable water for the Project. Non-potable water would be sourced from a local water supply company.

Water tanks with storage capacity of approximately 50,000 L may be provided within the development footprint for fire-fighting purposes subject to detailed design and consultation with NSW RFS.

3.4.6.2 POWER SUPPLY

The power supply for construction would be from local low-voltage distribution supplied via agreements with the local network operator and supported by diesel generators as required

3.4.6.3 WASTE MANAGEMENT

Waste storage locations are to be provided within the Project Area for both the construction and operation phases. Sufficient space would be allowed for the separation and storage of different waste and sufficient space would also be provided for recycling and reuse of items.

Section 6.14 describes the storage, management and disposal of waste generated during construction and operation of the Project.

3.4.6.4 TELECOMMUNICATIONS

Telecommunications infrastructure would be provided for the Project to ensure the secure control of the solar arrays and substations, which would include emergency shutdowns and management of any maintenance requirements.

The communications infrastructure would include:

- Restranging approximately 1.5 km of optical ground wire (OPGW) to allow joint box on transmission line 6G, 6H (PEC line); and
- Installing approximately 0.5 km of dual underground fibre optic cable (UGFC) on PEC line to new Switching Station.

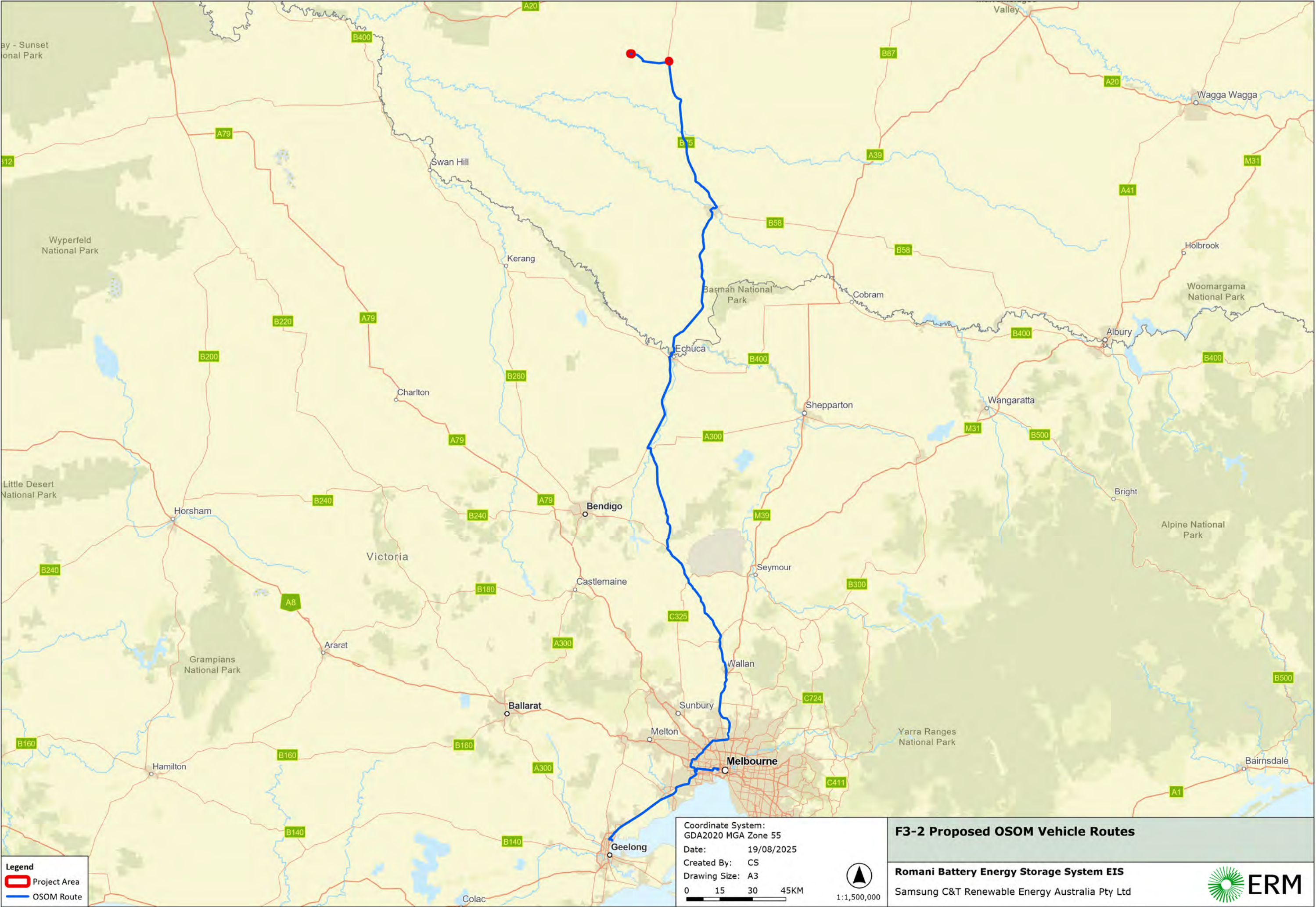
3.4.7 TRANSPORT ROUTE

The Port of Geelong and/or the Port of Melbourne would be used for the delivery of all major Project components. Other specialist equipment would be sourced from various areas whilst consumables would be sourced locally from the nearby surrounding area such as Hay and Deniliquin.

All B-Doubles would travel along the access route to and from the site utilising Booororban-Tchelery Road. The access route generally utilises roads that are designated for B-Double vehicles as outlined within the National Heavy Vehicle Regulator (NHVR) Restricted Access Vehicle Map. It is noted that Booororban-Tchelery Road is unrated and requires approval from Edward River Council for B-Double access. The proposed OSOM access routes are shown in **Figure 3-2** and detailed in Section 5.2 of **Appendix N**.

3.4.8 ROAD UPGRADES

A Basic Left and Short Channelised Right turn treatment is proposed at the Cobb Highway / Booororban-Tchelery Road intersection to comply with the requirements of the Austroads Guide. A concept design has been prepared for the proposed turn treatment and is included in **Figure 3-3** and **Appendix N**.





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7303
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7302
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Coordinate System:
GDA2020 MGA Zone 55
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F3-3 Road Intersection Upgrade

Romani Battery Energy Storage System EIS
Samsung C&T Renewable Energy Australia Pty Ltd



3.5 OPERATION

3.5.1 OPERATIONAL HOURS AND WORKFORCE

The Project would operate 24 hours a day, seven days a week. Access would be required to the Project on the same basis. The BESS facilities and other equipment would require regular, ongoing maintenance.

The operations workforce is expected to be three to five FTE who would undertake monitoring and maintenance of the Project as required. Site maintenance would include landscaping, maintenance of access roads and APZ's, and repair and replacement of project components such as battery cells as required.

Most of the maintenance would be undertaken during routine maintenance; however, circumstances may arise where additional specialist technical maintenance staff are required (e.g., such as unplanned equipment failure). Over the life of the Project, infrastructure would be maintained and/or upgraded, as required, to ensure health and safety of occupants of buildings.

Daily maintenance would occur during standard working hours. Outside of emergencies or major asset inspection or maintenance programs, night works or works on Sundays or public holidays would be minimal; however, would be undertaken in accordance with the 'Interim Construction Noise Guideline.

Whilst most activity is anticipated to occur during business-hours Monday to Friday, access to the Project would be required on a 24-hour basis, seven days a week.

3.6 DECOMMISSIONING AND REHABILITATION

The Project is proposed to be operated for a minimum period of 20 years with the option to extend operations for a further period of 10 years. The Project components have an estimated lifetime of 30 years. At the end of asset's lifetime, the following options would be assessed for viability:

- Replace and repowering of the BESS facilities with existing or "best practice" technologies available at the times; or
- Decommission the Project and remove the Project components and associated infrastructure in accordance with a decommissioning and rehabilitation plan that is to be developed 5 years prior to the end of Project component lifetime.

The Applicant or future owner/operate of the facility would fund and execute the decommissioning and rehabilitation plan. Project components would be reused and recycled where possible.

3.7 LAND SUBDIVISION

Subdivision may be required to create a separate allotment for the substation subject to the utility provider requirements. The size and configuration of the proposed lots would be confirmed in consultation with Transgrid and the host landowner.

4. STATUTORY CONTEXT

4.1 POWER TO GRANT APPROVAL

Approval for the Project is sought under Part 4, Division 4.7 of the EP&A Act, which outlines the approval pathway for development deemed to be SSD. The Project is defined as 'electricity generating works' (Clause 2.35 of Transport and Infrastructure SEPP). Electricity generating works with an estimated development cost exceeding \$30m are State Significant Development pursuant to Schedule 1, Clause 20 of Planning Systems SEPP.

4.2 PERMISSABILITY

State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) is applicable to the land on which the Project is located.

Clause 2.36(1)(b) of the Transport and Infrastructure SEPP states that "electricity generating works" may be carried out with development consent on land within a prescribed non-residential use zone.

The Project Area is zoned RU1 Primary Production under the Edward River LEP 2013. The RU1 zone is a prescribed non-residential zone. The Project is permissible with development consent pursuant to Clause 2.36(1) of the Transport and Infrastructure SEPP.

4.3 OTHER APPROVALS

Other approvals that may be required for the Project under NSW State and Commonwealth law are discussed in **Table 4-1**. It also identifies pre-conditions to exercising the power to grant approval (including mandatory conditions) and identifies in which section of the EIS each is addressed.

TABLE 4-1 OTHER APPROVALS REQUIRED

Statutory requirement	Description	Where addressed
<i>Consistent approvals that cannot be refused if necessary for carrying out an approved SSD and are to be consistent with the terms of the SSD approval.</i>		
<i>Roads Act 1993 (Roads Act)</i>	Consent under Section 138 of the Act would be required for all works that occur on public roads. The Project is likely to require upgrades at the access location and would therefore require approval under the Act.	Section 3.4.8, Section 6.8.3 and Appendix N
<i>EPBC Act approval and whether the bilateral agreement applies</i>		
<i>EPBC Act 1999</i>	The Project was referred to Commonwealth DCCEEW as a proposed action under the EPBC Act. The proposed action was determined to not be a controlled action (Referral EPBC 2024/1007). Therefore, approval under the EPBC Act is not required.	Not applicable
<i>Approvals not required under SSD Section 4.41 of the EP&A Act states the following approvals; permits, etc are not required for an approved SSD.</i>		
<i>Crown Land Management Act 2016</i>	There is no Crown Land located within the Project Area. Therefore, approval under this Act is not required.	Not applicable

Statutory requirement	Description	Where addressed
<i>Fisheries Management Act 1994</i>	The Project would not involve dredging, land reclamation, impacts to marine vegetation, nor blockage of fish passage. Therefore, approval under this Act is not required.	Not applicable
<i>Heritage Act 1994</i>	The Project does not impact any items of Aboriginal cultural heritage. Therefore, a permit under this Act is not required.	Not applicable
<i>National Parks and Wildlife Act 1979</i>	The Project has been designed to avoid impacts to sites and items of Aboriginal cultural heritage significance. Therefore, a permit under Section 90 of this Act is not required.	Not applicable
<i>Rural Fires Act 1997</i>	The Project does not involve subdivision for residential development. Therefore, approval under Section 100B of this Act is not required.	Not applicable
<i>Water Management Act 2000</i>	The Project intends to source water for the project either by harvesting runoff from existing farms dams and obtain water from offsite suppliers. Therefore, approval is not required under WM Act.	Not Applicable

4.4 PRE-CONDITIONS TO EXERCISING THE POWER TO GRANT APPROVAL

The pre-conditions to exercising the power to grant approval for the project are described in **Table 4-2**.

TABLE 4-2 PRE-CONDITIONS TO GRANTING APPROVAL

Statutory requirement	Pre-condition	Where addressed
<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>	Under section 4.6 of the SEPP, a consent authority is required to consider whether a proposed development site is contaminated and whether it is suitable for the intended use.	Appendix C and Appendix K

4.5 MANDATORY MATTERS FOR CONSIDERATION

The consent authority is required to consider a range of mandatory matters when deciding whether to grant consent for the Project under various legislation as described in **Table 4-3**.

TABLE 4-3 MANDATORY MATTERS FOR CONSIDERATIONS

Statutory requirement	Description	Where addressed
<i>Consideration under the Act and Regulation</i>		
<i>Section 1.3 of EP&A Act</i>	Relevant objects of the Act - 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; - to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment;	Whole EIS

Statutory requirement	Description	Where addressed
	- to promote the orderly and economic use and development of land; and - to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.	
<i>Section 4.15 of EP&A Act</i>	Consider the provisions of any environmental planning instruments, any draft planning agreements and the regulations that apply to the land. Consider the likely impacts of the development including the environmental, social, and economic impacts, the suitability of the site for the development, any submissions made, and the public interest.	Whole EIS
<i>Mandatory relevant considerations under EPI</i>		
<i>Resilience and Hazards SEPP – section 4.6</i>	Consider whether the land is contaminated, and if it is, whether the land would be suitable for the proposed use either in its contaminated state or following its remediation.	Appendix K
<i>Resilience and Hazards SEPP – section 3.7</i>	Departmental guidelines: - Applying SEPP 33; - HIPAP No. 6 – Hazard Analysis; and - HIPAP No. 4 – Risk Criteria for Land Use Planning.	Appendix P
<i>Edward River LEP 2013</i>	Clause 2.3 – Objectives and land use zones for RU1 zone	Section 2.2.4
<i>Considerations under other legislation</i>		
<i>Biodiversity Conservation Act 2016</i>	The BC Act requires the preparation of biodiversity assessment in accordance with the NSW Biodiversity Assessment Method (BAM) and the preparation of a Biodiversity Development Assessment Report (BDAR).	Section 6.1 and Appendix G

5. COMMUNITY AND STAKEHOLDER ENGAGEMENT

Community and stakeholder engagement is an essential part of any significant development. During the development of this Project and in preparation of the EIS, consultation was undertaken with a range of stakeholders, including local councils, NSW government agencies, the community, special interest groups, neighbours, and proximate landholders. This consultation will continue through the application process.

Consultation with the community about the Hybrid Project and Romani BESS began in June 2024. In March 2025, when the Project design was changed to remove the hybrid project components and proceed with the Romani BESS only, additional engagement activities were conducted to inform and consult the community and key stakeholders about the change and seek further feedback to inform project planning.

Engagement has been undertaken throughout the preparation of the EIS and meets the consultation requirements set out in the SEARs, in particular, engagement with local councils, government agencies, community and landowners.

Section 5.5 provides an overview of the community and stakeholder feedback received and how the Applicant has addressed it in this EIS document and Project design. A summary of detailed feedback by stakeholder group can be found in **Appendix D**.

5.1 ENGAGEMENT STRATEGY

A Community and Stakeholder Engagement Plan (CSEP) was prepared for the Project in accordance with the *Undertaking Engagement Guidelines for State Significant Projects (DPHI March 2024)*.

The Plan complies with NSW Government consultative requirements under relevant planning instruments and guidelines, including:

- Undertaking Engagement Guidelines for State Significant Projects (NSW DPHI, 2024);
- SSD Guidelines (DPHI, October 2022);
- Community Participation Plan, NSW DPE, (DPHI, November 2019); and
- Social Impact Assessment Guideline for State Significant Projects, (DPHI, 2021b).

ERM Engagement is leading the Project's stakeholder and community engagement. ERM communication and engagement specialists are trained in best practice methodologies under the IAP2. Engagement methods are diverse, tailored to best engage each stakeholder group, responsive, and adapted based on feedback.

5.2 ENGAGEMENT OBJECTIVES

The Applicant is committed to the Project leaving a positive, long-term impact on the local community and recognises that local insight, feedback and partnership with the community are critical to inform Project design.

The engagement objectives for the Project are as follows:

- **Establish** genuine, transparent relationships with community, council and government agencies;
- **Inform** council and key stakeholders of commencement of the EIS process;

- **Reassure** landholders, neighbours and community to maintain consultation during the project design phase;
- **Provide clear information** about the planning phase and focus areas of the EIS;
- Promote opportunities for community and stakeholder input into the development of the EIS and project design; and
- **Keep stakeholders informed** on progress and timeframes.

Inherent in these objectives is the need to engage with the community in a timely manner as early as possible and ensure that engagement is effective and proportionate to the scale and impact of the Project.

5.3 STAKEHOLDER IDENTIFICATION

Key stakeholders identified as potentially interested in the Project are listed in **Table 5-1**. The Applicant engaged each of these stakeholder groups during the consultation.

TABLE 5-1 KEY STAKEHOLDERS

Stakeholder group	Specific parties
Host landowners	Landowners who have agreed to host infrastructure.
Immediate neighbours/ proximate landholders	Neighbouring dwellings within a 4 km radius of the Project location.
Indigenous communities	• Traditional Owners; • Registered Aboriginal Parties (RAPs); • Aboriginal Affairs NSW; • Hay LALC; • Deniliquin LALC; • Southwest Yiradyuri Group; • Native Title Service Corporation; • National Native Title Tribunal; and • Office of the Registrar, Aboriginal Land Rights.
Surrounding community	Community members who live outside a 4 km radius of the Project location.
Local community organisations and businesses	• Riverina and Murray-Riverina NSW Business Chamber; • Deniliquin Business Chamber; • NSW Farmers Association; • Clean Energy Council; • NSW Irrigators Council; • Agricultural Tours Riverina; • Murray Regional Tourism; • Destination Riverina Murray; • Industry Capability Network; • CANAssist; • Interreach; • Country Women Association; • Lions & Rotary Clubs; • Hay Plains Local Landcare group; and • Local businesses, including potential Project suppliers such as local hotel, Airbnb accommodation and construction services.
Local council	• Edward River Council; ◦ Mayor and elected councillors; ◦ Chief Executive Officer; ◦ Director Infrastructure and Executive Assistant; ◦ Principal Planner;

Stakeholder group	Specific parties
	◦ Town Planner; and ◦ Health and Building Coordinator. • Hay Shire Council Mayor; ◦ Mayor and elected councillors; ◦ General Manager; ◦ Executive Manager Planning and Compliance; ◦ Senior Development Manager; ◦ Acquisitions Manager; and ◦ Senior Project & Development Manager.
State and Federal elected members, representatives and agencies, and emergency services	• NSW Member for Murray, Helen Dalton MP; • Federal Member for Farrer, Sussan Ley MP; • Minister for the Environment and Water, Murray Watt MP and former minister Tanya Plibersek MP; • NSW Department of Planning, Housing and Infrastructure (DPHI) – Crown Lands, NSW Planning Group, Mining; • Exploration and Geoscience (MEG), Transport for NSW; • NSW Department of Climate Change, Energy, the Environment and Water (DCEEW) – Water, Heritage; • Department of Primary Industries (DPI) – Agriculture, Fisheries; • NSW Environment Protection Authority; • NSW Office of Energy and Climate Change; • Commonwealth Department of Climate Change, Energy, the Environment and Water (DCEEW); • Transgrid; • Transport for NSW; • ARTC; • V/Line; • NSW Local Land Services; • NSW Police; • Fire and Rescue NSW; • NSW Rural Fire Service; and • NSW State Emergency Services.
Local schools/education, religious organisations, clubs	• Boooroorban School; • Hay Public School; • Hay War Memorial High; • St Mary's Parish School Hay; • Moulamein Public School; • TAFE NSW Hay campus; • Local churches (Hay); and • Sporting organisations, e.g. Hay Golf Course, Hay Tennis Club, Hay Bowling Club.
Utilities	• EnergyCo; • Transgrid; • Essential Energy; • Water NSW; and • Telecommunications providers and the National Broadband Network.
Local media	• The Riverine Grazier newspaper (Hay); • 2FM Radio; and • The Daily Advertiser newspaper (Wagga).

5.4 ENGAGEMENT CONDUCTED

The Project team has been engaging with the community since Project inception. A summary of the community consultation is presented below in **Table 5-2**. Detail on engagement activities and collateral prepared can be found in **Appendix D**.

TABLE 5-2 SUMMARY OF ENGAGEMENT ACTIVITIES

Date	Consultation activity
March 2022 – October 2023	Initial contact with key stakeholders and proximal landowners, and initial conversations to secure the option to lease the proposed Project site and conduct technical assessments.
October 2023	Introductory letters sent to proximal neighbours.
October – November 2023	Engagement with Indigenous Groups: Agency letters and newspaper adverts were placed in local publication – Deniliquin Pastoral Times - inviting interested parties to register their interest in the Aboriginal Cultural Heritage Study. Project methodology issued to Registered Aboriginal Parties for comment.
November 2023	Key stakeholder consultation: meetings to provide an overview of the Project and key issues to be addressed in the EIS.
November 2023 - January 2024	ACHAR Project Methodology issued for comment and responses received.
February 2024	Engagement with Indigenous Groups: surveys for the Project areas conducted, with representatives of Deniliquin LALC and other RAP groups.
May 2024	Advice requested and received on SEARs (for the hybrid project) from agencies: Heritage NSW, Water and Crown Lands (DCEEW), Department of Primary Industries, DPI Agriculture, DPI Fisheries, Regional NSW (Mining, Exploration & Geoscience), Fire and Rescue NSW, NSW RFS, Transport for NSW, Biodiversity, Conservation and Science (DPHI).
July 2024	1800 toll-free number, email and stakeholder database to track enquiries established for the Project.
July 2024	Engagement with Indigenous Groups: surveys for the Project areas conducted, with representatives of Deniliquin LALC and other RAP groups.
August 2024	Project website launched.
August 2024	Council liaison: Emails and phone calls with council teams to provide updated information about the Project and request support to book community space to hold Project Community Information sessions, and cross-promoting the event via the councils' Facebook pages.
August – November 2024	Eleven contact attempts with Deniliquin Chamber of Commerce to provide Project information and an opportunity to comment, however, no response was received.
28 August 2024	Print media advertisement published in a popular local newspaper - The Riverine Grazier (Hay) - to increase awareness of the Project and encourage the community to attend the community drop-in information sessions.
2-3 September 2024	Host landowner and proximal neighbour consultation: direct emails and calls to provide updated information on the Project, seek feedback and invite to attend the community drop-in information sessions.
3-4 September	Key stakeholder engagement: emails invited recipients to attend the upcoming community drop-in information sessions. The emails included a Project update and Project team contact details.

Date	Consultation activity
4 September 2024	Print media advertisement published in the local newspaper - The Riverine Grazier (Hay) - to increase awareness of the Project and encourage the community to attend the community drop-in information sessions.
5-6 September 2024	Council meetings: in-person meetings to provide Project updates, invite feedback, and explore opportunities for partnerships in the community.
6 September 2024	Community drop-in information session at Booroorban Hall, from 3pm to 6pm.
7 September 2024	Community drop-in information session at the Hay Show 2024, from 9am to 5pm.
28-30 October 2024	Neighbour consultation: Emails and phone calls regarding visual impact assessment.
28-29 November 2024	Council liaison: Meeting and emails with Edward River Council to provide Project update and changes to Project design based on Council feedback.
29 November 2024	Emails sent to key Commonwealth and State government agencies to update on EIS and request feedback: Heritage NSW, Water and Crown Lands (DCEEW), Department of Primary Industries, DPI Agriculture, DPI Fisheries, Regional NSW (Mining, Exploration & Geoscience), Fire and Rescue NSW, NSW RFS, Transport for NSW, Biodiversity, Conservation and Science (DPHI).
3 December 2024	Neighbour consultation: Phone calls to four neighbour landholders to provide opportunity to express any concerns relating to land use conflict relating to their Project and their agricultural operations – to be included in the Land Use Conflict Risk Assessment (LUCRA).
6 April 2025	Project website updated with information about Project design change to BESS.
7 July 2024	Engagement with Indigenous Groups: surveys for the Project areas conducted, with representatives of Deniliquin LALC and other RAP groups.
9-16 April 2025	Print media advertisement published in the local newspaper - The Riverine Grazier (Hay) – to inform the community of the Project design change to BESS and encourage people to visit the website for more information and provide feedback.
17-24 April 2025	Host landowner and proximal neighbour consultation: emails and calls advising of the Project design change to BESS and inviting feedback.
30 April 2025	Engagement with Indigenous Groups: current draft ACHAR provided to RAPs with invite to comment.
7 May 2025	Council liaison: Calls, emails and online meeting held with Edward River Council to request expectations on road upgrades. Emails with Hay Shire Council with plan to meet in July 2025.
20 May 2025	Emails to interested suppliers informing them of the Project design change to BESS and confirming that their details are on file for future reference and Project updates.
23-30 May 2025	Emails to key government stakeholders and community organisations to update on the Project design change to BESS and to invite feedback, including Transport for NSW, ARTC and V/Line.
30 May 2025	Emails to interested community members who provided contact details via survey and during community sessions to receive Project updates, advising of Project design change to BESS and inviting feedback.

5.5 COMMUNITY AND STAKEHOLDER VIEWS

5.5.1 AGENCY VIEWS

The local councils and Commonwealth and State government agencies have been consulted, and their responses are summarised in **Table 5-3** below.

TABLE 5-3 SUMMARY OF COUNCIL AND AGENCY CONSULTATION

Agency	Comments/concerns	Where addressed
Edward River Council	- Local road upgrades and improvements; and - Maintenance and repair of damage to Council roads.	Section 6.8
	- Limited capacity of Council waste facilities; and - Post-project decommissioning and rehabilitation.	Section 6.14
	Workforce accommodation and potential to reuse workers camps from other projects.	Section 6.12
	- Support economic development and diversification of income for farmers; and - Support training opportunities and employment for local community.	Section 6.13
	- Support for community benefits sharing to fund to local infrastructure and community facilities; and - Support for entering into Voluntary Planning Agreement.	Section 6.12
	Biodiversity and environmental impacts.	Section 6.1
	Loss of productive agricultural land.	Section 6.4
	Aboriginal cultural heritage, partnering with Registered Aboriginal Parties to prepare ACHAR.	Section 1.1
	Bushfire safety, fire emergency plans, training for RFS.	Section 6.11
	- Water supply during construction and operations; and - Potable water requirements.	Section 6.9
	Community engagement, consultation fatigue.	Section 5
Hay Shire Council	- Support economic development opportunities and growth created by SW REZ; and - Support local employment and training opportunities.	Section 6.13
	Local road upgrades.	Section 6.8
	Support community benefits and Voluntary Planning Agreement.	Section 6.12
	Energy prices, government subsidies for renewables, alternative energy sources to renewable energy.	Section 2
DPHI - Biodiversity, Conservation and Science (BCS) (now CPHR)	- Indirect impacts to remnant patches of vegetation and mitigation measures to protect; - Plant Community Types classification and boundaries must be validated through field verification; - Include threatened ecological communities (TECs) based on floristic survey results and the Approved Conservation Listing Advice for each TEC;	Section 6.1 Table 4-1

Agency	Comments/concerns	Where addressed
	- Surveys to inform strategies for avoiding and minimising impacts to any location where Austral Pillwort and Plains-wander is recorded; - Any proposed partial reduction in vegetation integrity scores in direct impact areas must be fully justified including supporting literature; and - EIS should identify any relevant Matters of National Environmental Significance and referral to Australian government.	
	Flood risk management requirements and conduct flood modelling to define the impact of flood events on site.	Section 6.9 Appendix O
DPHI – Crown Lands	Use of Crown lands and roads not to be relied upon for practical access, and requires licence.	Noted Appendix A
DCCEEWS NSW - Water Group	Water planning to respond to standard SEARs for solar and wind farm SSD projects.	Section 6.9 Appendix O
Heritage NSW	No comments.	Section 1.1
DPI - Agriculture	- Consider land has historically been used for irrigated cropping and not just the current grazing land uses; - Rehabilitation using local native species to limit dust and land use conflict issues; - Land capability to be restored to its pre-existing agricultural capacity after decommissioning; - A Land Use Conflict Risk Assessment (LUCRA) to be undertaken; - Biosecurity management issues to be assessed in relation to potential agricultural impacts; and - Cumulative impacts to be considered given the large number of renewable projects proposed for the SWREZ.	Section 6.4
DPI - Fisheries	Project does not contain any waterways, therefore no comments.	-
Mining, Exploration & Geoscience (MEG), Department of Regional NSW	No comments.	-
FRNSW	- Fire safety and management measures; and - Hazard and risk analysis review during preliminary and final design phases of the Project.	Section 6.11 Appendix Q
NSWRFS	A Bush Fire Hazard Assessment Report required.	Section 6.11 Appendix Q
Transport for NSW	1.5% annual traffic growth of 1.5% to be applied; - Consider any road projects along the route to site; - Assessment of road safety and sight distances are applied as per Austroads and TfNSW supplements; and - Concept level route analysis required for high-risk OSOM.	Section 6.8 Appendix N
Transgrid	Include optical ground wire and underground fibre cable connections in application.	Section 3.3
ARTC	No comments.	Appendix N
V/Line	Rail crossings for OSOM transport route.	Section 6.8

Agency	Comments/concerns	Where addressed
Commonwealth DCCEE	A referral has been lodged with DCCEE with a decision of not a controlled action.	Section 6.1

5.5.2 COMMUNITY VIEWS

Community sentiment towards the Project was overall positive or neutral. It should be noted that the majority of feedback was gathered in 2024 during consultation for the hybrid solar farm and BESS. Limited feedback was received after the Project was amended in March 2025, despite a continuation of community and stakeholder engagement throughout the period.

Given the reduction in the size of the Project from the hybrid to BESS, it may be assumed that there are fewer concerns about the Romani BESS Project design and/or there are no new concerns.

The community feedback is summarised in **Table 5-4** below, collated by themes/topics. The table presents the information in descending order, with the most frequently raised theme/topic first and the least frequently mentioned theme/topic last.

TABLE 5-4 COMMUNITY VIEWS SUMMARY

Theme/topic	Comments/concerns	Where addressed
Community benefit sharing	Prioritise employment opportunities for locals and support local businesses and suppliers.	Section 6.13
	Training is needed for local communities to upskill the local workforce, especially programs to accommodate school leavers and young or non-experienced workforce.	Section 6.13
	Perception that host communities do not benefit from projects and seem to pay more for power supply. Renewable energy projects should 'invest in renewable energy for local residences and subsidise energy costs for host communities'.	Section 2.1
	Road upgrades and improvements in local health infrastructure would be valued initiatives to support the local community.	Section 6.8.2.4 Section 6.12.2.5
	Environmental conservation and sustainability initiatives could be areas for local investment.	Section 7.7
	Support for community-based groups, organisations and activities and improvement of community infrastructures such as sports oval and retirement village are areas of interest.	Section 5
Environmental impacts	Potential risk of soil and waterways contamination due to toxic waste from heavy metals being released during the project operation.	Section 6.5 Appendix K
	Loss of productive agricultural land.	Section 6.4.2.4 Appendix J
	Potential higher risk of bushfires.	Section 6.11 Appendix Q

Theme/topic	Comments/concerns	Where addressed
	Potential fire risks related to the Project and limited disclosure of information about the fire emergency procedures.	Section 6.11 Appendix Q
	Potential flooding and drainage of the area during operation.	Section 6.9 Appendix O
	Potential impacts on local biodiversity because of clearing habitats for endangered species.	Section 6.1 Appendix G
	Supply requirements of the Project, including potable water, taking away from local agriculture.	Section 6.9.2.4
Construction impacts and decommissioning	Perceived low capacity of local roads to accommodate increased traffic of heavy vehicles. Access roads need widening to support the Project construction, heavy and OSOM vehicles.	Section 6.8 Appendix N
	Potential traffic impacts on local roads, particularly the Booroorban-Tchelery Road, during construction. Neighbours commented: - Concern the road is a minor road and already in poor condition; and - The road is used by the local school bus and raised a potential safety risk of for children getting off and, on the bus, if the same road is used for construction traffic.	Section 6.8 Appendix N
	Potential risk of soil contamination if toxic waste were released during the Project's operation and at the end of its lifecycle.	Section 6.5 Appendix K
	Decommissioning plan standards and further details on disposal strategies at the end of the Project lifecycle.	Section 3.6
	Staff accommodation during construction could reuse camp areas from other projects.	Section 6.12.2.4 Appendix R
	Concerns about disturbance to the livestock due to traffic during construction. Grazing and watering points would be impacted, which limits the grazing potential of the property.	Section 6.8.2.1
	Interested in study on construction noise.	Section 6.7.2.1 Appendix M
Economic impacts	A perception of potential negative impacts on property prices.	Section 6.13.2.3 Appendix S
	Renewable energy projects can operate as a support to enable farmers to stay on land.	Section 6.4.2.3
	Diversification of the local economy is welcome, but it is not seen as the most significant benefit of the Project.	Section 6.13.2.1 Appendix S
	REZ can potentially bring growth to the local economy and be an opportunity to work collaboratively with local governments.	Section 2.1.6
	Diversification of income for host farmers is positive, especially during dry seasons and in uncertain climate contexts.	Section 6.13.2.1 Appendix S
Visual impacts	Visual impacts for neighbours.	Section 6.6

Theme/topic	Comments/concerns	Where addressed
		Appendix L
	Landscape change could negatively impact hospitality services; however, solar energy farms considered less impactful than wind farms as they can be well-hidden.	Section 6.6 Appendix L
Consultation	Letterbox drop could be more effective than radio and social media to communicate events and updates.	Section 5 Appendix D
	Appreciate the Project team taking the time to hold in-person events and listen directly to the community.	Section Appendix D
	"Lack of trust" in renewable energy project communications (not specific to Project).	Section Appendix D
	Perception that long-term benefits for local communities are unclear or not communicated for renewable energy projects.	Section Appendix D
	Perception that regulations cause conflicts of interest and enable developers to "buy" their way into communities.	Section Appendix D
	Possible consultation fatigue for residents with number of renewable projects in the area.	Section Appendix D
	Proper representatives of Traditional Owners need to be involved and consulted throughout the Project lifecycle.	Section 1.1
Project design and approvals process	More details requested about Project design and how the energy is generated, flows and gets to local communities.	Section 3
	"Government and overall subsidies to the Project and the renewable energy industry are too high. The funding scheme requires more transparency."	Section 2
	Curiosity about the timeframe and requirements of the approval process and Project implementation.	Section 3.4
	Photovoltaic frames installed on the ground are preferred over the screw pole.	Not applicable
Cultural heritage	Proper representatives are to be involved and consulted throughout the Project lifecycle.	Section 6.2.4 Appendix H
	Traditional Owners to be correctly acknowledged on the Project website.	Section 6.2.4 Appendix H

5.6 FUTURE ENGAGEMENT

Ongoing engagement with stakeholders will be undertaken during the EIS exhibition and assessment phase.

The engagement will be conducted in accordance with the *Undertaking Engagement Guidelines for State Significant Projects (DPHI March 2024)*, which require engagement to be open, inclusive, easy to access, relevant, timely and thoughtful.

During the EIS public exhibition, the community will have the opportunity to review the EIS and provide DPHI with written submissions regarding the Project.

TABLE 5-5 PLANNED FUTURE ENGAGEMENT

Activity	Description	Timing / Frequency
Meetings with Edward River and Hay Shire Councils	Ongoing, regular meetings with Councils to update on Project progress and seek feedback on Project design and Community Benefits Fund.	Ongoing and as necessary, based on information obtained through engagement activities or key project milestones.
Maintain Project website	Regularly maintain and update information on the website to ensure that the information available to the public is current, easy to access and relevant.	Monthly and as necessary based on information obtained through engagement activities or key project milestones.
Project updates and current information uploaded to Project website and promoted through social media and print advertising	Project updates and Frequently Asked Questions (FAQs) uploaded to the Project website and potentially promoted through other channels.	Monthly and as necessary based on information obtained through engagement activities or key project milestones.
Continue consultation with the community and key stakeholders	Continue to engage and update the community and key stakeholders about Project progress and seek feedback as needed via direct emails, calls, one-on-one meetings, drop-in information sessions, attendance at community events.	As necessary based on information obtained through engagement activities or key project milestones.
Project Survey	The online Project survey will remain accessible via the Project website, and the community will be encouraged to provide feedback during in-person events.	Ongoing.
Communication collateral	Communication material will be developed/updated and distributed as relevant to help inform the community, e.g. update Project factsheet, Project update /letterbox drop, FAQs, contact cards, posters.	As needed to support engagement activities.
Ongoing monitoring of 1800 phone and email for complaints	Ongoing monitoring of 1800 number and email, with Project team available 9am-5pm Mon – Fri to provide information, answer questions and address concerns.	Ongoing.
Update Community and Stakeholder Engagement Plan	Monitor, review and adapt the CSEP to ensure it remains effective and encourages community participation.	Annually, and as necessary based on information obtained through engagement activities or key project milestones.

6. ASSESSMENT OF IMPACTS

6.1 BIODIVERSITY

A Biodiversity Development Assessment Report (BDAR) (**Appendix G**) has been prepared by ERM to support the EIS. The BDAR addresses the biodiversity requirements in the SEARs.

The BDAR includes:

- Identification of the extent of native vegetation, threatened ecological communities and vegetation integrity within the Project Area and assess the habitat suitability for threatened species;
- Assessment of how the Project has avoided and minimised direct and indirect impacts to biodiversity values and Matters of National Environmental Significance (MNES) and identifying further measures that can be implemented to avoid and minimise impacts; and
- Calculation of the ecosystem credit and species credit requirements to offset direct impacts of the Project by retiring biodiversity credits through the NSW Biodiversity Offset Scheme (BOS).

The BDAR has been prepared in accordance with Section 7.9 of the *Biodiversity Conservation Act 2016* (BC Act) and the Biodiversity Assessment Method (BAM) 2020 (DPIE, 2020).

The Project was referred to the Commonwealth DCCEEW as a proposed action and was declared to not be a controlled action under Section 75 of the EPBC Act in March 2025 (EPBC 2024/10077). As such, the Project does not require approval under the EPBC Act.

6.1.1 EXISTING ENVIRONMENT

The Project Area is located entirely within the Riverina IBRA Bioregion and the Murrumbidgee Subregion. The Project Area is split between the Murrumbidgee Scalded Plains and Murrumbidgee Depression Plains Landscapes.

Native vegetation of the region is formed on an expansive alluvial plain dominated by chenopod shrublands bisected by wooded rivers and creeks. Stands of woody vegetation such as Black Box (*Eucalyptus largiflorens*) or White Cypress Pine (*Callitris glaucophylla*) or Weeping Myall (*Acacia pendula*) may be observed within the region but are restricted. These woody areas of native vegetation are often associated with channelled plains (gallery forest along creeks and rivers) or aeolian deposits (i.e., sand hills) and neither of these geomorphic features occur within the Project Area.

Livestock grazing and cropping have featured throughout the Hay plains since the late 1800's. The advent of agriculture in the region promoted the introduction of the European Rabbit (*Oryctolagus cuniculus*), resulting in a population explosion and widespread destruction of native vegetation prior to biological controls being introduced. Irrigated lands were widely installed prior to and after World War II, further intensifying land use. Current vegetation cover and condition has been shaped by these land use factors.

There are slight variations in topography across the site, although the area is generally flat with limited undulations. There are no documented karsts, caves, crevices, cliffs or other geological features of significance within the Project Area. While there are areas of imbedded rock present throughout the area, these do not constitute key habitat features associated with target threatened species.

The Project Area is located north of the Edward River and south of the Murrumbidgee River. The Forest Creek is located 600 m south of the Project Boundary. There are no permanent natural watercourses within the Project Area. An unnamed ephemeral water body is located across the southwestern corner of Project Area.

There are no aquatic habitats present within the Project Area, nor are there any aquatic ecological communities or threatened species that would be affected by the Project Area. There

are no mapped wetlands occur within the Project Area, nor are there any aquatic endangered ecological communities that would be affected by Project Area.

6.1.2 IMPACT ASSESSMENT

6.1.2.1 FIELD SURVEYS

Field surveys were undertaken between September 2023 and July 2025. The field surveys informed mapping of native vegetation within the Project Area and the identification and mapping of Plant Community Types (PCTs) and all Threatened Ecological Communities (TECs) within the Project Area.

The extent of native vegetation across the Assessment Area (i.e., Project Area with a 1,500 m radius buffer) is shown in **Figure 6-1**.

TABLE 6-1 NATIVE VEGETATION COVER IN THE ASSESSMENT AREA

Description	Value
Assessment Area	1,848 ha
Total area of native vegetation cover	1,490 ha
Percentage of native vegetation cover	80.6 %
Class (0-10, >10-30, >30-70 or 70%)	>70 %

Vegetation within the Project Area aligns with of PCT 164 – Cotton Bush open shrubland of the semi-arid (warm) zone (PCT 164) (approximately 20 ha). The PCT classification and mapping is shown in **Figure 6-1**. PCT 164 is described in BioNet as low to mid-high sparse to mid-dense shrubland usually about 0.8 m high dominated by Cotton Bush with occasional remnant shrubs of Bladder Saltbush with a sparse ground cover of native forbs and grasses occurring on grey-brown clays or clay-loam soils on depressed alluvial plains mainly in the Riverina Bioregion of the semi-arid (warm) climatic zone.

No Threatened Ecological Communities (TECs) are present within the Project Area.

‘Ecosystem credits species’ were predicted based on the vegetation surrogates and /or landscape features and do not require confirmation with targeted surveys. The predicted ecosystem credit species are outlined in **Table 6-2**.

TABLE 6-2 PREDICTED ECOSYSTEM CREDIT SPECIES

Common name	Scientific name	BC Act	EPBC Act	Associated PCT	Sensitivity to gain	Comment
Black Falcon	<i>Falco subniger</i>	V	-	157, 163, 164	Moderate	Retained
Blue-winged Parrot	<i>Neophema chrysostoma</i>	V	V	157, 163, 164	Low	Retained
Broga	<i>Grus rubicunda</i>	V	-	163	Moderate	Retained
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	V	-	163	Moderate	Retained

Common name	Scientific name	BC Act	EPBC Act	Associated PCT	Sensitivity to gain	Comment
Grey Falcon	<i>Falco hypoleucos</i>	V	V	157, 163, 164	High	Retained
Little Eagle (foraging)	<i>Hieraetus morphnoides</i>	V	-	157, 163, 164	Moderate	Retained
Little Pied Bat	<i>Chalinolobus picatus</i>	V	-	157, 163, 164	High	Retained
Magpie Goose	<i>Anseranas semipalmata</i>	V	-	157, 163, 164	Moderate	Retained
Pied Honeyeater	<i>Certhionyx variegatus</i>	V	-	163	Moderate	Retained
Pink Cockatoo (foraging)	<i>Lophochroa leadbeateri</i>	V	E ¹	163	Moderate	Retained
Redthroat	<i>Pyrrholaemus brunneus</i>	V	-	163	Moderate	Retained
Southern Whiteface	<i>Aphelocephala leucopsis</i>	V	V	163	Low	Retained
Spotted Harrier	<i>Circus assimilis</i>	V	-	157, 163, 164	Moderate	Retained
White-bellied Sea-Eagle (foraging)	<i>Haliaeetus leucogaster</i>	V	-	157, 163, 164	High	Retained
White-fronted Chat	<i>Epthianura albifrons</i>	V	-	157, 163, 164	Moderate	Retained
White-throated Needle-tail	<i>Hirundapus caudacutus</i>	V	V	157, 163, 164	High	Retained

The candidate species identified by the BAM-C for the Project Area are listed in **Table 6-3** and **Table 6-4**. Targeted field surveys were undertaken between September 2023 and July 2025 to confirm the presence or absence of these threatened flora and fauna species within the Project Area. The threatened species surveys confirmed the candidate species to be absent within the Project Area.

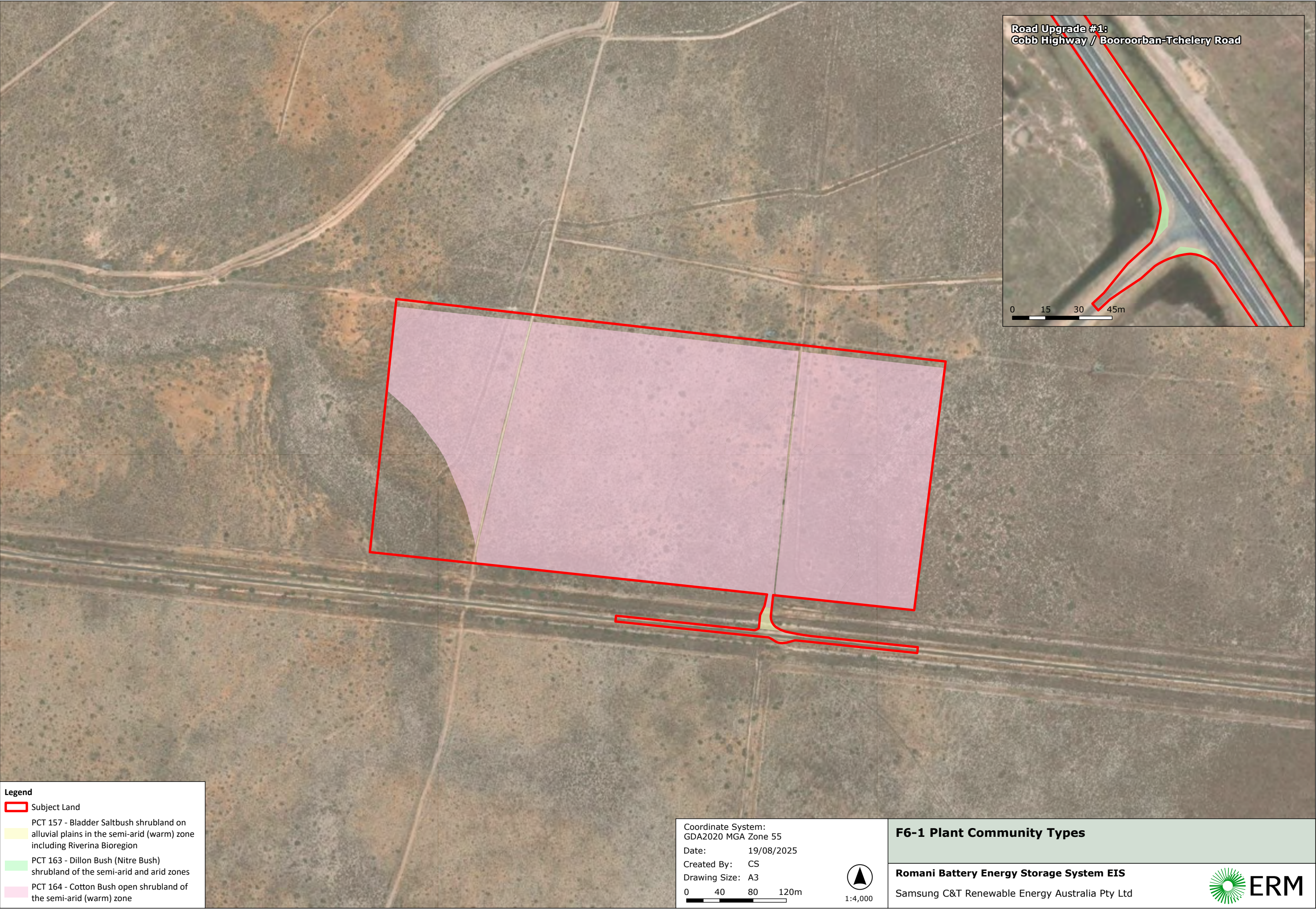
TABLE 6-3 CANDIDATE FLORA SPECIES CREDIT SPECIES

Common Name	Scientific Name	BC Act	EPBC Act
Mossgiel Daisy	<i>Brachyscome papillosa</i>	V	V
A burr-daisy	<i>Calotis moorei</i>	E	E
Bindweed	<i>Convolvulus tedmoorei</i>	E	-
Winged Peppergrass	<i>Lepidium monoplacoides</i>	E	E
Chariot Wheels	<i>Maireana cheelii</i>	V	V
Slender Darling Pea	<i>Swainsona murrayana</i>	V	V

¹ Endangered

TABLE 6-4 CANDIDATE FAUNA SPECIES CREDIT SPECIES

Common Name	Scientific Name	BC Act	EPBC Act
Pink-tailed Legless Lizard	<i>Aprasia parapulchella</i>	V	V
Australian Bustard	<i>Ardeotis australis</i>	E	-
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	V	-
Grey Snake	<i>Hemiaspis damelii</i>	E	E
Little Eagle (Breeding)	<i>Hieraaetus morphnoides</i>	V	-
Pink Cockatoo (breeding)	<i>Lophochroa leadbeateri</i>	V	E
Southern Myotis	<i>Myotis macropus</i>	V	-
Koala	<i>Phascolarctos cinereus</i>	E	E

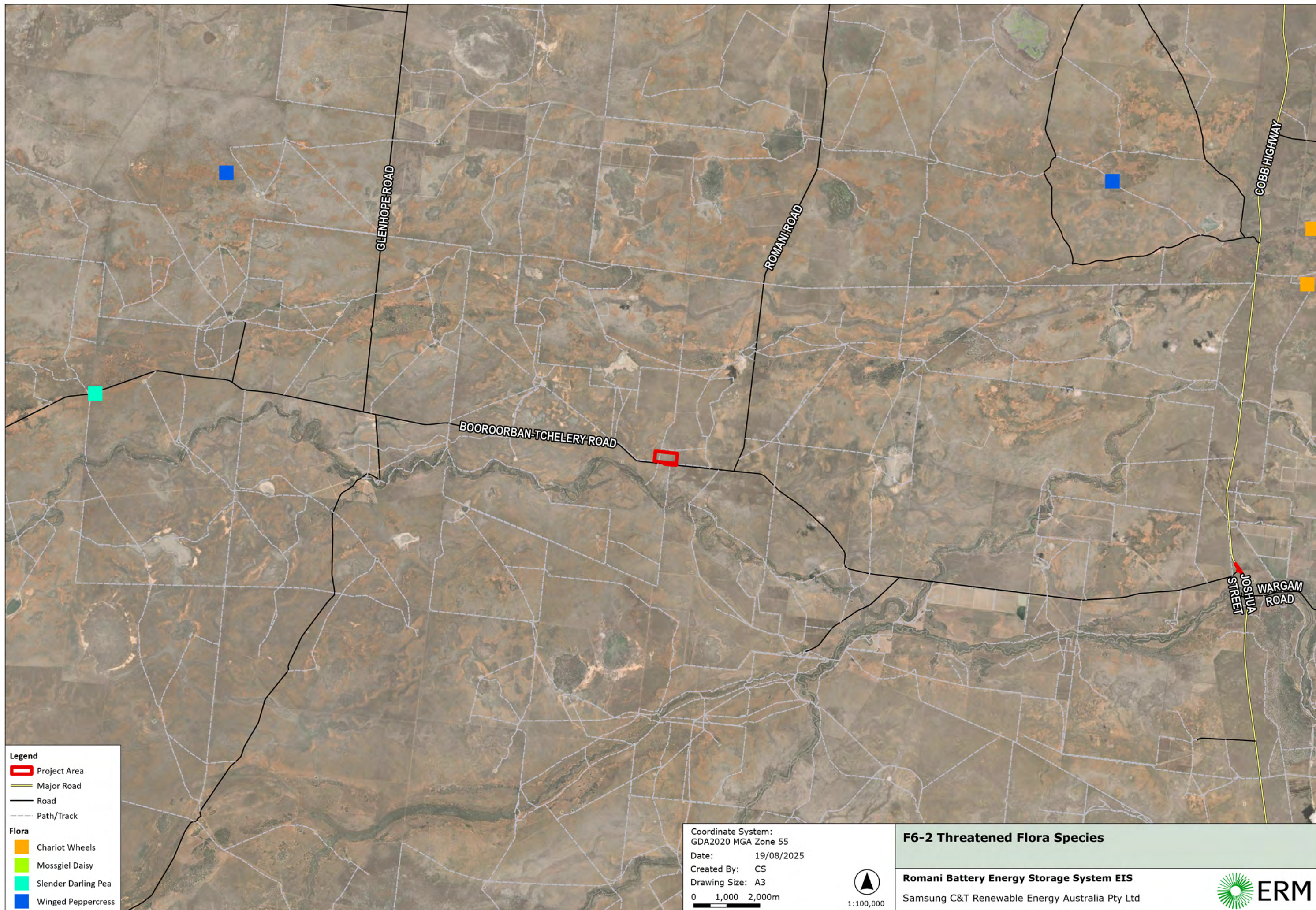


Legend

- Subject Land
- PCT 157 - Bladder Saltbush shrubland on alluvial plains in the semi-arid (warm) zone including Riverina Bioregion
- PCT 163 - Dillon Bush (Nitrate Bush) shrubland of the semi-arid and arid zones
- PCT 164 - Cotton Bush open shrubland of the semi-arid (warm) zone

Coordinate System:
GDA2020 MGA Zone 55
Date: 19/08/2025
Created By: CS
Drawing Size: A3
0 40 80 120m
1:4,000

F6-1 Plant Community Types	
Romani Battery Energy Storage System EIS	
Samsung C&T Renewable Energy Australia Pty Ltd	
	



Legend

- Project Area
- Major Road
- Road
- Path/Track

Flora

- Chariot Wheels
- Mossgiel Daisy
- Slender Darling Pea
- Winged Peppergrass

Coordinate System:
GDA2020 MGA Zone 55

Date: 19/08/2025

Created By: CS

Drawing Size: A3

0 1,000 2,000m

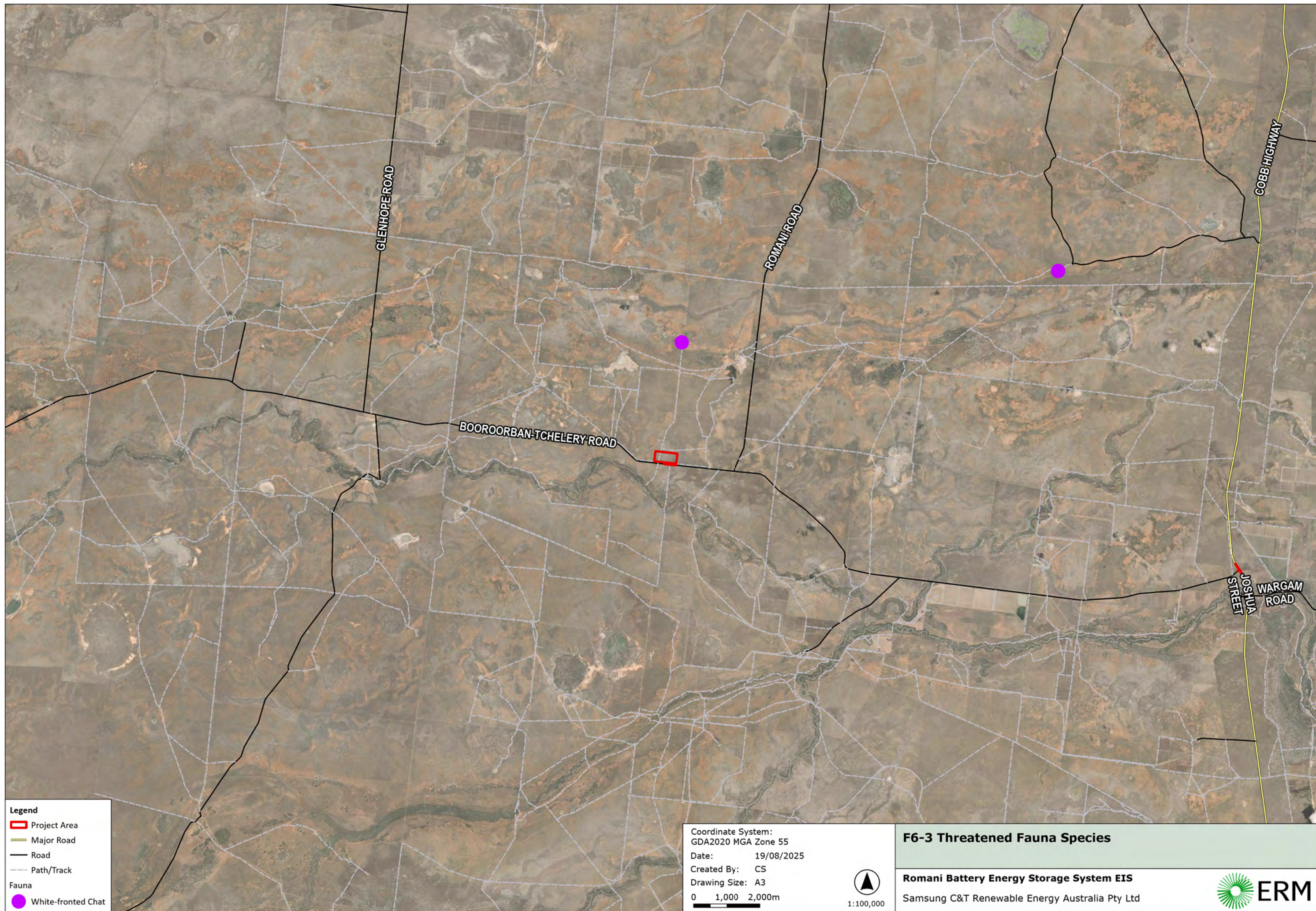
1:100,000

F6-2 Threatened Flora Species

Romani Battery Energy Storage System EIS

Samsung C&T Renewable Energy Australia Pty Ltd

ERM



Legend

- Project Area
- Major Road
- Road
- Path/Track
- Fauna**
- White-fronted Chat

Coordinate System:
GDA2020 MGA Zone 55

Date: 19/08/2025

Created By: CS

Drawing Size: A3

0 1,000 2,000m

1:100,000

F6-3 Threatened Fauna Species

Romani Battery Energy Storage System EIS

Samsung C&T Renewable Energy Australia Pty Ltd

ERM

6.1.2.2 AVOID AND MINIMISE

The Project has been sited to minimise the potential impacts to biodiversity. Where possible, the temporary and permanent disturbance footprint has been located in areas with fewer environmental constraints, such as avoiding areas of high biodiversity value land.

During the preparation of the EIS, the Project has been subject to an ongoing design and siting process to refine the Project layout to avoid and minimise environmental impacts. The Project layout has considered identified environmental risks and feedback during the stakeholder engagement process. With regard to biodiversity, the development footprint has been refined to avoid areas of high biodiversity native vegetation and habitat.

Where the potential for impacts could not be avoided, design principles were sought to minimise environmental impacts and/or mitigation measures were proposed to manage the extent and severity of any residual impacts. During detailed design and prior to construction, the layout may be refined to further avoid and/or minimise the potential environmental impacts of the Project.

6.1.2.3 DIRECT IMPACTS

Ecosystem credits required to offset the Project as per BAM Subsection 9.2.1 are identified in **Table 6-5**.

TABLE 6-5 IMPACTS THAT REQUIRE AN OFFSET - ECOSYSTEM CREDITS

VZ	PCT ID / Condition	Impact area (ha)	VIS Loss	Offsetable Impact	Ecosystem credits #
164	1 - Moderate	14.15	74.0	Yes	392
164	2 - Seasonally moist	1.86	53.9	Yes	38
164	3 - Low relief	1.71	65.4	Yes	42
157	4 - Roadside	0.05	82.1	Yes	2
163	5 - Intersection	0.12	92.4	Yes	4

6.1.2.4 INDIRECT IMPACTS

The BAM (DPIE, 2020) identifies 16 potential indirect impacts that, as a minimum, must be considered as a part of a BDAR.

Residual impacts of the Project on native vegetation, threatened entities and their habitat beyond the Subject Land have been considered in accordance with the BAM in **Table 6-6**.

Despite the propensity for indirect impacts, it is considered that the mitigation measures proposed are reliable and capable of remedying the effects of these impacts without causing harm to the adjoining environment. No residual indirect impacts are expected. The mitigation measures for these indirect impacts are listed in **Section 6.1.3**.

TABLE 6-6 SUMMARY OF RESIDUAL INDIRECT IMPACTS

Indirect impact	Project phase	Likelihood and consequences
PCTs, threatened species habitat and adjacent vegetation		
Inadvertent impacts on adjacent habitat or vegetation	Construction	- There are potential impacts to retained and adjacent vegetation resulting from incidental trampling by site vehicles, and overstepping clearing and disturbance boundaries; and - There is unlikely to be residual inadvertent impacts to adjacent vegetation.
Reduced viability of adjacent habitat due to edge effects	Operation	Impacts to viability of adjacent habitat due to edge effects is considered low due to current land use and condition (livestock grazing and weed incursions) of the Project Area.
Reduced viability of adjacent habitat due to noise, dust or light spill	Construction	- There are potential impacts to the viability of adjacent habitat as a result of artificial light, runoff, noise and dust incursions during construction of the Project; and - Minimal residual indirect impacts to the viability of adjacent habitat due to noise, dust or light spill may occur.
Transportation of weeds and pathogens from the subject site to adjacent vegetation	Construction, operation and rehabilitation	- There is a potential risk of transportation of introduced weeds and pathogens during construction and operation to adjacent vegetation. This risk is already present as a result of the current land use. However, risk is increased with increased vehicular movements; and - There is unlikely to be residual inadvertent impacts to adjacent vegetation.
Threatened fauna species		
Increased risk of starvation, exposure and loss of shade or shelter	Construction and operation	- Clearing of native vegetation for the construction of the Project will result in reduction of resources available for threatened fauna species that may result in starvation, exposure and loss of shade or shelter; - The extent of clearing of native vegetation has been minimised where possible and the extent of clearing is not considered critical to the survival of any threatened species; and - There is unlikely to be residual inadvertent impacts to threatened fauna species.
Loss of breeding habitat due to vegetation clearance	Construction	- There is no known breeding habitat for a threatened species within the Project Area; and - Indirect impacts on the breeding habitat for a threatened species are not expected.
Trampling of threatened flora species	Construction, operation and rehabilitation	- There is no known occurrence of a threatened flora species within the Project Area; and - No indirect impacts are expected for a threatened flora species located outside the Subject Land.
N/A		
Inhibition of nitrogen fixation and increased soil salinity	N/A	The Project is not expected to result in the inhibition of nitrogen or increased soil salinity.

Indirect impact	Project phase	Likelihood and consequences
Fertiliser drift		The Project is not expected to result in any fertiliser drift.
Rubbish dumping due to improper management of waste		The Project is not expected to result in rubbish dumping.
Wood collection		The Project is not expected to result in increased wood collection.
Removal and disturbance of rocks, including bush rocks		The Project is not expected to result in any indirect impacts resulting in removal and disturbance of rocks, including bush rocks.
Increase in predators		The Project is not expected to result in the increase in predatory species.
Increase in pest animal populations		The Project is not expected to result in the increase in pest animal species.
Change in fire regimes		The Project is not expected to result in any change in fire regimes.
Disturbance to specialist breeding and foraging habitat, e.g. beach nesting for shorebirds		The Project is not expected to result in any disturbance to specialist breeding habitat.

6.1.2.5 PRESCRIBED IMPACTS

Prescribed impacts were assessed in accordance with Clause 6.1 of the BC Regulation. Prescribed impacts are those that are additional to the clearing of native vegetation and associated habitat.

The prescribed impacts that are potentially relevant include:

- Development on the habitat of threatened species or ecological communities associated with Karst, caves, crevices, cliffs, rock outcrops and other geological features of significance, human-made structures; and non-native vegetation;
- Development on areas connecting threatened species habitat, such as biodiversity corridors;
- Impacts on water quality, waterbodies and hydrological processes that sustain threatened species and TECs; and
- Vehicle strikes on threatened species or on animals that are part of a TEC.

As assessed in Table 6-1 and Section 7.2 of **Appendix G**, no prescribed impacts are deemed to occur within the Project Area.

6.1.3 MITIGATION AND MANAGEMENT

Mitigation measures for prescribed impacts, and residual and indirect impacts are listed below in **Table 6-7**.

TABLE 6-7 BIODIVERSITY MITIGATION AND MANAGMENT MEASURES

ID	Mitigation and Management Measures
B1	Residual impacts on habitat will be offset through the Biodiversity Offset Scheme.

ID	Mitigation and Management Measures
B2	Where vegetation is to be removed it will be undertaken in accordance with specifications provided in a vegetation clearing protocol, detailed within the CEMP. A qualified ecologist is to conduct pre-clearance surveys in vegetation and habitat prior to daily construction. If fauna is identified during construction, works must stop. A suitably qualified ecologist or wildlife rescuer is to follow rescue procedures prior to recommencement of construction.
B3	To avoid unnecessary removal or damage to retained vegetation, the limit of clearing will be clearly demarcated and signed as 'Environmental Sensitive No-Go Zones' prior to the commencement of clearing. This will be detailed within the CEMP, including measures: • Vehicles or machinery will not be permitted to park within or drive through areas of retained vegetation; • Construction materials will not be stockpiled or stored within areas of retained vegetation; • Ancillary facilities, such as site compounds and construction zones, will not be located beyond the limits of clearing; • Temporary fencing and signage will be maintained throughout construction; and • Site inductions will be given by the civil contractor to all personnel and visitors to ensure all site workers and visitors are aware of any No-Go Zones.
B4	The CEMP will include measures to avoid light encroachment on adjacent habitats such as restricting construction works to daylight hours and incorporating sensitive lighting arrays that shield the adjoining native vegetation and habitat from stray light, with low-level lighting installed for all required external lighting.
B5	A weed management protocol will be described in the CEMP. To minimise the spread of weeds throughout the Project Area and surrounding patches, appropriate weed control activities will be undertaken in accordance with State and regional weed management plans. the following measures will be implemented as part of the Pest Control Management Program CEMP for the Subject Land: • Initial weed treatment - Including eliminating woody species and targeting infestations of exotic herbs. In particular, High Threat Exotic weed species occurring within the Subject Land will be managed in order to prevent further spread. Prior to any vegetation clearance, High Threat Exotic weeds should be demarcated for these to be disposed of separately from native material; • Containment – Follow-up monitoring and maintenance will be undertaken in areas of the development site that have received past primary weeding treatments to contain any re-emergence of weed species <u>throughout the construction phase</u>; and • Minimisation – Minimisation of weed species that cannot be effectively controlled on the site, such as exotic grasses, will be prevented from further spread through construction and operational phase site hygiene procedures.
B6	A pathogen management protocol will be described in the CEMP. The risk of spreading pathogens and the mitigation measures required on site will be regularly communicated to staff and contractors during inductions and toolbox talks.
B7	A site-specific Erosion and Sediment Control Plan will be developed and implemented to minimise erosion and sediment control risks. The Plan will include arrangements for managing wet weather events, and working with high surface water levels, including monitoring of potential high-risk events and specific controls and follow-up measures to be applied in the event of wet weather to avoid adverse impacts to hydrological processes, wetlands and ephemeral creek lines.

6.2 ABORIGINAL CULTURAL HERITAGE

An Aboriginal Cultural Heritage Assessment Report (ACHAR) (**Appendix H**) was prepared by ERM to support this EIS. The ACHAR addresses the requirements outlined in the Project SEARs relating to Aboriginal cultural heritage.

The AHCAR includes:

- Desktop research and archaeological site database searches;
- Review of previous assessment for the Project Area, and within the local area;
- Consultation with the local Aboriginal community; and
- Field surveys undertaken by ERM and Registered Aboriginal Parties (RAPs) on 22 February 2024, 16-18 July 2024, 7 April 2025, and 25 July 2025.

The ACHAR has been prepared in accordance with the following guidelines:

- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011);
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010a);
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010b);
- *The Australia International Council on Monuments and Sites, Charter for Places of Cultural Significance* (also known as the Burra Charter, Australia ICOMOS 2013) and relevant Practice Notes (Australia ICOMOs, 2013); and
- *Leading Practice Principles: First Nations and Renewable Energy Projects* (Clean Energy Council and KPMG, 2024).

6.2.1 BACKGROUND

6.2.1.1 EXISTING ENVIRONMENT

The nature and distribution of Aboriginal cultural values in a landscape are strongly influenced by environmental factors such as topography, geology, landforms, climate, geomorphology, hydrology and the associated soils and vegetation.

The Project is situated within the Riverina Plain of the Murrumbidgee Province in the Riverina IBRA Bioregion. The Riverina Bioregion is located in the south-west of NSW and extends into central-north Victoria. The Murrumbidgee Province is generally comprised of a naturally flat landscape largely consisting of clays, silts, and sands which have historically been subject to a consistent cycle of annual flooding. The Murrumbidgee Province is generally characterised by extensive coarse deposits, low lying source bordering dunes, and occasional sand dunes. The Riverina Bioregion has a semi-arid climate with low winter rainfall and relatively hot summers.

The Riverina Bioregion is dominated by river channels, floodplains, swamps, lakes and lunettes of quaternary age. Geologically, the Project Area is part of an extensive alluvial plain, known as the Hay Plain, which developed following a period of land subsidence in the tertiary period. The Project Area solely consists of the Shepparton Formation, an alluvial deposit which varies in depth between 50-125 m and covers a series of significantly older alluvial and marine sediments.

Paleochannels (former streams which carried water during the last glacial period) are present within and surrounding the Project Area. These landforms have archaeological sensitivity as their raised nature would have made them more suitable for occupation during flood events and the coarser nature of the soil deposits supports a wider variety of land uses and the conservation of a wider range of archaeological deposits. Past Aboriginal occupation is likely to have focused on resources associated with paleochannels.

The Project Area is entirely made up of vertosols which comprise grey, brown, and red clays, siliceous sands, and red and brown earths. Soils are closely related to the current and previous hydrological regime with areas of lower relief typically comprises of grey cracking clays associated with flood environments. The majority of the Project Area is comprised on level plains of Quaternary alluvium of sands and clays. Clay based soils are less likely to support artefact deposition and archaeological site development due to the general impermeable nature of clay soils.

The Project Area is within the Murray Darling Basin, which comprises a vast network of rivers, and sits within the Southern Basin catchment. Water flow along the rivers and creeks in the region have been regulated by major structures as a result of irrigation for agriculture and has significantly reduced the magnitude of flooding events. There are no named waterways within the Project Area. Forest Creek is located approximately 300m to the south. An ephemeral drainage channel that flows east to west is located across the south-western corner of the of the Project Area.

6.2.1.2 ABORIGINAL ARCHAEOLOGICAL BACKGROUND

The Project Area is within the boundaries of the Kulin language group of the Western Murrumbidgee encompassing the Nari Nari, Mathi Mathi, Wathi Wathi, Wembla Wembla language groups, the boundaries of which are difficult to define and often overlap. Rivers were central to Aboriginal way of life providing a rich concentration of food resources and it is suggested that Aboriginal communities living along the rivers would have controlled access to the water and its resources. There is less detail about how Aboriginal people lived on the plains more than 20km for a main river channel, however, it is suggested that the plains would have been predominantly used in the winter months where there was an abundance of standing water from rainfall and flooding and vacated when the water on the plains dried up.

The Aboriginal Heritage Information Management System (AHIMS) database provides information concerning previously recorded Aboriginal sites in NSW. A search of the AHIMS database was completed in September 2023 and September 2024. One Hearth site, 'Tchelery Hearth Complex', was identified within the 1000 m buffer of the Project Area and 11 Aboriginal sites are recorded on the AHIMS database. All 11 sites were recorded by ERM during the archaeological surveys for the solar farm component of the previous project. No Aboriginal Heritage Impact Permits (AHIPs) have been registered with the Project Area.

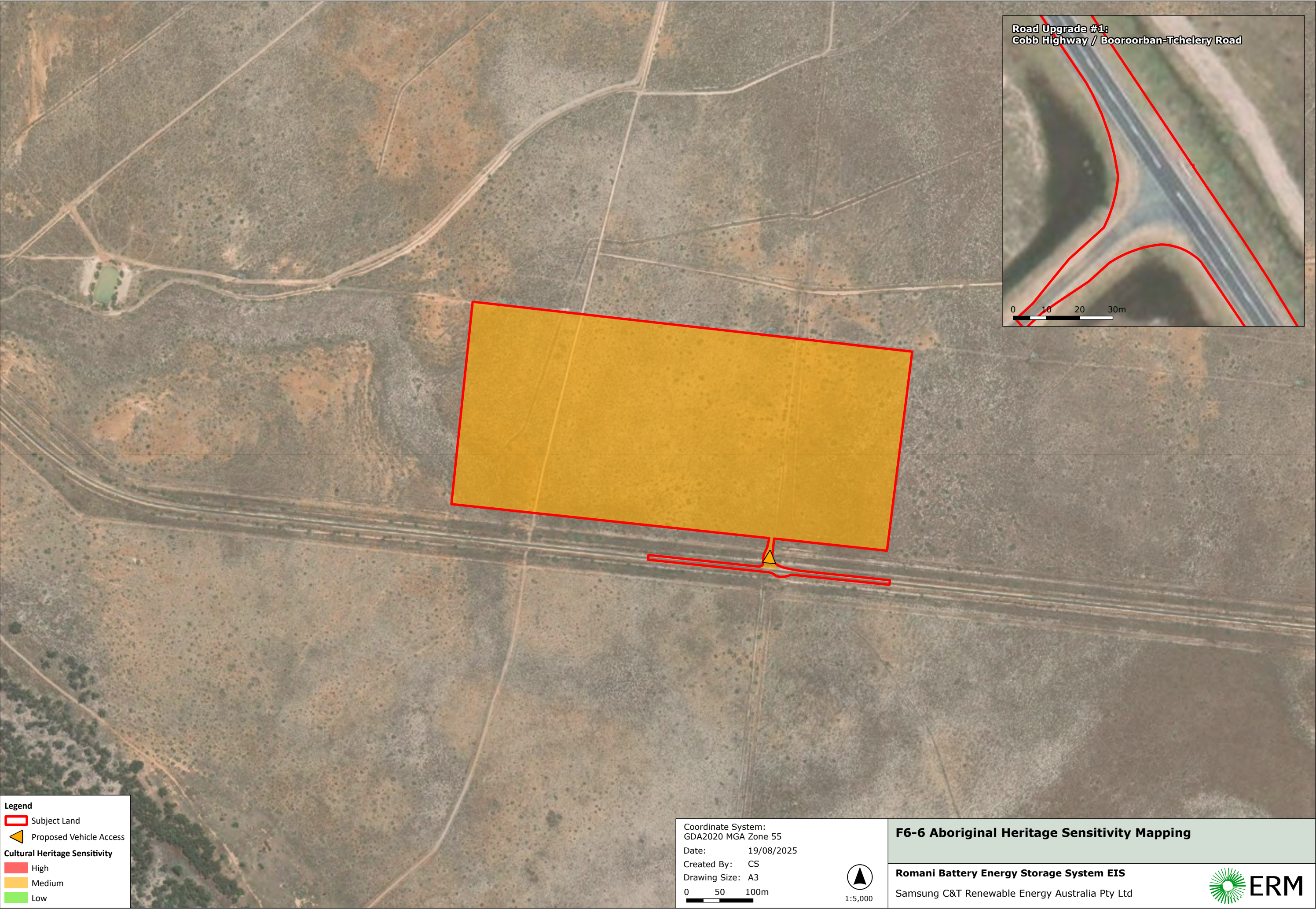
The registered AHIMs sites are shown in **Figure 6-4**. The newly identified AHIMS sites are shown in **Figure 6-5**. Aboriginal heritage sensitivity mapping shown in **Figure 6-6** and indicates the Project Area has 'medium' cultural heritage sensitivity.

FIGURE 6-4 REGISTERED AHIMS SITES

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FIGURE 6-5 NEWLY IDENTIFIED AHIMS SITES

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6.2.3 IMPACT ASSESSMENT

6.2.3.1 CULTURAL HERITAGE SURVEYS

Cultural heritage surveys were conducted by ERM and RAPs within the Project Area. These surveys consisted of linear transects undertaken with a survey team of three people with the team spaced approximately 10-20 m apart. Locations of the transects were recorded by GPS to map the paths of the survey teams. GPS coordinates were also recorded for each location of an Aboriginal site.

Due to the changes in the definition of the Project, four surveys were completed in 2024 and 2025. The most recent surveys were undertaken on 7 April 2025 and 25 July 2025 and these surveys covered the BESS location and the road intersection upgrades respectively.

6.2.3.2 SURVEY RESULTS

No previously recorded Aboriginal sites are located within the Project Area. The results of the AHIMS search are presented in **Appendix H**. No new sites were identified as part of the survey in April 2025 and July 2025. No Aboriginal sites would be affected or harmed as a result of the Project.

6.2.3.3 ABORIGINAL CULTURAL HERITAGE SIGNIFICANCE

The Project Area forms a component of a cultural landscape associated with Aboriginal use of the Riverina Murry Region for cultural and subsistence based activities. No specific areas of social or cultural significance have been identified, however, it is understood that cultural landscapes of the Project Area can retain significance for the local Aboriginal community.

6.2.4 MITIGATION MEASURES

Notwithstanding the above conclusions that there are no Aboriginal sites within the Project Area, there is still the possibility of unexpected Aboriginal cultural material being found during the construction of the Project. **Table 6-8** outlines the proposed mitigation measure to ensure unexpected finds are appropriately managed.

TABLE 6-8 ABORIGINAL HERITAGE MITIGATION MEASURES

ID	Mitigation and Management Measures
AH1	All personnel involved with construction activities within the Project Area should undertake a cultural awareness induction.
AH2	An Unexpected Finds Procedure (UFP) that includes mechanisms for managing the unexpected finds of additional Aboriginal cultural material being found during construction activities should be developed.

6.3 HISTORIC HERITAGE

An Historic Heritage Due Diligence Assessment (HHDDA) (**Appendix I**) has been prepared by ERM to support this EIS. This assessment addresses the requirements outlined in the Project SEARs relating to historic heritage.

The HHDDA includes:

- Desktop review of the Heritage Register, databases and publicly available libraries and archives; and

- Field survey of the Project Area conducted in conjunction with the cultural heritage survey. The HHDD has been prepared in accordance with the following guidelines:
- Assessing Heritage Significance (NSW Heritage Office, 2001);
- Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Branch, DPHI, 2009);
- NSW Heritage Manual (Heritage Office, 1996); and
- The Australian International Council on Monuments and Sites, Charter for Places of Cultural Significance (also known as the Burra Charter, Australia ICOMOS 2013).

6.3.1 BACKGROUND

Early European exploration of the Murrumbidgee Region occurred from the 1820s with expeditions originally focused along the Murrumbidgee River. Pastoral stations focused on cattle grazing were established in the lower Murrumbidgee region from the 1820s and by 1841 the Murrumbidgee District contained 147 pastoral stations. The development of townships within the region soon followed.

The Project Area is located within the pastoral run of Miranda. Large blocks of land in this region between the Murrumbidgee River and Billabong Creek were released by the Government c.1850s. The Miranda pastoral run later became encompassed by the larger Bundyulumbulah Station and Bald Hill pastoral run later became encompassed by Nyangay Station.

The Project Area is within the resumed area of Bundyulumbulah Station and the leasehold area of Nyangay Station. In 1885, the Bundyulumbulah and Nyangay Stations were gazetted. Improvements on the property from this time included a homestead, stores, wool sheds, numerous huts, wells, tanks and dams. These structures are present to the south-west of the Project Area.

Following sale of the Bundyulumbulah Station and Nyangay Station in 1918 and 1925, respectively, the Project Area has remained largely undeveloped during the mid-twentieth century. A residence and associated sheds have been constructed off Romani Road (outside the Project Area) and a network of irrigation channels and canals has been established since the 1960s. Sheep and cattle grazing continues to be the primary activity and use of the land.

6.3.2 IMPACT ASSESSMENT

6.3.2.1 DESKTOP SEARCHES

A desktop review of the Australian Heritage Database, which encompasses entries from the World Heritage List, National Heritage List, Commonwealth Heritage List, and the Register of National Estate, has been undertaken.

ERM also reviewed the historic heritage impact assessment prepared by Navin Officer for Project EnergyConnect, which is proposed to traverse the site approximately 60 m to the north of the Project Area. These desktop reviews confirmed there are no listed heritage items within the Project Area or within its vicinity, and no potential heritage items were identified within the Project Area.

6.3.2.2 FIELD SURVEY

A field survey was undertaken by ERM on 7 April 2025 and included a pedestrian survey and visual inspection of the Project Area. The Project Area has remained largely undeveloped into the mid-twentieth century and no substantial nineteenth century structures were recorded within the Project Area.

6.3.2.3 RESULTS

Based on the desktop searches and field survey results, there are no known or potential historic heritage sites within the Project Area or within its immediate vicinity. There is low potential for historical archaeological resources to be present.

6.3.3 MITIGATION MEASURES

Notwithstanding the above conclusions, there is still a possibility of unexpected archaeological resources being found during the construction of the Project. **Table 6-9** outlines the proposed mitigation measure to ensure unexpected finds are appropriately managed.

TABLE 6-9 HISTORIC HERITAGE MITIGATION MEASURES

ID	Mitigation and Management Measures
HH01	Provide all staff and contractors with briefing prior to the commencement of works, on the requirements of the <i>Heritage Act 1977</i> and the unexpected finds protocol.
HH02	Prior to the commencement of works an unexpected finds protocol is to be developed to manage finds of historic heritage significance during construction activities and shall be incorporated in the Construction Environmental Management Plan (CEMP).

6.4 AGRICULTURAL IMPACTS

A Soils, Land and Agricultural Impact Assessment (SLAIA) (**Appendix J**) has been prepared by Minesoils to support this EIS. The SLAIA addresses the requirements of the SEARs.

The SLAIA includes:

- Desktop assessment of NSW regional soil mapping;
- Field surveys to verify land and soil capability (LSC); and
- A Land Use Conflict Risk Assessment (LUCRA) to identify and assess the potential for land use conflict to occur between neighbouring land uses.

The SLAIA has been prepared in accordance with the Land and Soil Capability Assessment Scheme (NSW OEH, 2012) and Land Use Conflict Risk Assessment Guide (NSW DPHI, 2011).

6.4.1 BACKGROUND

The Project Area is located on the Riverine Plain, the eastern geomorphic subdivision of the Murray Basin that encompasses an area of 77,000 square kilometres.

The Riverine Plain is characterised by almost flat topography with extremely low gradients dominated by the open plains of native grasslands and semi-arid shrublands, which is traversed by several major rivers and their tributaries that flow from the east and south. The Murray Basin is a large low lying intracratonic basin containing Cainozoic unconsolidated sediments and sedimentary rocks.

The three main rivers of the Riverina Murray region are the Murray, Murrumbidgee and Lachlan Rivers, all fed by numerous creeks and tributaries. These three river systems are part of the greater Murray-Darling Basin. The underlying geology of the Project Area is Shepparton Formation which consists of unconsolidated to poorly consolidated variegated and mottled clay, silt, silty clay, with intercalated lenses of fine to coarse sand and gravel.

The Riverina Murray region covers approximately 115,000 km² and supports a diverse range of agricultural activities that place a high value on the region's reliable water supplies. The region has a long and favourable pastoral history and current agriculture in the region includes beef and sheep grazing, temperate fruit, intensive poultry and pig production, irrigation cropping, and rangeland grazing. In the south-west of the region (Murray River LGA and Edward River LGA), farms generally contain rangeland and are typically 3,000 ha to 4,000 ha in size. The agricultural enterprises and land use surrounding the Project Area largely consist of irrigated cropping and livestock grazing on native pastures.

The Project Area is generally stable, treeless open plain landform with 80-100% surface cover in the form of low shrubs and pasture for grazing. The Project Area contains small areas of subtle sand rises/deposits and soil surface scald which result from aeolian geomorphological processes that have likely been exacerbated by agriculture land uses and saline salt conditions. An unnamed tributary crosses the southwestern corner of the Project Area, which is part of The Forest Creek catchment, and connects to The Forest Creek approximately 1 km to the south.

The Project Area is subject to livestock grazing supporting sheep and cattle which are grazed at a low stocking rate on native and improved pastures. The Project Area is not subject to fertiliser application and there is minimal ongoing use of herbicides. Livestock are watered through a series of surface dams and troughs, which are filled with pumped water. The agricultural productivity of the development footprint is estimated at \$30,296 per annum.

The NSW regional soil mapping indicates the dominant soil types within the development footprint are vertosols. Vertosols are soils with a clay field texture or 35% or more clay throughout the solum except for thin, surface crusty horizons 30 mm or less thick and when dry, open cracks occur at some time in most years and slickensides and/or lenticular peds occur at some depth in the solum. The development footprint comprises soils with 'Moderate' fertility. The dominant Land Soil Capability is LSC Class 5: moderate-low capability land and largely restricts land use to grazing, some horticulture such as orchards, forestry and nature conservation. **Figure 6-7** shows the Australian Soil Classification Mapping within the Project Area.

There is no biophysical strategic agricultural land (BSAL) or critical industry clusters (CICs) or State Significant Agricultural Land (SSAL) mapped within the Project Area.

6.4.2 IMPACT ASSESSMENT

6.4.2.1 SOIL SURVEY

A field survey was undertaken by Minesoils in November 2024. The survey was undertaken over the 18 ha development footprint and a total of two sites were assessed resulting in a survey intensity of 1 site per 10 ha. Soil samples were collected at each of the assessment site's soil horizon to a depth of 1 m with a total of six samples collected. Three samples were considered representative to be subject to laboratory testing.

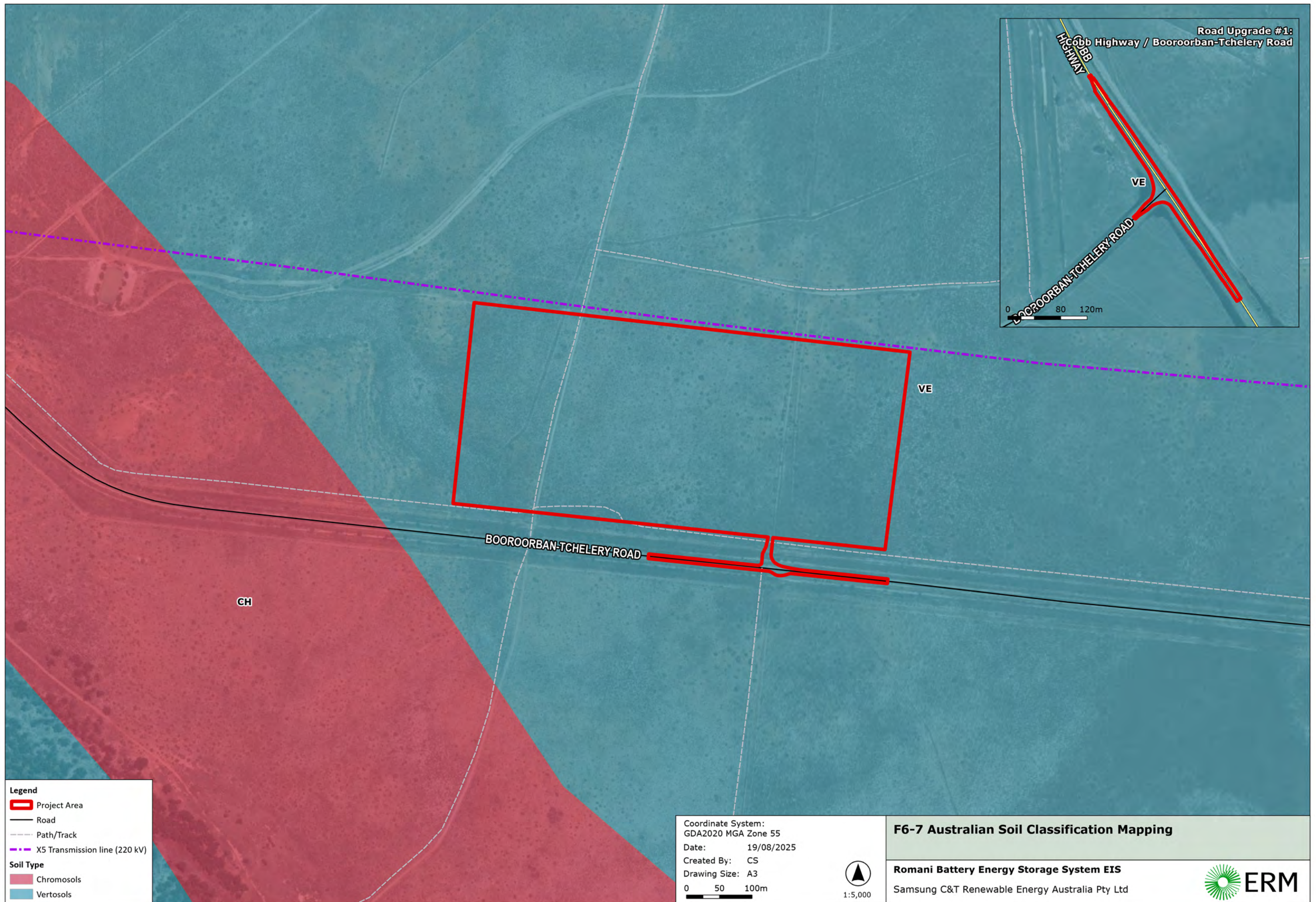
6.4.2.2 SURVEY RESULTS

The survey found the Project Area to contain one soil mapping unit characterised by Vertosols and is consistent with regional mapping of soil types. This unit is characterised by heavy clay soils which are sodic and range from non-saline in the upper horizon to highly and extremely saline at depth. pH ranges from neutral to moderately alkaline. Soil profiles are deep and moderately well drained. There is a sporadic presence of calcareous nodules at depth.

An Emerson Aggregate Test (EAT) was applied to representative samples taken within the Development Footprint to determine the potential soil erodibility. Based on site observation, which included assessment for indicators of erodibility, such as sheet or gully erosion, it was concluded that there is a minor wind erosion risk due to the nature of the landscape and exposure characteristics and there is moderate risk for dispersion of soils within the development footprint. However, given the ranges in salinity of the topsoils tested within the Project Area, all sodic soils should be considered dispersive.

The Project Area does not contain any of the five different classes of acid sulfate soils (ASS) as defined on the NSW Acid Sulfate Soil Planning Map. Assessing land elevation and distance from the coast, in conjunction with existing ASS mapping for NSW, the potential for ASS is considered a very low risk and there was no evidence of ASS indicators such as soil gleying, odour, marine sediments and organic materials recorded as part of the soils survey.

The soil test sites taken within the Project Area have been classified as ranging from LSC class 6 (14 ha) to class 7 (6 ha). The spatial extent of each verified LSC class is shown in **Figure 6-8**. This indicates that the soil within the Development Footprint has high to severe limitations of and the land use is restricted to low impact land uses such as grazing, forestry, and nature conservation.



Legend

- Project Area
- Road
- Path/Track
- X5 Transmission line (220 kV)

Soil Type

- Chromosols
- Vertosols

Coordinate System:
GDA2020 MGA Zone 55

Date: 19/08/2025

Created By: CS

Drawing Size: A3

0 50 100m

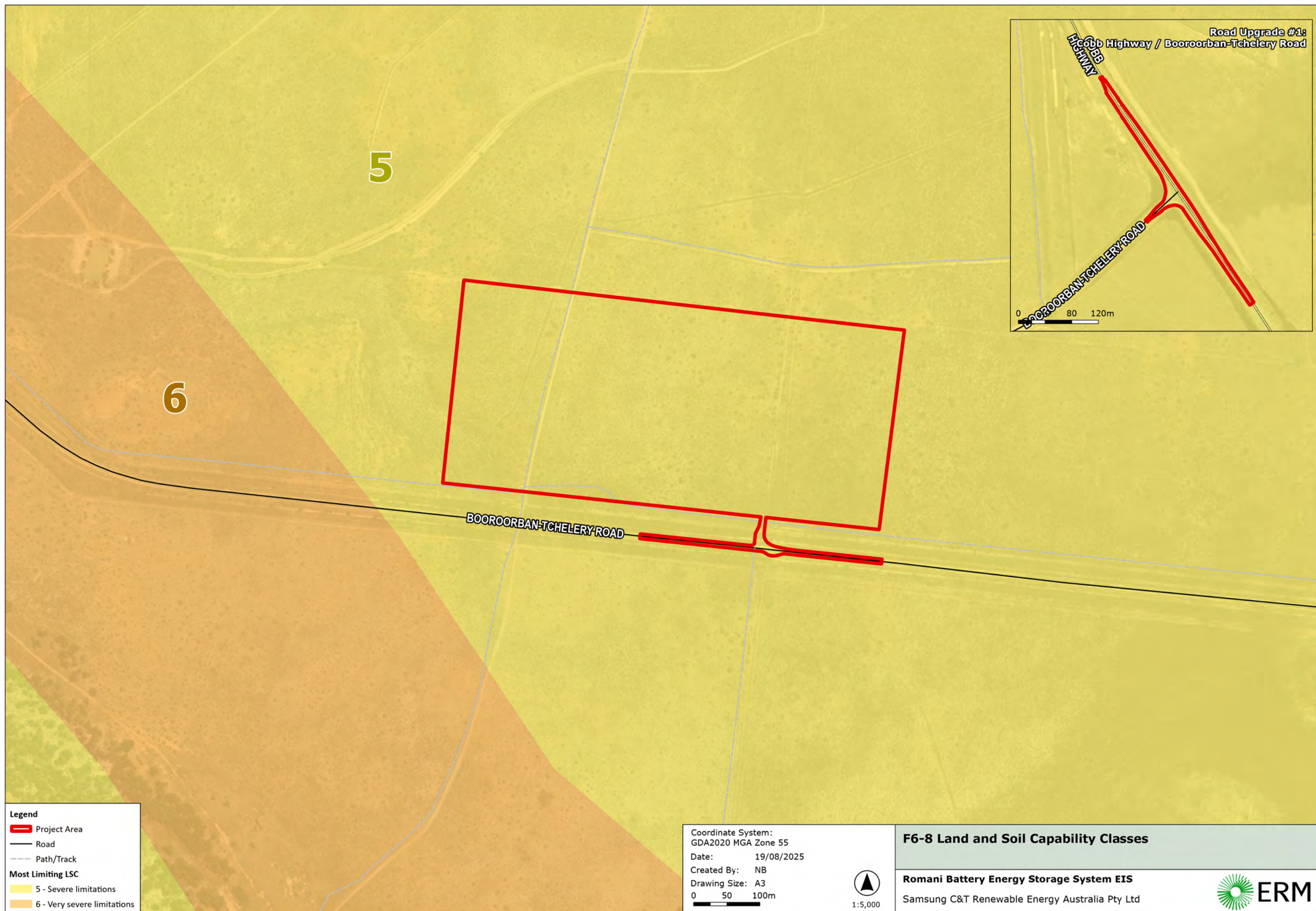
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F6-7 Australian Soil Classification Mapping

Romani Battery Energy Storage System EIS

Samsung C&T Renewable Energy Australia Pty Ltd





6.4.2.3 LAND USE CONFLICT RISK ASSESSMENT

A LUCRA was prepared to identify and assess the potential for land use conflict to occur between neighbouring land uses. The LUCRA included consultation with four neighbouring landholders. The LUCRA identified 25 potential conflicts. The proposed mitigation measures contained in the EIS would reduce the level of risk for the majority of the potential risks.

However, three potential conflicts are still considered a moderate risk for land use conflict and include the following:

- Land users in the locality may be concerned about biosecurity breaches including weeds, pest plants, plant disease or pest animal introduction and/or spread as a result of the Project;
- Land users in the locality may be concerned about the risk of fires occurring at the site and the potential to spread to surrounding land, infrastructure or livestock; and
- Stakeholders may be concerned about the potential for poor rehabilitation outcomes and the resulting long term environmental and agricultural consequences.

6.4.2.4 IMPACTS ON AGRICULTURAL LAND

The Project would disturb approximately 18 ha of land currently used for agriculture. It is anticipated that agricultural land use would be re-established over the disturbed agricultural land at the time of decommissioning, unless otherwise agreed with the landowner and/or regulatory authorities, and therefore there would be a temporary decrease of 18 ha of agricultural land for the duration of the Project. The temporary impact of the Project on productivity of agricultural land based on the change in land use would be approximately \$18,144 per year.

Agricultural productivity of land outside of the Development Footprint would not be affected by the Project as the associated agricultural resources would not be affected. The Project would have a negligible impact on the viability of local and regional agricultural services and employment. The Project would not have an impact on critical mass thresholds of agricultural enterprises needed to attract and maintain investment in agricultural industries and infrastructure.

Overall, the impacts to the soils of the Project Area are expected to be minimal and temporary. There would be no direct or indirect impacts to the soil resources of the Project locality outside the Project Area. Due to the nature of the Project which would require only localised and sporadic landform modification including minor soil stripping for excavation works and leveling, impacts on LSC are expected to be minor. No impacts are anticipated on the availability of current surface or groundwater resources used by local landholders.

There is a moderate potential risk for dispersion where soils are disturbed by Project construction efforts within the Development Footprint. However, the risk of erosion and sedimentation impacts on agriculture resulting from the Project is considered low and it is expected that direct and indirect erosion and sedimentation risks would be limited and manageable through the implementation of mitigation measures. The Project would have a negligible impact on local and regional agricultural infrastructure.

6.4.2.5 BIOSECURITY AND OTHER IMPACTS ON AGRICULTURE

Weeds and pest species, including evidence of rabbits, were observed within the Project Area during field surveys.

Additional weeds and pest species could be inadvertently brought into the Project Area with imported materials, machinery, or allowed to invade naturally through removal or damage of current vegetation. Biosecurity risks as a result of the Project are considered to be low and are unlikely to impact upon agricultural resources and enterprises within the region and can be managed with the proposed mitigation measures.

6.4.3 MITIGATION AND MANAGEMENT

Table 6-10 summarises the mitigation measures to be implemented for the Project to ensure negligible impact on agricultural resources and enterprise.

TABLE 6-10 SOIL AND AGRICULTURE MITIGATION AND MANAGEMENT MEASURES

ID	Mitigation Measure
SA1	As part of the Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP), an erosion and sediment control plan (ESCP) would be prepared that addresses the specific soil dispersion risks based on disturbance activity and phase of the Project.
SA2	A site soil management plan would be prepared for the Project that includes soil management measures relating to soil stripping, stockpiling, respread/reuse, and land rehabilitation.
SA3	A detailed Decommissioning and Rehabilitation Plan would be prepared within 18 months of the planned closure of the Project. This Plan would detail all aspects of decommissioning and removal of all Project infrastructure and details of temporary erosion and sediment control measures.
SA4	During decommissioning, where potential erosive impacts have been identified due to the disturbance of sodic soils in locations of significant disturbance, soil amelioration should be undertaken as part of rehabilitation earthworks. Standard temporary erosion and sediment control measures are to be put in place for high disturbance areas.
SA5	Weeds would be managed across the site through a Pest and Weed Management Plan. This would include an ongoing effort to identify and eliminate existing weed populations on-site over the life of the Project. The spread of declared noxious weeds would be prevented by using site specific measures such as direct spraying.
SA6	Feral animals would be controlled in accordance with Livestock Health and Pest Authority procedures. Feral animal control may be undertaken in consultation with host and neighbouring landholders, as required.
SA7	An Agricultural Biosecurity Management Plan detailing construction and operational risks and controls in relation to pests, weeds, and diseases should be prepared for the Project. The Agricultural Biosecurity Management Plan should include controls to address the current elevated threat of foot-and-mouth disease (FMD).
SA8	The disturbance area would be returned to an agricultural productivity following the Project that is an approximate equivalent of pre-project status.

6.5 CONTAMINATION

A Preliminary Site Investigation (PSI) (**Appendix K**) has been prepared by ERM to support this EIS. The PSI addresses the SEARs and section 4.6 of State Environmental Planning Policy (Resilience and Hazards SEPP) 2021 (Resilience and Hazards SEPP).

The PSI includes a desktop review of historical aerial photography and contaminated land registers and databases, as well as a site walkover to observe ground conditions.

The PSI has been prepared in accordance with the 'Managing Land Contamination Guidelines' (Department of Urban Affairs and Planning & EPA, 1998) and other relevant guidance prepared by the NSW EPA.

6.5.1 BACKGROUND

The Project Area is zoned RU1 Primary Production. The Project Area is subject to livestock grazing supporting sheep and cattle on native and improved pastures. The Project Area is not subject to fertiliser application and there is minimal ongoing use of herbicides. Livestock are watered through a series of surface dams and troughs, which are filled with pumped water.

There are no groundwater bores within the Project Area. The closest groundwater bore to the Project Area is located 600 m to the south on the southern side of Booororban-Tchelery Road, with a drilled depth of 52.4 m (GW019877) and is listed for stock and domestic uses.

The site has been used for livestock grazing potentially dating back to 1840-1850. Since this time, the Project Area remains largely undeveloped aside from the addition of irrigation channels and farm dams from the 1960s onwards. There are no other buildings or structures within the Project Area.

6.5.2 IMPACT ASSESSMENT

The PSI has considered the potential for contamination to be present based on a desktop review of historical records, public databases, and other information, supplemented by a site walkover. The PSI concludes that:

- The Project Area is zoned RU1 Primary Production and is used for agricultural purposes, primarily livestock grazing;
- There is no evidence of agricultural practices such as sheep dipping or intensive cropping with fertilisers, insecticides, fungicides or herbicides that could lead to contamination;
- There is no previous history of other uses that could be potentially contaminated and it is considered that the Project Area has a low contamination risk;
- There is no history of previous contamination investigations or remediation within the Project Area;
- There are no records of the land being contaminated on NSW Environmental Protection Authority (EPA) Contaminated Land Record and the EPA List of Notified Sites;
- The Project Area is unlikely to be contaminated and is suitable for the proposed development in its current form and satisfies the requirements of s4.6 of the Resilience and Hazards SEPP; and
- No visible signs of contamination were observed during the site walkover.

6.5.3 MITIGATION AND MANAGEMENT

Any unexpected potential contamination that may be encountered during construction of the Project, could be readily managed by measures included within a Construction Environmental Management Plan. **Table 6-11** summarises the mitigation measures to be implemented.

TABLE 6-11 CONTAMINATION MITIGATION AND MANAGEMENT MEASURES

ID	Mitigation Measure
CN1	Any disturbed soil that is observed to be odorous, or coloured differently in comparison with other soil that has been excavated should be tested to determine potential for contamination and either remediated in situ with a remediation technique suitable to the type of contaminant detected, or disposed to an appropriate landfill.

6.6 LANDSCAPE AND VISUAL

A Landscape Character and Visual Impact Assessment (LVIA) (**Appendix L**) has been prepared by Moir Landscape Architecture Pty Ltd (Moir Studio) to support this EIS. The LVIA addresses the landscape and visual requirements in the SEARs.

The LVIA includes:

- A landscape character assessment including a baseline study and field survey to assess the landscape character of the areas and its sensitivity and the potential impacts of the Project on the landscape character zones (LCZs); and
- A visual impact assessment including identification of public and private viewpoints and their visual sensitivity, and an assessment of the potential visual impact of the Project on those viewpoints.

The LVIA has been prepared having regard to Australian Institute of Landscape Architects Guidance Notes for landscape and visual impact assessment (AILA, 2018) and the TfNSW Guidelines for Landscape Character and Visual Impact Assessment (TfNSW, 2023).

6.6.1 BACKGROUND

The Project is situated within the Murrumbidgee Subregion, which is characterised by vast, flat plains with depressions and distributary channels. The landform within the Project Area is characterised by flat, open and often treeless plains with little change in elevation. as a dry semi-arid climate and features flat, agricultural areas characterised by treeless plains of saltbush and native grasslands. The riparian vegetation along The Forest Creek is the only contrasting feature within the landscape, with the riparian vegetation becoming the only natural focal point on the horizon. saltbush and native grasslands.

The closest two roads within the study area are Boooroban-Tchelery Road and Romani Road, Boooroban-Tchelery Road is located adjacent to the southern boundary of the Project Area, while Romani Road is an unsealed road that runs in north to south orientation on the eastern side of the host property. An existing 220kV transmission line runs east to west across the Study Area to the immediate north of the Project Area.

6.6.2 IMPACT ASSESSMENT

6.6.2.1 LANDSCAPE CHARACTER ASSESSMENT

Field investigations were conducted in November 2024. Three LCZs were identified within the study area, and their ratings are listed in **Table 6-12**. A scenic quality rating was determined for each LCZ using the qualitative framework in Table 2 of the LVIA. Scenic quality represents the overall and relative scenic, cultural or aesthetic value of the landscape within the viewshed and is based on the presence or absence of key landscape features.

The overall level of landscape character impact is determined through the combination of landscape sensitivity and visual magnitude. Sensitivity refers to the quality of the landscape and how sensitive it is to change and magnitude refers to size and scale of the project and the extent to which it could become a major or dominant feature within the landscape.

The overall landscape character impact of the Project is 'Very Low' on all three LCZs.

TABLE 6-12 LANDSCAPE CHARACTER ASSESSMENT SUMMARY

LCZ	Scenic Quality	Sensitivity	Magnitude	Landscape Character Impact
LCZ01 – Agricultural Plains	Very Low	Very Low	Low	Very Low
LCZ02 – Riparian Corridors	Low	Low	Very Low	Very Low
LCZ03 – Depressions and Vegetated Floodplains	Very Low	Very Low	Low	Very Low

6.6.2.2 VISUAL IMPACT ASSESSMENT

An initial visibility assessment was undertaken using Zone of Visual Influence (ZVI) mapping to define the visual catchment for the Project. Four public and two private viewpoints were identified within 2.5 km of the Project for assessment.

Public viewpoints

Four viewpoints were selected from publicly accessible locations to represent a range of views surrounding the Project Area, noting that there are limited opportunities to view the Project with the exception of Booororban-Tchelery Road and Romani Road.

The Project would result in a 'low' to 'very low' visual impact on the existing landscape character. Due to the flat topography and small vertical scale of the Project, the visual impact of the Romani BESS is 'very low' with the exception of a small section of Booororban-Tchelery Road immediately adjacent to the Project, where there would be a 'low' visual impact.

The results are summarised in **Table 6-13**.

TABLE 6-13 PUBLIC VIEWPOINT ASSESSMENT RESULTS

Viewpoint	Location	Visual sensitivity	Visual magnitude	Visual impact
VP01	Booororban-Tchelery Road	Very low	Very low	Very low
VP02	Booororban-Tchelery Road	Very low	Moderate	Low
VP03	Booororban-Tchelery Road	Very low	Very low	Very low
VP04	Romani Road	Very low	Very low	Very low

In addition to the BESS, associated infrastructure also has the potential to contrast with the existing visual landscape. Due to a relatively low scale and siting of the Project, associated infrastructure such as roads, switchyards, substations, O&MN facility, electrical reticulation and temporary construction compounds and laydown areas are unlikely to alter the existing visual landscape and the overall visual impact of associated infrastructure would be low.

Private viewpoints

Two private receptors were identified within 2.5 km of the Project with a theoretical line of sight to the Project. There are no lots within 4 km of the Project with dwelling entitlements. The two private receptors comprise an unoccupied dwelling and an unoccupied caravan. Both are located to the south of the Project.

The Project would result in a 'very low' visual impact to the private viewpoints. The results are summarised in **Table 6-14**.

TABLE 6-14 PRIVATE VIEWPOINT ASSESSMENT RESULTS

Receptor	Location	Visual sensitivity	Visual magnitude	Visual impact
7	931 Boooroorban-Tchelery Road, Boooroorban	Moderate	Very low	Very low
9	931 Boooroorban-Tchelery Road, Boooroorban	Moderate	Very low	Very low

The opportunities to view the Project from public and private views is limited and only a small section of Boooroorban-Tchelery Road would experience visual impacts from the Project. Due to the 'low' visual impact of the Project, no mitigation measures or screen planting are required.

6.6.3 MITIGATION AND MANAGEMENT

No mitigation measures are required to address the Project's impacts to landscape character or visual impacts to public and private viewpoints.

6.7 NOISE

A Noise Impact Assessment (NIA) (**Appendix M**) has been prepared by ERM to support the EIS. The NIA addresses the noise requirements in the SEARs.

The NIA includes:

- Evaluation of the existing noise environment and identification of Noise Sensitive Receivers (NSRs);
- Establishment of project-specific noise criteria in accordance with the relevant guidelines at NSRs for compliance assessment;
- Assessment of construction noise and vibration impacts associated with the Project in accordance with the NSW Interim Construction Noise Guideline (ICNG) (DECC, 2009);
- Assessment of operational noise impacts associated with the Project and the cumulative noise impacts in accordance with the Noise Policy for Industry (NPI) (NSW EPA, 2017);
- Assessment of traffic noise impacts associated with the construction and operation of the Project in accordance with the NSW Road Noise Policy (RNP) (DECCW, 2011);

- Mitigation measures to be implemented to ensure compliance with the operational and construction project-specific noise criteria;
- Assessment of cumulative impacts; and
- A draft Construction Noise and Vibration Management Plan (CNVMP).

6.7.1 BACKGROUND

The existing noise environment in the vicinity of the Project is 'rural residential'. The NPI (NSW EPA, 2017) describes 'rural residential' as an area with an acoustical environment that is dominated by natural sounds (such as foliage noise, birdsong and insect noise) with little or no road traffic noise and low background noise levels. Settlement patterns in rural residential areas are typically sparse. Two NSRs have been identified within 2km of the Project and are shown in **Figure 6-9**.

The background noise levels at the NSRs are expected to be similar to the minimum assumed Rating Background Levels (RBLs) specified in Table 2.1 of the NPI. The use of minimum assumed RBLs is reasonable in rural environments where there are no prominent noise sources associated with roads, rail and industrial plant influencing the noise environment at the receivers.

6.7.2 IMPACT ASSESSMENT

6.7.2.1 CONSTRUCTION NOISE

The ICNG provides a set of recommended standard hours of construction (i.e., 7am to 6pm Monday to Friday; 8am to 1pm Saturday; and no work on Sundays or public holidays). Noise Management Levels (NMLs) for construction works within these standard construction hours have been established for the identified NSRs. The NMLs are presented in **Table 6-15**.

TABLE 6-15 CONSTRUCTION NOISE MANAGEMENT LEVELS

Time of Day	Daytime Rating Background Level, dB(A)	Noise Affected Management Level, Leq(15 min), dB(A)	Highly Noise Affected Management Level, Leq(15 min), dB(A)
Residential - Recommended Standard Hours	35	45	75

Construction noise predictions have been established through calculation of the geometrical dispersion of noise with the assumption of flat topography, no acoustic shielding and no ground absorption effects. The noise predictions consider the sound power level of the equipment operating continuously for a 15-minute period.

Three different noise scenarios were developed to represent different stages of construction. Scenario 'CON 1' represents site preparation and establishment works (e.g., a drum roller and pad foot roller), 'CON 2' represents delivery of infrastructure (e.g., two cranes in operation), and 'CON 3' represents the general construction phase (e.g., two small pile driving rigs). Under a worst-case noise scenario, the construction noise sources are assumed to be operating continuously for a 15-minutes period at the boundary facing towards the NSRs.

Table 6-16 presents the predicted worst-case noise construction levels at the NSRs for each construction scenario.

TABLE 6-16 PREDICTED CONSTRUCTION NOISE LEVELS

Sensitive Receiver ID	Address	Noise affected NML (dB) $L_{Aeq}(15 \text{ min})$	Highly noise affected NML (dB) $L_{Aeq}(15 \text{ min})$	Scenario (dB) $L_{Aeq}(15 \text{ min})$			Compliance with noise affected NML CON1/CON2/CON3 (dB) $L_{Aeq}(15 \text{ min})$
				CON 1	CON 2	CON 3	
R7	931 Booororban-Tchelery Road, Booororban NSW 2710	45	75	39	40	44	Yes / Yes / Yes (-1)
R9	931 Booororban-Tchelery Road, Booororban NSW 2710	45	75	41	42	46	Yes / Yes / No (+1)

The 'noise affected' NML is only exceeded at sensitive receiver R9 during construction scenario CON 3. The 'highly noise affected' NML is not exceeded at any of the sensitive receivers. Noise management and control measures would be required to be implemented to mitigate impacts. It should be noted that R9 was vacant at the time of the assessment and had been so for some time. Prior to construction commencing, the Applicant intends to check the occupancy of R9 and review the potential noise impact and need for mitigation measures. Mitigation measures could include a combination of informing the community of the operating duration of high noise emitting construction machinery, and implementation of a complaints handling process.

6.7.2.2 CONSTRUCTION VIBRATION

In terms of vibration impacts, the safe working distances for typical vibration causing plant in construction range from 7 to 100 m to trigger a human response (TfNSW, 2016). There are no vibration sensitive receivers within this range and therefore construction vibration impacts are not expected from the project.

6.7.2.3 OPERATIONAL NOISE

The NPI (EPA, 2017) provides a framework and methodology for assessing environmental noise impacts for industrial premises and industrial developments. Section 2.1 of the NPI establishes the methodology for deriving Project Noise Trigger Levels (PNTLs) which are benchmarks that represent a level that, if exceeded, would indicate a potential noise impact on the community that requires a management response. The PNTLs are shown in **Table 6-17**.

TABLE 6-17 PROJECT NOISE TRIGGER LEVELS

Receiver	Assessment period	Project Intrusiveness Noise Level $L_{Aeq,15min}$ dB(A)	NPI Amenity Noise Level $L_{Aeq,period}$ dB(A)	Project Amenity Noise Level $L_{Aeq,15min}$ dB(A)	Project Noise Trigger Level $L_{Aeq,15min}$ dB(A)	Sleep Disturbance L_{Amax}
Residential	Day	40	50	48	40	-
	Evening	35	45	43	35	-
	Night	35	40	38	35	52

Noise modelling has been undertaken using the CONCAWE algorithm as implemented within SoundPLAN 9.1. The noise contours displaying the predicted noise levels for the day, evening and night periods for noise-enhancing meteorological conditions are provided in **Figure 6-9**. Predicted operational noise levels at the nearest Noise Sensitive Receivers (NSRs) within 2 km of the Project for the day, evening and night-time noise enhancing meteorological conditions are shown in **Table 6-18**.

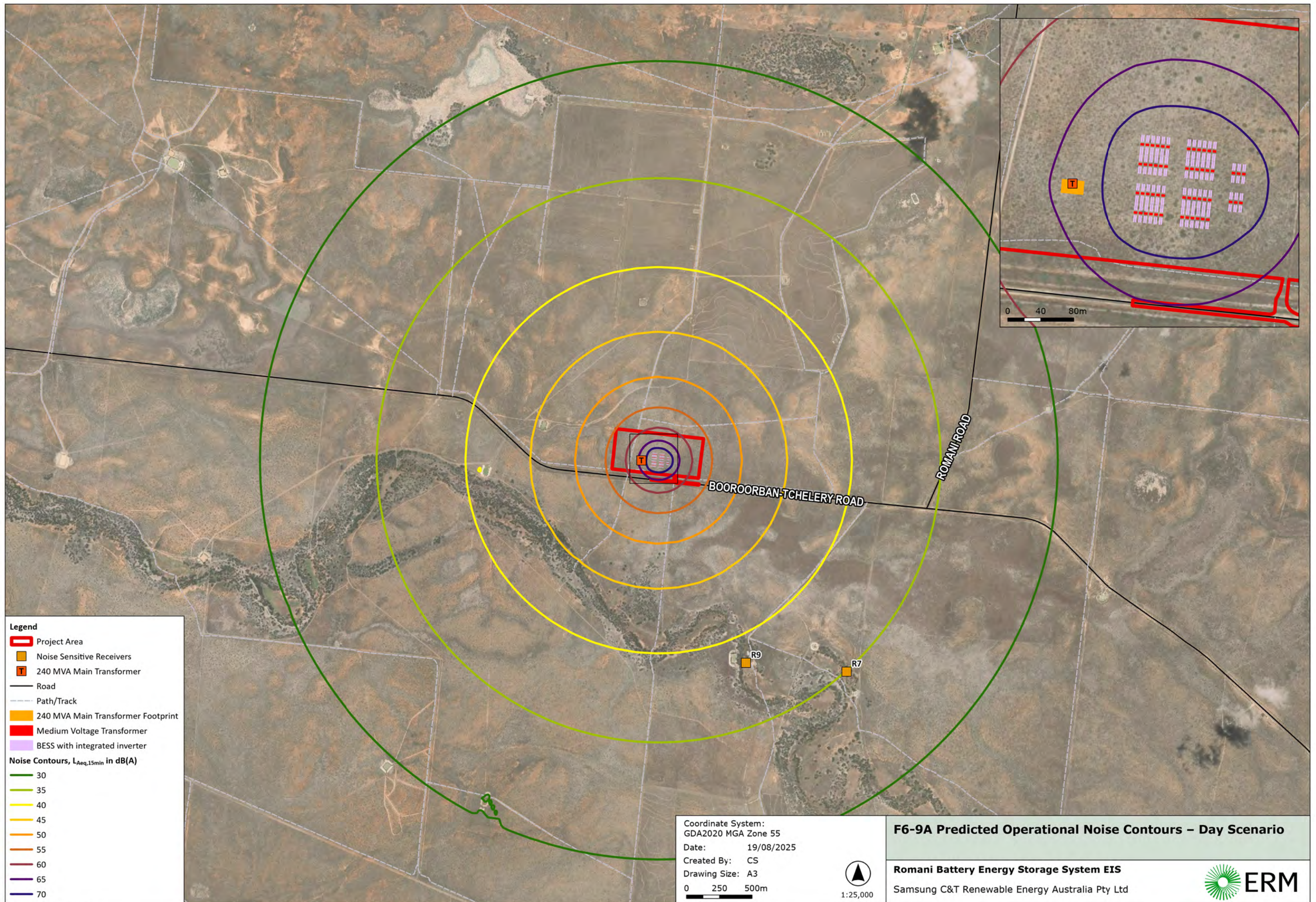
TABLE 6-18 PREDICTED OPERATIONAL NOISE LEVELS

Sensitive Receiver ID	Receiver category	Assessment Criteria, PNTLs in $L_{Aeq,15 min}$ dB(A) Day / Evening / Night-time	Predicted Operational Noise Level for Noise Enhancing Meteorological Conditions* in, $L_{Aeq,15 min}$ dB(A)		
			Day	Evening	Night-time
R7	Holiday accommodation	53 / 48 / 42	35	30	30
R9	Rural residential	40 / 35 / 35	38	33	33

Notes:

* Day/Evening: stability categories A–D with light winds up to 3 m/s at 10 m AGL.

** Night: stability categories A–D with light winds up to 3 m/s at 10 m AGL and/or stability category F with winds up to 2 m/s at 10 m AGL.



Legend

- Project Area
- Noise Sensitive Receivers
- 240 MVA Main Transformer
- Road
- Path/Track
- 240 MVA Main Transformer Footprint
- Medium Voltage Transformer
- BESS with integrated inverter

Noise Contours, $L_{Aeq,15min}$ in dB(A)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70

Coordinate System:
GDA2020 MGA Zone 55

Date: 19/08/2025

Created By: CS

Drawing Size: A3

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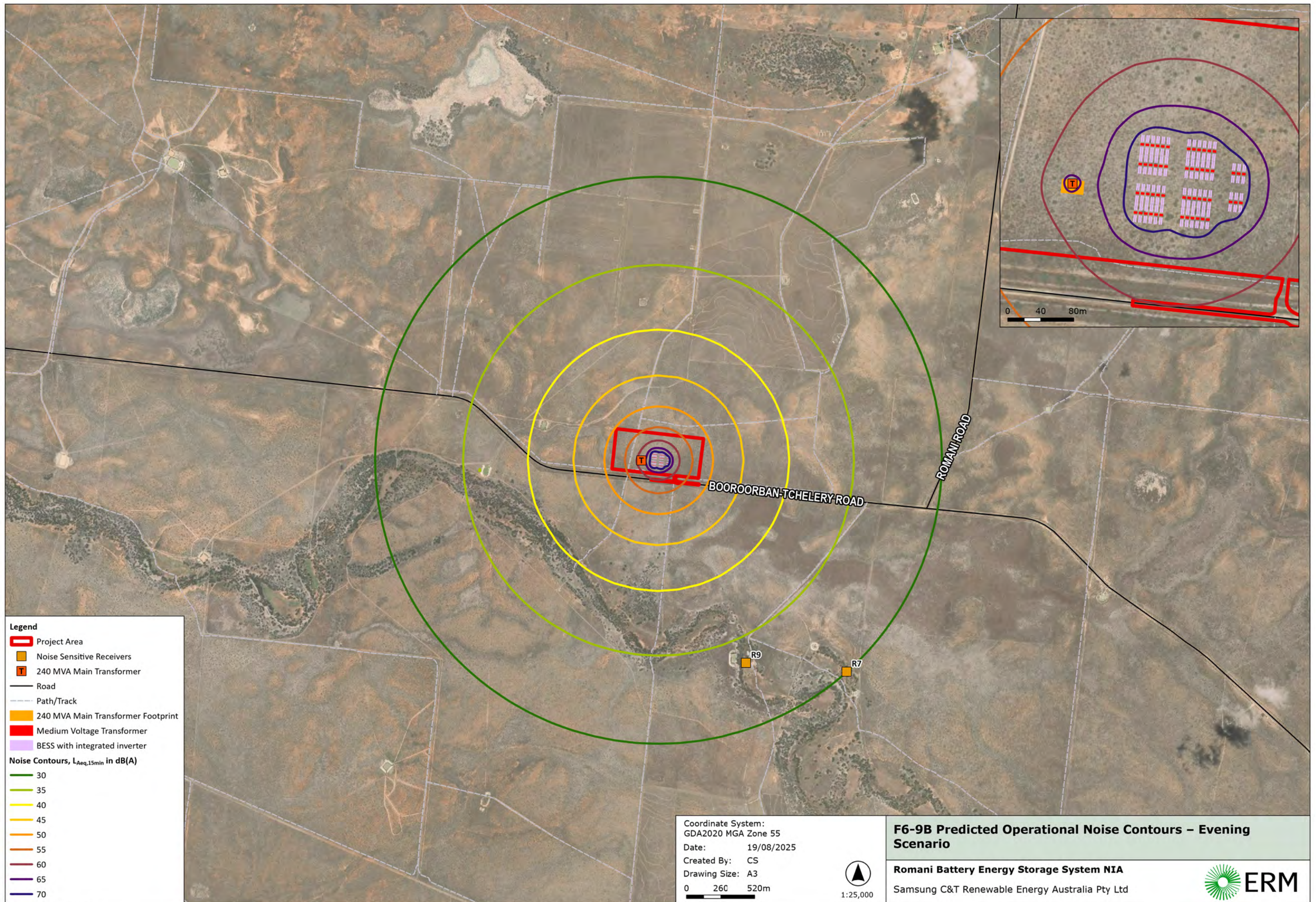
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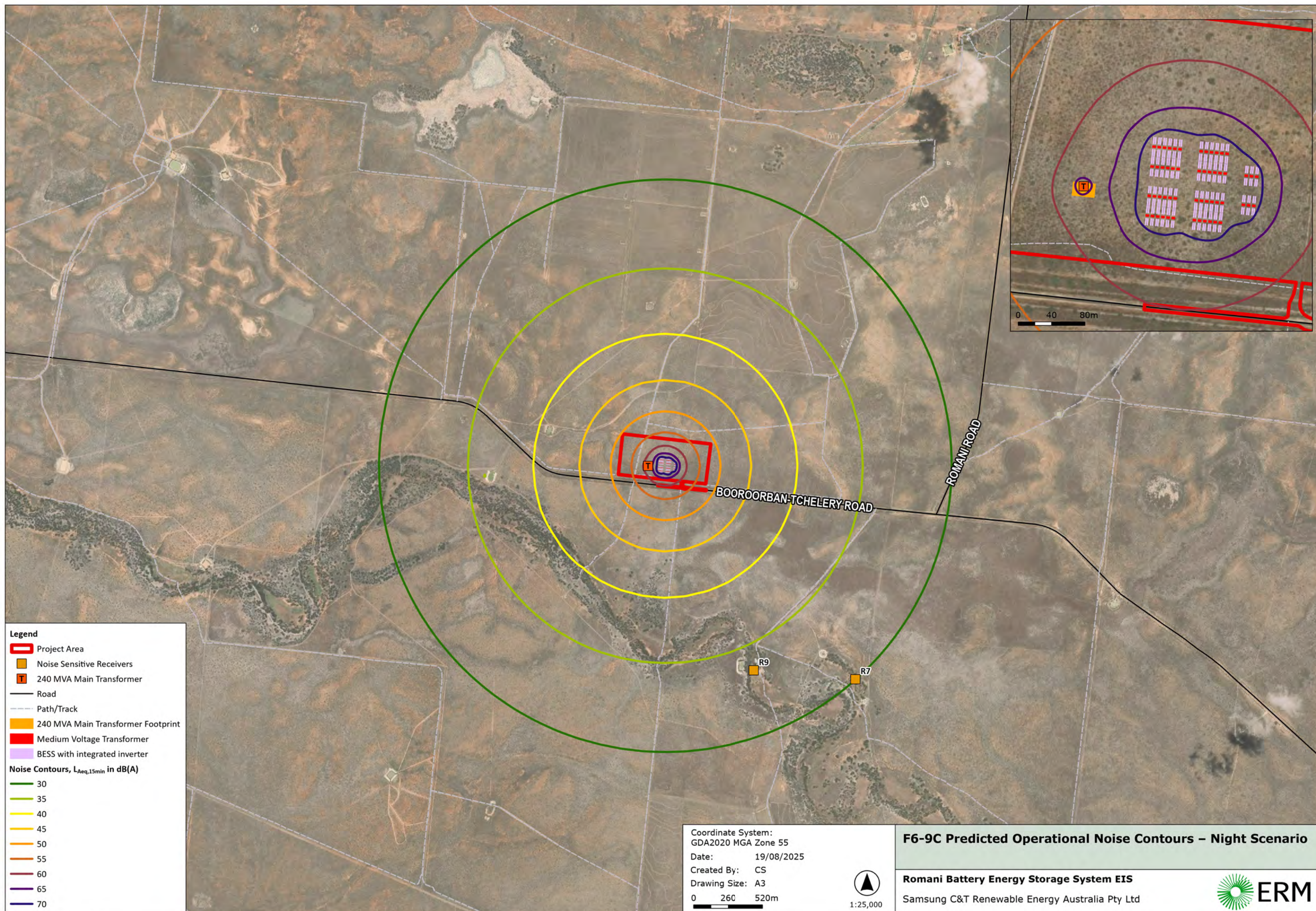
F6-9A Predicted Operational Noise Contours – Day Scenario

Romani Battery Energy Storage System EIS

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6.7.2.4 TRAFFIC NOISE

The NSW Road Noise Policy (RNP) (DECCW, 2011) criteria applicable to the nearest residences affected by additional road traffic due to the Project are presented in **Table 6-19**.

TABLE 6-19 RNP RESIDENTIAL ROAD TRAFFIC NOISE CRITERIA

Road Category	Type of Project/Land Use	Assessment Criteria – dB(A)	
		Day 7am to 10pm	Night 10pm to 7am
Local roads (Romani Road / Boooroorban-Tchelery Road)	Existing residences affected by additional traffic on existing local roads generated by land use development	L _{Aeq,1hr} 55 (external)	L _{Aeq,1hr} 50 (external)

The construction traffic peak would be between 6am and 7am in the morning and between 5pm and 7pm in the evening. The estimated daily peak construction traffic volume would be up to 54 light vehicle trips and 56 heavy vehicle trips (**Appendix N**).

All the assessed noise sensitive receivers are located more than 300 m away from either Romani Road or Boooroorban-Tchelery Road. Traffic noise impacts at receivers located more than 300 m away from a road traffic noise source is negligible, therefore no construction traffic noise impacts are expected at the noise sensitive receivers.

6.7.3 MITIGATION AND MANAGEMENT

Table 6-20 summarises the mitigation measures that would be implemented for the Project to manage the construction and operational noise impacts on NSRs. No mitigation measures are required to manage construction vibration or traffic noise.

TABLE 6-20 NOISE AND VIBRATION MITIGATION AND MANAGEMENT MEASURES

ID	Mitigation Measure
N1	Construction work and activities would be limited to the ICNG recommended standard hours (i.e., 7am to 6pm Monday to Friday and 8am to 1pm Saturdays and no work on Sundays or public holidays).
N2	Where equipment operates close to the Project boundary and is anticipated to generate high levels of noise (e.g., > 45 dB(A) at a sensitive receiver) potential respite periods should be considered. (e.g., three hours of work, followed by one hour of respite).
N3	All plant, equipment and/or machinery used on the site should be in suitable condition, with particular emphasis on exhaust silencers, covers on engines and inspection of squeaking or rattling components.
N4	Unnecessary noise due to idling engines should be avoided. High engine speeds should be avoided when equipment can be powered down and lower engine speeds are feasible.
N5	A Construction Noise Management and Vibration Plan (CNVMP) containing noise mitigation and management measures shall be created for the construction phase of this Project.
N6	Silencer kits are required to be installed for all MV Stations. A Sound Power Level of no higher than 85.9 dB(A) is to be achieved for each plant item.

ID	Mitigation Measure
N7	Prior to construction commencing, the Applicant intends to check the occupancy of noise sensitive receiver R9 and review the potential noise impact and need for mitigation measures.

6.8 TRANSPORT

A Traffic Impact Assessment (TIA) (**Appendix N**) has been prepared by Amber Organisation to support this EIS. The TIA addresses the transport requirements of the SEARs.

The TIA includes:

- Details of both light and heavy vehicle traffic volumes and proposed transport routes;
- An assessment of the potential traffic impacts of the Project on road network function and safety;
- An assessment of the capacity of the existing road network to accommodate the type and volume of traffic generated by the Project;
- Details of measures to mitigate and/or manage potential impacts, including construction traffic control, road dilapidation surveys and measures to control dust generated by traffic volumes; and
- Details of access roads and how these connect to the existing road network and ongoing operational maintenance.

The TIA has been undertaken in accordance with the RTA Guide to Transport Impact Assessment (TfNSW, 2024) and relevant Austroads Guidelines.

6.8.1 BACKGROUND

The Project is located on Booororban-Tchelery Road. There is one vehicle access to the site via Booororban-Tchelery Road which connects to the State and regional road network via the Cobb Highway to the east and Maude Road to the west. Cobb Highway is an approved B-Double route and OSOM route. Booororban-Tchelery Road is unrated.

There is no public transport services available in the vicinity of the Project. School bus services operate along the Cobb Highway and Sturt Highways during the mornings and afternoons

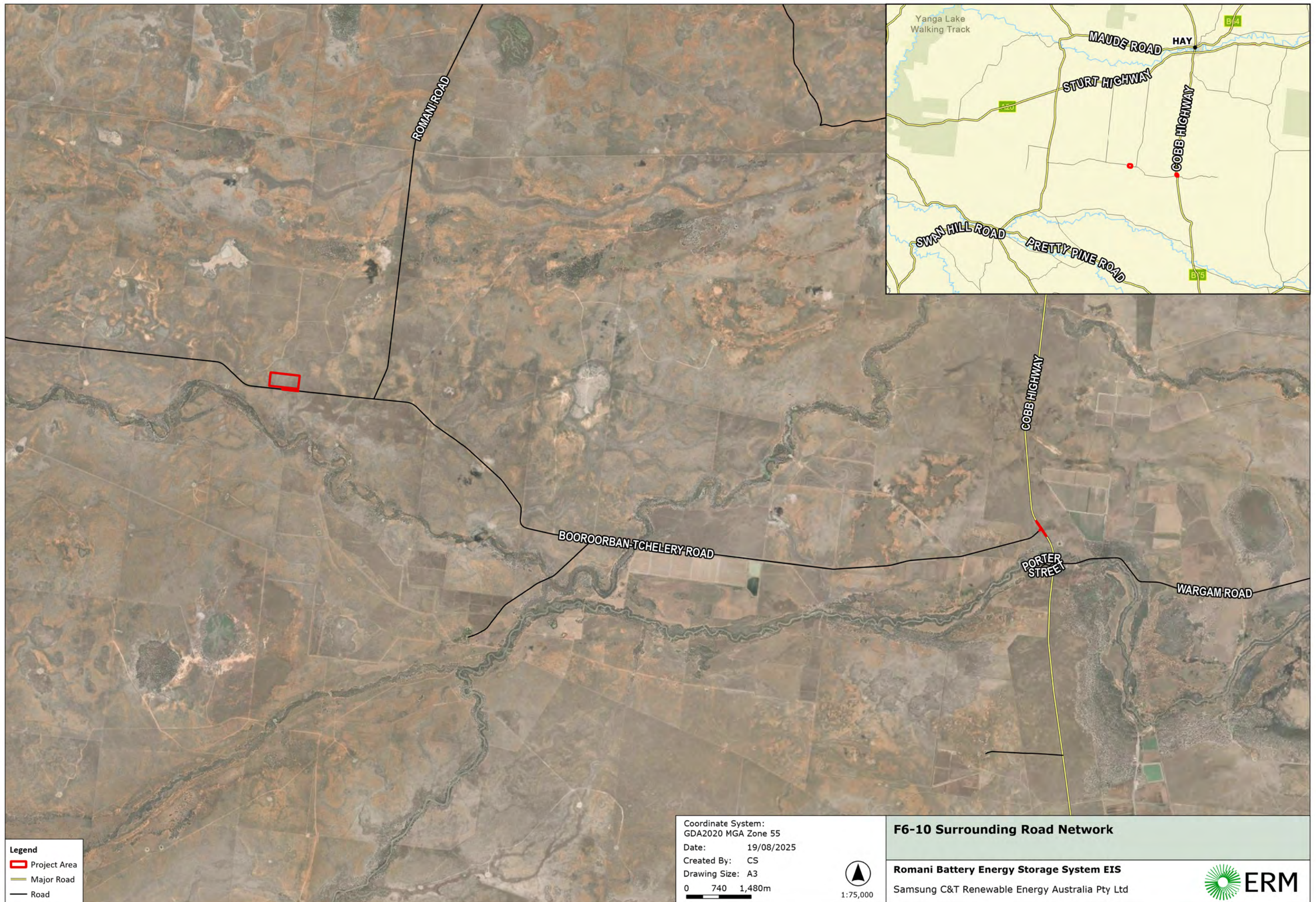
The workforce is expected to primarily be located in the townships of Hay, Deniliquin and Moulamein. Plant originating from overseas would be delivered to site from either the Port of Geelong or Port of Melbourne.

Figure 6-10 shows the existing road network that services the Project. The road network is described in **Table 6-21**.

TABLE 6-21 ROAD NETWORK SURROUNDING THE PROJECT

Road	Type	Surface	Typical width	Speed Limit
Sturt Highway	State	Sealed	7 m width providing one lane of traffic in each direction	110 km/hr
Cobb Highway	State	Sealed	7 m width providing one lane of traffic in each direction and narrow sealed shoulders	110 km/hr

Road	Type	Surface	Typical width	Speed Limit
Maude Road	Regional	Sealed	6 m width providing two way vehicle movement	100 km/hr
Romani Road	Local	Sealed / Unsealed	5 m sealed for 10km from Sturt Highway then 6 m unsealed to Booroorban-Tchelery Road. Many cattle grids narrow road to 3 m	100 km/hr
Booroorban-Tchelery Road	Local	Sealed / Unsealed	4 m sealed width with 2 m unsealed shoulders. Seven cattle grids reduce width to 3.6 m	100 km/hr



6.8.2 IMPACT ASSESSMENT

6.8.2.1 TRAFFIC GENERATION

On-site construction activities are expected to commence in mid-2026 and take approximately 20 months, with the peak construction period expected to take 10 months. A construction workforce of up to 100 full-time equivalent (FTE) personnel would be on-site during the peak construction phase and would be drawn from the nearby towns of Hay, Deniliquin and Moulamein. The workforce would reduce to 50 personnel during the average construction periods.

During the peak construction period the Project would generate up to 54 light and 56 heavy vehicle trips per day. The Project is expected to generate approximately 39 vehicle trips during the morning and evening peak hours during the peak construction period, which would reduce to 26 vehicle trips over the typical construction periods. Four non high risk OSOM vehicles are expected over the entire duration of the construction of the project.

The traffic generation during the construction period is summarised in **Table 6-22**.

TABLE 6-22 TRAFFIC GENERATION DURING CONSTRUCTION PERIOD

Vehicle type	Average construction period		Peak construction period	
	Vehicle trips per day	Peak hour trips	Vehicle trips per day	Peak hour trips
Light vehicles	34	17	54	27
Heavy vehicles ¹	28	9	56	12
Total	62	26	110	39

Notes: (1) Heavy vehicles include four non high risk OSOM vehicles over the whole duration of construction.

During operation the Project is expected to generate a lower amount of traffic associated with 3-5 full time maintenance personnel accessing the Project Area on an ad hoc basis. During the decommissioning, the Project is anticipated to generate a similar volume of traffic to the construction stage.

Traffic would access the Project via Booororban-Tchelery Road. The TIA has estimated the vehicle distributions based on the population of nearby towns, proximity to the Project and availability of materials within each town. **Table 6-23** provides a summary of the traffic distribution for each vehicle classification.

TABLE 6-23 CONSTRUCTION VEHICLE TRIP DISTRIBUTION

Vehicle type	Distribution
Light vehicles	50% trips to/from Hay (via Cobb Highway and Booororban-Tchelery Road); 40% trips to/from Deniliquin (via Cobb Highway and Booororban-Tchelery Road); and 10% trips to/from Moulamein (via Maude Road and Booororban-Tchelery Road).
Shuttle buses	50% trips to/from Hay; and

Vehicle type	Distribution
	50% trips to/from Deniliquin.
Rigid trucks	50% trips to/from Hay; and 50% trips to/from Deniliquin.
Truck and dog	50% trips to/from Hay; and 50% trips to/from Deniliquin.
Heavy vehicles delivering materials	50% trips to/from Hay; and 50% trips to/from Deniliquin.
Heavy vehicles delivering plant	Port of Geelong and/or Port of Melbourne via Cobb Highway.
Non high risk OSOM	Port of Geelong and/or Port of Melbourne via Cobb Highway.

Traffic surveys have been undertaken of the surrounding road network to establish the existing traffic conditions. These surveys included turning movement counts at key intersections and 7-day tube counts of nearby roads. A summary of the traffic volumes is provided in **Table 6-24**.

TABLE 6-24 EXISTING ROAD TRAFFIC VOLUMES

Road	Direction	Weekday traffic (vpd)	Weekday AM Peak - 11am (vph)	Weekday PM Peak - 12am (vph)	Heavy vehicle %
Cobb Hwy	Northbound	215	19	16	26.1%
	Southbound	230	24	23	25.0%
	Both directions	445	42	38	25.5%
Sturt Highway	Eastbound	789	55	57	31.5%
	Westbound	829	58	56	32.0%
	Both directions	1,618	112	113	31.8%
Boooroban-Tchelery Road	Eastbound	9	1	1	22.2%
	Westbound	6	1	1	22.2%
	Both directions	15	2	2	12.5%
Romani Road	Northbound	3	0	1	20.0%
	Southbound	3	1	0	20.0%
	Both directions	6	1	1	20.0%
Maude Road	Northbound	88	8	6	26.1%
	Southbound	107	10	11	25.5%
	Both directions	195	18	17	25.8%

Traffic modelling has been undertaken using SIDRA to determine the level of service (LOS) at key intersection to determine that ability of the road network to accommodate the peak construction traffic generated by the Project. LOS is a qualitative measure used to describe the operating conditions of an intersection. A summary of the SIDRA analysis results is provided in **Table 6-25**.

TABLE 6-25 SIDRA ANALYSIS RESULTS

Approach / movement		Morning Peak Hour			Evening Peak Hour		
		Avg delay (s)	95% queue (m)	LOS	Avg delay (s)	95% queue (m)	LOS
Cob Hwy (South)	Left turn	7.9	0.0	A	8.1	0.0	A
	Through	0.0	0.0	A	0.0	0.0	A
Cobb Hwy (North)	Through	0.0	1.5	A	0.0	0.1	A
	Right turn	8.7	1.5	A	5.7	0.1	A
Booororban-Tchelery Road (West)	Left turn	6.2	0.0	A	5.7	0.9	A
	Right turn	6.4	0.0	A	6.2	0.9	A

The SIDRA analysis indicates that the key intersections are expected to continue to operate with a good level of service with minimal queuing and delays expected during the peak construction period. During operations, the Romani BESS requires a much smaller workforce than the construction period and would result in negligible changes to the traffic environment.

6.8.2.2 SITE ACCESS

Turn treatments

Austroads Guide to Traffic Management Part 6: Intersections, Interchanges, and Crossings (Austroads Guide) specifies the turn treatments required at intersections. An assessment has been undertaken for the Cobb Highway / Booororban-Tchelery Road intersection to ensure vehicles can safely turn from the State road network. Based on the estimated traffic volume and turn volume, the intersection would require a Short Channelised Right Turn (CHRs) and Basic Left Turn (BAL) treatment to meet the requirements of the Austroad Guide.

A concept intersection design for the Cobb Highway / Booororban-Tchelery Road intersection is provided in Appendix H of the TIA (**Appendix N**). A swept path assessment has been undertaken and confirms the proposed turn treatment can accommodate B-Double vehicles.

The proposed site access point is from Booororban-Tchelery Road. A concept intersection design is provided in Appendix G of the TIA (**Appendix N**). A swept path assessment has been undertaken and confirms the proposed turn treatment can accommodate B-Double vehicles.

Sight distances

A sight distance assessment has been completed for Cobb Highway / Booororban-Tchelery Road and Booororban-Tchelery Road / Maude Road intersections and the proposed site entry from Booororban-Tchelery Road. Given the relatively flat and straight alignment of the road network and low-level vegetation cover, the available sight distances exceed the requirements of the Austroads Guide.

6.8.2.3 OSOM VEHICLES ROUTE

Four high risk OSOM vehicles would be required to access the Project Area over the duration of the construction period to transport the transformer and modular buildings. The largest OSOM vehicle would be associated with transporting the transformer.

The transformer dimensions are approximately 8.4 m length, 4 m width, and 4.25m height and weighs over 150 tonnes. A 13x8 platform trailer with dolly (31.68m in length) is proposed for the OSOM delivery.

The transformer and potentially modular building deliveries would be to the Port of Geelong or Port of Melbourne. It is expected that the delivery routes from the two origins would utilise the same route once on the Western Ring Road in Melbourne. The OSOM vehicle would be provided with escort and pilot vehicles in accordance with relevant authority requirements.

A route assessment has been undertaken to determine whether any civil works are required to accommodate the OSOM vehicle on the road network. Minor road works would be required to allow OSOM vehicles to access the Project from the Port of Geelong and Port of Melbourne. These roads works are listed in **Table 6-26**. Escorts and spotters would also be required at all locations to control traffic and ensure the vehicle and load are clear of infrastructure.

TABLE 6-26 ROAD WORKS SCHEDULE – OSOM VEHICLES

Port of Origin	Location of Works	Works Required
Geelong	St Georges Road / Station Street, Norlane, VIC.	Temporary relocation of signage
Melbourne	Whitehall Street (Docklands Highway) / Somerville Road, Footscray VIC.	Temporary removal of traffic separator
Melbourne	Somerville Road / Fairbairn Road, Sunshine West, VIC	Sealed hardstand and temporary relocation of signage
Melbourne	Somerville Road / Fairbairn Road, Laverton North, VIC	Sealed hardstand and temporary relocation of signage
Geelong or Melbourne	Northern Highway / Bradford-Kilmore Road, Kilmore, VIC	Sealed hardstand
Geelong or Melbourne	Northern Highway / Midland Highway, Runnymede, VIC	Temporary relocation of signage
Geelong or Melbourne	Moore Street (Northern Highway) / Northern Highway, Rochester, VIC	Temporary relocation of signage
Geelong or Melbourne	Murray Valley Highway / Warren Street, Echuca, VIC	Sealed hardstand
Geelong or Melbourne	Ochertyre Street (Cobb Highway) / Hardinge Street (Cobb Highway), Deiniliquin, NSW	Temporary relocation of signage
Geelong or Melbourne	Hardinge Street (Cobb Highway) / Cressy Street, Deniliquin, NSW	Mountable kerbing

Port of Origin	Location of Works	Works Required
Geelong or Melbourne	Charlotte Street (Cobb Highway) / Davidson Street (Cobb Highway), Boorooban, NSW	Temporary relocation of signage
Geelong or Melbourne	Boorooban-Tchelery Road / Romani Road, Boorooban, NSW	Clearing and widening

6.8.2.4 ROAD UPGRADES

The surface and carriageway of the access roads with the inclusion of the proposed upgrades discussed in **Section 6.8.2.2** are suitable to accommodate the future traffic volumes. It is recommended to maintain Boorooban-Tchelery Road to its existing condition.

Given the relatively straight and flat alignment of the road, there is good visibility to oncoming vehicles providing ample time for drivers to react and slow down. The existing carriageway width consisting of 4.0 m wide seal and 2.0 m wide unsealed shoulders is enough for heavy vehicles to pass at slower speeds in the unlikely event passing of vehicles should occur.

6.8.3 MITIGATION AND MANAGEMENT

Table 6-27 summarises the mitigation measures that would be implemented for the Project to manage the traffic and transport impacts on the road network.

TABLE 6-27 TRAFFIC MANAGEMENT AND MITIGATION MEASURES

ID	Mitigation Measure
T1	Prior to the commencement of construction, a Construction Traffic Management Plan (CTMP) is to be prepared in consultation with the relevant authorities.
T2	Neighbours of the Project are to be consulted and notified regarding the timing of major deliveries which may require additional traffic control and disrupt access.
T3	OSOM vehicle movements should be timed so they do not coincide with other OSOM vehicles within the surrounding area to limit the impact to the road network.
T4	High risk OSOM vehicle movements would undergo comprehensive planning and execution focus to ensure movements are carried out in a safe and responsible manner with reduced impact on other road users.
T5	Heavy vehicle movements should avoid peak school bus times to limit the interaction of larger vehicles and vulnerable road users.
T6	The condition of Boorooban-Tchelery Road is to be monitored continuously throughout the duration of the construction period. Dilapidation surveys would be undertaken prior to the commencement of the Project and the road would be returned to its original condition at the completion of the construction period in consultation with Council.
T7	The unsealed verges of Boorooban-Tchelery Road should be maintained to a standard that supports sustained heavy vehicle usage to ensure safe passing manoeuvres can be undertaken during all weather conditions.
T8	Construction traffic management be put in place to slow the operating speed on Boorooban-Tchelery Road to be within the recommendations of the ARRB Guide.
T9	Management of potential impacts to the road network, including construction traffic control and measures to control dust generated by construction traffic.

ID	Mitigation Measure
T10	Project traffic is to maintain radio contact to manage heavy vehicle movements along Booroorban-Tchelery Road to minimise the likelihood of two heavy vehicles having to pass.
T11	The Applicant would upgrade the intersection of Cobb Highway / Booroorban- Tchelery Road with a CHR(s)/BAL turn treatment. The turn treatment should be generally in accordance with the concept design in Appendix H of the Traffic Impact Assessment.

6.9 WATER AND SOILS

A Surface Water Impact Assessment (SWIA) (**Appendix O**) has been prepared by Engeny to support this EIS. The SWIA addresses the water and soil requirements in the SEARs.

The SWIA includes:

- An assessment of surface water and flooding regimes within the Project Area including;
 - Review of available nearby flood studies and riverine influence from the Murrumbidgee River;
 - Development of a regional rain-on-grid (RoG) TUFLOW model to determine potential upstream inflows;
 - Development of a local TUFLOW model, with runoff for the Project Area determined using a RoG approach and upstream flows provided from the regional model; and
 - Simulation of design flood events for the 5%, 1%, 0.5% and 0.2% AEP and Extreme Flood Event (defined as three times the 1% AEP), to determine flood behaviour through the Project Area.
- An assessment of the impacts of the development footprint on waterfront land;
- A site water balance for the Project including assessment of the water demands and available water supply; and
- An assessment of the Project impacts on water quality and a description of the erosion and sediment controls that would be implemented.

6.9.1 BACKGROUND

The Project is located within the Murrumbidgee catchment area, a tributary of the Murray River. The Forest Creek is located approximately 700 m to the south of the Project and is an ephemeral water course. The Project sits within an expansive and flat landscape dominated by large floodplains and a network of ephemeral flow paths.

The Project Area is located within the Coleambally Irrigation Co-Operative Limited (CICL) West Coleambally Management Area. The Coleambally Outfall Drain running in an east to west direction is located to the south of the Project Area. The West Coleambally Management Area spans an area of approximately 30,000 ha and provides irrigation to nearly 500 farms. The water supply in the area is via an open, gravity fed channel network.

Local drainage systems within and surrounding the Project Area are not well-defined, and existing agricultural dams influence flow regimes during events. There are no mapped watercourses located within the Project Area. However, one mapped hydroarea crosses through the south-west corner of the Project Area and has been assessed as having 'waterfront land'. All project infrastructure is located outside the mapped waterfront land.

The local contributing catchment is likely to have a more significant role in impacts to the floodplain than the Murrumbidgee River. Baseline flood modelling determined that flooding within the area is dominated by ponding from downstream flow paths due to the flat topography of the area. The eastern edge of the Project Area is located on the downstream end of a minor overland flow path that drains to The Forest Creek to the south.

6.9.2 IMPACT ASSESSMENT

6.9.2.1 FLOODING

A flood model was developed for the Project (refer Appendix B of **Appendix O**). Simulation of design flood events for the 5%, 1%, 0.5%, 0.2% AEP and PMF events were undertaken to determine flood behaviour through the Project Area.

The results from the baseline flood modelling for the Project Area indicated:

- Flooding within the Project Area is dominated by ponding from downstream flow paths due to the flat topography of the area. The eastern edge of the Project Area is located on the downstream end of a minor overland flow path that drains to The Forest Creek to the south. The Project is located on the floodplain of The Forest Creek, and therefore when The Forest Creek floods, this impacts the Project Area. This is observed in all simulated events;
- Flood depths typically do not exceed 0.5 m across the Project Area in events up to the 1% Annual Exceedance Probability (AEP). In the Probable Maximum Flood (PMF) event, flood depths max out at 1.2 m in the southern part of the Project Area due to the tailwater impacts from The Forest Creek; and
- Flood velocity through the Project Area generally remains below 0.5 m/s in all events. The highest velocities are recorded at the south-eastern corner of the Project Area within the main overland flow path, peaking at approximately 0.41 m/s in the PMF.

A developed flood behaviour model was prepared to assess how the 5%, 1%, 0.5%, 0.2% AEP and PMF events may change due to the Project (refer to Appendix C of **Appendix O**). The developed flood behaviour model indicates the following:

- The Romani BESS infrastructure would require a pad level of 81.2 m AHD to be flood immune (81.7 m AHD to achieve 500 mm freeboard) in the 1% AEP event;
- Local impacts up to 50 mm are reported in both the 1% AEP and PMF events. These impacts extend outside of the Project Area. The 5% AEP event reports negligible impacts around the Project Area;
- Some decreases in flood depth would occur west of the Project Area in the 1% AEP and PMF events on the downstream side of the infrastructure;
- Negligible changes in flood velocity impacts (± 0.5 m/s) through the Project Area in all flood events; and
- Flood hazard remains at H1 for the 5% and 1% AEP (i.e., generally safe for vehicles, people and buildings). The flood hazard for the PMF event remains at H3 (i.e., unsafe for vehicles, children and the elderly).

Due to flows in the Project Area being dominated by overland sheet flow, most of the proposed infrastructure is located within the Baseline (existing), 5% AEP, 1% AEP and PMF flood extents. The peak velocities observed across the Project Area are minor and do not present significant risk of erosion.

The flood assessment indicates that the Project has potential to impact surrounding properties in the 1% AEP and PMF events, however, it is noted that these impacts would be limited to adjacent farmland and no residential dwellings or buildings would be affected.

6.9.2.2 SURFACE WATER

The Project does not involve any modification or realignment of any natural watercourses traversing the Project Area. The Project does not result in any impacts to flow paths or stream ordering. The proposed disturbance associated with construction of the Project may result in disturbance of minor overland flow paths. Where possible, the existing access tracks and proposed roads would be used during construction and operation of the Project to limit additional crossings of flow/drainage paths.

6.9.2.3 WATERFRONT LAND

There is one natural waterbody (a mapped hydroarea) that crosses the south-west corner of the Project Area. The waterbody is usually dry. All infrastructure associated with the Project has been setback 40 m from its bank. As the waterbody is a minor water feature and mostly dry, further consideration or design in accordance with *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (Fairfull & Witheridge, 2003) and the *Policy & Guidelines for Fish Habitat Conservation & Management* (DPI, 2013) is not required.

The Project would not significantly modify the flow within the watercourse or any existing riparian vegetation.

6.9.2.4 WATER BALANCE

Water would be required during the construction phase for construction of hardstands, road construction/compaction, dust suppression, vehicle and equipment washdown and potable water for site amenities. Water demand would vary depending on the stage of construction.

The total construction demand is estimated to be 8.3 – 8.7 ML assuming a peak construction workforce of 100 full time employees. The total construction water demand is presented in **Table 6-28**. The operational water demand would be minimal and requires approximately 0.3 kL per day of potable water for employees.

TABLE 6-28 CONSTRUCTION WATER DEMANDS SUMMARY

Activity	Project Water Demand (ML)
Construction of hardstands	0.3
Road construction / compaction	1.0
Dust suppression	0.4
Vehicle and equipment washdown	4.7
Potable water	1.9 – 2.3
Total construction water demand	8.3 – 8.7

Non-potable water for construction would be sourced from offsite sources, either from the local council or private suppliers. The Applicant is consulting with Edward River Council to confirm the available water resources and an agreement for water supply would be in place prior to commencement of construction.

Water required to fulfill conservation and operational demands could be sourced by:

- Reusing water from sediment basins which may be created during the construction phase to prevent contamination of downstream watercourses;
- Entering agreements with the landholder to access surface water and/or groundwater under existing WALs held by the landholder;
- Purchasing WALs and entering landholder agreements to register the associated work approvals to the project area;
- Purchasing and transporting water to site by water cart; and/or
- Recycling and reuse of water.

Where possible during construction, water should be recycled and reused (e.g., for vehicle and equipment washdown demands). No groundwater extraction is currently planned.

Potable water and water for site amenities is expected to be supplied by rainwater tanks within the infrastructure areas. If additional water is needed, it would be purchased and imported to the site.

6.9.2.5 EROSION AND SEDIMENT CONTROL

Construction activities involving ground disturbance, earthworks and transporting and stockpiling soil could potentially introduce pathways for soil erosion and, in turn, potential movement of sedimentation into downstream water systems.

Potential impacts associated with the mobilisation of soil include:

- Degradation of the quality of downstream domestic and stock drinking water;
- Increased turbidity and reduced visual clarity of downstream watercourses, impacting aquatic ecosystem health;
- Increased sediment build up in downstream watercourses and waterbodies, changing the geomorphology and disturbing natural flow regimes; and
- Increased levels of dissolved metals and nutrients becoming mobilised with the soil and entering watercourses and waterbodies and impacting aquatic like or domestic, irrigation or livestock users.

The development of an Erosion and Sediment Control Plan (ESCP) and ongoing inspections and maintenance would effectively manage impacts associated with the mobilisation of soil, preventing poor site stabilisation during and following construction.

6.9.2.6 WASTEWATER MANAGEMENT

During construction, wastewater from the site office and temporary construction facilities would be collected and managed through an appropriate on-site treatment system. The treated wastewater would be re-purposed on site to fulfill non-potable construction, and operation demands such as dust suppression, earthworks and concrete conditioning.

To prevent interaction with natural surface and groundwater systems, the treated wastewater would be contained in tanks on site subject to detailed design.

Waste solids generated by the treatment system would be handled by a licensed contractor, who would transport and dispose of at a nearby Council wastewater treatment plant or other appropriately licensed facility.

Once construction is complete, all temporary wastewater management infrastructure would be decommissioned and removed from the Project Area for rehabilitation.

6.9.3 MITIGATION AND MANAGEMENT

Mitigation and management measures that would be employed to minimise the impacts to water and soil resources are included in **Table 6-29**.

TABLE 6-29 WATER AND SOIL MITIGATION AND MANAGEMENT MEASURES

ID	Mitigation Measure
WS1	During detailed design of the project, water crossings would be limited to existing access tracks where possible; and project infrastructure would be arranged such that stream disturbance and modifications (filling / diversions) are limited to minor watercourses.
WS2	Watercourse crossings, if required, would be designed, constructed and maintained to consider DPE Guidelines for instream works on waterfront land (DPE, 2022) and Guidelines for Riparian Corridors on Waterfront Land (DPE, 2022).
WS3	During detailed design phase, the Applicant would consider minimising filling of BESS, substations sites and O&M facilities, minimise the extent of infrastructure within the 1% AEP flood extent, design to manage flood impacts and flow conveyance at watercourse crossings.
WS4	Permanent ancillary infrastructure (BESS/substation) would be located above the flood planning level (1% AEP + 500 mm freeboard).
WS5	- Site management protocols would be established for flood events that could impact construction or access areas and could include: ◦ Suitable early warning and communication protocols; ◦ Triggers for closure, evacuation and recovery; and ◦ Emergency response and support.
WS6	- An Erosion and Sediment Control Plan (ESCP) would be prepared prior to the commencement of construction and should consider: ◦ Locating site infrastructure away from existing watercourses or areas subject to high levels of overland flow; ◦ Diversion of upstream flows around site infrastructure as required, to minimise scouring and erosion; and ◦ Inspection and monitoring regimes to maintain stormwater and erosion and sediment control structures.
WS7	- The ESCP would be prepared, in accordance with Managing Urban Stormwater: Soils and Construction – Volume 1 (Landcom, 2004), Volume 2A Installation of Services (DECC, 2008), Volume 2C Unsealed roads (DECC, 2008), Volume 2D Main Road Construction (DECC, 2008) and Best Practice Erosion and Sediment Control (IECA, 2008); - The ESCP would detail area specific erosion and sediment control measures to be implemented and maintained during construction until the design intent is met by the as-built infrastructure and rehabilitated vegetation. As well as ongoing monitoring and maintenance through operation and decommissioning of additional controls if identified as required; and

ID	Mitigation Measure
	The total area of disturbance at any time should be minimised where possible and ongoing rehabilitation and stabilisation strategies implemented throughout construction.
WS8	- Prior to commencement of construction activities, a CEMP would be developed to identify management measures to minimise the mobilisation of sediment or dust from topsoil stockpile. These measures could include: - Locate stockpiles away from drainage lines, or areas subject to high levels of overland sheet flow and minimise stockpile size; - Develop and implement area specific erosion and sediment control measures including bunding and diversion drains as required; and - Use stockpile stabilisation techniques such as covering or dust suppression.
WS9	- Prior to commencing construction activities, a CEMP would be developed to identify site specific controls and procedures to minimise the potential for hydrocarbons and other contaminants being discharged into the environment. These measures could include: - Storage of hydrocarbons and other liquid chemicals with above ground, bunded area away from watercourses or area subject to high levels of overland sheet flow; - Re-fuelling of construction vehicles and equipment to be limited to designated areas, with adequate spill management controls; - Maintain an emergency spill kit and relevant emergency spill response procedures; and - Transport and dispose of any hydrocarbons captured during Project construction and operation of the substations and switchyards at a suitable off-site licenced facility.
WS10	- Prior to commencement of construction activities, a CEMP would be developed to identify management measures to minimise the potential impacts to surface water and groundwater quality; and - A suitable monitoring regime of all stormwater and erosion and sediment control structures, particularly following large flow events, would be implemented.
WS11	All required water licensing and approvals would be coordinated with associated landholders and/or regulators (e.g. Council, others) if that source is needed to support water supply arrangements for construction and operation.
WS12	A wastewater treatment strategy should be prepared and should consider opportunities to collect and treat wastewater from site offices and temporary accommodation facilities for re-use on site to fulfill non-potable construction and operation demands.

6.10 PRELIMINARY HAZARDS ANALYSIS

A Preliminary Hazard Analysis (PHA) (**Appendix P**) has been prepared by Riskcon Engineering to support the EIS. The PHA address the relevant requirements in the SEARs.

The PHA includes:

- A Multi-level Risk Assessment to determine the level or risk assessment required based on the location, quantity and type of dangerous goods stored and used by the Project;
- A Risk Assessment Study including detailed hazard identification for the site facilities and operations and analysis of the consequences and frequency for identified hazard incidents; and
- Recommendations for risk reductions measures to address any hazardous incidents that could result in potential offsite impacts and exceed the risk criteria published in HIPAP No. 4 (NSW DPI, 2011b).

The PHA has been prepared having regard to:

- State Environmental Planning Policy (Resilience and Hazards) 2021 with respect to a preliminary risk screening for dangerous goods;
- Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning (HIPAP No. 4) (NSW DPI, 2011b);
- and Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (NSW DPI, 2011)(HIPAP No. 6); and
- The International Commission on Non-ionizing radiation protection (ICNIRP) Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (ICNRP, 2020).

6.10.1 BACKGROUND

The Project includes a BESS with 200 MW / 800 MWh capacity. The exact battery units have not been finalised and would be confirmed during detailed design. For this assessment, 216 battery units each with a maximum energy capacity of 3.92 MWh has been assumed. Each unit would employ lithium iron phosphate (LFP) battery modules equipped with a thermal management system using coolant and refrigerant and a Battery Management System for operational control.

6.10.2 IMPACT ASSESSMENT

6.10.2.1 DANGEROUS GOODS AND MATERIALS

The PHA identifies the type and quantities of dangerous goods that would be stored and used by the Project. These are summarised in **Table 6-30**.

TABLE 6-30 DANGEROUS GOODS AND MATERIALS STORED AT SITE

Description	Quantity	Class	Hazardous properties
Lithium batteries	8,230 t	9	Class 9 are substances and articles which, during transport present a danger not covered by other classes. Releases to the environment may cause damage to sensitive receptors.

Description	Quantity	Class	Hazardous properties
			Class 9 substances stored within the Project are lithium-ion batteries which may undergo thermal runaway (i.e. escalating reaction resulting in heat which ultimately leads to failure of the battery and a fire).
Combustible liquid (transformer oil)	104 kL	C1	Combustible liquids are typically long chain hydrocarbons with flash points exceeding 60.5°C. Combustible liquids are difficult to ignite as the temperature of the liquid must be heated to above the flash point such that vapours are generated which can then ignite. This process requires either sustained heating or a high-energy ignition source.

6.10.2.2 HAZARDOUS SCENARIOS

A hazard identification table has been developed in accordance with HIPAP No. 6 and provides a summary of the potential hazards, consequences, and safeguards for the Project (Appendix A of the PHA **Appendix P**). The hazard identification table identifies hazards that would require a detailed assessment in the PHA. No hazards have been eliminated from assessment based on the qualitative risk assessment. The hazardous scenarios for the Project are discussed in **Table 6-31**.

TABLE 6-31 HAZARDOUS SCENARIO ASSESSMENT

Hazardous incident	Discussion
Li-ion battery fault, thermal runaway and fire	The chemistry of the proposed battery to be installed for the Project is lithium-ion phosphate (LFP), which are one of the safest battery chemistries in the industry. Li-ion batteries are equipped with several standard safety features, and as such, the potential for thermal runaway to occur during normal operation of the BESS is very low.
Victorian Big Battery Fire	Based upon the designs incorporated with the container based upon the Victoria Big Battery fire, the available area assessment and the separation distance assessment, it is considered that the propagation between two units is considered unlikely; hence, this incident has not been carried forward for further analysis.
Li-ion battery fire and toxic gas dispersion	If an LFP BESS were to fail causing a fire, toxic emissions may result including carbon dioxide, carbon monoxide, and fluoride gases. The formation of these gases in a BESS fire is unlikely to generate quantities that would result in downwind impacts that could cause injury or fatality; therefore, no further analysis was required.
Equipment fail and fire	The type of equipment proposed for the Project is not unique and is widely implemented across many industries throughout the world. Therefore, equipment failure does not present a unique fire scenario. Based on fire development within switch rooms, the fire would be relatively slow in growth and would be unlikely to result in substantial impacts in terms of offsite impact or incident propagation. This incident was not carried forward for further analysis.
Transformer arcing, oil spill and bund fire	The transformers are ubiquitous units with a low potential for failure and the separation distance to the site boundary and other adjacent units would be unlikely to result in incident propagation and offsite impacts. This incident was not carried forward for further analysis.
Transformer Electrical Surge Protection Failure and explosion	Transformers generally have surge protection devices which shunt electrical surges safely to ground. However, this surge detection and protection devices are not universally installed, nor do they protect against all events.

Hazardous incident	Discussion
	Therefore, there is the potential for an explosion to occur which may result in offsite impacts. However, these units are ubiquitous and have a low potential for failure. Therefore, this incident was not considered further.
Electromagnetic fields	The nearby residences adjacent to the area where the BESS would be developed are separated by over 1 km providing substantial distance for attenuation of electromagnetic fields (EMFs). Based upon the typical levels which may be generated by transmission equipment the cumulative effect would not exceed the 2,000 mG limit for prolonged exposure. The potential for the EMF to exceed the accepted levels is considered negligible.

6.10.2.3 ELECTROMAGNETIC FIELD IMPACTS

Extremely low frequency (ELF) electric and magnetic fields (EMF) occupy the lower part of the electromagnetic spectrum in the frequency range 0-3,000 Hz. The Romano BESS would create EMFs from operational electrical equipment, such as transmission lines, transformers and the electrical components found within BESS units and inverters. This equipment has the potential to produce ELF EMF in the range of 30 to 300 Hz.

The nearest residences to the Project are separated by over 1 km providing a substantial distance for attenuation of EMFs. It is also noted that these residential receivers are currently unoccupied. As the strengths of EMF attenuate rapidly with distance, the ICNIRP reference level for exposure to the general public would not be exceeded and the impact to the general public in surrounding land uses is considered negligible.

6.10.3 MITIGATION AND MANAGEMENT

Mitigation and management measures that would be employed to minimise the impacts associated with hazards and dangerous goods are included in **Table 6-32**.

TABLE 6-32 HAZARDS MITIGATION AND MANAGEMENT MEASURES

ID	Mitigation Measures
HZ1	The BESS would be tested in accordance with UL Solutions standard UL9540A and would be installed in accordance with manufactured and UL9540A report recommended clearances based on testing.
HZ2	The BESS would be tested to demonstrate clearances required to prevent propagation of fires between separated units.
HZ3	The BESS would be installed with fire protection systems specified by the manufacturer and UL9540A report.
HZ4	Before construction, detailed design would be undertaken to validate the system can be installed in the Project Area whilst satisfying the recommended clearances.
HZ5	UL Solutions testing information would be made available to the certifying authority.
HZ6	The vent covers of the BESS shall be constructed of a non-combustible material.
HZ7	Where practicable, the vents shall not be located above battery packs within the BESS container.
HZ8	All transformers would be banded to contain oil releases. Transformers may be self-banded on a skid, otherwise they would require a dedicated concrete bund.

6.11 BUSHFIRE

A Bushfire Hazard Assessment (BHA) has been prepared by ERM to support this EIS (**Appendix Q**). The BHA addresses the requirements outlined in the SEARs concerning bushfire risk.

The BHA includes:

- Identification of potential bushfire hazards and risks associated with the Project; and
- Management and mitigation measures to address the requirements under Planning for Bushfire Protection (PBP) (NSW RFS, 2019a).

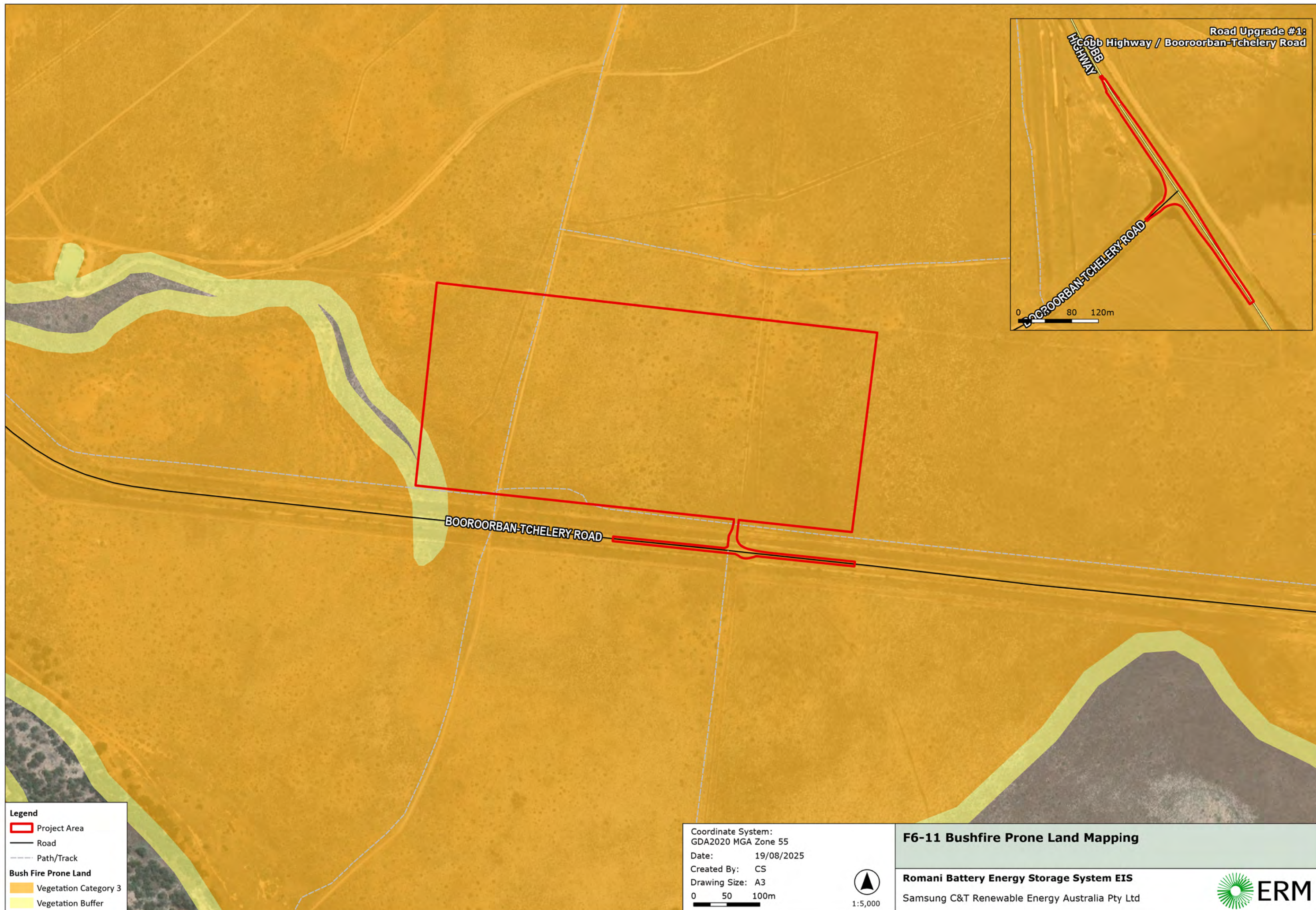
6.11.1 BACKGROUND

The Project Area and the surrounding area is predominantly used for livestock grazing and irrigated cropping. The Project Area is classified as Vegetation Category 3 on the NSW Rural Fire Service (RFS) bushfire prone land mapping, which is shown in **Figure 6-11**. Vegetation Category 3 is considered to be a medium bushfire risk and consists of grasslands, freshwater wetlands, semi-arid woodlands, alpine complex and arid shrublands.

Within the region, the bushfire season generally spans from October-November through to March-April depending on seasonal conditions. Data from the BOM weather stations confirms that both low humidity and high temperature occur within the bushfire season and would contribute to the fire hazard within this region. The prevailing weather conditions associated with the bushfire season are winds from the west around to the north accompanied by high daytime temperatures and low relative humidity. Dry lightning storms occur frequently during the bushfire season often starting forest and grass fires.

The Project Area is predominantly flat, with minimal relief and slight elevation variations. The dominant vegetation across the Project Area that would influence fire behaviour is Chenopod shrublands. Chenopod shrublands are less flammable than most other vegetation and are fire-sensitive. Most of the Project Area has some level of management by grazing. The fuel load is dependent on the amount of rainfall received during spring which leads to the growth of grasses in the summer and the stock loading level across the various paddocks which vary across years and seasons.

Bushfires have occurred in most years in this district, and natural ignitions such as lightning strikes are likely and historically common across the region. The closest reported fire was the 1987 Wanganella wildfire (approximately 24.7 km to the south-east of the Project Area). No other fires have been reported within 25 km of the Project Area.



6.11.2 IMPACT ASSESSMENT

The Project Area does not have a history of bushfires and has a moderate bushfire danger rating. Bushfire risks associated with the Project can be adequately managed with Asset Protection Zones (APZs) around the BESS, access roads and parking to ensure defensible space is provided around infrastructure to lower or eliminate the bushfire attack from flame contact and radiant heat around the perimeter of built assets. Vegetation fuel within the overhead transmission line easements and within access tracks would be maintained in a low fuel state by mechanical or manual clearing methods.

In the event a fire does breach any containment lines and threatens the Project assets, it is possible that the infrastructure would sustain direct flame contact and that firefighting would require external support. A total of six 50,000 litre water storage tanks (total 300,000 L) would be provided in the Project Area to ensure sufficient water is available and can be safely accessible by emergency services for fire suppression activities. The water supply would be provided to cover buildings, and land surrounding electrical equipment.

The risk that Romani BESS would cause a fire is considered low given appropriate protection measures are implemented in accordance with the PBP requirements.

6.11.3 MITIGATION AND MANAGEMENT

Mitigation and management measures that would be employed to minimise the impacts associated with bushfire risks are included in **Table 6-33**.

TABLE 6-33 SUMMARY OF MITIGATION MEASURES AND ACTIONS

ID	Mitigation Measure
BF01	A minimum APZ of 6m is required around the BESS and associated infrastructure. All APZ are to be managed as an inner protection zone (IPA) as outlined within Appendix 4 of PBP 2019, and NSW RFS 'Standards for Asset Protection Zones'.
BF02	All access roads would be maintained to the minimum standards as outlined within the NSW RFS Fire Trail Standards (NSW RFS, 2023) and kept free of parked vehicles or other obstructions.
BF03	A dedicated water supply with appropriate access would be provided at the site to assist in the event of a fire. Any static water storage tank(s) must be capable of being completely refilled automatically or manually within 24 hours.
BF04	For the safe operation of the transmission line, activities such as planting and growing trees, construction of buildings, or erection of antennae or masts, would be restricted within the transmission line easement.
BF05	The APZ and access roads would be constructed prior to the installation of the BESS or related infrastructure.
BF06	Fire detection and suppression systems should be installed at the earliest stage of construction for BESS infrastructure.
BF07	Appropriate bunding would be provided in areas where there is potential for flammable fuels and oils to leak and create bushfires or other environmental risks and appropriate permits would be obtained for any work to be carried out during Fire Danger Periods.
BF08	The Project would adhere to any restrictions in place during Total Fire Ban or days of high fire danger.

ID	Mitigation Measure
BF09	Where practicable, site vehicles during the construction phase would have diesel engines and/or would use the site access roads (if available) to minimise the likelihood of igniting dry grass.
BF10	Smoking would be restricted to prescribed areas, and suitable ash and butt disposal facilities would be provided.
BF11	All plant, vehicles and earth moving machinery would be cleaned of any accumulated flammable material (e.g., vegetation).
BF12	During construction on days when Very High fire danger or worse is forecast, the 'fires near me' app is to be checked hourly for the occurrence of any fires likely to threaten the Project Area.
BF13	Vegetation fuels throughout the Project Area re to be maintained in a minimal condition by grazing, or with additional slashing or mowing if required.
BF14	A Bushfire Emergency Management and Operations Plan would be prepared with consideration of Australian Standard/ISO 31000 Risk management principles and guidelines and Australian Standard 3745: Planning for emergencies in facilities.

6.12 SOCIAL

A Social Impact Assessment (SIA) (**Appendix R**) has been prepared by ERM to support the EIS. The SIA addresses the requirements in the SEARs in relation to social impacts.

The SIA includes:

- Definition of the Project's Social Locality and its existing baseline conditions;
- An assessment of the social impacts that may result from the Project and an overview of the proposed mitigation measures and ratings for the residual impacts;
- An approach for monitoring and managing social impacts during the construction, operation and decommissioning phases of the Project; and
- A workforce accommodation plan that assesses the accommodations requirements during construction of the Project and the availability of accommodation within the region to meet these needs.

The SIA has been prepared in accordance with the Social Impact Assessment Guideline (SIA Guideline) (DPIE, 2023) and Technical Supplement (SIA Technical Supplement)

6.12.1 BACKGROUND

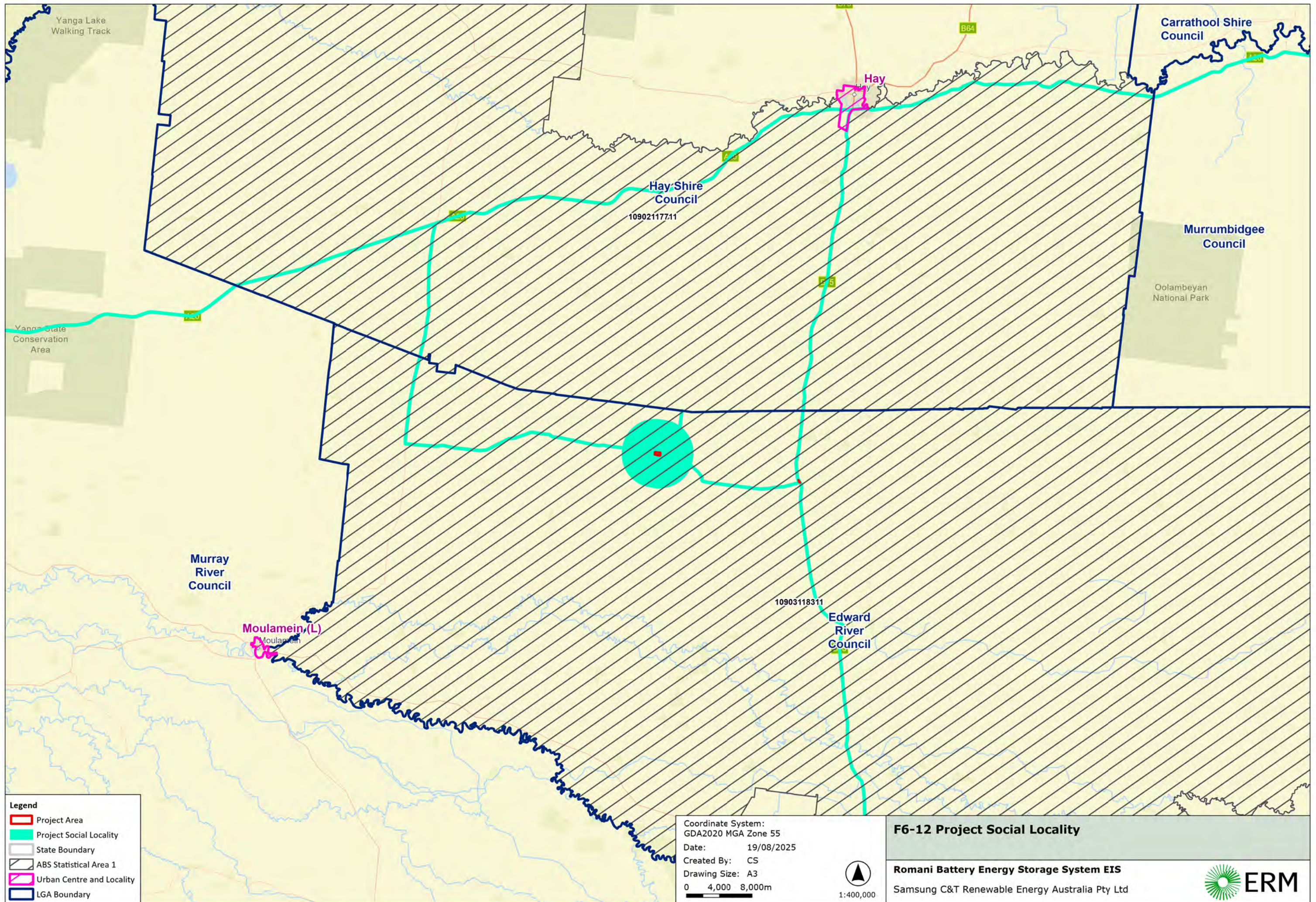
The Project is located in Edward River LGA. The Project is located near Booroorban which has a population of 33 people (ABS Census 2021). The nearest town centres are Hay (65 km travel distance to the north-east), Moulamein (68 km to the west), Deniliquin (94 km to the south) and Swan Hill (139 km to the west).

The two regional centres of Hay and Deniliquin are likely to provide social infrastructure for the Project due to their size, proximity, and their connectivity to the Project via Cobb Highway. A wide range of health services are available in the Social Locality with Hay, Deniliquin and Swan Hill providing 24-hour emergency services and the regional centres providing mental health services. Hay and Deniliquin provide a range of education facilities.

The Project Social Locality, as defined in the SIA Guidelines, is described in **Table 6-34** and is shown in **Figure 6-12**.

TABLE 6-34 PROJECT SOCIAL LOCALITY

Component	Description
Project Area and immediate surrounding area	Australian Bureau of Statistics (ABS) Statistical Area Level 1 (SA1) No. 10903118311 (containing the Project) and SA1 10902117711 (adjacent to Project Area to the north).
Transportation and haulage routes	The road network along Cobb and Sturt Highways via Booroorban-Techelery Road. Transportation (e.g., haulage routes) impacts are likely to be concentrated to the Booroorban-Tchelery Road as both the Sturt and Cobb Highways are part of the NSW Oversize Overmass (OSOM) Load Carrying Vehicles Network.
Surrounding towns and regional centres	ABS Urban Centres and Localities (UCLs) provide baseline data for these towns and regional centres. Hay UCL, Deniliquin UCL, Moulamein UCL and Swan Hill UCL may provide goods and services to support the construction phase of the Project.
Comparative statistical areas	Edward River LGA and Hay LGA and NSW ABS data which is used for a hierarchical spatial analysis.



The social baseline is presented in **Table 6-35**.

TABLE 6-35 SOCIAL BASELINE

Themes	Key findings and trends
Land use context	The Project Area is spread over rural properties zoned RU1 Primary Production and is located within the SW REZ, one of the areas where the NSW Government is encouraging renewable energy development to support the transition to 'net-zero'.
Population demographics	All statistical areas, excluding Moulamein, experienced population trends, which were either below the state average of 1.5% or a population decline.
Economic profile	- It is estimated based on national averages there may be approximately 456 independent contractors with relevant skills in the Social Locality as of 2021 census. Therefore, the social locality has potential to source skilled workers; - High percentage of sheep and beef farming in the Project Area and immediate surroundings; and - Lack of economic diversity with limited economic activity in both 'Industrial and Manufacturing Services' and 'Construction and Infrastructure'.
Vulnerable groups	- Low portion of culturally and linguistically diverse groups; - Consistently high elderly population; - Indigenous population remains higher than that of broader NSW; and - Index of Relative Socio-economic Advantage and Disadvantage-Economic Indexes for Areas scores decreased for all statistical areas excluding Hay, which remained the same.
Housing and accommodation	- Total of 857 rooms in short-term accommodation and approximately 430 unoccupied rooms in the Social Locality, but only 266 within a one-hour commute; - Total of 3,275 rental properties and with a vacancy rate of 0.4% approximately 13 rental properties available; and - Total of 11,485 dwellings and 1591 unoccupied dwellings.
Social Infrastructure and Community Wellbeing	- Deniliquin and Hay provide a wide range of services and are within a one-hour commute from the Project Area; - Moulamein provide the least number of services; and - Swan Hill has the highest number of services but is located outside of a one-hour commuting distance.
Access and Connectivity	Boorooban-Tchelry Road connects to Cobb Highway to the east of the Project. Both the Sturt and Cobb highways are part of the NSW Oversize Overmass (OSOM) Load Carrying Vehicles Network.
Aboriginal Cultural Heritage	The social locality is located across the traditional lands of the Nari-Nari, Barapa Barapa, and Wamba Wamba peoples.
Community Values	The Riverina region have a strong agriculture-based economy, which is reflective in the cultural and community values.

6.12.2 IMPACT ASSESSMENT

The key drivers of social change that may affect communities in the social locality resulting from the Project relate to:

- Social cohesion and community opposition to development and change;
- Procurement opportunities for local and regional businesses and employment opportunities for the local workforce;

- Opportunities for diversification of income streams for host land owners;
- Disruptions due to construction related activities (noise, dust, transportation of materials and workers, etc.);
- Accommodation arrangements for construction workforce; and
- Amenity (noise, visual) and other land use and landscape changes due to altered landscapes.

The impacts have been assessed based on the likelihood of the impact occurring, the magnitude of the impact (degree of change caused by the impact) if it occurs, and the vulnerability of the impacted receptors. A summary of impact issues is provided below.

6.12.2.1 SOCIAL COHESION AND COMMUNITY OPPOSITION

Major construction and infrastructure projects result in changes and disruption in the local area and this can increase social tension and reduce community cohesion when there is division within the community between the supporters and opponents of projects, and for some people, this can impact their mental health and wellbeing. The influx of temporary workers into small towns and rural areas can further strain community cohesion. During the engagement for the Project, there were a mix of viewpoints within the community. The local council and immediate neighbours generally expressed positive sentiment towards the project whereas the wider community sentiment was more mixed.

To manage social and community cohesion, the Project would continue to engage with the community and stakeholders including those who have voiced concerns about the Project. A Stakeholder Engagement Plan would be prepared for the construction phase to provide regular updates about the Project and in particular the timing and nature of construction activities, and to provide a mechanism for the local community to make enquires and raise any complaints.

6.12.2.2 PROCUREMENT AND EMPLOYMENT OPPORTUNITIES

During the stakeholder engagement conducted for the EIS, various employment and procurement impacts were raised. The Project combined with the other renewable energy projects that are planned in the locality would create additional demand for labour. There was broad support from the local councils, community organisations, local and regional businesses, and the wider community for increased local employment opportunities (both direct and indirect) and increased local economic activity.

The Project intends to develop a Local Employment Plan for the Project to maximise the local employment opportunities created by the Project and to work with local employment agencies to source local workers and subcontractors and identify training opportunities to address skills shortages. The Project would also promote and encourage the use of local construction materials and equipment suppliers, where available.

6.12.2.3 LOCAL AMENITY DISRUPTIONS

During stakeholder engagement several concerns were raised regarding local disruptions during the Construction Phase. These included potential impacts related to social amenity resulting primarily from noise and vibration, dust, and visual impact as well as construction traffic, increased vehicle movements, and local road conditions and deterioration of road infrastructure.

These impacts are discussed earlier in the EIS in the assessments of landscape and visual impacts (**Section 6.6**), noise (**Section 6.7**), transport (**Section 6.8**) and water and soils (**Section 6.9**).

6.12.2.4 WORKFORCE ACCOMMODATION

A draft Workforce Accommodation Plan (WAP) (Annex D of **Appendix R**) has been prepared by ERM as part of the SIA to identify the amount of accommodation currently provided in the region and to assess the potential impacts of the Project on the availability of temporary accommodation.

The WAP has considered:

- The worst-case local employment scenario of 30% for the Project;
- Perceived skill requirements for each of the Project phases;
- Existing workforce demographics within the local and surrounding area;
- Current occupancy rates and capacity of identified accommodation options;
- Housing affordability and rental availability;
- Peak occupancy rates and capacity of identified accommodation options; and
- Cumulative worker influx.

The Project is anticipated to have a peak workforce of approximately 80-100 Full Time Equivalent (FTE) (some additional contractor personnel) and an average annual workforce of 30-50 FTE and would create additional demand for short term accommodation in the region. The Project aims to recruit 30% of the construction workforce from within the social locality which would partially offset the demand for temporary accommodation.

The towns of Hay, Deniliquin, and Moulamein are considered to be within a commutable distance for the Project. Hay and Deniliquin are estimated to have 108 and 131 rooms available respectively in short term accommodation. Limited private rental accommodation is presently available in Hay or Deniliquin with vacancy rates approaching zero. Minimal accommodation is available in Moulamein due to its smaller size.

Based on the amount of temporary accommodation available in Hay and Deniliquin, as summarised in **Table 6-36**, there is unlikely to be sufficient accommodation capacity to cater for the peak construction workforce. Edward River Council have suggested reusing workers camp areas that have been established by projects to reduce the impacts associated with constructing a new workers camp.

TABLE 6-36 ACCOMMODATION RECOMMENDATIONS

Accommodation type	Total (approx.)	Availability
Short term local temporary accommodation (Deniliquin)	261 rooms	0-131 rooms
Short term local temporary accommodation (Hay)	215 rooms	0-108 rooms
Available private housing stock (Deniliquin)	181 for sale / 523 unoccupied	-
Available private housing stock (Hay)	32 for sale / 239 unoccupied	-

Accommodation type	Total (approx.)	Availability
Rental accommodation (Deniliquin)	751 dwellings	7 dwellings
Rental accommodation (Hay)	299 dwellings	1 dwellings
Workers camps	-	-

Due to the presence of social infrastructure Hay and Deniliquin are the most suitable regional centres for accommodating non-local workers. Moulamein, due to its small size, lacks social infrastructure and has limited accommodation options available. The Project would continue to explore opportunities to share the use of temporary workers accommodation camp with other projects in the region to reduce the additional demand placed on the limited accommodation options presently available in the social locality. The Project would also consider the use of short-term accommodation in Hay and Deniliquin, and where practical, avoid peak tourism periods in October-November to avoid negative impacts to tourism businesses.

6.12.2.5 COMMUNITY BENEFITS

The Benefit-Sharing Guideline (DPHI, 2024a) acknowledge that the communities which host renewable energy projects would benefit from increased employment and investment but also experience the most pressure from the changes and may not necessarily experience a proportionate level of benefits from the uptake of renewable energy. The Guideline (DPHI, 2024a) establishes a benefit-sharing rate for stand-alone BESS projects located in a rural zone of \$150 per MW hour per annum paid over the life of the development and indexed to CPI.

The Applicant intends to enter into a Voluntary Planning Agreement (VPA) with Edward River Council to provide contributions of \$150 per MW hour per annum for the life of the project to fund local infrastructure and community benefits. Proposals to utilise benefit funding from the Project would be reviewed by a committee that Council has established specifically for benefits from renewable energy projects. The Council committee is comprised of local community members, and representatives from Edward River Council. As a precursor to finalising a VPA, a letter of offer outlining proposed benefits for the Project has been issued to Edward River Council for consideration and discussions are ongoing.

6.12.3 MITIGATION AND MANAGEMENT

Mitigation and management measures to minimise the impacts associated with social impacts and increased demand for workforce accommodation are included in **Table 6-37**.

TABLE 6-37 SOCIAL MANAGEMENT AND MITIGATION MEASURES

ID	Mitigation Measure
SO1	A Voluntary Planning Agreement would be entered into with Edward River Council to provide contributions of up to \$150 per MWh per annum for the life of the project to fund local infrastructure and community benefits.
SO2	The Project would develop and implement a Local Employment Plan for the Project. The LEP is to include measures to encourage and set targets for local employment for the EPC Contractor.
SO3	The Project would continue to engage with Hay Shire Council and Edward River Council to understand pressures experienced by Hay and Deniliquin in relation to worker influx and accommodation.

ID	Mitigation Measure
SO4	The Project would engage with the proponents of the relevant infrastructure and renewable energy projects in the immediate surrounds to ascertain an understanding as to their construction periods and potential options to manage population influx and demand for temporary workforce accommodation within the region.
SO5	The Project would develop and implement a Workforce Accommodation Management Plan (WAMP) prior to the commencement of construction.
SO6	The Project would develop and implement a Stakeholder Engagement Plan (SEP) and include various stakeholders identified in the WAMP.
SO7	During the construction phase, the Project would implement a grievance mechanism to ensure that concerns / complaints raised by stakeholders are identified and acted upon.

6.13 ECONOMIC

An Economic Assessment (EA) (**Appendix S**) has been prepared by Gillespie Economics to support the EIS. The EA addresses the requirements outlined in the SEARs relating to economics.

The EA includes:

- An assessment of the potential economic impacts of the construction and operation of the Project on the regional and NSW economy; and
- An input-output (IO) analysis to assess the direct and indirect impacts (gross economic footprint) of the construction and operation of the Project on the regional and NSW economy.

6.13.1 BACKGROUND

The Project is located within the Edward River LGA. The existing economic environment has been assessed through relevant economic indicators of the Study Area based on the 2021 Census (ABS, 2021) and is included in **Table 6-38**.

TABLE 6-38 CHARACTERISTICS OF THE REGIONAL ECONOMY

Aspects	Study Area Summary
Population	In 2021, the region had a population of 11,338 of which 75% of people resided in Edward River LGA.
Demographics	The median age of the regional population was 47, eight years older than the median age of the NSW population. The region had a higher percentage of the population identifying as Aboriginal and/or Torres Strait Island (5.7 per cent) than NSW (3.4 per cent).
Growth	The population of the region has been contracting at approximately 1% since 2001. The population of the region is predicted to continue to contract at an average annual rate of 0.14%, with most of contraction occurring in the Hay LGA.
Housing market	Median weekly rents in the region were \$208 compared to \$420 for NSW, and the highest in the Edward River LGA (\$220). (2021 Census)
Employment	In 2021, the region had a labour force of 5,255 people of which 75% resided in Edward River LGA. 3.7% of the regional labour force were unemployed.

Aspects	Study Area Summary
Occupations	The main occupations of usual residents in the region were Managers (including Farm Managers) (20 per cent), Professionals (14 per cent), Labourers (14 per cent) and Technicians and Trade Workers (14 per cent).
Industries	The main industry sectors in which usual residents were employed in 2021 were Sheep Farming (Specialised), Other Social Assistance Services, Hospitals (except Psychiatric Hospitals), Primary Education and Supermarket and Grocery Stores.
Export industries	The five largest exporting industries in the region account for \$580 million in total or 79% of the total exports by industry in the region. These industries are: • Agriculture/Forestry/Fishing (\$155 million); • Utilities (\$75 million); • Health Care and Social Assistance (\$70 million); • Public Administration and Safety (\$70 million); and • Construction (\$49 million).

6.13.2 IMPACT ASSESSMENT

6.13.2.1 ECONOMIC IMPACTS AND BENEFITS

The Project would provide economic activity to the regional and NSW economy, particularly to the heavy and civil engineering construction, construction services and non-residential building construction sectors.

The construction phase is anticipated to occur over an 18-month period and would have an average annual employment of 40 FTEs, with a peak construction period of 80-100 FTEs. It is estimated that \$15M of (direct) expenditure would be required across these sectors to generate the level of onsite workforce of 40 FTEs for a year.

Consumption-induced flow-on effects only occur in a proportional way if workers and their families are in the region or migrate into the region. Where workers commute from outside the region, some of the consumption-induced flow-on effects leak from the region.

Approximately 30% of the construction workforce would be sourced from the region, with the remainder residing outside the region and commuting. It is assumed that approximately 70% of the consumption induced expenditure leaks from the region.

The average annual construction impacts of the Project on the regional economy during construction are estimated at up to:

- \$23M in annual direct and indirect output;
- \$8M in annual direct and indirect value added;
- \$5M in annual direct and indirect household income; and
- 56 direct and indirect jobs.

The average annual construction impacts of the Project on the NSW economy during construction are estimated at up to:

- \$49M in annual direct and indirect output;
- \$21M in annual direct and indirect value added;
- \$13M in annual direct and indirect household income; and
- 137 direct and indirect jobs.

The Project operation is estimated to make up to the following total annual contribution to the regional economy:

- \$7M in annual direct and indirect regional output;
- \$2M in annual direct and indirect regional value-added;
- \$1M in annual direct and indirect household income; and
- 10 direct and indirect jobs.

The Project operation is estimated to make up to the following total annual contribution to the NSW economy:

- \$10M in annual direct and indirect regional output;
- \$4M in annual direct and indirect regional value-added;
- \$2M in annual direct and indirect household income; and
- 21 direct and indirect jobs.

The construction and operation impacts are larger for the NSW economy because there is less leakage of direct and indirect expenditure out of the NSW economy compared to the regional economy.

6.13.2.2 AGRICULTURAL IMPACTS

Construction and operation of the Project would impact up to 20 ha of agricultural land. Based on average sheep and cattle grazing gross margin budgets, the Project would result in approximately \$19,000 per annum of foregone revenue.

Indirect impacts include economic activity associated with suppliers to agricultural production. These impacts would occur for approximately 20 months.

The annual regional direct and indirect impact of foregone agriculture during Project construction and operation is estimated at up to:

- \$0.03M in annual direct and indirect regional output;
- \$0.01M in annual direct and indirect regional value-added;
- \$0.004M in annual direct and indirect household income; and
- 0.07 direct and indirect jobs.

This represents less than 0.06% of direct agricultural economic activity in the region. The agricultural impacts from the operation and construction of the Project on direct and indirect jobs are therefore considered negligible.

6.13.2.3 LABOUR MARKET AND HOUSING IMPACTS

During the construction phase, the Project could potentially result in the following economic impacts on the labour and housing market in the region:

- Create additional demand for regional labour resources and regional inputs to production;
- Increase demand for construction labour leading to increased wages in the sector and create labour shortages in other sectors of the economy due to competition for workers;
- In the short-term, excess demand for construction materials could inflate prices for materials and lead to supply shortages for other sectors; and

- Regional employment growth, accompanied by in-migration of labour, may also increase demand for short-term and long-term accommodation and could impact housing prices, rents and the availability of accommodation.

During the operations phase, the Project would create a very small demand for regional labour resources and regional inputs to production. Consequently, no impacts on other industry sectors are anticipated during the operational phase.

6.13.3 MITIGATION AND MANAGEMENT

Mitigation and management measures that would be implemented to minimise the economic impacts are included in **Table 6-39**.

TABLE 6-39 ECONOMIC MANAGEMENT AND MITIGATION MEASURES

ID	Mitigation Measure
EC1	• The Project would prioritise the employment of regional residents where they have the required skills and experience.
EC2	• The Project would locally source non-labour inputs to production where local producers can be cost and quality competitive.
EC3	• A Community Benefit Fund would be established through a Voluntary Agreement with Edward River Council and could provide funds to support local non-profit organisations, community programs/events, local businesses, training, and services/infrastructure.
EC4	• Following decommissioning of the Project, the full pre-project agricultural capability of the land would be reinstated.

6.14 WASTE MANAGEMENT

A Waste Management Assessment (WMA) has been prepared by ERM to support the EIS. It addresses the waste requirements in the SEARs.

The waste management assessment includes characterisation of the waste streams likely to be generated from the construction, operation and decommissioning of the Project and proposed measures to manage these waste streams.

The WMA has been prepared having regard to:

- Protection of the Environment and Operations Act (POEO Act);
- Protection of the Environment Operations (Waste) Regulation 2014;
- Waste Avoidance and Resource Recovery Act 2001 (NSW);
- NSW EPA Waste Classification Guidelines – Part 1: classifying waste (NSW EPA, 2014a) and Addendum (NSW EPA, 2016);
- NSW EPA Waste Avoidance and Resource Recovery Strategy 2014-2021 (NSW EPA, 2014b); and
- NSW EPA Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012 (NSW EPA, 2012).

The WMA also considers best practice for waste management principles in accordance with the WARR Act (and the principles of Ecologically Sustainable Development (ESD) (i.e., the waste hierarchy of avoidance, recovery, and disposal).

6.14.1.1 BACKGROUND

The existing waste management facilities within the vicinity of the Project and the waste streams accepted at each facility are shown in **Table 6-40**.

TABLE 6-40 EXISTING WASTE MANAGEMENT FACILITIES

Waste Management Facility	Location	Waste Streams Accepted	Distance to Project
Hay Community Recycling Centre	Thelangerin Road, Hay NSW	- General solid waste (putrescible); - General solid waste (non-putrescible) including construction waste; and - Asbestos (with consent from council and a completed asbestos disposal application form).	50 km
Deniliquin Landfill Depot	Tip Road, Deniliquin NSW	- General solid waste (putrescible); - General solid waste (non-putrescible) including construction waste; and - Asbestos.	73 km

6.14.2 IMPACT ASSESSMENT

Waste generated during the construction phase would generally include packaging materials (e.g., cardboard, plastics, wooden pallets), and excess construction materials such as electrical cabling, metals. During operation, the potential impacts associated with waste generation and management would be similar to those for construction, albeit at a much smaller scale per annum. No waste streams would be associated with the charging and discharging of electricity.

When the Project reaches decommissioning, most materials are likely to be recycled or reused in accordance with waste hierarchy principles. Items that cannot be reused or recycled, would be classified and disposed of at suitable facilities following applicable regulations. Batteries would be disposed in accordance with the hazardous waste policies active at the time of decommissioning and may be transported back to the supplier for recycling.

Management strategies for each waste type are described in **Table 6-41**.

TABLE 6-41 INDICATIVE WASTE GENERATION AND MANAGEMENT STRATEGIES

Waste Type	Proposed management	Estimated quantity
Timber	Pallets would be reused where possible. Damaged pallets would be sold for wood chip where practicable. Wood pallets not suitable for reuse or recycling would be stored in designated waste storage areas for collection by an authorised contractor for offsite drop-off.	Unknown, limited packaging waste required. Battery components would be delivered pre-assembled
Plastic packaging	Source separated and stored in separate receptacles/storage areas. Offsite transport for recycling.	

Waste Type	Proposed management	Estimated quantity
PET	Source separated and stored in separate receptacles/ storage areas. Offsite transport for recycling.	
Cardboard packaging/ paper waste	Source separated and stored in separate receptacles/ storage areas. Offsite transport for recycling.	
Glass	Source separated and stored in separate receptacles/ storage areas. Offsite transport for recycling.	
Empty chemical drums	Reused onsite, recycled via contractor or returned to supplier.	
Paint	Transported from site and disposed of in accordance with the Waste Classification Guidelines (NSW EPA, 2014a).	
Oil spill clean-up material	Collected oily rags and spill clean-up material would be collected in regulated waste bins and transported by a licensed regulated waste contractor to a licensed regulated waste receiver for disposal.	As generated
Waste oils, lubricants and liquids	Stored separately and transported by a licensed regulated waste contractor to a licensed regulated waste receiver for disposal.	104 kL transformer oil
Metals (ferrous and non-ferrous)	Scrap metal would be stored separately for periodic transportation offsite to applicable recycling facilities.	Minimal, subject to detailed design
BESS Modules	Damaged and end-of-life BESS modules and associated infrastructure would be transported by a licensed regulated waste contractor to a licensed regulated waste receiver for disposal.	200 MW batter subject to detailed design
Electronics and electrical infrastructure	Stored in dedicated areas prior to offsite transport. As far as possible, all materials and components would be reused, sold as scrap, recycled or re-purposed to the maximum amount economically practicable. Where not practicable, transported from site and disposed of in accordance with the Waste Classification Guidelines (NSW EPA, 2014a)	Minimal, subject to detailed design
Recyclable domestic waste	Stored in dedicated recyclable bins for periodic transportation offsite to applicable recycling facilities.	As generated
Septic tank waste	Collected waste would be transported by a licensed regulated waste contractor to a licensed regulated waste receiver for disposal.	Up to 20,000 L per week at peak construction
Domestic wastes	Transported from site and disposed of in accordance with the Waste Classification Guidelines (NSW EPA, 2014a).	As generated

The potential waste impacts associated with construction and operation of the Project can be adequately managed through the preparation of a Waste Management Plan (WMP) in consultation with Edward River Council.

6.14.3 MITIGATION AND MANAGEMENT

Table 6-42 details the proposed mitigation and management measures to address waste management.

TABLE 6-42 WASTE MANAGEMENT MITIGATION MEASURES

ID	Mitigation Measure
WM1	Prior to commencing construction, a Waste Management Plan (WMP) would be prepared in consultation with Edward River Council and identify appropriate options for disposal and reuse of the identified waste streams and should ensure local waste management facilities have sufficient capacity to receive waste. Options in neighbouring LGAs including Hay Shore Council would also be considered.
WM2	The WMP would include protocols to identify opportunities to follow the waste hierarchy, to encourage the most efficient use of resources, as well as reduce costs and environmental harm in accordance with the principles of ESD.
WM3	The WMP would classify wastes in accordance with the NSW EPA Waste Classification Guidelines – Part 1: classifying waste (NSW EPA, 2014a) and Addendum (NSW EPA, 2016).
WM4	The Project would provide waste storage locations within assigned area, with sufficient space for separation and storage of different waste.
WM5	The Project would store and dispose of waste lawfully at a licensed waste facility, including fuels, oils and hazardous substances used onsite.
WM6	The Project would separate recyclable and non-recyclable materials on-site prior to being transported to waste facility.
WM7	The Project should investigate opportunities for recycling of wastes prior to sending to landfill.
WM8	Waste receptacles would be collected on a regular basis by licensed contractors or Council collection service and transported for offsite disposal at an appropriately licensed landfill or recycling facility.
WM9	The Project would provide toilet facilities for onsite workers and provide sullage disposal (e.g., pump out to local sewage treatment plant).
WM10	The WMP would include provisions and a protocol for the packaging, transportation of spent lithium-ion batteries to collection and recycling facilities or returned to the supplier.
WM11	Decommissioning and rehabilitation of the Project would be undertaken in accordance with a Decommissioning Plan to be prepared prior to the commencement of decommissioning.

6.15 CUMULATIVE IMPACTS

The Cumulative Impact Assessment Guidelines for State Significant Projects (CIA Guidelines) (DPHI, 2022b) requires the consideration of the impacts of the Project in combination other past, present and reasonably foreseeable future projects. The CIA Guidelines state that the assessment should focus on the key matters that are within the immediate geographical area of influence of the Projects and with the relevant strategic context. The assessment should be proportionate to the scale and potential significance of the cumulative impacts.

6.15.1 EXISTING ENVIRONMENT

The Major Projects website was searched to identify key projects within 100 km of the Project for assessment. These projects are summarised earlier in **Table 2-2** and shown in **Figure 2-6**.

The relevant future developments that may contribute to the cumulative impacts of the Project are summarised in **Table 6-43**. The potential cumulative impacts associated with each of the key matters are discussed further below.

TABLE 6-43 MAJOR PROJECTS WITH POTENTIAL FOR CUMULATIVE IMPACTS

Project	Potential cumulative impacts (theme)	Rationale
Project Energy Connect (NSW East Section)	Visual	Construction is anticipated to finish before Romani BESS construction begins. However, cumulative impacts during the operational phase considered due to proximity
Victoria to NSW Interconnector West	Nil	Construction is anticipated to finish before Romani BESS construction begins
West Nyangay Solar Farm	Visual Noise Bushfire Social Economic	The construction timing for this project is currently unknown. Cumulative impacts during the operational phase have been considered due to its proximity.
The Plains Wind Farm	Visual Noise Traffic Bushfire Social Economic	Construction is anticipated to commence in Q1, 2027. There is potential for construction of both projects to overlap.
Abercrombie Wind Farm	Visual Bushfire Social Economic	Construction is anticipated to commence in Q1, 2028. There is potential for construction of both projects to overlap. The traffic generated from both projects may interact along Cobb Highway and Maude Road
Boooroorban (Saltbush) Wind Farm	Visual Bushfire	Construction is anticipated to commence after 2028 and unlikely that construction would overlap.
Pottinger Solar Farm	Social Economic	The construction period is projected to commence early 2028. There is potential for construction of both projects to overlap.
Pottinger Wind Farm	Traffic Social Economic	The construction period is projected to commence early 2028. There is potential for construction of both projects to overlap.
Tchelery Wind Farm	Social Economic	The construction period is projected to commence early 2026. There is potential for construction of both projects to overlap.
Baldon Wind Farm	Social Economic	The construction period is projected to commence in Q4, 2025. There is potential for construction of both projects to overlap.
Hay Solar Farm	Nil	Construction commenced in October 2024 and is anticipated to finish before Romani BESS construction begins
Bullawah Wind Farm	Traffic Social Economic	The construction is projected to commence in 2025. The construction and operation of the two projects are likely to overlap.
Wilan Wind Farm	Nil	Unlikely to result in cumulative impacts in combination with the Project due to its distance from the Project.
Keri Keri Wind Farm	Nil	
Dinawan Wind Farm	Nil	
Dinawan Solar Farm	Nil	

Project	Potential cumulative impacts (theme)	Rationale
Yanco Delta Wind Farm	Nil	
Junction Rivers Wind Farm	Nil	

6.15.2 IMPACT ASSESSMENT

6.15.2.1 BIODIVERSITY

The Project would contribute to the overall development of the SW REZ. Potential, direct, indirect and prescribed biodiversity impacts because of the Project have been assessed, additionally it is acknowledged the Project would contribute to cumulative impacts during construction and operation within the existing environment. Cumulative impacts occur when impacts from a project interact or overlap with impacts from other projects and can potentially result in a larger overall effect on the environment.

The Statewide Landcover and Tree Study (SLATS) Dashboard indicates the historically a total of 5,235.35 ha of woody vegetation has been cleared in the Riverina Bioregion between 2009 and 2022, with infrastructure representing approximately 12.6% of the overall clearing extent. The Project is estimated to impact 20 ha of native vegetation (non-woody) and this would not contribute to the cumulative loss of woody vegetation in the Edward River LGA.

Compared with the transmission and renewable energy projects that are proposed within the REZ, the Project represents a small fraction of the impacts associated with the other regional Projects and would not make a substantial contribution to the cumulative impacts of the other, much larger, projects.

6.15.2.2 HERITAGE

As there are no Aboriginal sites or historic heritage within the Project Area, the Project does not result in any cumulative heritage impacts when combined with other major projects in the vicinity.

6.15.2.3 AGRICULTURE

The Project has the potential to generate cumulative impacts with numerous other renewable energy developments proposed in the region. These cumulative impacts could include changes to land used for agriculture, localised productivity, secondary productivity and some agricultural support services. However, given the nature and scale of the established agricultural industries within the region that interface with renewable energy projects as well as the generally low quality agricultural resources and low stocking rates for the region, significant cumulative impacts are unlikely to occur.

6.15.2.4 LANDSCAPE AND VISUAL

The occurrence of large-scale renewable energy projects within a region has the potential to alter the perception of the overall landscape character irrespective of being viewed in a single viewshed as these projects could become part of the existing landscape. Proposed developments within 8 km and 25 km have been assessed based on the visibility thresholds (for wind farms) stated in the CIA Guidelines.

The cumulative visual impact of the Romani BESS and PEC are likely to be low due to the presence of the existing electrical infrastructure in this location. The cumulative visual impacts with solar projects such as West Nyangay Solar is low given the horizontal scale of the solar farm, combined with distance and flat terrain, limit opportunities for simultaneous views from receptors.

The nearby wind farm projects within 15 km of the Project, such as Abercrombie Wind Farm and Saltbush (Boooroban) Wind Farm may be visible in combination with the Project due to flat terrain and lack of screening, however, wind turbines are beyond 8km from the Project and would recede visually into the background. Projects that are in excess of 15 km from the Project are unlikely to be viewed in combination with the Project.

6.15.2.5 NOISE

The nearest developments with the potential to result in cumulative impacts when combined with the Project are the West Nyangay Solar Farm, The Plains Wind Farm and Abercrombie Wind Farm. Noise impact assessments are under preparation for these projects. It has been assumed that the predicted noise levels from these projects would comply with the requirements in the NPI and that the NPI's Project Amenity Noise Levels can be used to address cumulative noise impacts. Assuming these future projects would comply with the NPI Amenity Noise, the Project would not result in any cumulative noise impacts.

6.15.2.6 TRAFFIC

The primary traffic impacts are generated during the construction phase which is anticipated to commence in mid-2026 and take approximately 20 months with a peak construction period expected to take 10 months. There are a number of renewable energy projects that if they are approved and proceed to construction could generate additional vehicle movements within the towns of Hay and Deniliquin.

These vehicle movements would be distributed on the surrounding road network and are expected to have a minimal cumulative impact on the operation of the road network.

The Pottinger Wind Farm, Bullawah Wind Farm, and The Plains Wind Farm have potential to generate additional vehicle movements along the Cobb Highway or Sturt Highway during the construction period.

The cumulative impact on Cobb Highway from these projects is estimated to be 36 southbound movements and 160 northbound movements in the AM peak period, and 36 southbound movements in the PM peak period. No additional traffic movements result from the nearby developments on Boooroban-Tchelery Road.

6.15.2.7 WATER

The nearby projects are located within the Murrumbidgee surface water catchment. The mapped natural waterbody through the southwestern corner of the Project connects to an inland perennial swamp. However, there are no other direct interactions between the swamp and other project and therefore the cumulative impacts are anticipated to be negligible.

There are no direct interactions with major watercourses and the Project impacts would be limited to overland flow. Therefore, cumulative impacts to surface water quality and flow from the Project and the surrounding future projects are considered negligible.

6.15.2.8 BUSHFIRE

The proximity of multiple construction and/or operational projects provides opportunity for potential cumulative impacts. The cumulative impacts related to bushfire mitigation are as follows:

- **Volunteer fire-fighter workload:** Response call outs should not significantly increase because the ignition risk would be very low. There would, however, be an ongoing requirement for briefing on the Emergency Management and Operations Plan;
- **Construction stage transport and road use:** the bushfire mitigation would add a small percentage to the total construction traffic and road use; and
- **Ongoing operations:** there would not be any cumulative operational impacts although it is noted that the proximity of multiple construction and/or operational projects may exceed the current capacity of local firefighting resources.

The proximity of multiple projects actively managing fire risk could assist in management responses and may create a positive cumulative impact, in comparison with existing conditions. In consultation with key stakeholders, the preparation of the Emergency Management and Operations Plan would consider the most current information available regarding fire risk from and to surrounding land uses.

6.15.2.9 WORKFORCE ACCOMMODATION

A large number of infrastructure and renewable energy projects are either planned or currently in delivery within the SW REZ and would require a temporary construction workforce to deliver these projects and many of the workers may be based outside the region. The influx of workers would place additional pressure on the short and long-term accommodation markets within the Hay and Deniliquin.

The impact of this accommodation pressure would have varying degrees of impact on the way of life for residents of these townships and regional centres, including the intensification of accommodation shortages and cost of living pressures, and disruptions to potential tourist accommodation options, which in turn may have subsequent implications for festivals and events. A reduction in tourist accommodation availabilities can lead to a loss of revenue for local and regional businesses that rely on the tourism sector.

Vulnerable groups within Hay and Deniliquin would be most at risk if population influx is not managed appropriately. Those facing financial hardship, housing instability, or with lesser disposable incomes, may not be able to afford long-term or short-term accommodation as they become 'priced-out' of the already limited market by renewable energy proponent workforces.

The construction timing of the renewable energy projects is variable and difficult to predict with many projects still at the EIS preparation stage and subject to securing connection to the electricity grid. It is quite possible that not all future projects in the vicinity would proceed to delivery, and of those that do, the construction commencement of some projects could be potentially delayed.

To manage the cumulative impacts and this uncertainty, the Project would continue to engage with Hay Shire Council and Edward River Council and monitor the availability of temporary accommodation in the region, and engage with the proponents of other renewable energy developments to confirm project construction periods and explore potential options to manage the increased demand for temporary construction workforce accommodation.

6.15.2.10 ECONOMIC

There are a large number of renewable energy projects proposed in the SW REZ and if they are approved and proceed to construction at the same time would generate a large demand for a suitably qualified construction workforce in the region. Some of this demand for labour could be met within the existing population (e.g., the unemployment pool, increased labour force participation, workers from other industries), however additional labour is expected to be required and would be drawn from other regions with workers either moving into the region to live during their employment or commuting from outside the region (e.g., fly-in-fly-out (FIFO) and drive-in-drive-out (DIDO)).

The potential cumulative economic impacts of the Project combined with other renewable energy projects in the region could include:

- Large demand for a suitably qualified construction workforce, which can help to address job growth within regional areas;
- Increased opportunities for regional job growth, increase regional labour force participation and providing stimulus to the local economy through increased spending and increased regional population growth; and
- Potential to increase the demand and cost for short-term and long-term accommodation, and may increase housing prices and rents, and shortages of short-term accommodation.

6.15.2.11 WASTE MANAGEMENT

The Project and nearby major developments are not expected to result in cumulative waste impacts as each project would be responsible for managing its waste in accordance with the relevant guidelines and a waste management plan specific to each project.

7. PROJECT JUSTIFICATION

7.1 PROJECT DESIGN AND EVOLUTION

The location of the Romani BESS has been informed by the earlier studies and field surveys that were undertaken for the hybrid solar farm project initially proposed on the host property. These studies covered a much larger area than what is required for the Romani BESS and provided a comprehensive understanding of the existing environmental constraints so that an appropriate location could be selected for the Romani BESS that avoids and minimises potential impacts.

In this regard, the disturbance footprint selected for the Romani BESS responds sensitively to the key environmental features of the site and has been located in the less constrained areas of the host property. In particular, the siting and design of the Project has carefully considered the following factors to minimise its potential impacts:

- The Project has been sited adjacent to Booorooban-Tchelery Road frontage (rather than Romani Road which is unsealed) to ensure heavy vehicles and OSOM vehicles can readily access the Project Area from the regional and State road network without the need for extensive local road upgrades;
- The Project has been placed on the southern side of the X5 transmission line so that electrical infrastructure required to connect to the grid and other ancillary project infrastructure such as access roads do not need to traverse the easement for PEC (which would be located on the northern side of the X5 transmission line);
- The disturbance footprint for permanent infrastructure provides a 40 m setback to the bank of the existing water body (an ephemeral creek) that runs across the south-western corner of the Project Area;
- The batteries and inverters have been placed a sufficient distance from the sensitive noise receivers to the south (an unoccupied caravan and a vacant dwelling) and, if required to achieve compliance with NPI, silencers could be included on the inverters; and
- The disturbance footprint has avoided areas of high biodiversity value native vegetation and habitat, and sites of Aboriginal cultural heritage significance that were identified by ERM during surveys for the initial hybrid solar farm project.

Where the potential for impacts could not be avoided, design principles were sought to minimise environmental impacts and/ or mitigation measures were proposed to manage the extent and severity of any residual impacts. The proposed mitigation and management measures that would be implemented for each environmental aspect assessed in this EIS are summarised in **Appendix E**.

During detailed design and prior to construction, the layout may be refined to further avoid and/or minimise the potential environmental impacts of the Project.

7.2 CONSISTENCY WITH STRATEGIC CONTEXT

As discussed in **Section 2.1** and **2.2**, the Project would support the Australian and State governments strategies, plans and policies to achieve their respective renewable energy and greenhouse gas emission reduction targets. Importantly, the Project would contribute to the continued growth of renewable energy storage capacity in NSW.

The Project is consistent with the strategic context as described in **Section 2** by:

- Providing an additional source of renewable energy storage, supporting Australia's transition away from fossil fuel energy production;
- Improving the reliability of the NEM by providing energy storage and dispatching energy during peak times;
- Contributing the growth of renewable energy storage in NSW;
- Generating employment opportunities and economic stimulus on the regional economy through direct and indirect jobs during construction and operation of the Project;
- Monetary contributions to Edward River Council through a Voluntary Planning Agreement to fund infrastructure and deliver community benefits for the life of the Project; and
- Mitigating and avoiding adverse environmental impacts as a result of the Project and aligning with the principles of ecologically sustainable development.

7.3 COMPLIANCE WITH RELEVANT STATUTORY REQUIREMENTS

The Project is declared SSD under Clause 2.6(1) of the Planning Systems SEPP. Development consent for the Project is sought under Part 4, Division 4.7 of the EP&A Act. The Project Area is zoned RU1 Primary Production under the Edward River LEP. The Project is for the purpose of electricity generating works and is permissible with development consent in the RU1 zone.

The EIS has been prepared in accordance with the Project SEARs (**Appendix A**). Detailed maps and plans of the Project are included in the EIS (**Appendix B**). The EIS has been prepared having regard to the Renewable Energy Planning Framework (DPHI, 2024d) and the State Significant Development Guidelines (DPHI, 2024c) and the relevant statutory planning requirements have been addressed (**Appendix C**).

Engagement has been undertaken with local community and government agencies consistent with the Undertaking Engagement Guidelines for State Significant Projects (add source) and the outcomes of the consultation process and the issues raised have been addressed (**Appendix D**). The Project complies with the relevant statutory requirements and the potential environmental, social and economic impacts arising from the Project can be effectively managed through the mitigation and management measures (**Appendix E**).

7.4 COMMUNITY VIEWS

Stakeholder engagement encompassed a range of stakeholders including NSW and Australian Government agencies, the nearby community and community groups, Aboriginal groups, proximate landowners and infrastructure owners, as described in **Section 5**.

Engagement activities were conducted throughout the development of the EIS and scoping phase to discuss the Project with the community and to build an understanding of potential concerns, opportunities and mitigation strategies. These included community drop-in sessions, phone and email interactions, Project's website, letters and factsheets.

During engagement activities, key topics raised included community benefit sharing, environmental impacts, construction impacts and decommissioning, economic impacts, visual impacts, consultation, project design and approvals process and cultural heritage.

Overall, the Project is supported by the local community and key stakeholders who recognise the benefits of the Project.

The Applicant continues to work with the community to address real and perceived impacts as a result of the Project through the ongoing engagement and complaints management detailed in **Section 5.6**.

7.5 SCALE AND NATURE OF IMPACTS

The Project would primarily be developed on land which has been modified following a long history of vegetation clearing and livestock grazing. The Project layout has been designed to maximise the use of existing disturbed areas and to avoid and/or minimise impacts to identified biodiversity and Aboriginal sites and surrounding receivers. Progressive design iterations for the BESS and associated infrastructure have continued throughout the development of this EIS with key drivers being measures to avoid and minimise environmental and social impacts in line with the “Avoid-Minimise-Mitigate-Offset” hierarchy.

7.5.1 ENVIRONMENTAL IMPACTS

This EIS and supporting technical assessments have considered the potential for environmental impacts as a result of the Project. For each assessment, the potential impacts and measures to mitigate and avoid these are detailed in **Section 6**.

The Project results in the clearing of approximately 18ha of native vegetation characterised as PCT 164 – Cotton Bush open shrubland of the semi-arid (warm) zone which is in moderate to highly modified condition. Biodiversity ecosystem credits would be retired to offset this impact. Otherwise, the Project Area is absent of the candidate threatened flora and fauna species predicted by the BAM-C and there are no threatened ecological communities that would be impacted by the Project.

The Project has been located to avoid direct impacts on Aboriginal cultural sites. Of the eleven newly identified Aboriginal sites within the larger study area, all of these sites have been avoided by the Project.

The Project would not result in significant impacts in terms of landscape character, visual amenity or noise and vibration, and these matters can be adequately managed during the construction and operation phases of the Project.

The potential hazards and risks associated with bushfires, flooding, and hazardous and dangerous goods can be effectively managed in accordance with the relevant guidelines and agency requirements.

Site access is proposed on Boooroorban-Tchelery Road to manage traffic movements for the Project and would be designed to accommodate heavy vehicles and OSOM vehicles. The traffic impacts associated with the Project can be effectively managed and do not impact on the overall performance or safety of the surrounding road network.

Appendix E details all the measures proposed in this EIS to mitigate, avoid and offset the potential environmental impacts during each stage of the Project.

7.5.2 ECONOMIC IMPACTS

The Project would provide economic activity to the regional and NSW economy during the construction, operation and decommissioning phases.

The Project would generate 80-100 direct and indirect jobs and the impacts on the regional economy are estimated at up to \$23M in direct and indirect output, \$8M in direct and indirect value added, \$5M in direct and indirect household income.

Further, the construction impacts of the Project on the NSW economy are estimated at up to \$49M in direct and indirect output, \$21M in direct and indirect value added, \$13M in direct and indirect household income, and 137 direct and indirect jobs.

The Project would result in a reduction of the land available for agricultural activity, however these impacts are considered negligible relative to the positive economic activity impacts of the construction of the project, such as creation of local employment, and increased investment and expenditure in local businesses and the regional economy. The Project would create demand for regional labour resources and regional inputs to production and combined with the number of other major projects occurring in the region, could result in increases to regional wages, prices and rents, and increased demand for housing.

7.5.3 SOCIAL IMPACTS

The Applicant proposes to enter into a Voluntary Planning Agreement with Edward River Council and would contribute up to \$150 per MWh per annum for the life of the project consistent with the Benefit Sharing Guidelines (DPHI, 2024a). The community benefits would be secured through a Voluntary Planning Agreement which is subject to on-going discussions with Edward River Council.

During construction phase, the Applicant would work with contractors, local communities, neighbours and local council, to plan and manage construction to minimise disturbance. The potential social impacts can be appropriately managed with the implementation of the mitigation and management measures, as summarised in **Appendix E**. These measures would also address the community concerns and associated social impacts identified during the stakeholder engagement process.

Given the net benefit and commitment from the Applicant to appropriately manage the potential environmental impacts associated with the Project, it is considered that the Romani BESS would result in a net benefit to the region and NSW community.

7.6 COMPLIANCE AND MONITORING

An Environmental Management System would be developed to provide a framework for environmental management during the construction, operation, decommissioning and rehabilitation of the Project to ensure that appropriate measures and processes are in place to manage identified environmental risks and provide for ongoing continual improvement. The Environmental Management System would incorporate mitigation measures that have been identified throughout this EIS and associated technical assessments and would include relevant management plans.

Appendix E provides a summary of the environmental mitigation and management commitments of the Project which would be implemented to avoid, minimise and where necessary, offset the potential environmental impacts associated with the Project.

Prior to the commencement of construction, detailed design and layout plans would be finalised.

Environmental mitigation and management measures outlined in the Environmental Management System and the associated environmental management plans would be prepared and submitted as required by the conditions of development consent.

7.7 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

7.7.1 THE PRECAUTIONARY PRINCIPLE

The environmental impacts of the Project have been carefully evaluated in this EIS and where practicable they have been avoided, mitigated, managed or offset. Various options have been considered for the Project having regard to environmental risks. Ultimately, options with lower environmental impacts and risks have been selected to avoid and minimise potential biodiversity and heritage impacts.

The site suitability and Project design process have carefully considered and sought to avoid and minimise the impacts to the local environment. Where uncertainty exists, measures have been suggested to address the uncertainty. Management measures have been proposed for all significant environmental impacts. As such, the Project is no threat of direct or indirect serious or irreversible damage to the environment.

7.7.2 INTER-GENERATIONAL EQUITY

The Project would contribute to inter-generational equity by maintaining and promoting agricultural diversity that builds resilience into regional and rural community economies' which helps these communities thrive. Environmental benefits associated with the Project include reductions in air quality emissions and water use from solar power generation when compared to impacts from Projects which input to traditional coal fired power stations. Following decommissioning, the Project Area would be rehabilitated and reinstated for agricultural activities.

7.7.3 CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY

Extensive desktop and field assessment has been undertaken to understand the anticipated biodiversity impacts. The findings of the biodiversity assessment have informed an ongoing iterative design for the layout of the Project and siting of the BESS and other key infrastructure. Impacts to biodiversity would be avoided, mitigated and offset where necessary to ensure that there is no net loss in biological diversity and that ecological integrity is maintained. The potential biodiversity impacts have been assessed and mitigation measures have been provided, as detailed in **Section 6.1** and as informed by the BDAR contained in **Appendix G**.

7.7.4 SOCIAL AND ECONOMIC BENEFITS

The Project enables the storage of renewable energy, which is otherwise lost if the Project does not proceed. The Project further contributes to the transition from fossil fuel generation sources. The Project would reduce air, water and land pollution from coal-fired power stations, which currently bear none of the external costs of such pollution.

The environmental consequences of the Project and mitigation measures with potential for adverse impacts have been considered and identified in **Section 6** and **Appendix E** of this EIS. Implementing the mitigation measures would impose an economic cost on the Applicant, which increases the costs of the Project.

Project benefits are considered to outweigh the costs. The Project would generate up to 40 FTE jobs during construction, 80-100 FTE during peak construction, 56 direct and indirect jobs during operations and would provide economic benefits to the local community.

It would also provide tangible and durable financial benefits to the community through the VPA with Edward River Council.

7.8 CONCLUSION

The Project involves the construction, operation and where relevant decommissioning of a BESS with storage capacity of 200 MW / 800 MWh and associated infrastructure.

The Project would contribute significantly to reducing carbon emissions and human induced climate change as part of the necessary and ongoing clean energy transition from fossil fuels.

The Project has been carefully designed and sited to minimise environmental impacts in consultation with the local community and relevant stakeholders. The residual environmental and social impacts identified throughout this EIS and supporting technical assessments would be managed through the mitigation and management measures summarised in **Appendix E**.

The Project would not result in significant impacts on the environment or the local community, and these impacts would be significantly outweighed by the strong strategic and economic benefits which the Project would deliver. The Project would:

- Assist the Federal and NSW Governments to fulfil their targets and policies to increase renewable energy supply and reduce carbon emissions;
- Assist in meeting energy demand as part of the market transition from traditional energy sources; and
- Deliver economic benefits to regional and local communities.

The Project represents a positive addition to the local and wider NSW economy and the NEM. Through the implementation of proposed mitigation and management measures, it is considered that this Project is consistent with the objects of the EP&A Act and is in the public interest.

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APPENDIX A SEARS TABLE



APPENDIX B DETAILED MAPS AND PLANS



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