PREPARED FOR

Samsung C&T Renewable Energy Australia Pty Ltd

DATE
12 August 2025

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0704056

# Romani BESS

## Bushfire Risk Assessment

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SIGNATURE PAGE

# Romani BESS

## Bushfire Risk Assessment

0704056

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## ACRONYMS AND ABBREVIATIONS

| Acronym | Description |
|---|---|
| APZ | Asset Protection Zones |
| AFDRS | Australian Fire Danger Rating System |
| *AS 3959-2018* | *Australian Standard 3959 - 2018 Construction of Buildings in Bushfire-prone Areas* |
| BC Act | *Biodiversity Conservation Act 2016* |
| BESS | battery energy storage system |
| BOM | Bureau of Meteorology |
| CASA | Civil Aviation Safety Authority |
| EIS | Environmental Impact Statement |
| EP&A Act | *NSW Environmental Planning and Assessment Act 1979* |
| ERM | Environmental Resources Management Australia Pty Ltd |
| ha | hectare |
| m | metres |
| MNES | Matter of National Environmental Significance |
| NSW RFS | New South Wales Rural Fire Service |
| PBP 2019 | Planning for Bushfire Protection 2019 |
| RF Act | *NSW Rural Fires Act 1997* |
| SCADA | supervisory control and data acquisition |
| SEARs | Secretary's Environmental Assessment Requirements |
| SFAZ | Strategic Fire Advantage Zone |
| SSD | State Significant Development |
| TOBAN | Total Fire Ban |

# 1. INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) has been engaged by Samsung C&T Renewable Energy Australia Pty Ltd ("SREA" or "the Applicant") to consider bushfire risk in the vicinity of the Romani battery energy storage system (BESS) (the Project).

The need for a Bushfire Risk Assessment was identified within the Secretary's Environmental Assessment Requirements (SEARs) and the *Rural Fires Act 1997* imposes obligations on land occupiers to take all practicable steps to prevent the occurrence and spread of wildfire to adjoining lands from lands under their care and management.

This report identifies potential hazards and risks associated with the Project. It contains management and mitigation measures designed to address these obligations consistent with similar projects of this nature in other parts of New South Wales (NSW) and in accordance with NSW Rural Fire Service (RFS) guidelines including Planning for Bush Fire Protection (BBP) (NSW RFS, 2019a) inclusive of the PBP Addendum (NSW RFS, 2022).

It does not assess the individual design or engineering components of the BESS (or other infrastructure as described in **Section 1.1**) themselves but does consider locations of the infrastructure relative to the identified hazards and the requirements for separation distances. Electrical hazards, including battery fires and transformer fires, are addressed separately as part of the Preliminary Hazard Assessment (PHA) and are not included here.

## 1.1 DESCRIPTION OF THE PROJECT

The Project is located Booroorban-Tchelery Road, Booroorban NSW and 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. **Figure 1-1** shows the Project locality in regional setting.

The Project would involve the construction, operation, and decommissioning of 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 220 kV transmission line (X5 transmission line) to the north of the Project area.

The Project has a temporary disturbance footprint of 6 ha including the temporary construction compounds, laydown area and car parking. The permanent disturbance footprint (13 ha) includes the BESS, substations, and associated infrastructure including access roads and external road upgrades.

**Table 1-1** summarises the key Project components and specifications, and the Project layout is provided in **Figure 1-2**. The final layout of the Project remains subject to refinement.

TABLE 1-1 PROJECT COMPONENTS AND SPECIFICATIONS

| Component | Specification |
|---|---|
| BESS | • BESS with storage capacity of 200 MW / 800 MWh. |
| Electrical Reticulation Network | • New high voltage of a 220 kV substation proposed along Booroorban-Tchelery Road. Grid connection to the existing X5 transmission line; and<br>• 220 kV power transformer with a height of approximately 6m. |

| Component | Specification |
|---|---|
| Associated infrastructure | • Permanent O&M compound, control building/control room, switch room with a height of approximately 5m;<br>• Vehicle access to Booroorban-Tchelery Road and access tracks; and<br>• Landscaping works, asset protection zones, drainage. |
| Construction period | • 18 months. |
| Construction workforce (peak) | • 80-100 FTE. |
| Construction workforce (average) | • 30-50 FTE. |
| Operational workforce | • 3-5 FTE. |

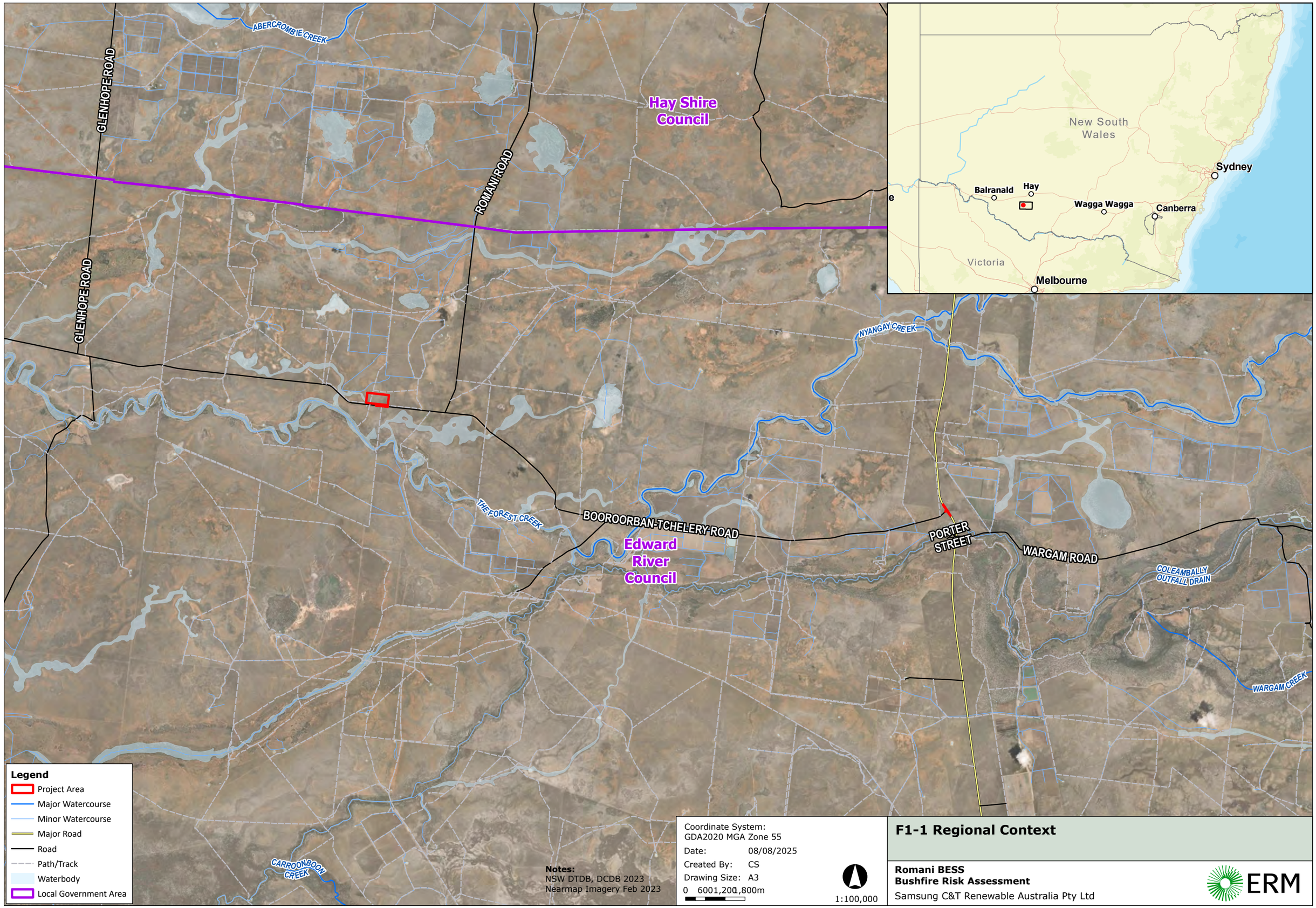
## 1.2 AIMS AND OBJECTIVES

Bushfire presents a threat to both human life and assets and can adversely impact ecological values. Bushfire risk can be considered in terms of environmental factors that increase the risk of fire (fuel quantity and type, topography, and weather patterns), as well as specific activities (such as hot works and construction activities) or infrastructure components that exacerbate combustion or ignition risks (such as transmission lines and other electrical components).

This Bushfire Risk Assessment aims to address the requirements identified by SEARs to identify potential hazards and risks associated with bushfires / use of bushfire prone land and demonstrate that the proposed BESS can be designed, constructed and operated to minimize ignition risks and provide for asset protection consistent with relevant NSW RFS design guidelines PBP 2019 and Standards for Asset Protection (NSW RFS, 2024) (available on the NSW RFS website www.rfs.nsw.gov.au).

The objectives of this assessment are to identify, and where possible reduce, the likelihood of a bushfire impacting the Project Area or spreading from the Project Area to surrounding properties.

**Despite the mitigation measures and treatments that are put in place, it is noted that some bushfire risk will always remain and that some of the infrastructure may be subject to direct flame contact. The absence of any identified hazard or asset in the Development Footprint should not be interpreted as a guarantee that such hazards or impacts do not exist.**




# F1-1 Regional Context

**Romani BESS**
**Bushfire Risk Assessment**
Samsung C&T Renewable Australia Pty Ltd

ERM

0704056_SRSF_BF_R1.aprx



92 DP756561

Connection to X5 Transmission Line

BOOROORBAN-TCHELERY ROAD

1 DP756561

108 DP820129

**Legend**

- Project Area
- Proposed Vehicle Access
- Connection to X5 Transmission Line
- Line X5 (220kV, Darlington Point to Balranald)
- PEC Transmission Line Route (330kV)
- Major Road
- Road
- Path/Track
- Lots
- BESS Infrastructure
- 200MW BESS
- Construction Compound and Laydown

**Notes:**
NSW DTDB, DCDB 2023
Nearmap Imagery Feb 2023

Coordinate System:
GDA2020 MGA Zone 55
Date: 19/08/2025
Created By: CS
Drawing Size: A3
0 50 100 150m

1:5,000

# F1-2 Development Footprint and Layout

**Romani BESS**
**Bushfire Risk Assessment**
Samsung C&T Renewable Australia Pty Ltd

ERM

0704056_SRSF_BESS_BF_R1.aprx

# 2. PLANNING FRAMEWORK

## 2.1 RELEVANT LEGISLATION AND GUIDELINES

**Table 2-1** outlines the relevant legislation and guidelines and how they have been considered in this Bushfire Risk Assessment.

TABLE 2-1 RELEVANT LEGISLATION AND GUIDELINES

| Relevant Legislation/Guideline | Description |
|---|---|
| *Environment Planning and Assessment Act 1979* | The Project was declared a State Significant Development (SSD) and will be assessed under Part 4 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act).<br>Section 4.41 of the EP&A Act excludes projects approved under Part 4 of the EP&A Act from requiring "a bush fire safety authority under section 100B of the *Rural Fires Act 1997*". |
| *NSW Rural Fires Act 1997* | The NSW Rural Fire Service (NSW RFS) administers the *Rural Fires Act 1997* (RF Act). The Act was proclaimed in September 1997 and superseded the *Bush Fires Act 1949*. The RF Act, is supported by the Rural Fire Regulation 2013 and they should be read together.<br>**The Project is located in a bushfire prone area.**<br>Under Section 63 of the RF Act, owners and occupiers of land have a duty to take practicable steps to prevent the occurrence of bushfires on, and to minimise the danger of the spread of bushfires on or from, that land. This assessment considers the risk of spreading bushfires from the Project to the surrounds and provides measures to minimise the risk of bushfires.<br>Additionally, as the occupier, in accordance with Section 64 of the RF Act, if a fire is burning on any land at any time during a bushfire danger period, the operators must:<br>• immediately on becoming aware of the fire and whether the occupier has lit or caused the fire to be lit or not, take all possible steps to extinguish the fire; and<br>• if the occupier is unable without assistance to extinguish the fire and any practicable means of communication are available, ensure that the fire is reported immediately to the 000 emergency telephone number.<br>The BESS operators must also be aware of operations that can be carried out on days of Total Fire Ban and any prohibited activities or exemptions that are notified by the Commissioner of the NSW RFS under Section 99 of the RF Act.<br>The proposed development does not require subdivision of land and is not defined as a special fire protection purpose development under Section 100B of the RF Act. Accordingly, the Project does not require a bushfire safety authority.<br><u>Bushfire Management Committee</u><br>Set up under the RF Act, bushfire management committees (BFMCs) coordinate fire management planning, prevention and suppression in local areas. The relevant committee for the Project is the Mid Murray Zone BFMC. Each BFMC is required to prepare and submit to the Bush Fire Risk Management Plan (BFRMP). The relevant plan to the Project is the Mid Murray Zone BFRMP (Bush Fire Coordinating Committee, 2024). |

| Relevant Legislation/Guideline | Description |
|---|---|
| *Planning for Bushfire Protection 2019* | Planning for *Bushfire Protection 2019* (NSW RFS) (NSW RFS, 2019a) is a planning document to link responsible planning and development control with the protection of life, property and the environment. PBP 2019 was legislatively adopted in the *Environmental Planning & Assessment Regulations* on 1 March 2020. The PBP Addendum (NSW RFS, 2022) is effective date from 1 May 2023 to coincide with adoption of the National Construction Code (NCC) 2022.<br>Consideration has been given to the following overall aims and objectives of PBP 2019:<br>• Afford buildings and their occupants protection from exposure to a bushfire;<br>• Provide for a defendable space to be located around buildings;<br>• Provide appropriate separation between a hazard and buildings which, in combination with other measures, minimises material ignition;<br>• Ensure that appropriate operational access and egress for emergency service personnel and residents is available;<br>• Provide for ongoing management and maintenance of bushfire protection measures; and<br>• Ensure that utility services are adequate to meet the needs of firefighters.<br>Section 8.3.9 of PBP 2019 identifies that some developments are considered by their very nature to be hazardous, as much for their ability to start bush fires as their susceptibility to bush fire impacts. New developments of this nature may require the preparation of a performance-based solution, including a bushfire design brief and Fire Safety Study (FSS) prepared under the DPIE Hazardous Industry Planning and Assessment Papers (HIPAPs). The preliminary risk screening assessment confirms that the BESS development is classified as potentially hazardous and key recommendations including the installation of fire protection systems are outlined within the PHA (Riskcon, 2025).<br>Section 8.3.10 of PBP 2019 confirms that where no residential component is included, commercial and industrial development is addressed through the aim and objectives of PBP 2019. A suitable package of bushfire protection measures should be proposed commensurate with the type/scale of the development and numbers of people likely to be occupying the building/space. Essential equipment should be designed and housed in such a way as to minimise the impact of bush fires on the capabilities of the infrastructure during bush fire emergencies. It should also be designed and maintained so that it would not serve as a bush fire risk to surrounding bush. |
| *Commonwealth Environment Protection and Biodiversity Act 1999* | *The Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the primary piece of Federal legislation relating to the environment. Under the EPBC Act any action that has, or is likely to have, a significant impact on a Matter of National Environmental Significance (MNES) requires approval from the Commonwealth Minister for the Environment. An action is defined as a project, development, undertaking, activity (or series of activities), or alteration to any of these. |
| *Biodiversity Conservation Act 2016* | The *Biodiversity Conservation Act 2016* (BC Act) requires the consideration of threatened species and their habitats in the development planning process and a responsibility of the proponent to determine potential impacts on listed species and Endangered Ecological Communities. |

| Relevant Legislation/Guideline | Description |
|---|---|
| | Schedule 3 of the BC Act lists Key Threatening Processes for species, populations and ecological communities within NSW. 'Clearing of native vegetation', 'high frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition' and 'removal of dead wood and dead trees', are listed by the TSC Act as Key Threatening Processes and need to be carefully considered and managed when implementing fire management activities.<br>The Project Area contains threatened species that may be impacted by the Project. |

## 2.2 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The Secretary's Environmental Assessment Requirements (SEARs) were issued for the proposed development on 19 June 2025 (SSD-67105475). The SEARS state the following with regard to bush fire risk:

TABLE 2-2 SEARS

| | SEAR | Section where addressed |
|---|---|---|
| Bushfire | A bush fire hazard assessment completed by a suitably qualified consultant and identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a BESS would cause a bush fire and demonstrate compliance with *Planning for Bush Fire Protection 2019*; | This Report has been prepared with specific reference to Section 8.3.10 of PBP 2019. |

Three Government agencies provided bushfire related advice on the SEARs, as reproduced in **Table 2-3** below.

TABLE 2-3 SEARS AGENCY ADVICE

| Agency | Advice | Where addressed |
|---|---|---|
| NSW Rural Fire Service | NSW RFS has reviewed the information provided and advises that a bush fire assessment report shall be prepared which identifies the extent to which the proposed development conforms with or deviates from the relevant provisions of Planning for Bush Fire Protection 2019.<br>The NSW RFS advises that the EIS for the proposed development should incorporate a bush fire hazard assessment undertaken by a suitably qualified consultant to address the aims and objectives of PBP 2019 and the specific matters within Section 8.3.5 - Wind and Solar Farms. | This Report has been prepared with specific reference to Section 8.3.10 of PBP 2019.<br><br>Section 8.3.5 of PBP 2019 provides specific requirements for wind and solar farm developments only. |
| Edward River Council | Edward River Council advises bushfire risks associated with the construction and operation of the development need to be carefully considered in the EIS. Of specific concern is the Bushfire Prone Land areas consisting of large expanses of grassland and the remoteness of these areas. Adequate resources would be required to protect these areas in the event of fire outbreak as there are extended response times and access to adequate resources for fire defence are limited. | Section 5 |

| Agency | Advice | Where addressed |
|---|---|---|
| Fire and Rescue NSW | There is currently insufficient information available regarding the fire safety and emergency response management aspects of the project. FRNSW requests to be consulted and given the opportunity to review the hazard and risk analysis and provide comment regarding the proposed fire and life safety systems at the preliminary and final design phases of the project. | Bushfire emergency management and response planning would be undertaken in consultation with NSW RFS and FRNSW following project approval and based on the final development design. |

# 3. EXISTING SITE CONDITIONS

## 3.1 LOCALITY AND LAND USE CONTEXT

The Project Area is situated within the locality of Booroorban in the Edward River LGA within the Riverina Murray Region of NSW. The Project is approximately 44 km southwest of Hay, the closest regional town with a population of approximately 2,880 (ABS, 2024). The key land uses within the region are centered on agriculture and food production, and its economy is reliant on tourism, agriculture and associated industries.

The existing land uses surrounding the Project Area are predominantly agricultural and primarily used for irrigated cropping and grazing. The Project Area is zoned in its entirety as RU1 – Primary Production under the Conargo Local Environmental Plan 2013 (Conargo LEP) (NSW Government, 2024). There is an existing dwelling house and ancillary structures located on the associated landowners' property. An existing 220 kV overhead transmission line running in an east west alignment to the immediate north of the Project Area.

## 3.2 BUSHFIRE PRONE LAND

Bushfire prone land mapping is intended to designate areas of the State that are considered to be higher bushfire risk for development control purposes. The Development Footprint and surrounding areas are consistent with Vegetation Category definitions as described by the NSW RFS Guide for Bush Fire Prone Land Mapping, Version 5b (2015).

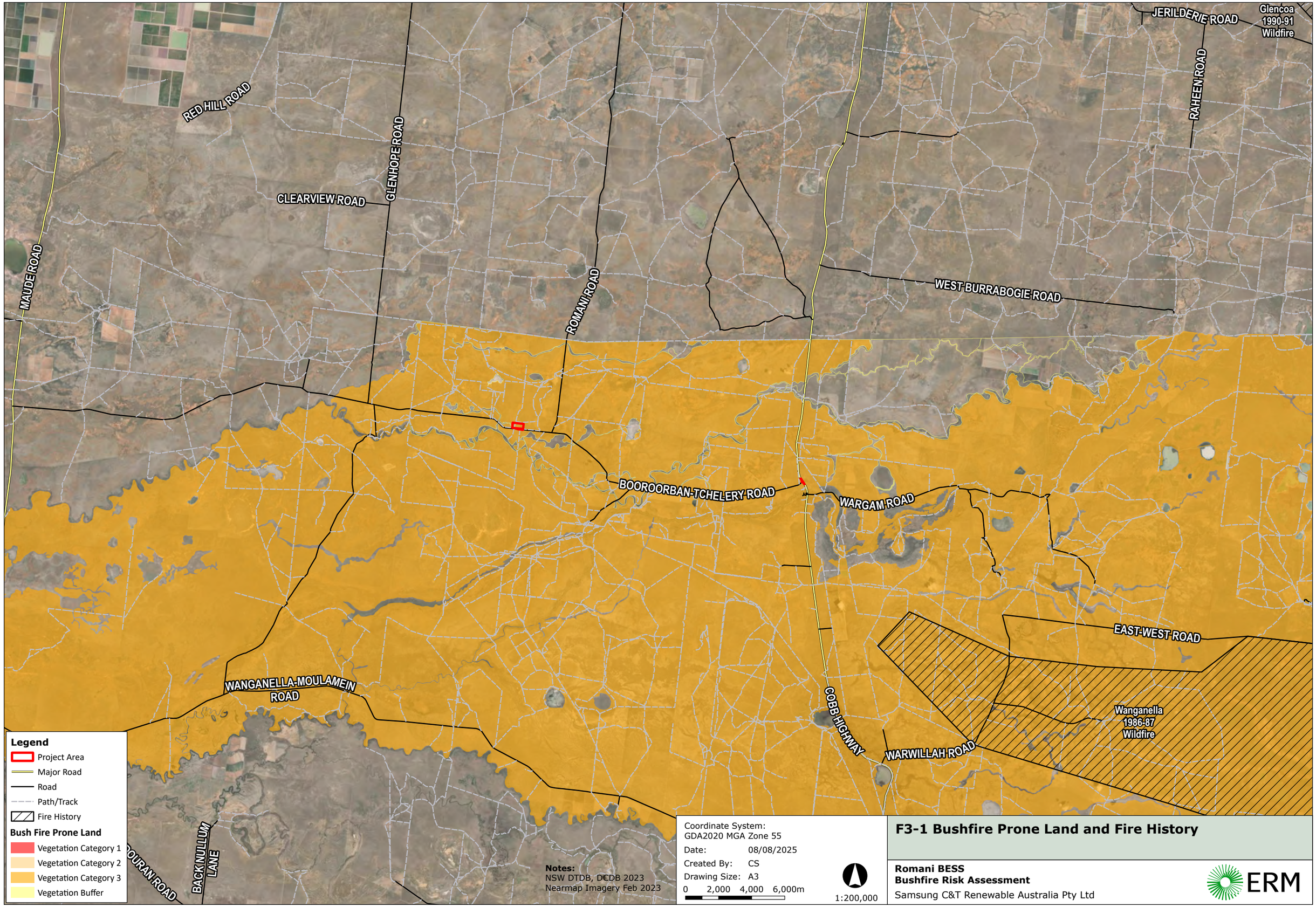
**Vegetation Category 1** is the highest risk for bushfire. It is represented as red on the bushfire prone land map and has the highest combustibility and likelihood of forming fully developed fires including heavy ember production. Vegetation Category 1 consists of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations.

**Vegetation Category 2** has a lower bushfire risk than Category 1 and Category 3 but higher than the excluded areas. Vegetation category consists of rainforests and lower risk vegetation parcels

**Vegetation Category 3** is a medium bushfire risk vegetation. It is higher in bushfire risk than category 2 (and the excluded areas) but lower than Category 1. It is represented as dark orange on a Bush Fire Prone Land map. This category consists of grasslands, freshwater wetlands, semi-arid woodlands, alpine complex and arid shrublands.

A review of the NSW RFS bushfire prone land mapping dataset (NSW Government, 2025) has identified the Project Area as Vegetation Category 3 (refer **Figure 3-1**).

This bushfire prone land mapping triggers the requirement to apply the aims and objectives of the PBP 2019 (NSW RFS, 2019a).




# F3-1 Bushfire Prone Land and Fire History

**Romani BESS**
**Bushfire Risk Assessment**
Samsung C&T Renewable Australia Pty Ltd

ERM

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## 3.3 CLIMATE AND FIRE WEATHER

Weather conditions influence the size, intensity, speed, and predictability of bushfires and how dangerous they can be to the community. While bushfires can happen at any time of the year in Australia, the time of peak bushfire activity varies across the country with the changes in the seasonal weather patterns. Within the region, the bushfire season generally runs from October-November through to March-April depending on seasonal conditions (Bush Fire Coordinating Committee, 2024). This is consistent with the statutory Bush Fire Danger Period which generally runs from 1 October to 31 March each year.

Prevailing weather conditions associated with the bushfire season as reported by the Mid Murray Zone Bush Fire Management Committee (BFMC) (Bush Fire Coordinating Committee, 2024) 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.

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 (refer to Photo 3-1). Data from the BOM weather station at Hay (Miller Street) (Station No: 075031) suggest that strong north westerly and southerly winds (moving to south easterly winds in late summer) are common during the bushfire season.

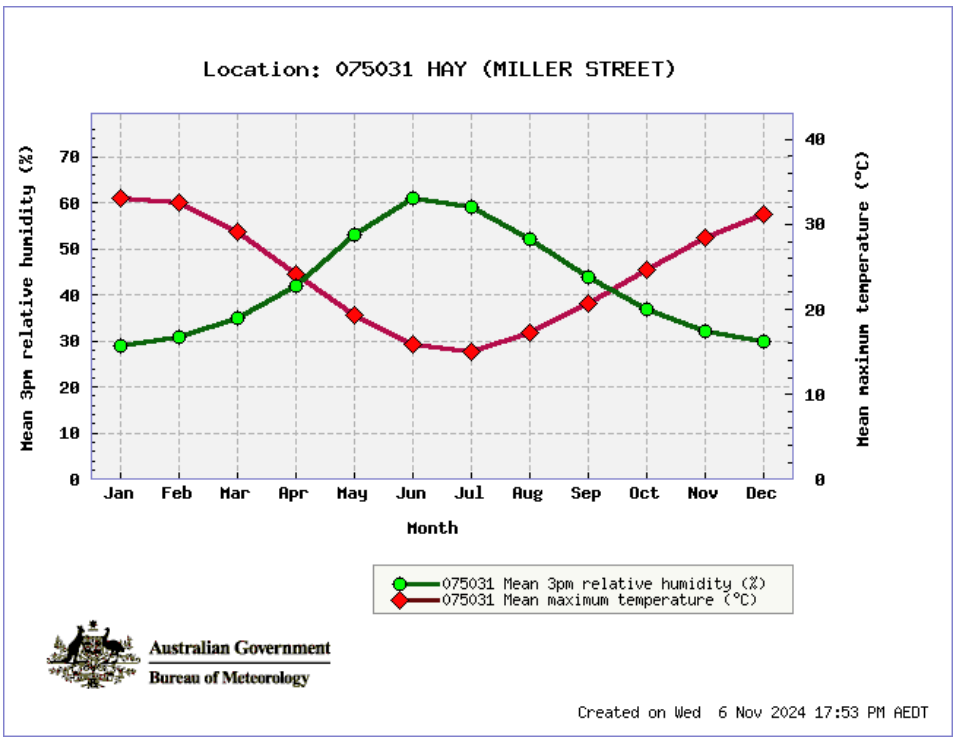



PHOTO 3-1 LOW HUMIDITY AND HIGH TEMPERATURE WITHIN THE BUSHFIRE SEASON (BOM 2024)

## 3.4 VEGETATION

Descriptions of the vegetation types including species composition and structural diversity are provided in the Preliminary Biodiversity Assessment (ERM, 2024).

For purposes of this bushfire risk assessment, the vegetation has been simplified in line with vegetation formations as per Keith (Keith D. , 2004). The vegetation classifications are shown in **Table 3-1** and **Figure 3-2.**

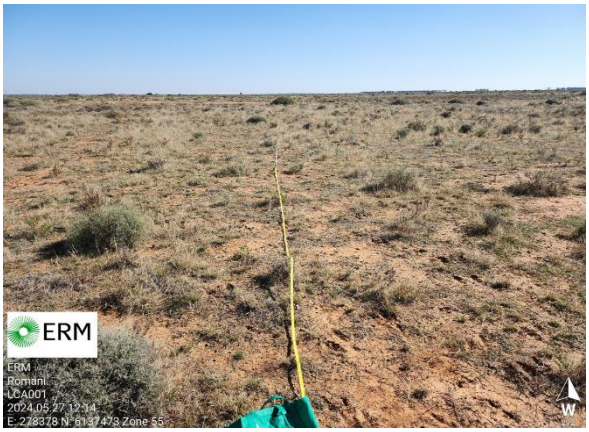
TABLE 3-1 DESCRIPTION AND CHARACTERISTICS OF FUEL GROUPS WITHIN THE PROJECT AREA

| Vegetation Formation[1, 2] | Area within the Project Area (ha) | Bushfire Characteristics[3] | Overall Fuel Load[4] |
|---|---|---|---|
| Arid Shrublands (Chenopod sub-formation) (PCT 157) | 1.76 | Much of the grasslands of the Riverina Plain are derived from an original Bladder Saltbush cover. This community degrades into Cotton Bush, Dillon Bush, copperburr communities or grasslands. Bladder Saltbush regenerates after autumn rains. Rarely burnt, intense fire may kill saltbush. | 3.2 t/ha |
| Arid Shrublands (Chenopod sub-formation) (PCT 164) | 16.14 | Probably mostly derived from Bladder Saltbush shrubland and Old Man Saltbush tall shrubland but some areas may have existed in 1788. Rarely burns - occasional summer wildfires occur after plant growth in spring. | 3.2 t/ha |

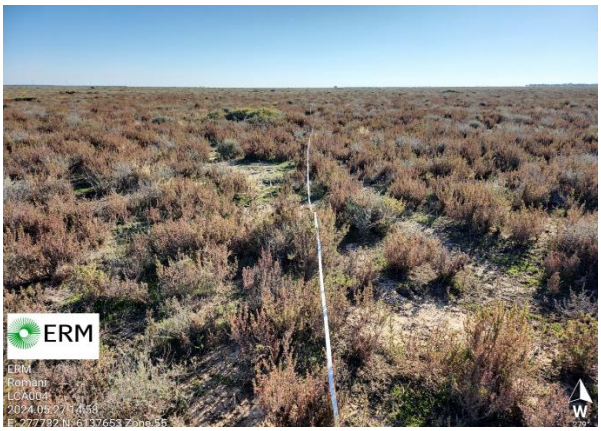
1. From ocean shores to desert dunes: the vegetation of New South Wales and the ACT. (Keith D. A., 2004)
2. Online Vegetation Formation Profiles. https://www.environment.nsw.gov.au/threatenedSpeciesApp/ (Office of Environment & Heritage, 2024a)
3. Bionet Vegetation Classification Database. https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet/about-bionet-vegetation-classification (Office of Environment & Heritage , 2024b)
4. Fuel loads are expressed in tonnes per hectare as per NSW RFS – Comprehensive Vegetation Fuel Loads (NSW RFS, 2019b)

The dominant vegetation types across the Project Area that would influence fire behaviour are Chenopod shrublands. Chenopod shrublands are less flammable than most other vegetation and are fire-sensitive. Chenopod species are mostly obligate seeders with only local seed dispersal and no effective post-fire seedbank. Most of the Project Area has some level of management by grazing, the success of this management practice can vary depending on the amount of rainfall in the spring period leading to abundant growth of grasses in summer. Fuel load is also dependent on the stock loading across the various paddocks which would vary across years and seasons.

The assessment of dominant fuel hazard would be determined for grazed grassland across the Project Area.

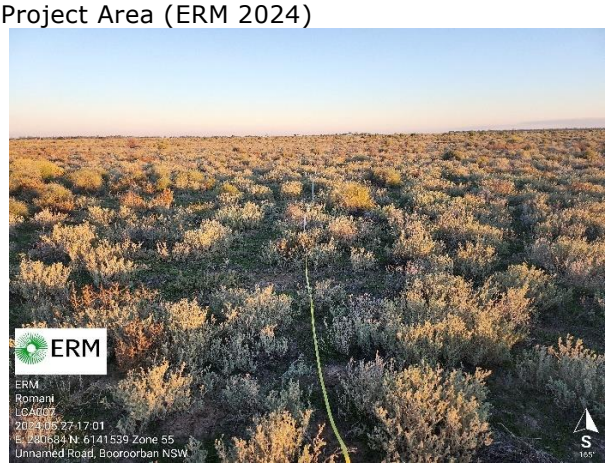



Photograph 1: Chenopod shrubland within the Project Area (ERM 2024)




Photograph 2: Chenopod shrubland within the Project Area (ERM 2024)

Photograph 3: Chenopod shrubland within the Project Area (ERM 2024)




Photograph 4: Chenopod shrubland within the Project Area (ERM 2024)



BOOROORBAN-TCHELERY ROAD

**Legend**

- Project Area
- Development Footprint
- Proposed Vehicle Access
- Line X5 (220kV, Darlington Point to Balranald)
- PEC Transmission Line Route (330kV)
- Major Road
- Road
- Path/Track

**Vegetation Classification**

- Chenopod Shrublands

**Notes:**
NSW DTDB, DCDB 2023
Nearmap Imagery Feb 2023

Coordinate System:
GDA2020 MGA Zone 55

Date: 08/08/2025
Created By: CS
Drawing Size: A3

0 50 100 150m

1:5,000

# F3-2 Vegetation Classification

**Romani BESS**
**Bushfire Risk Assessment**
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## 3.5 TOPOGRAPHY

The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the intensity of the fire and the level of radiant heat flux. The effective slope of the land is categorised into one of the following classes, relative to the location of the hazard:

- All upslope vegetation (considered 0 degrees);
- >0 to 5 degrees downslope vegetation;
- >5 degrees to 10 degrees downslope vegetation;
- >10 degrees to 15 degrees downslope vegetation; and
- >15 degrees to 20 degrees downslope vegetation.

The Project Area is predominantly flat, with minimal relief and slight elevation variations. The surrounding terrain in all directions (north, south, east and west) falls within the upslope/flat classification, with gradients ranging from 0 to 5 degrees (< 0° - 5°).

## 3.6 INDICATIVE FIRE BEHAVIOUR

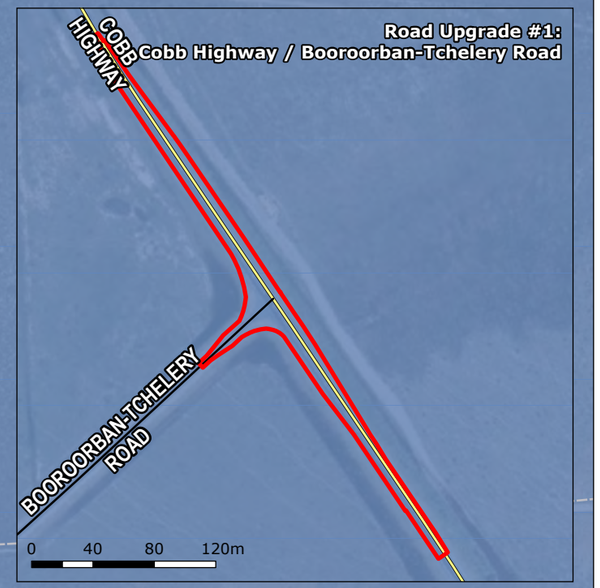
The Project Area is predominantly arid shrubland (chenopod sub-formation), modified by heavy grazing with a higher abundance of *Austrostipa scabra* indicating drier vegetation. Vegetation growth can be encouraged by periods of wet weather, increasing the amount of fuel available (grass, leaf litter, twigs). When the weather is hot, the humidity is low and there's been little recent rain, this vegetation dries out and becomes more flammable. A fire is more likely to start, and continue to burn, in hot, dry and windy weather.

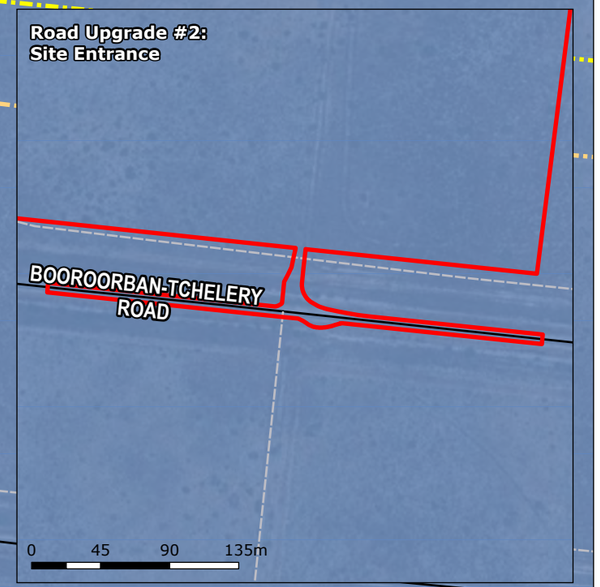
Majority of the Project Area and surrounding agricultural lands have some level of management by cropping or grazing. Fuel load is dependent on several factors including the amount of rainfall in the spring period leading to abundant growth of grasses in summer as well as the stock loading which would vary across years and seasons. It is intended that the vegetation fuel within the overhead transmission line easements and access tracks would continue to be maintained in a low fuel state by mechanical or manual clearing methods.

As described by AFAC (2022) grass fuel load has a strong influence on flame size, flaming duration, radiation output and suppression difficulty. Grass fuel types are divided into three main fuel conditions in the Australian Fire Danger Rating System (AFDRS) system:

1. undisturbed or natural (i.e. uncut and/or ungrazed);
2. grazed or cut; and
3. eaten-out or very heavily grazed grasslands.

The Fire Behaviour Index (FBI) assists operational decision making and provides a scale of potential fire danger (should a fire start) based on the predicted rate of fire spread. As described by the AFDRS Research Team (2024), Chenopod Shrublands do not have a suitable fire behaviour model, however there is limited flammability in these fuels except when there is a high cover of ephemeral grasses, so the grassland model is used with the eaten out fuel condition chosen to try and minimise overprediction of fire behaviour.




BOOROORBAN-TCHELERY ROAD

**Legend**

- Project Area
- Development Footprint
- Line X5 (220kV, Darlington Point to Balranald)
- PEC Transmission Line Route (330kV)
- Major Road
- Road
- Path/Track

**Slope Class (°)**

- ≤ 5
- ≤ 10
- ≤ 15
- ≤ 20
- > 20

**Notes:**
NSW DTDB, DCDB 2023
Nearmap Imagery Feb 2023

Coordinate System:
GDA2020 MGA Zone 55
Date: 08/08/2025
Created By: CS
Drawing Size: A3
0 50 100 150m

1:5,000

# F3-3 Slope Classes

**Romani BESS**
**Bushfire Risk Assessment**
Samsung C&T Renewable Australia Pty Ltd

ERM

0704056_SRSF_BF_R1.aprx

Based on the overall fuel load and reduced flammability of arid shrublands (chenopod) as identified in **Table 3-2** and **Table 3-3**, the Project Area has a **low** bushfire danger rating.

TABLE 3-2 FIRE BEHAVIOUR INDEX, GRAZED PASTURE

| Vegetation Formation[1] | Overall Fuel Load[2] | Fire Behaviour Index[3] | Fire Danger Rating[3] |
|---|---|---|---|
| Arid Shrublands (Riverine Chenopod Shrublands) | 3.2 t/ha | 9 | Low |

1. From ocean shores to desert dunes: the vegetation of New South Wales and the ACT. (Keith D. , 2004)
2. Fuel loads are expressed in tonnes per hectare as per NSW RFS – Comprehensive Vegetation Fuel Loads (NSW RFS, 2019b)
3. CSIRO Grassland Fire Spread Model available online https://aurora.landgate.wa.gov.au/fbc/#!/csiro-grass. Input values: grass continuity: continuous; temperature 30 °c; relative humidity 30%; windspeed at 10m height 20 km/h; curing 60%; slope 0 degrees. (AFDRS, 2022)

TABLE 3-3 GRASSLAND, FIRE BEHAVIOUR INDEX

| FBI | FDR | Indicative Fire Behaviour and Fire Weather | Potential for Impact |
|---|---|---|---|
| 0-5 | No rating | Fires generally unlikely to spread and likely to self-extinguish. | Community losses are unlikely. |
| 6-11 | | Fires usually contained within road networks and fuel breaks. | Community losses are unlikely however unattended or poorly prepared houses and infrastructure may be at risk. |
| 12-23 | Moderate | Typically wind driven and rapidly spreading fires with the potential to gain size quickly.<br>Fires typically controlled within established road networks and fuel breaks together with using direct, indirect or parallel attack suppression strategies. | Possible agricultural/pasture/crop/stock losses together with loss of rural assets such as fencing, machinery and buildings. Unattended or poorly prepared houses and infrastructure may be at risk. |
| 24-49 | High | Wind driven, rapidly spreading fires with potential for development into large fire area/size and with the potential for short distance spotting and long flame lengths. | High likelihood of agricultural/pasture/crop/stock losses together with loss of rural assets such as homesteads, fencing, machinery and buildings. |
| 50-99 | Extreme | Extremely rapid fire growth and increasing likelihood of large final fire area/size. Possibility for fire behaviour to become erratic and plume driven. Strong convective column formation. Wind speed and direction likely to be erratic at times. | Increasingly high likelihood of agricultural/pasture/crop/stock losses together with loss of rural assets such as homesteads, fencing, machinery and buildings. Limited visibility due to smoke and dust. High risk to the community related to inappropriate pre-considered plans, inadequate sheltering. Strong winds are likely to impact infrastructure (e.g. power lines) and fall trees increasing the likelihood of obstructed roads and power outages. |

| FBI | FDR | Indicative Fire Behaviour and Fire Weather | Potential for Impact |
|---|---|---|---|
| 100+ | Catastrophic | Extremely rapid fire growth and high likelihood of large final fire area/size. Possibility for fire behaviour to become erratic and plume driven. Strong convective column formation. Wind speed and direction likely to be erratic at times. | Extremely high likelihood of agricultural/pasture/crop/stock loss together with losses of rural assets such as homesteads, fencing, machinery and buildings. Very limited visibility due to smoke and dust. Very high risk to the community related to inappropriate pre-considered plans, inadequate sheltering. |

*Source: Grassland Quick Guide* (AFAC, 2022a)

# 4. BUSHFIRE RISK FACTORS

## 4.1 CLIMATE CHANGE AND BUSHFIRES

Eastern Australia is documented to be one of the most bushfire-prone areas in the world. As reported by the BOM (BOM, 2025), human induced climate change is influencing the frequency and severity of dangerous bushfire conditions in Australia and other regions of the world, influencing temperature, environmental moisture, weather patterns and fuel conditions. While climate change might not ignite the fire, it is giving fires the chance to turn into catastrophic fires by creating warmer temperatures, increasing the amount of fuel (dried vegetation) available, and reducing water availability due to higher evaporation. In relation to fire ignition, there is some indication that human induced climate change could also influence the risk of ignitions from dry-lightning (i.e., lightning that occurs without significant rainfall).

Bushfire weather conditions in future years are projected to increase in severity for many regions. This will result in:

- an earlier start to the bushfire season;
- reduced opportunities for fuel reduction burning;
- management of fire risk to property, people and biodiversity will become increasingly challenging; and
- an increase in the number of extreme fire danger days.

## 4.2 FIRE HISTORY

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. Other factors such as damaged equipment and poor installation can also contribute to the ignition of a fire.

The NSW Government Central Resources for Sharing and Enabling Environmental Data (SEED) provides information on wildfires that have occurred in the vicinity of the Project Area. No fires have been reported within the Project Area. The closest reported fire (24.7 km to the south-east of the Project Area) was the Wanganella wildfire which occurred in January 1987 and consumed 912,41.70 ha of prime grazing land. No other fires have been reported within 25 km of the Project Area.

Earth moving equipment, power tools (e.g., welders, grinders), mowers and slashers are well known for starting bushfires under conditions of high temperature, low humidity and high wind. Therefore, construction and ongoing maintenance of the BESS would be a potential source of ignitions.

## 4.3 FIREFIGHTER AND PUBLIC SAFETY

The firefighters likely to respond to a bushfire in this area would be volunteers from the NSW RFS and / or individual property owners.

Any volunteer firefighters from the NSW RFS or property owners from neighbouring farms attending bushfires in this area may not be trained in structural and electrical firefighting. The Bushfire Emergency Management and Operations Plan would detail appropriate risk control measures that would need to be implemented to safely mitigate potential risks to the health and safety of the firefighters and first responders.

The combination of dense smoke and hot gases generated by a large fire directly under or near a high voltage power line can create a conductive path that increases the potential for a 'flashover'. The National Guidelines on Electrical Safety for Emergency Personnel provide critical information relating specifically to fire control near high voltage power lines, including the special conditions that apply to the use of water in fire control activities near power lines. This industry code would be considered in the preparation of the Bushfire Emergency Management and Operations Plan.

## 4.4 SUMMARY OF BUSHFIRE RISK FACTORS

The Project Area does not have a history of bushfires and has a moderate bushfire danger rating (refer to **Section 3.6**). The risk that a BESS would cause a fire is considered low given appropriate protection measures (refer **Section 6**).

In the event that 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. It is important that key assets have adequate defendable space on all sides.

## 4.5 ASSETS AT RISK

The following assets are located on site or within 2 km of the proposed BESS:

- Project Infrastructure;
- Dwelling House and ancillary structures within the Project Area;
- Residential Properties and Farms;
- Stock (sheep and cattle); and
- Fences.

A review of the Preliminary Hazard Analysis (Riskcon, 2025) indicates that the BESS would be installed with fire protection systems and should a fire develop within one BESS container it would not transfer to nearby containers due to the fire safety design features. Riskcon (2025) state that the propagation between two units is considered unlikely.

# 5. MITIGATION STRATEGIES

Consideration is given to whether the proposed development would result in people congregating in large numbers. The operation of the Romani BESS is considered to be a low intensity use in terms of the number of people on site at any one time, with only 3-5 permanent staff during the operational phase visiting the site on an ad hoc basis for maintenance purposes. However, there could be up to 80-100 full time equivalent staff during peak construction phase, averaging to 30-50 FTE on site at any one-time during construction over a period of 18 months. Although the construction period does not pertain to the expected end use of the Project Area, the number of people who could be within the Project Area at one time warrants consideration in terms of providing adequate defendable space and access / egress as the first stage of construction.

Mitigation would be a combination of complementary strategies, all of which are required to provide the best possible protection outcome for the project and the community. In terms of design principles to minimise risk, the BESS layout has been designed to:

- Provide a defendable space around infrastructure; and
- Ensure that appropriate access, egress and maneuverability is provided for first responders.

The preliminary risk screening assessment confirms that the BESS development is classified as potentially hazardous and key recommendations including the installation of fire protection systems are outlined within the PHA (Riskcon, 2025).

## 5.1 ASSET PROTECTION ZONE

An APZ is typically designed to separate a vulnerable asset from the bushfire hazard (vegetation/fuel). APZs do not eliminate the fire risk but may lower it to an extent where fire control is more feasible or damage to the asset is reduced or eliminated. The ongoing maintenance of APZs are recognised under the RF Act and are supported in 2.8(1)(d) of the BC Act.

Understanding the value and limitations of an APZ is important, as is the understanding that bushfires attack-built assets by either flame contact, radiant heat or burning debris. An APZ can be used to lower or eliminate the bushfire attack from flame contact and radiant heat around the perimeter of built assets, but under strong winds or during a major fire event burning debris can result in a fire breaching an APZ.

Essential equipment should be designed and housed in such a way as to minimise the impact of bush fires on the capabilities of the infrastructure during bush fire emergencies. It should also be designed and maintained so that it will not serve as a bush fire risk to surrounding bush. A minimum separation distance of 6m is recommended based on achieving a threshold of 29kW/m² or 14m to achieve a reduced BAL 12.5 (in accordance with Table A1.12.6 of PBP 2019). These distances will be refined based on the final project design and the siting of the BESS within the landscape.

Radiant heat flux exposure and the corresponding Bush Fire Attack Level (BAL) are described in PBP (2019) and are reproduced in Table 5-1 below.

TABLE 5-1 RADIANT HEAT FLUX EXPOSURE AND THE CORRESPONDING BUSH FIRE ATTACK LEVEL (BAL)

| Heat flux exposure | Description | AS 3959 construction level |
|---|---|---|
| N/A | Minimal attack from radiant heat and flame due to the distance of the building from the vegetation, although some attack by burning debris is possible. There is insufficient threat to warrant specific construction requirements. | BAL-LOW |
| ≤12.5 | Attack by burning debris is significant with radiant heat (not greater than 12.5kW/m²). Radiant heat is unlikely to threaten building elements (such as unscreened glass). Specific construction requirements for ember protection and accumulation of debris are warranted. | BAL-12.5 |
| >12.5 ≤19 | Attack by burning debris is significant with radiant heat flux (not greater than 19kW/m²) threatening some building elements (such as screened glass). Specific construction requirements for embers and radiant heat are warranted. | BAL-19 |
| >19 ≤29 | Attack by burning debris is significant and radiant heat flux (not greater than 29kW/m²) threatens building integrity. Specific construction requirements for ember and higher levels of radiant heat are warranted. Some flame contact is possible. | BAL-29 |
| >29 ≤40 | Radiant heat flux and potential flame contact could threaten building integrity. | BAL-40 |
| >40 | Significant radiant heat and significantly higher likelihood of flame contact from the fire front will threaten building integrity and result in significant risk to residents. | BAL-FZ |

*Source: Table A1.7 of PBP 2019*

TABLE 5-2 MINIMUM DISTANCES FOR APZS, FFDI 80 AREAS

| Direction | Slope | Vegetation Classification | Bush Fire Attack Level (BAL) | | | | |
|---|---|---|---|---|---|---|---|
| | | | BAL-FZ | BAL-40 | BAL-29 | BAL-19 | BAL-12.5 |
| | | | Distance (m) to vegetation class | | | | |
| North | Flat | Arid shrublands (chenopod) | < 5 | 5 -< 6 | 6 -< 9 | 9 -< 14 | 14 -< 100 |
| East | Flat | Arid shrublands (chenopod) | < 5 | 5 -< 6 | 6 -< 9 | 9 -< 14 | 14 -< 100 |
| South | Flat | Arid shrublands (chenopod) | < 5 | 5 -< 6 | 6 -< 9 | 9 -< 14 | 14 -< 100 |
| West | Flat | Arid shrublands (chenopod) | < 5 | 5 -< 6 | 6 -< 9 | 9 -< 14 | 14 -< 100 |

*Adapted from Table A1.12.6 of PBP 2019; Arid-Shrublands (acacia and chenopod)*

**A minimum 6m APZ would be established on all sides of the BESS and would be the focus of any firefighting activities. This would include the internal perimeter road and carparking areas.**

The specifications recommended for the APZ are as follows:

- All APZ are to be managed as an inner protection zone (IPA) for the life of the development as outlined within Appendix 4 of PBP 2019, and NSW RFS Standards for Asset Protection Zones;
- APZ would not extend beyond the property boundary or rely on actions being undertaken by adjacent landowners;
- Mineral earth fire break i.e., dirt or gravel;
- No trees and shrubs planted within the APZ; and
- Where possible, increase the distance between the trees and the APZ.

Any landscape or visual buffers must also be designed and maintained to ensure that it does not increase the bushfire risk.

## 5.2 BESS CONSTRUCTION

As considered in **Section 4.1**, human induced climate change is influencing the frequency and severity of dangerous bushfire conditions in Australia including an earlier start to the bushfire season with dangerous weather conditions occurring significantly earlier in spring than they used to. With this in mind, the following measures are recommended to be implement during the entire period of construction:

- Construct the APZ and access track prior to the installation of any infrastructure;
- Ensure that appropriate permits have been issued for work during the Fire Danger Period, and that any conditions on permits are adhered to;
- Adhere to restrictions on Total Fire Ban or days of high fire danger;
- Carry fire extinguishers or firefighting equipment in vehicles;
- Carry emergency communications equipment;
- Ensure vehicles keep to tracks whenever possible;
- Restrict smoking to prescribed areas, and provide suitable ash and butt disposal facilities;
- All plant, vehicles and earth moving machinery are cleaned of any accumulated flammable material (e.g. soil and vegetation);
- Suitable fire fighting equipment is present on site;
- On days when Very High fire danger (or higher) is forecast, the "fires near me" app is to be checked regularly for the occurrence of any fires likely to threaten the site; and
- A Bushfire Management Plan would be developed prior construction.

At least two copies of the Emergency Management and Operations Plan would be stored in an Emergency Information Cabinet located at the main entrance points and would be accessible to all first responders. Two copies of the Emergency Management and Operations Plan would also be stored within the operations facilities and one at the NSW RFS Balranald Brigade office.

## 5.3 ACCESS ROADS AND ROAD NETWORK

Access to the Project Area during construction and operations is expected via the regional council road network, with an access point off from Booroorban-Tchelery Road to the south.

Site access points would be constructed as the first stage of development and the final design of access roads would enable safe access and egress for personnel attempting to leave the area at the same time that emergency service personnel are arriving to undertake firefighting operations.

Site access points would be maintained for the life of the Project and include appropriate signs throughout the BESS to assist emergency response crews determine track names and location of any locked gates.

All access roads would be upgraded to provide sufficient width and other dimensions to ensure safe unobstructed access and allow firefighting crews to operate equipment around the vehicle. Dead-end roads should be avoided. However, where they are present, they would incorporate a sufficient turn-around area to minimise the need for vehicles to make multipoint turns. As a minimum, and to enable access for RFS all roads would be maintained to the minimum standards as outlined within the NSW RFS Fire Trail Standards.

This includes:

- the trafficable surface has a width of four (4) metres except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed;
- curves have a minimum inner radius of six (6) metres. The minimum distance between inner and outer curves is six (6) metres;
- trail surfaces and crossing structures are capable of carrying vehicles with a gross vehicle mass of 15 tonnes and an axle load of nine (9) tonnes;
- the cross fall of the trail surface is not more than six (6) degrees;
- a minimum vertical clearance of four (4) metres is provided above the surface of the trafficable surface clear of obstructions;
- capacity for passing is provided every 250 m; and
- a turning area is provided at the termination of a trail and every 500 m.

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.

Although not a formal access road, the recommended APZ would also permit unobstructed vehicle access around the perimeter of the BESS.

## 5.4 WATER STORAGE

In the event of a fire, sufficient water must be available and safely accessible to emergency services to ensure fire suppression activities are safe and effective. The water supply must be provided to cover buildings, substations and grid connections.

Reticulated water supply is not provided to the site, although there are dams and groundwater bores available on site if needed. The availability of water is a critical element in the control of a bushfire and would likely be supplied by truck (or on-site bore water) and stored in an on-site static water tank, which would be available for firefighting if required.

The volume and location of the tanks would be confirmed in consultation with the NSW RFS, although it is likely to require minimum 50,000 litre tanks, based on refilling six tanker units (4,000 litres) twice each. As noted by CFA (CFA, 2025) the fire water supply must be located at vehicle entrances to the facility and close to critical infrastructure (electrical substations, inverters, battery energy storage systems, buildings).

**Note: The final list of fire suppression equipment and water storage requirements would be confirmed in consultation with NSW RFS and FRNSW following project approval and detailed design.**

## 5.5 TOTAL FIRE BANS

It is important to be aware of operations that may be carried out on days of total Fire Ban and any prohibited activities or exemptions that are notified by the Commissioner of the NSW RFS under section 99 of the RF Act.

Under Section 63 of the RF Act it is the responsibility of the landowner to limit the ignition and prevent the spread of fires from the property. On days declared Total Fire Ban you cannot light, maintain or use a fire in the open, or carry out any activity in the open that has the potential for a fire to develop. General purpose hot works (such as welding, grinding or gas cutting or any activity that produces a spark or flame) are not to be done in the open.

Fire permits are also suspended on days of total fire ban. Permits may resume after the Total Fire Ban is lifted, as long as the permit has not expired. The NSW RFS Commissioner is responsible for exemptions to Total Fire Bans. These exemptions are detailed in the NSW Government Gazette each time a Total Fire Ban is declared under the RF Act section 99.

## 5.6 CUMULATIVE IMPACTS

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 fire fighting resources. This would need to be addressed in consultation with NSW RFS.

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. CONCLUSION

The risk that the BESS itself would cause a fire is assessed separately within the PHA although the proposed development is located within a bushfire prone landscape (based on the current bushfire prone land mapping) and fires within grasslands can start and spread quickly. Mitigation measures and treatments would be a combination of complementary strategies, all of which are required to provide the best possible protection outcome for the BESS and the community.

Despite any mitigation measures applied, bushfire risk would always remain and it is therefore important that a Bushfire Emergency Management and Operations Plan is prepared in conjunction with relevant stakeholders, including NSW RFS, NSW Fire and Rescue, landowners and adjoining property owners.

In the event that a fire does breach containment lines and threatens the assets, it is possible that the infrastructure would sustain direct flame contact. The detailed mitigation measures outlined in the bushfire risk assessment have been developed to meet the relevant provisions outlined in Planning for Bush Fire Protection 2019 and to ensure that the BESS development does not present any increased risk of widespread fire across the landscape.

The mitigation measures to be applied for the life of the Project have been summarised in **Table 6-1**.

TABLE 6-1 SUMMARY OF RECOMMENDED MITIGATION STRATEGIES AND ACTIONS

| Mitigation Strategy | Action | Timing |
|---|---|---|
| Asset Protection Zone (APZ) | • A minimum separation distance of 6m is recommended based on achieving a threshold of 29kW/m² or 14m to achieve a reduced BAL 12.5 (in accordance with Table A1.12.6 of PBP 2019). These distances will be refined based on the final project design and the siting of the BESS within the landscape; and<br>• 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'. APZ would not extend beyond the property boundary or rely on actions being undertaken by adjacent landowners. | The APZ and perimeter road would be constructed as the first stage of development and maintained for the life of the Project. |
| Access Roads | Access points would be provided from Booroorban-Tchelery Road to the south.<br>All roads would be maintained to the minimum standards as outlined within the NSW RFS Fire Trail Standards (RFS NSW, 2023).<br>All access roads must be maintained and kept free of parked vehicles or other obstructions. | Maintained for the life of the Project |
| Water storage | A dedicated water supply with appropriate access is required at the site to assist in the event of a fire.<br>Any static water storage tank(s) must be capable of being completely refilled automatically or manually within 24 hours.<br>Note: The final list of fire suppression equipment and water storage requirements would be confirmed in consultation with NSW RFS and FRNSW following project approval and detailed design. | During Construction and maintained for life of the Project |

| Mitigation Strategy | Action | Timing |
|---|---|---|
| Transmission lines | For the safe operation of the transmission line, certain activities would be restricted within the easement such as planting and growing trees, construction of buildings, or erection of antennae or masts. While it has not be confirmed how the easement would be formally registered, for the purposes of this bushfire risk assessment, key responsibilities and management measures would be applied and are the responsibility of the asset owner. | Maintained for life of the Project. |
| Construction Phase | • the APZ and access roads would be constructed prior to the installation of any solar panels or related infrastructure;<br>• fire detection and suppression systems should be installed at the earliest stage of construction for BESS infrastructure;<br>• ensure appropriate bunding in areas where there is potential for flammable fuels and oils to leak and create bushfires or other environmental risks;<br>• ensure that appropriate permits have been issued for work during the Fire Danger Period, and that any conditions on permits are adhered to;<br>• adhere to restrictions on Total Fire Ban or days of high fire danger;<br>• 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;<br>• restrict smoking to prescribed areas, and provide suitable ash and butt disposal facilities;<br>• all plant, vehicles and earth moving machinery are cleaned of any accumulated flammable material (e.g., vegetation); and<br>• 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. | During Construction and maintained for life of the Project |
| Operation Phase | Vegetation fuels throughout the facility are to be maintained in a minimal condition by grazing, or with additional slashing or mowing if required.<br>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. | For the life of the Project |

## *6.1* IMPORTANT DISCLAIMER:

*Any representation, statement of opinion, or advice expressed or implied in the bushfire assessment would be made in good faith on the basis that ERM employees and / or agents are not liable (whether by reason of negligence, lack of care or any other reason ) to any person, company or their agents for any damage or loss whatsoever which has occurred or may occur in relation to that person taking (or not taking) action in respect of any representation, statement or advice provided within the bushfire assessment.*

*Important Note:*

*Despite the mitigation measures and treatments that are put in place, it is noted that some bushfire risk will always remain and that some of the infrastructure may be subject to direct flame contact. The absence of any identified hazard or asset in the Project Area should not be interpreted as a guarantee that such hazards or impacts do not exist. It is also important that a Bushfire Emergency Management Plan is prepared prior to the commencement of any construction works in conjunction with relevant stakeholders, including local fire services, NSW RFS, NSW Fire and Rescue, landowners and adjoining property owners.*

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# APPENDIX A COMPLIANCE WITH THE OBJECTIVES OF PLANNING FOR BUSHFIRE PROECTION GUIDELINES

# COMPLIANCE WITH THE OBJECTIVES OF PBP 2019

| Objective | Comment | Can comply |
|---|---|---|
| Objectives of Chapter 1 (Part 1.1) | | |
| Afford buildings and their occupants protection from exposure to a bush fire; | A minimum separation distance of 6m is recommended based on achieving a threshold of 29kW/m² or 14m to achieve a reduced BAL 12.5 (in accordance with Table A1.12.6 of PBP 2019). These distances will be refined based on the final project design and the siting of the BESS within the landscape.<br>These non-habitable structures are separated from the hazard by sufficient distance to afford buildings protection from exposure to a bush fire noting that some bushfire risk would always remain and that some of the infrastructure may be subject to direct flame contact. | ☐ Yes<br>☐ No |
| Provide for a defendable space to be located around buildings; | A minimum 6m APZ would be established on all sides of the BESS and would be the focus of any firefighting activities. | ☒ Yes<br>☐ No |
| Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings; | A minimum 6m APZ would be established on all sides of the BESS and would be the focus of any firefighting activities. This may include the internal perimeter road and carparking areas. | ☒ Yes<br>☐ No |
| Ensure that appropriate operational access and egress for emergency service personnel and occupants is available; | Access points would be provided off both Booroorban-Tchelery Road to the south and Romani Road to the east.<br>Site access points would be constructed as the first stage of development and would be maintained for the life of the Project<br>All roads would be maintained to the minimum standards as outlined within PBP 2019. | ☒ Yes<br>☐ No |
| Provide for ongoing management and maintenance of BPMs; and | Normal property maintenance would ensure that bush fire protection measures are maintained. A Bush Fire Emergency Management and Operations Plan would be developed prior to construction. | ☒ Yes<br>☐ No |
| Ensure that utility services are adequate to meet the needs of firefighters | Normal property maintenance would ensure that bush fire protection measures are maintained. A Bushfire Management Plan would be developed prior construction. | ☒ Yes<br>☐ No |
| Objectives of Chapter 8 (Part 8.3.1) | | |
| To provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation; | Access points would be provided from Booroorban-Tchelery Road to the south.<br>Site access points would be constructed as the first stage of development and would be maintained for the life of the Project<br>All roads would be maintained to the minimum standards as outlined within PBP 2019. | ☒ Yes<br>☐ No |

| Objective | Comment | Can comply |
|---|---|---|
| To provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development; | A framework for a construction bushfire emergency management plan has been prepared and would be finalized by the Applicant prior to commencement of construction activities. | ☒ Yes<br>☐ No |
| To provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building; and | Where reticulated water is not available the development is to include provision of water tanks, to meets PBP requirements for a fire fighting water supply.<br>The final list of fire suppression equipment and water storage requirements would be confirmed in consultation with NSW RFS and FRNSW following project approval and detailed design.<br>Vegetation fuel within the overhead transmission line easements and access tracks would continue to be maintained in a low fuel state by mechanical or manual clearing methods.<br>If applicable, reticulated or bottled gas is to be installed and maintained in accordance with AS/NZS 1596 and PBP 2019. | ☒ Yes<br>☐ No |
| Provide for the storage of hazardous materials away from the hazard wherever possible. | If applicable, hazardous materials would be stored in designated areas only and a manifest (and safety data sheets) must be prepared. | ☒ Yes<br>☐ No |

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