Environmental Impact Report (EIR)

Northern Battery

420 Northern Power Station Road,
Port Paterson

January 2026

GREEN GOLD ENERGY

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Northern Battery

Prepared for Davenport BESS Pty Ltd ATF Davenport BESS 2 Trust, a Subsidiary of Green Gold Energy Pty Ltd

420 Northern Power Station Road, Port Paterson

January 2026

MasterPlan acknowledge the Traditional Custodians of Country across Australia, and recognise their continuing connection to land, waters and culture. We pay our respects to Elders past and present.

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V1.3	28/01/2026	54599EIR02 – updates responding to DEM comments	JAJ	

Contents

Tables

Figures

Attachments

1 Introduction

The land included within the scope of this Environmental Impact Report (EIR) is privately owned land located at 420 Northern Power Station Road, Port Paterson, South Australia (the 'subject land'). The subject land has a history of energy generation land uses, as it previously accommodated the former coal fired Northern Power Station, which closed in May 2016. South Australia currently generates more than 70% of its electricity from renewable sources and by 2025/2026, this is projected to reach 85%, with a target of 100% net renewable energy by 2027.

The project incorporates a BESS with a nameplate capacity of up to 270 MW, comprising approximately 208 batteries with nominal 1043.1 MWh storage capacity. Development of the Northern Battery Project, compromising a Battery Energy Storage System (BESS) on portion of the subject land, will contribute to the States renewable energy generation.

The site on which the Northern Battery [1] facility is to be developed is illustrated in **Figure 1** (and contained in **Attachment A – Plans and Technical Specifications**), including all coordinates expressed in degrees of latitude and longitude, GDA 2020.

Whilst the subject land comprises some 995.5 hectares (ha) (as shown in **Figure 2**); however, only a portion of the land will be utilised for the proposed Northern Battery facility and transmission line. The BESS "development site" is the area of land that would accommodate the project infrastructure including battery storage units, inverters, substation, site amenities, vehicle access tracks, stormwater management. The development site is contained within the 7ha leased area. The leased area would incorporate site landscaping and fencing and would link to the proposed underground transmission line to the Davenport substation. An underground high voltage connection would connect the BESS to the Davenport substation. This connection would be undertaken via a connection agreement with ElectraNet.

[1] The project is known as the Northern Battery but also referenced in supporting documentation as Davenport BESS or Port Paterson BESS.

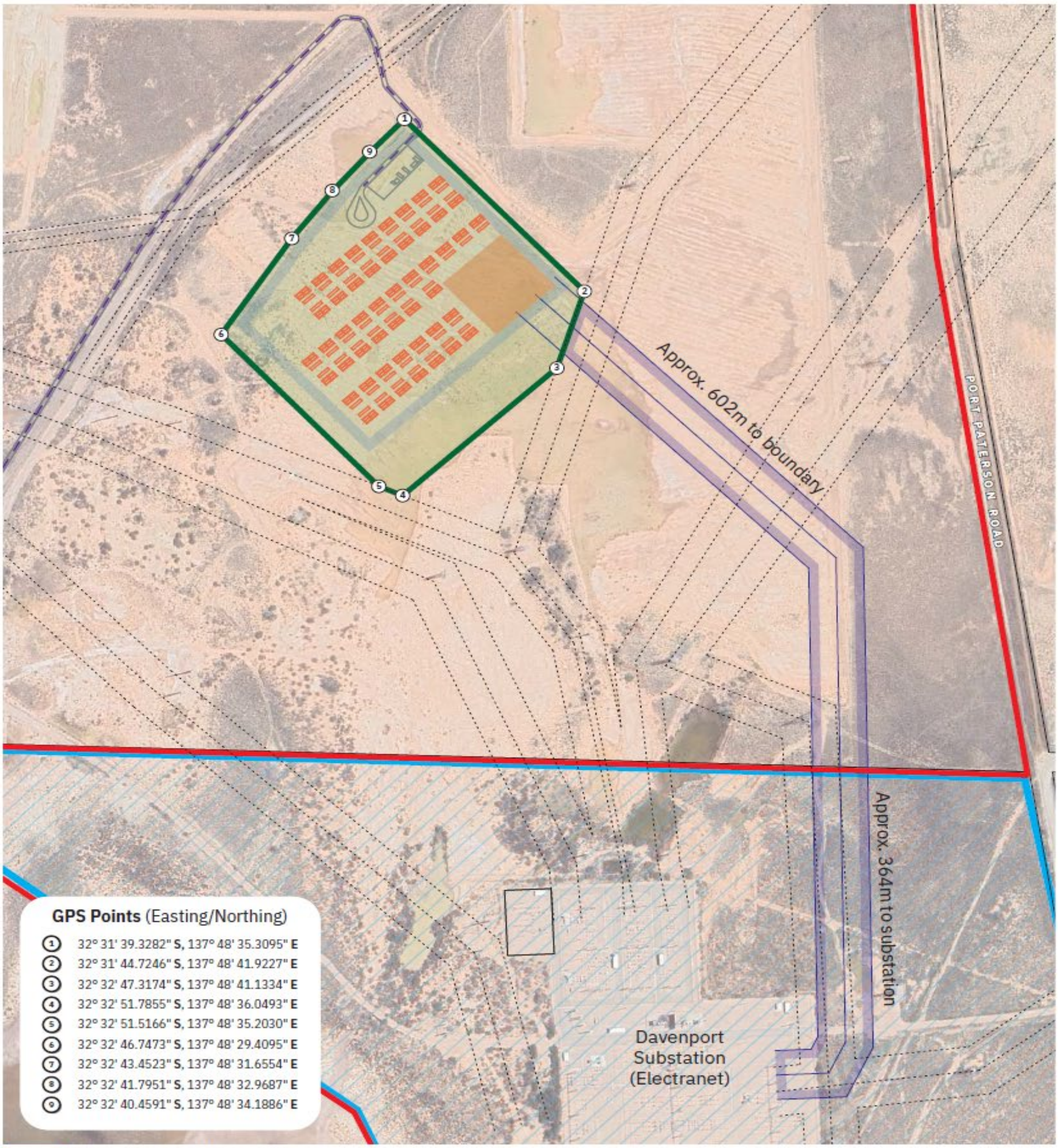


Figure 1: Site Plan

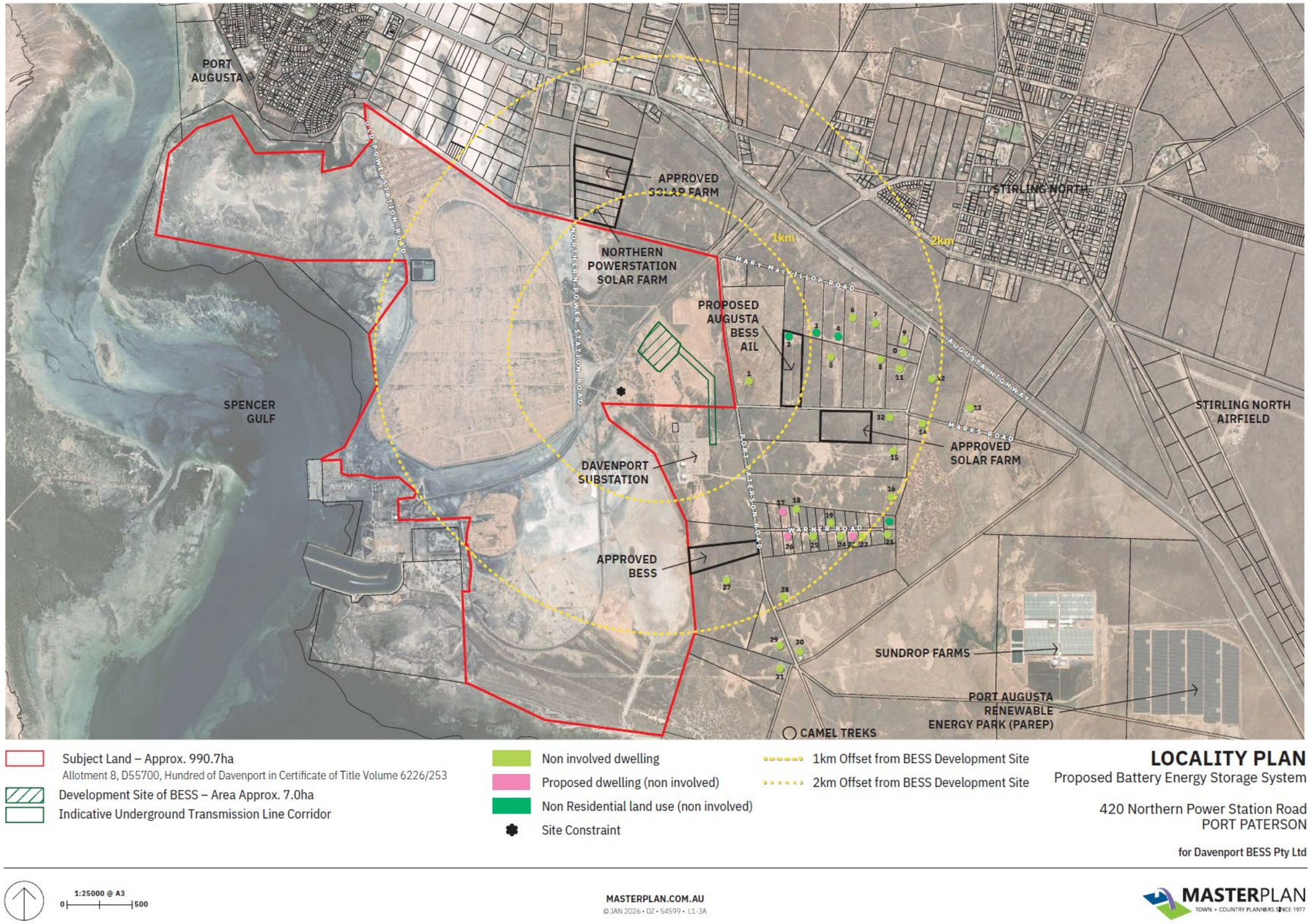


Figure 2: Locality Plan

1.1 Background

The proposed Northern Battery (Battery Energy Storage System (BESS)), meets the criteria of an 'associated infrastructure activity' as defined in Regulation 3(2)(b) of the *Hydrogen and Renewable Energy Regulations 2024* (the HRE 'Regs'), which prescribes:

> *(b) an energy storage system that –*
>
> *(i) is capable of –*
>
> *(A) being charged; and*
>
> *(B) storing and discharging energy; and*
>
> *(ii) has a storage capacity of or above a nameplate capacity of 5MW; and*
>
> *(iii) is connected to a transmission or distribution network through which energy (including energy generated or obtained from a renewable energy resource) is conveyed.*

Thereby, this Environmental Impact Report (EIR) and the accompanying Statement of Environmental Objectives (SEO) have been prepared as a site-specific document for activities associated with the installation and operation of a BESS without compromising the protection of the surrounding environment.

This EIR does not address already approved activities located on the subject land granted authorisation under the *Planning, Development and Infrastructure Act 2016* (PDI Act), as discussed in **Section 1.2** of this report.

1.2 Purpose

This EIR has been prepared to meet the requirements of Section 61 of the *Hydrogen and Renewable Energy Act 2023* (the 'HRE Act') and the *Hydrogen and Renewable Energy Regulations 2024* (the HRE 'Regs'). This EIR has been prepared for the purpose of, and should be read in conjunction with, the accompanying SEO under Section 62 of the HRE Act.

In accordance with the objects under Division 4 of the HRE Act, environmental impact reports are utilised by the Department for Energy and Mining (DEM) (on behalf of the Minister for Energy and Mining (the 'Minister')), to ensure that any proposed authorised operations that may have adverse effects on the environment are properly managed by the Proponent, to avoid or reduce environmental damage and are carried out in a way that eliminates (as far as reasonably practicable) the risk of significant long term environmental damage, and ensures that land adversely affected by any proposed authorised operations is properly rehabilitated.

1.3 Scope

This EIR applies to the associated infrastructure activities associated with the installation, operation, decommissioning and rehabilitation of land for the purpose of a BESS facility, conducted by the licensee and their contractors on the land located at 420 Northern Power Station Road, Port Paterson, South Australia.

In accordance with Regulation 32(2) of the HRE Regs, this EIR contains:

- *A description of the authorised operations to be undertaken and the location at which the operations are to be undertaken.*
- *A description of the specific elements of the environment that can reasonably be expected to be affected by authorised operations, with particular reference to the environment and existing land uses.*
- *Data relating to biodiversity within the area of land to which the report relates that can reasonably be expected to be affected by authorised operations.*
- *An assessment of the cultural and heritage values of Aboriginal and Torres Strait Islander persons and other persons within the area of land to which the report relates that can reasonably be expected to be affected by authorised operations (insofar as these matters are relevant in the particular circumstances).*
- *Information on consultation that has occurred [or is expected to occur] in accordance with the approved consultation plan, including specific details about relevant issues that have been raised and any response to those issues (but not including confidential information).*

This EIR and accompanying SEO do not apply to any of the subject land outside of the development site, as illustrated in **Figure 1**, nor any transmission lines, cables or connections undertaken by ElectraNet to connect the BESS to the Davenport Substation. Activities excluded from the scope of the EIR and SEO include, but are not limited to:

- Upgrading existing access tracks or construction of new ones.
- Geotechnical investigations.
- Aerial surveys.
- Portable remote sensing devices (e.g., SoDAR or LiDAR).
- Vehicle based surveys (e.g., topographical or cadastral surveys, ecological surveys, heritage surveys1F1F2, unexploded ordnance surveys, contaminated land assessments, geophysical surveys, traffic surveys).
- Other site surveys (e.g., installation of noise or air quality monitors, inspections associated with
- hydrological or visual impact assessments which may involve taking photographs from selected
- sites and installing photo point markers).

[2] Typically, a physical inspection, involving traversing the proposed development location (by foot or vehicle). Hand excavation or test pitting is not generally expected to be undertaken during the feasibility phase and would only be employed where imperative. Appropriate authorisation under the Aboriginal Heritage Act is needed for any excavations or test pitting where required (e.g., if undertaken within Aboriginal sites).

These activities may instead be undertaken in agreement with the landowner.

1.3.1 Exclusions and Constraints

Application of this EIR applies to a single parcel of freehold land described as Allotment 8, Deposited Plan 55700 in the area named Port Paterson, Hundred of Davenport in Certificate of Title Volume 6226 Folio 253.The BESS will occur within the development site identified in **Figure 1** only, the balance of the subject land is excluded from this EIR.

The activities (as described in **Section 3**) may be given approval once this EIR and SEO are in place, subject to the provision that:

- Any proposed operations can be demonstrated to be within the scope of this EIR and compliant with the accompanying SEO.
- An appropriate *Hydrogen and Renewable Energy Act 2023* Associated Infrastructure Licence is in place.

Whilst an assessment of native vegetation has been undertaken to inform this EIR, the clearance of native vegetation pursuant to the *Native Vegetation Act 1991*, will be undertaken as a separate application.

1.3.2 Limitations

The EIR and SEO have been prepared in accordance with the legislative requirements of the *Hydrogen and Renewable Energy Act 2023* and *Hydrogen and Renewable Energy Regulations 2024*, with reference to the Environmental Impact Assessment Criteria (Gazetted on 31 October 2024) and associated guidelines prepared and published by the Department for Energy and Mining. The technical reports utilised to inform this EIR and the SEO, have been prepared with information and data available and with reference to legislation and guidelines as applicable, at the time of writing.

1.4 Environmental Commitment

The Proponent is committed to responsible environmental management of all phases of the proposed construction and operation to achieve the environmental objectives outlined in the accompanying SEO.

1.5 Land Access

The subject land is in the ownership of Port Augusta Operations Ltd (ACN 633 416 529).

Davenport BESS Pty Ltd ATF Davenport BESS 2 Trust (the Project Company) is a wholly-owned subsidiary of Green Gold Energy Pty Ltd (GGE). The Project Company was established for the purposes of developing a Battery Energy Storage System (BESS) at 420 Northern Power Station Road, Port Paterson. The Project Company has secured, by agreement from the landowners, the right to develop the BESS. GGE have the right to enter and use the land within the proposed license area for the BESS and ancillary structures.

Connection of the BESS to the Davenport Substation will require permission from ElectraNet.

1.6 Native Title

The subject land is within the Nukunu (Area 2) Native Title Claim Area, which has been determined by the Federal Court and deemed not to exist within the current project area. There is a registered Indigenous Land Use Agreement (ILUA) between the Nukunu People and the Attorney General for the State of South Australia; however, this is not applicable in areas the Federal Court has determined that native title does not exist.

Whilst the project area is entirely within the lands traditionally claimed by the Nukunu People, the Kokatha people also have social, cultural and ceremonial interests in the area around Port Augusta.

Consultation with the Nukunu and Kokatha communities will occur during the consultation on this EIR.

2 Legislative Requirements

2.1 Hydrogen and Renewable Energy Act 2023

This document fulfils the requirements of an EIR for associated infrastructure activities and has been prepared in accordance with current legislative requirements under Section 61 of the HRE Act and Regulation 32 of the HRE Regs.

Additionally, the HRE Act and Regulations require the development and implementation of an SEO. A SEO has been produced in conjunction with this document and incorporates responses to comments received from the public and stakeholders through an agreed community consultation process.

2.1.1 Statement of Environmental Objectives

Under section 62 of the HRE Act, an AIL (or any other licence) must not be granted unless an approved SEO in respect of the proposed operations is in force, and a licensee must not undertake authorised operations under a licence unless an approved SEO is in force.

Section 62 states that an SEO must address matters contained in the EIR. The SEO must set out environmental objectives, assessment criteria, leading performance criteria and immediately reportable and reportable incidents.

2.1.2 Environmental Impact Report

Section 61 of the HRE Act requires that an EIR addressing proposed authorised operations must be prepared for the purpose of the approval of an SEO. The EIR must assess the environmental impact of authorised operations against environmental impact assessment criteria that are determined by the Minister.

Under section 61(2) of the HRE Act, an EIR must:

- take into account the environment, cultural and other values as those matters are relevant to the assessment;
- take into account risks inherent in the authorised operations to the health and safety of the public;
- contain sufficient information to make possible an informed assessment of the likely impact of the authorised operations on the environment;
- include an assessment of the environmental impact of authorised operations to which the report applies against the environmental impact assessment criteria; and
- be prepared in accordance with the requirements of the regulations.

Regulation 32 of the HRE Regs require that the EIR contains the following:

- a description of the authorised operations to be undertaken and the location at which the operations are to be undertaken;
- a description of the specific elements of the environment that can reasonably be expected to be affected by authorised operations, with particular reference to the environment and existing land uses;
- data relating to biodiversity within the area of land to which the report relates that can reasonably be expected to be affected by authorised operations;
- an assessment of the heritage and cultural values of Aboriginal people and other persons in relation to the area of land to which the report relates that can reasonably be expected to be affected by authorised operations, and the public health and safety risks inherent in undertaking those operations (insofar as these matters are relevant in the particular circumstances);
- if relevant and required by the Minister—an assessment of the continuity of supply with respect to hydrogen; and
- information on consultation that has occurred in accordance with the approved consultation plan, including specific details about relevant issues that have been raised and any response to those issues (but not including confidential information).

This document fulfils the requirements of an EIR for authorised activities under an AIL and has been prepared in accordance with current legislative requirements pursuant to section 61 of the HRE Act and regulation 32 of the HRE Regs.

2.1.2.1 Consultation Plan

Sections 61(4) and 63(3) of the HRE Act (i.e., approval of an EIR and SEO), requires that a licensee must undertake consultation on a proposed EIR or SEO. For this purpose, a Consultation Plan has been prepared and approved by the Minister that:

- States the commencement date for consultation;
- Includes a list of the persons to be consulted as identified by the licensee, including:
  - The owners of the land to which the report relates;
  - Any Recognised Aboriginal Representative Body;
  - In the absence of an Aboriginal Representative Body or native title determination, any traditional owners of Aboriginal sites or objects on the land to which the report relates;
  - Any affected agency or instrumentality of the Crown; and
  - Each Council or Outback Community Authority relevant to the land to which the report relates;
- Describes the methods of engagement and how the licensee intends to respond to relevant issues raised;
- Focuses on the environmental objectives and assessment criteria necessary to be achieved to demonstrate that any potential consequences of the proposed authorised operations will be adequately managed and controlled;
- Identifies all relevant parts of the EIR or SEO that are to be consulted on; and
- Complies with any other requirement specified by the Minister to the licensee.

At the conclusion of the consultation the licensee must prepare a summary report.

2.1.3 Operational Management Plan

Section 66 of the HRE Act requires that a licensee must not commence operations under a licence unless an Operational Management Plan (OMP) has been approved by the Minister [3].

Under Section 66, an OMP must:

- specify the authorised operations proposed to be undertaken.
- specify the statement of environmental objectives to which the plan applies.
- specify how proposed authorised operations will be managed, including details of the management systems and controls that will ensure compliance with the relevant statement of environmental objectives.
- contain any other information and comply with any other requirements as prescribed by the regulations.

Regulation 37 of the HRE Regs mandates that an OMP must set out the following:

- policies of the licensee that address the achievement of regulatory requirements and objectives;
- resources that will be applied to effectively implement the plan;
- recognised industry practices and procedures that will be applied in—
  - undertaking authorised operations; and
  - achieving compliance with regulatory requirements.
- processes for managing physical, operational, procedural or organisational changes in respect of authorised operations;
- systems that will manage risks allowing achievement of the regulatory objectives arising from undertaking authorised operations including:
  - the controls that will be implemented to eliminate or reduce risks associated with authorised operations; and
  - the systems that will ensure the implemented controls will be clearly defined and achieved;
- practices and procedures to ensure employees, contractors and visitors to the licence area have the appropriate competency, training (including ongoing training), induction and supervision;
- mechanisms for consulting and communicating with external parties in relation to authorised operations;
- systems to identify, investigate and report incidents arising from authorised operations;
- practices and procedures to be followed in the event of an emergency relating to authorised operations;

[3] A pre commencement guideline can be found on DEM's website: 009-Pre-commencement-requirements-for-final-on-ground-approvals.pdf

- the manner in which the effectiveness of a matter referred to in a preceding paragraph will be monitored, evaluated, audited and reviewed;
- the manner in which the licensee intends to comply with the statement of environmental objectives in force in relation to authorised operations;
- the day on which authorised operations will, or are proposed to, commence;
- any other relevant matter as determined by the Minister.

An Operational Management Plan provides an additional opportunity for the Minister to ensure that the proposed activities and their impacts can be effectively managed and are consistent with the approvals obtained in the EIR and SEO approval process.

2.2 Assessment and Approval

The EIR and accompanying SEO are to be assessed by the DEM with final determination being undertaken by the Minister. The Minister may approve these documents without amendment, require amendments in order to ensure that the documents comply with the HRE Act, or reject the documents on the basis that they do not comply with the requirements of Section 62(2) or any other relevant provision of the HRE Act.

Once the approval process is complete, all documentation (including the final EIR and its associated SEO) must be entered on an environmental register. This public register is available on the DEM website at https://www.energymining.sa.gov.au/industry/hydrogen-and-renewable-energy/hydrogen-and-renewable-energy-act/hydrogen-and-renewable-energy-register.

2.3 Definitions

Under Section 3 of the HRE Act, 'environment' is defined to include:

(a) Land, air, water (including both surface and underground water and sea water), organisms, ecosystems, flora, fauna and other features or elements of the natural environment;

(b) Buildings, structures and other forms of infrastructure, and cultural artefacts;

(c) Existing and permissible land uses;

(d) Public health, safety and amenity;

(e) The heritage, aesthetic, Aboriginal, social and cultural values of an area; and

(f) The social or economic effects associated with regulated activities.

This EIR relates to the activities associated with the installation and operation of a BESS facility, including a substation. These activities are deemed to be 'regulated activities' as defined under Sections 4 and 12 of the HRE Act, as they are activities related to an associated infrastructure activity.

2.4 Other Legislation

A variety of legislation may be relevant to renewable energy and associated infrastructure activities. Legislation that may be relevant to the proposed construction and operation of a BESS is listed below (note that this is not a comprehensive list of all applicable legislation).

2.4.1 Commonwealth

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- *Native Title Act 1993*.

2.4.2 South Australia

- *Aboriginal Heritage Act 1988*
- *Civil Aviation Act 1988*
- *Crown Lands Management Act 2009*
- *Adelaide Dolphin Sanctuary Act 2005*
- *Energy Resources Act 2000*
- *Environment Protection Act 1993*
- *Fire and Emergency Services Act 2005*
- *Forestry Act 1950*
- *Heritage Places Act 1993*
- *Landscapes South Australia Act 2019*
- *Mining Act 1971*
- *National Trust of South Australia Act 1995*
- *National Parks and Wildlife Act 1972*
- *Native Vegetation Act 1991*
- *Pastoral Land Management and Conservation Act 1989*
- *Public Health (Wastewater) Regulations 2013*
- *Petroleum and Geothermal Energy Act 2000*
- *Planning, Development and Infrastructure Act 2016*
- *Public Health (Wastewater) Regulations 2013*
- *River Murray Act 2003*
- *Marine Parks Act 2007*
- *Work Health and Safety Act 2012*

3 Description of Activities

This section provides an overview of activities covered by this EIR.

3.1 Site Establishment

The activities associated with establishing the site prior to construction covered by this EIR are outlined below.

3.1.1 Site Planning

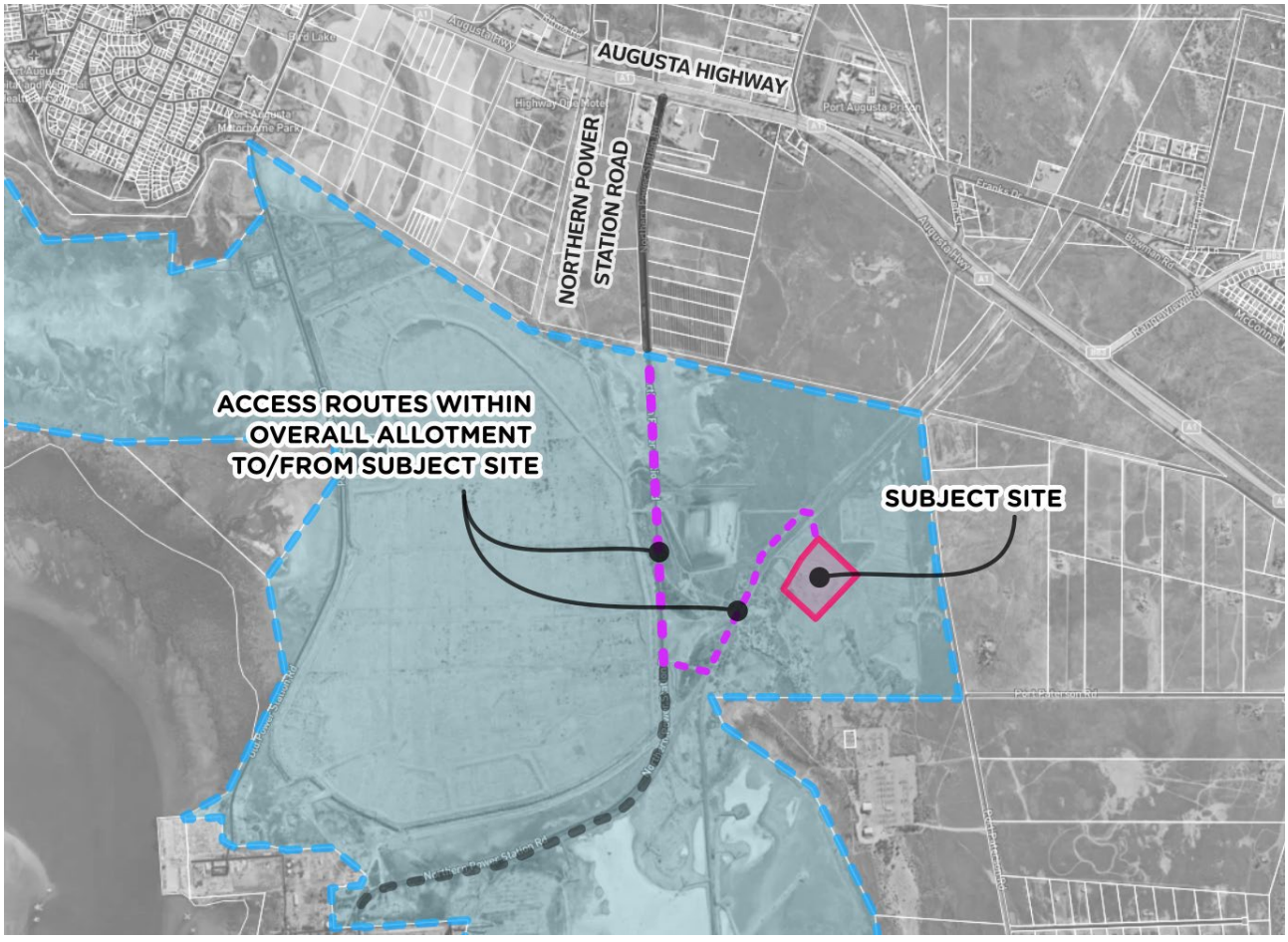
Planning for construction activities will involve a degree of preparation work including:

- Determining which permits are required and obtaining those permits through the appropriate authority.
- Undertaking a 'Dial Before You Dig' procedure to establish the location of underground infrastructure directly adjacent to the subject land.
- Undertaking a site survey to determine the true boundaries of the land and the correct location for boundary fencing as well at identifying the location of any infrastructure, determining site levels and the likes.
- Installing temporary construction fencing around the site.
- Installing a temporary site office and amenities on site prior to the commencement of construction. This would involve the transportation of a portable building and toilets to the site via truck.
- Establishing if/as required services for construction, including electricity and wastewater management.
- Notifying affected parties that work is due to commence, this may include (but is not limited to):
  - DEM;
  - Department for Infrastructure and Transport;
  - Native Vegetation Council;
  - Port Augusta City Council;
  - ElectraNet - Operators of Davenport Substation;
  - Adjoining property owners;
  - SA Water;
  - SA Power Networks; and
  - Landowner and other leaseholders.

3.1.2 Vehicle Access

The subject land is accessible from Northern Power Station Road (shown in **Figure 3** below). Currently vehicles as large as a 36.5m Road Trains can legally be accessed the subject land. The facility is proposed to be accessed via Northern Power Station Road, which is currently a sealed public road (north of the development site) and continues as a private road (internal driveway) through the subject site (ultimately providing access to the former Augusta Power Station to the south). Movements to/from the development site will be undertaken via Northern Power Station Road and the Augusta Highway (including the associated intersection of the two roads) and then existing internal driveways. No modifications are anticipated to the public road network and the Traffic Impact Assessment (TIA) by CIRQA contained in **Attachment B** provides a detailed assessment of the road network.

The Proponent will ensure internal driveways are designed to accommodate two-way vehicle movements to/from the development site for the largest vehicle anticipated to access the site.



Source CIRQA: Traffic Impact Assessment

Figure 3: Proposed access route extract

Internal driveways will be constructed by compacting of soil (if required) and hard-surfacing with gravel suitable to accommodate the largest vehicle size anticipated to access the site.

3.2 Construction

Construction of the Northern Battery (BESS) and substation is anticipated to occur over a 18-24 month period.

Construction of the BESS will require concrete pads being laid to support each of the battery management systems (BMS) and inverters. Engineering specialist will be required to appropriately install the equipment and to test functionality prior to operations.

The substation will require a footing to be laid to support the substation equipment. Engineering specialists will be required to install the bus pipes and to connect the transformers, transmission lines and earthing grid.

Vehicles up to 19m semi-trailer will be required to transport components to the site, and a crane may be required to move heavy equipment into place. Civil construction (earthworks) machinery to/from the site is likely to require infrequent access by Restricted Access Vehicle (RAV) /Oversize-Overmass (OSOM) vehicles. RAV/OSOM access may require an application to be made to the NHVR (if vehicles proposed are not covered by existing Gazettal's).

If traffic management is required on the public road, the Proponent will obtain the appropriate permits and notify the affected parties.

Vegetation clearance will be undertaken in accordance with the Native Vegetation clearance approval which will be sought under the *Native Vegetation Act 1993*.

Upon completion of construction, permanent fencing will be erected around the perimeter of the site and directional and safety signage will be installed. Any temporary structures will be removed and any vehicle access/tracks no longer required will be revegetated.

An underground transmission line will connect the onsite substation to the ElectraNet Davenport Substation. The Proponent will undertake the necessary steps to engage with and obtain from ElectraNet the necessary permits/connections agreements required for the connection the Davenport Substation.

3.2.1 Temporary Accommodation

Accommodation for workers during construction would utilise a combination of available rental accommodation, existing short term accommodation facilities within the nearby townships of Port Augusta, Stirling North or the wider region, or be accommodated in dedicated workers accommodation facilities.

3.3 Operations

Prior to the operations of the site an Operational Management Plan (OMP) will be developed and submitted to DEM for approval by the Minister in accordance with Section 66 of the HRE Act.

Once the BESS facility commences operation, ongoing maintenance and monitoring will be required to ensure that the equipment is running safely and efficiently.

In addition to routine physical inspections undertaken by suitably qualified personnel, other maintenance protocols will be integrated into the site facilities, including:

- temperature monitors
- smoke detectors
- integrated cooling systems
- fire suppression systems.

Similarly, monitoring systems will be implemented to ensure that the site remains secure, and that equipment is not tampered with, including:

- security fencing
- restricted site access to authorised persons only
- safety signage (i.e., advising of high voltage)
- security cameras monitored remotely 24 hours a day, 7 days a week
- regular physical inspections by security personnel

In addition to site access by authorised personal undergoing security and routine maintenance checks, the site may need to be accessed sporadically to undertake any necessary repairs, in the event of any incidents, and when undergoing site audits.

3.4 Decommissioning and Rehabilitation

Decommissioning activities will comprise the removal of BESS and substation infrastructure as well as ancillary structures used to facilitate the BESS operations (i.e., concrete pads, fencing, signage, site amenities) from the land.

Rehabilitation will focus on optimising vegetation regrowth within the site.

A Decommissioning and Rehabilitation Plan will be developed in consultation with DEM and stakeholders prior to the decommission phase of the projects lifecycle and further detailed in the OMP.

4 Overview of Existing Environment

The environmental description contained in this EIR has largely been derived from publicly available databases and the findings of the following technical assessments:

- Traffic Impact Assessment by CIRQA (**Attachment B**)
- Native Vegetation Clearance Assessment by Environments by Design (**Attachment C**)
- Visual Impact Assessment by Landskap (**Attachment D**)
- Environmental Impact Assessment by Echo Acoustic Consulting (**Attachment E**)
- Stormwater Management Strategy by WGA (**Attachment F**)
- Heritage Assessment Technical Memorandum by Independent Heritage Consultants (not a public document).

4.1 Landscape and Bioregions

4.1.1 Landscape Management Regions

South Australia is divided into nine landscape regions established under the *Landscape South Australia Act 2019* (Landscape SA Act), and the subject land is located within the South Australian Arid Lands region (SA Arid Lands).

The SA Arid Lands region is located in the north-east corner of the State and borders New South Wales, Queensland and the Northern Territory. Whilst covering more than half of South Australia, the SA Arid Lands region houses less than 2% of the state's population which is widely dispersed. Port Augusta is the region's largest city with other major towns including Coober Pedy and Roxby Downs both of which have a strong mining presence and subsequent concentrated population.

Land use in the region consists of pastoralism, mining, rural living, renewable energy facilities and commercial/industrial land uses. The region experiences high levels of tourism to destinations including the Flinders Ranges, Lake Eyre, Coober Pedy and the Strzelecki, Oodnadatta and Birdsville Tracks.

Aboriginal land holdings are diverse and include pastoral leases, community managed land, indigenous protected areas and co-managed parks (Landscape Board, 2025).

4.1.2 Climate

Port Paterson is inland of the Spencer Gulf resulting in a climate that is semi-arid or Mediterranean with hot dry summers and cool moist winters [4]. In accordance with Nature Maps information, the region experiences a mean annual rainfall of between 201-300mm from 1976 to 2005. Further long-term averages are shown in **Table 1**, based on Port Augusta Above Mean Sea Level (AMSL).

Table 1: Port Paterson Long-Term Averages.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Mean Max (°C)	34.1	33.2	30.7	26.5	21.5	18.0	18.0	20.2	24.0	27.1	30.0	32.2	26.3
Mean Min (°C)	19.6	18.8	16.9	12.9	8.6	5.9	4.7	5.5	8.5	12.0	15.3	17.4	12.1
Mean Rain (mm)	14.8	17.6	11.9	19.9	16.4	24.2	16.6	14.9	17.6	18.4	22.2	25.3	219.4
Mean Rain Days	3.5	2.4	3.3	4.2	7.1	11.6	10.8	8.2	5.5	5.5	5.7	4.4	71.2

Port Augusta - 32.51°S, 137.72°E 14m AMSL

Commenced 2001Rainfall records: 23.0 years between 2001 and 2025

Min. temperature records: 23.0 years 2001 and 2025

Max. temperature records: 23.0 years between 2001 and 2025

Prevailing winds around Port Paterson often come from the south to southwesterly direction, especially in coastal waters and during warmer months, moving in from the Spencer Gulf. Winds frequently shift during the day, starting SE/SW and becoming more southerly or even tending northwesterly (NW) later in the day, especially with sea breezes.

4.1.3 Bioregions, landforms and soils

Soil types within the Port Augusta region are Calcareous soils (32%) predominantly on the plains, are well drained, except when overlying clayey subsoils, and can be excessive in deep soils with light textured subsoils. Hard red-brown texture contrast soils over alkaline subsoils (30%) predominantly on the plains and low hills. These soils are firm to hard loamy sands to clay loam surface soils over red or brown sandy clay loam to clay subsoils. Shallow soil on rock (24%) on and near the ranges, and generally unsuitable for cropping. The subject land comprises hard pan saline soils with a sandy loam.

[4] Government of South Australia, Natural Resources Adelaide & Mt Lofty Ranges – Spencer Gulf, https://cdn.environment.sa.gov.au/landscape/docs/hf/spencer-gulf-bio-region-plus-bioicons-fact.pdf

The subject land is relatively flat, with a slight fall in a south-west direction from Northern Power Station Road and again from Old Power Station Road towards the Spencer Gulf. Much of the land is affected by water bodies or water courses, particularly the land west of Northern Power Station Road. Portions of the land have been excavated. Contours are depicted in **Figure 4** below.

There is scattered vegetation evident on the land, with areas of trees visible particularly adjacent road boundaries and on the western side of Old Power Station Road where the land meets the gulf.

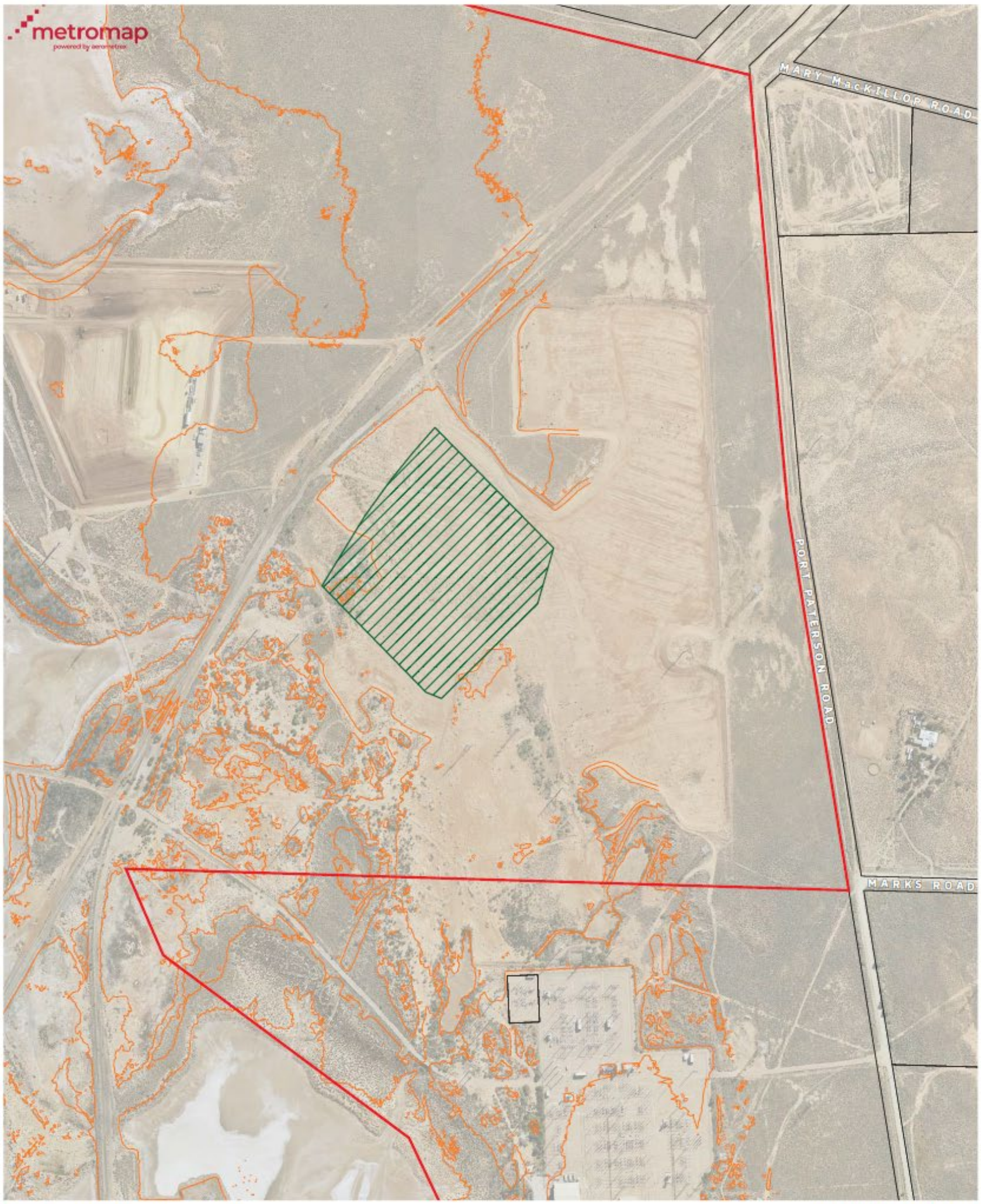


Figure 4: Contour Plan

4.1.4 Acid Sulfate Soil

Acid sulfate soil materials is the term applied to soils, sediment or rock in the environment that contain elevated concentrations of metal sulfides (principally pyriteFeS_2 or monosulfides in the form of iron sulfide-FeS), which generate acidic conditions when exposed to oxygen (EPA, 2007). In South Australia, actual and potential coastal acid sulfate soils occupy approximately 2,410 square kilometres (km²) and have an estimated acid reservoir of two (2) million tonnes. Metal sulfides have been associated with historical mining of copper, gold and silver/lead deposits and within sediments throughout the State.

Areas at risk of acid sulfate soils are mainly found along the coast or near freshwater areas. Land directly adjacent to the waterline is susceptible to the development of acid sulfate soils, however, land further inland (like the development site) has a negligible susceptibility. The Nature Maps extract in **Figure 5** below illustrates that areas around the subject land are susceptible to acid sulfate soils, but this does not extend inland to the development site.

(Source Nature Maps)

Figure 5: Acid Sulfate Soils

4.2 Water Resources

The subject land is within the Northern and Yorke Non-Prescribed groundwater area and Non-prescribed GW Groundwater Management Zone. The area has low consumptive use and use of the water resource is uncapped or has not been fully allocated.

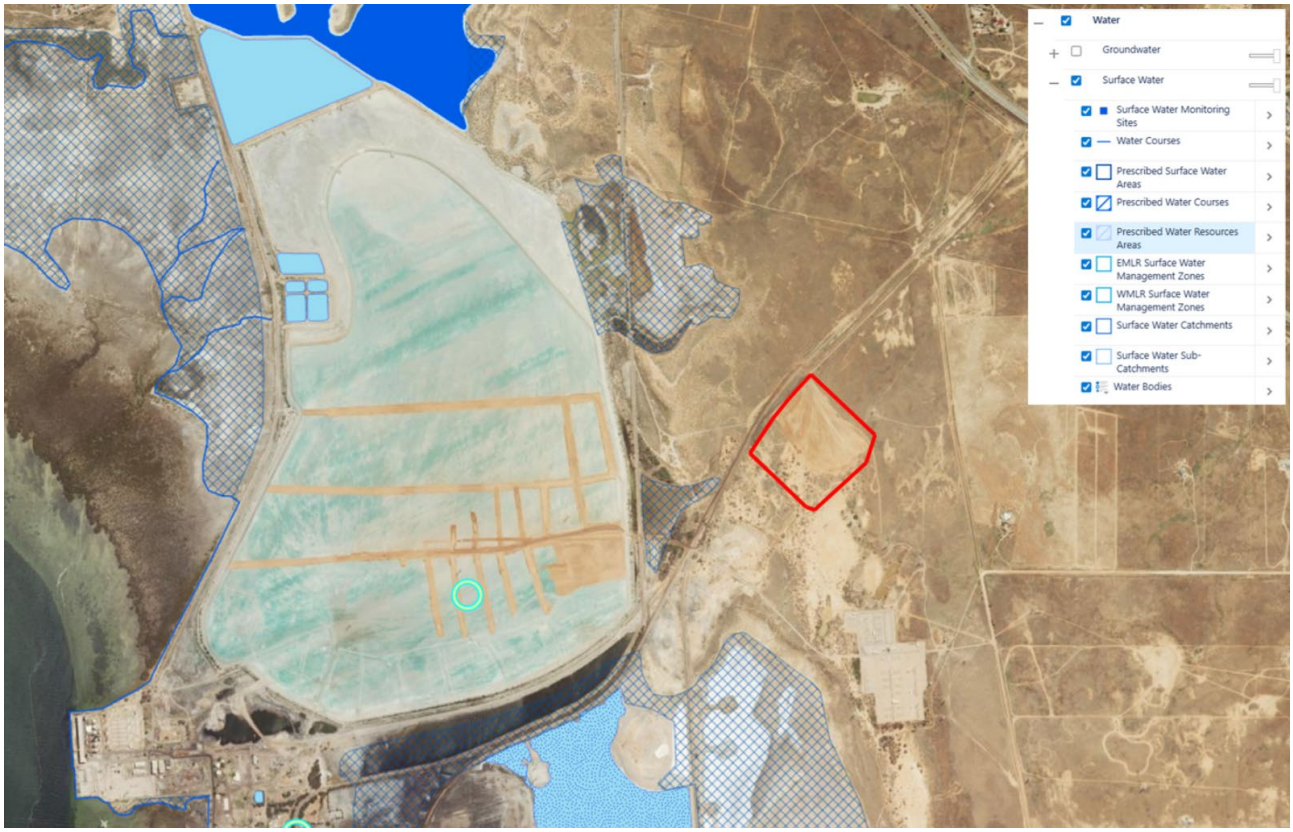
The South Australian Property and Planning Atlas (SAPPA) illustrates that the subject land comprises several water bodies and some watercourses in close proximity to the Spencer Gulf. The development site is outside of any of these identified water bodies (**Figure 6**).

The subject land is located within a flood zone, which has been the subject of previous studies by Water Technology. This previous flood study would be reviewed with specific reference to the site of the development and will be utilised to check the inundation levels.

Note: Water resources shown in blue with development site shown illustratively in red. (Source: SA Property and Planning Atlas)

Figure 6: Water Resources with Development Site

4.2.1 Surface Water



Note: Surface Water Overlays shown in blue with development site shown illustratively in red. (Source: Nature Maps)

Figure 7: Surface Water Overlays

Whilst the SAPPA and NatureMaps show water within the boundaries of the subject land, none will be impacted by the Northern Battery facility.

The subject land is located within the Mambray Coast which comprises a number of small, unconnected catchments, rather than a single drainage system and extend from the Flinders Ranges to the Spencer Gulf (DWLBC Report, 2005).

4.2.2 Groundwater

Groundwater resources are variable across the State, with three (3) main groundwater resources [5] in South Australia:

- The southwestern section of the Great Artesian Basin (GAB), which is one of the largest ground water basins in the world and overlaps with all of north-eastern South Australia.

[5] Harrington, N., & Cook, P. (2014). Groundwater in Australia. Adelaide: National Centre for Groundwater Research and Training.

- The Murray–Darling Basin in south-eastern South Australia along the Murray River.
- The Otway Basin aquifers in south-east South Australia.

The development site is not located within any of these groundwater resource areas.

Groundwater regulation in South Australian is the responsibility of the Department for Environment and Water (DEW), the Environment Protection Authority (EPA), the Department for Energy and Mining (DEM), and the relevant Landscape Board through Water Allocation Plans (EPA, 2024). Under the Landscape SA Act, activities relating to groundwater wells require an authorisation or a permit from the Minister via the Department for Environment and Water, and other activities relating to groundwater may require a Water Affecting Activity permit from the regional Landscape Board.

The development site is not located within a prescribed wells area or water resources area.

4.3 Marine Park

The Upper Spencer Gulf Marine Park was proclaimed in 2009 and spans the Northern Spencer Gulf waters from Port Pirie to Whyalla and up to Port Augusta. The sheltered waters of the Upper Spencer Gulf Marine Park are best known for its internationally recognised breeding area for the Giant Australian Cuttlefish. The park also includes wetlands of national importance and is home to a vital nursery area for a large range of fish and crustaceans. There are several sanctuary zones within the Marine Park, which are core conservation areas.

The boundaries of the Upper Spencer Gulf Marine Park abut portion of the western boundary of the subject land (Allotment 8). There are no sanctuary zones in this area of the Marine Park. As illustrated in **Figure 8** below, the BESS development site is in excess of 2 kilometres from the boundary of the Marine Park. As previously stated, the site of the BESS development is within a highly disturbed area which formed part of the borrow pit of the former Northern Power Station. In addition to the separation distance to the Marine Park, stormwater will be managed from the development with detention and swales to manage storage and water quality without discharge to the marine environment.

Note: Upper Spencer Gulf Marine Park shown in blue shading with development site shown illustratively in red. Source Nature Maps.

Figure 8: Upper Spencer Gulf Marine Park Flora, Fauna and Biodiversity

The South Australian Arid Lands region is home to a diverse range of native vegetation (flora). Native vegetation refers to any naturally occurring local plant species which are indigenous to Australia, from small ground covers and native grasses to large trees and water plants.

Notable threatened flora species in SA Arid Lands region include:

- Spidery Wattle (*Acacia araneosa*).
- Slender Bellfruit (Codonocarpus pyramidalis).
- Small-leaved Xerothamnella *(X. parviflora)*.
- Black-Fruited Bluebush (*Maireana melanocarpa*).
- Slender Darling-Pea (*Swainsona murrayana)*.
- Arckaringa Daisy (Olearia arckaringensis).

Notable threatened fauna species in the SA Arid Lands region include:

- Bronzeback legless lizard (*Ophidiocephalus taeniatus*).
- Grey falcon (Falco hypoleucos).

- Grey grasswren (*Amytornis barbatus*).
- Kowari (Dasyuroides byrnie).
- Malleefowl (Leipoa ocellata).
- Plains rat (Pseudomys australis).
- Plains wanderer (Pedionomus torquatus).
- Sandhill dunnart (Sminthopsis psammophila).
- Thick-billed grasswren *(Amytornis modestus)*.
- Woma python (Aspidites ramsayi).
- Woomera slider (*Lerista elongata*).
- Yellow footed rock wallaby *(Petrogale xanthopus)*.
- Short-tailed grasswren (Amytornis merrotsyi merrotsyi).

4.3.1 Native Vegetation

The development site was previously utilised as a borrow pit to source material to cap the ash dam at the decommissioned Port Augusta Power Station. Commensurate with the use of the development area as a borrow pit was an associated 2017 Native Vegetation clearance approval. The site was cleared and revegetation commenced. This native vegetation clearance approval has been the subject of recent review by the Native Vegetation Assessment Panel which resulted in the withdrawal of significant environmental benefit areas and the vegetation on the site being determined not to satisfy the definition of native vegetation. A copy of the February 2025 Native Vegetation Council decision is shown in **Figure 9** below.

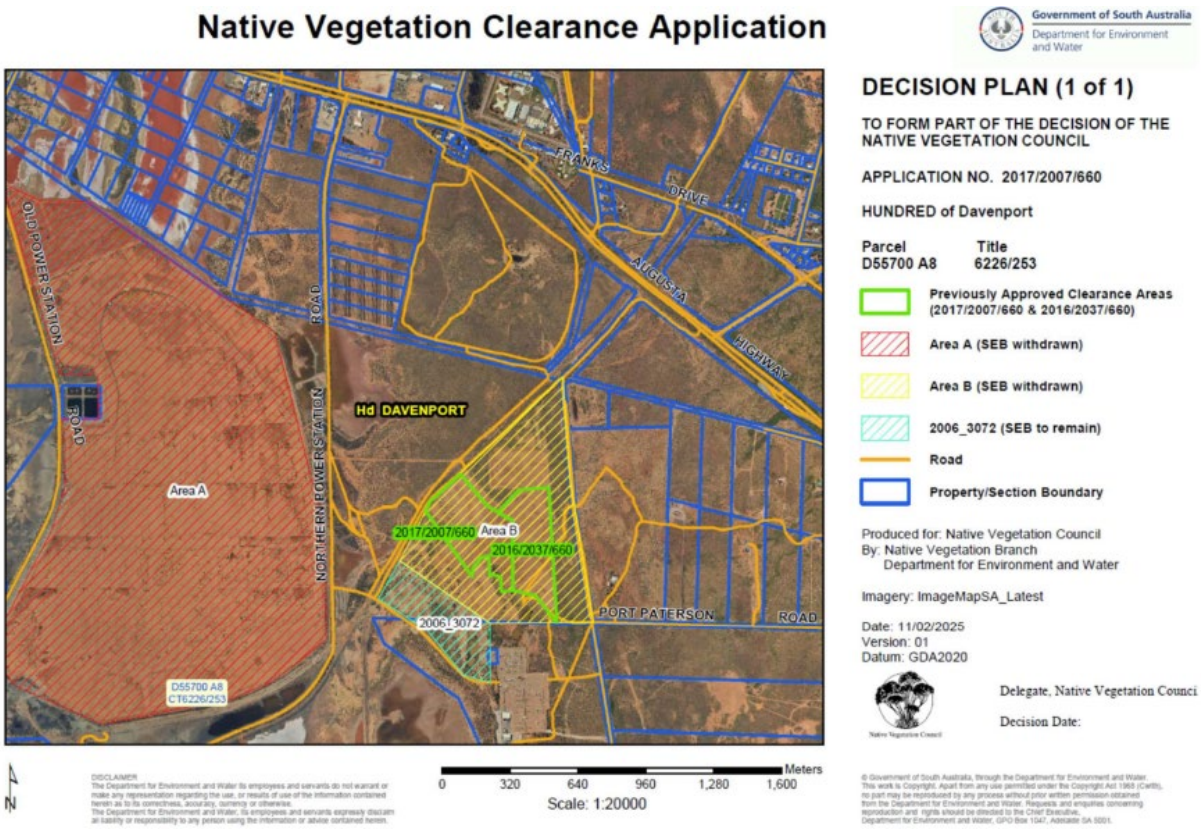


Figure 9: Native Vegetation Council Clearance Application – Decision Plan – Application 2017/2007/660

Environment by Design (EBD) have prepared a Native Vegetation Clearance Data Report for the development site and noted that approximately 6.7ha of native vegetation (scattered natural regeneration and some revegetation) would be cleared.

The Native Vegetation Clearance Data Report discusses the native vegetation mitigation hierarchy as follows:

(a) Avoidance – outline measures taken to avoid clearance of native vegetation

This project is about clearing natural regeneration. 3ha of the 9.7ha is bare ground with nothing growing on it.
The project's design and location has been changed to avoid a small patch of native vegetation found in the North Western corner of the development area. Much of the vegetation in near this area has been direct seeded.
The transmission line is an underground cable. The soil has already been removed therefore it requires filling using disturbed soil from the site.

(b) Minimisation – if clearance cannot be avoided, outline measures taken to minimise the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative).

Although all of the area surveyed has been damaged or modified in some way there is a small patch of better cover along the northern and north western area. The impact area under proposed development has been moved away to position earthworks away from any reasonable native vegetation to an area fully degraded by past activities.
The underground transmission line does not require trenching with activity around 5m wide to lay the cable and cove it.

(c) *Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimised, such as allowing for the re-establishment of the vegetation.*

Natural regeneration is highly likely around the site once works have been completed. The transmission line and easement will naturally regenerate.

(d) *Offset – any adverse impact on native vegetation that cannot be avoided or further minimised should be offset by the achievement of a significant environmental benefit that outweighs that impact.*

No Offset is available.
The NVC will only consider an offset once avoidance, minimisation and restoration have been documented and fulfilled. The SEB policy explains the biodiversity offsetting principles that must be met.

As part of the native vegetation clearance application, the Proponent proposes to address the significant environmental benefit via payment into the Native Vegetation Fund. Consideration was given to revegetation; however, this has not previously been successful on and around the development site. Some revegetation on the site is proposed (refer to Landskap report) particularly around the perimeter of the BESS site. This landscaping will be protected from pest animals by fencing and will be supported by watering during establishment.

An application to the Native Vegetation Council has been lodged independently of the Associated Infrastructure Licence (AIL). The Native Vegetation Council by email correspondence dated 1 December 2025, has advised the Proponent that application number 2025/3325/660, has been approved in principle. The Native Vegetation Clearance Application on behalf of Davenport BESS Pty Ltd for the proposed clearance of 6.7ha of native vegetation required to construct a BESS located at 420 Northern Power Station Road, Port Paterson (Hundred of Davenport), has been approved subject to obtaining the necessary approval (licence).

4.3.2 Native Flora and Fauna

EBD has undertaken a desktop and field assessment of the development site, the full report is contained in **Attachment C**. The vegetation at the site of the development is scattered natural regeneration with some revegetation. The natural regeneration is considered to be a mix of nature under restoration and the germination of seeds used in revegetation. Some of the development area is artificial showing a more dominant *Atriplex nummularia*, although a local species, is growing unnaturally when comparing the untouched native vegetation to the east. The original vegetation is low chenopod shrubland.

Photo 1 – Direction South East

32°31'42"S
137°48'33"E

Photo 3 – Direction West

Lines indicating a revegetation attempt

Source: Environments by Design

Figure 10: Photographs of Subject Land Showing Vegetation

Table 2 summarises the potentially occurring Matters of National Environmental Significance (MNES) within the locality.

Table 2: Matter of National Environmental Significance (MNES) Summary

Matters of National Environmental Significance (MNES)	Identified within the Search Area (5km Buffer)
World Heritage Properties	None
National Heritage Properties	None
Wetlands of International Importance	None
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	None
Listed Threatened Species	19 (five (5) flora and 14 fauna)
Listed Migratory Species	None
Other Matters Protected by the EPBC Act	
Commonwealth Lands	None
Commonwealth Heritage Places	None
Listed Marine Species	None
Whales and Other Cetaceans	None
Critical Habitats	None
Commonwealth Reserves Terrestrial	None
Australian Marine Parks	None
Habitat Critical to the Survival of Marine Turtles	None

Vegetation within the subject land and the locality of the development site is Low Coastal shrubland *Atriplex vesicaria, Rhagodia spinescens* and *Tecticornia sp.* (samphire). The site of the proposed BESS development has previously been excavated and vegetation in the area is considered to be regrowth.

No Threatened Ecological Communities (TEC) have been identified under the EPBC Act or DEW Provisional list of threatened ecosystems.

Five (5) listed flora species and 14 fauna (bird) species were identified utilising the Protected Matters Search Tool (PMST) as potentially occurring within a 5km radius of the project area (refer to **Table 3**).

4.3.3 Threatened Ecological Communities

There are no Threatened Ecological Communities on the site of the development.

4.3.4 Threatened Flora & Fauna Species

An EPBC protective matters search identified the following bird and plant species (**Table 3**) in the locality (5km radius) of the development site. The assessment undertaken by Environments by Design indicated that the identified bird and plant species would not be impacted by the proposed clearance associated the development.

Table 3: Matters of National Environmental Significance

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Reviewed
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	Bird	May	Species or species habitat may occur within area.	Critically Endangered	Recorded outside of 5km radius
Calidris ferruginea	Curlew Sandpiper	Bird	May	Species or species habitat may occur within area.	Critically Endangered	Unlikely
Pezoporus accidentalis	Night Parrot	Bird	May	Species or species habitat may occur within area.	Endangered	Recorded outside of 5km radius
Rostratula australis	Australian Painted Snipe	Bird	May	Species or species habitat may occur within area.	Endangered	Recorded outside of 5km radius
Frankenia plicata	Null	Plant	May	Species or species habitat may occur within area.	Endangered	No local recording
Melanodryas cucullata cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)	Bird	May	Species or species habitat may occur within area.	Endangered	Recorded outside of 5km radius
Caladenia tensa	Greencomb Spider-orchid, Rigid Spider-orchid	Plant	May	Species or species habitat may occur within area.	Endangered	Unsuitable habitat
Calidris canutus	Red Knot, Knot	Bird	May	Species or species habitat may occur within area.	Endangered	Recorded outside of 5km radius

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Reviewed
Stagonopleura guttata	Diamond Firetail	Bird	May	Species or species habitat may occur within area.	Endangered	Unsuitable habitat
Swainsona pyrophilla	Yellow Swainson-pea	Plant	May	Species or species habitat may occur within area.	Vulnerable	Unsuitable habitat
Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit	Bird	May	Species or species habitat may occur within area.	Vulnerable	Recorded outside of 5km radius
Aphelocephaia leucopsis	Southern Whiteface	Bird	Likely	Species or species habitat may occur within area.	Vulnerable	Recorded outside of 5km radius
Neophema chrysostoma	Blue-winged Parrot	Bird	Likely	Species or species habitat may occur within area.	Vulnerable	Recorded outside of 5km radius
Falco hypoleucos	Grey Falcon	Bird	Likely	Species or species habitat may occur within area.	Vulnerable	Unlikely
Grantiella picta	Painted Honeyeater	Bird	May	Species or species habitat may occur within area.	Vulnerable	Recorded outside of 5km radius
Pterostyllis xerophila	Desert Greenhood	Plant	May	Species or species habitat may occur within area.	Vulnerable	Unsuitable habitat
Amytornis textilis myall	Western Grasswren (Gawler Ranges)	Bird	May	Species or species habitat may occur within area	Vulnerable	Recorded outside of 5km radius
Sternula nereis nereis	Australian Fairy Tern	Bird	May	Species or species habitat may occur within area.	Vulnerable	Recorded outside of 5km radius

4.3.5 Weeds, Pests, Pathogens and Disease

Weeds that are a significant threat to agriculture, the natural environment and public health and safety are declared under the *Landscape South Australia Act 2019*. The Landscape SA Act sets out the legal framework for management of declared plants, including but not limited to:

- Banning the sale or controlling the movement of declared weeds.
- Destroying or controlling infestations of declared weeds.
- Notifying authorities when an infestation is detected.

Declared weeds and plants of note currently within the SA Arid Lands region include:

- African boxthorn *Lycium ferocissimum* (declared plant).
- African rue *Peganum harmala (*declared plant).
- Athel pine Tamarix aphylla (Weed of National Significance (WoNS)).
- Bathurst burr *Xanthium spinosum* (declared plant).
- Cactus (Opuntia / Cylindropuntia / Austrocylindropuntia spp.) *Opuntia, Cylindropuntia, Austrocylindropuntia* (Weed of National Significance).
- Carrion flower (*Orbea variegata*) (declared plant).
- Innocent weed *Cenchrus incertus* (declared plant).
- Khaki weed *Alternanthera pungens* (declared plant).
- Mesquite (*Prosopis spp*.) (WoNS).
- Noogoora burr (*Xanthium strumarium*) (declared plant).
- Parkinsonia (*Parkinsonia aculeata)* (declared plant).
- Prickly acacia (Acacia nilotica subsp. Indica) (WoNS).
- Buffel Grass (Cenchrus ciliaris and Cenchrus pennisetiformis) declared plant.
- Fountain Grass (*Cenchrus setaceus*) declared plant.

The list of declared weeds is not static and can change over time, information on declared weeds within a given area is held by the Landscape Boards. Introduced plant species that are not declared under the Landscape SA Act can also impact agriculture and native vegetation.

Pest animals can also pose a significant threat to agriculture, the natural environment and public health and safety. Pest animals are included within the List of Declared Animals under the Landscape SA Act and the pest animals of greatest concern to South Australia are listed by the Department of Primary Industries and Regions South Australia (PIRSA). Pest animals that may be present in the locality include, but are not limited to:

- Feral camels Camelus dromedarious.
- Feral cat *Felis catus*.
- Feral donkeys *Equus asinus*.
- Feral goats *Capra hircus*.
- Feral pig *Sus-scrofa*.

- European foxes *Vulpes vulpes*.
- European rabbit Oryctolagus cuniculus.
- Wild dog Canis familiaris.

Landscape Boards support landowners and other stakeholders in the management of pest animals, including pest animal (Declared) management plans, the coordination of control programs as well as outlining priorities and strategies for pest control.

The federally coordinated response to pest animals in Australia, the Australian Pest Animal Strategy, provides national guidance on best practice vertebrate pest animal management.

Pathogens and disease can impact native vegetation and agricultural activities. Pathogens relevant to the area may include:

- Phytophthora, which is a fungus-like organism, carried in soil and water, that can cause disease and death to a wide variety of native plant species, fruits, vegetables and garden plants.
- Plant pests and diseases such as grape *phylloxera*.
- Animal pathogens such as Johne's Disease.

Pathogens such as these are generally not widespread in South Australia. They are primarily managed by the Department of PIRSA under a range of legislation and policies, including the *Plant Health Act 2009*, the *Landscape South Australia Act 2019*, the *Livestock Act 1997*, and South Australia's Biosecurity Policy. Notifiable animal diseases are specified on the PIRSA website.

4.4 Population Centres and Infrastructure

4.4.1 Population Centres

South Australia's population in 2024 is over 1.8 million people with more than 75% concentrated in the Greater Adelaide area (which incorporates the Green Adelaide and part of the Hills and Fleurieu landscape regions). The remainder of the population (approximately 406,000 people) is distributed through regional South Australia (defined as those parts of South Australia north of Gawler, east of Mount Barker and south of McLaren Vale) (Idcommunity, 2024).

Adelaide and most of the larger population centres are located on the coast and Port Augusta is an important coastal centre within South Australia.

Census 2021 reveals that Port Paterson has a population of 73 persons. Stirling North, which is located approximately 1.8km north-east of the development site has a population of 2,793 persons, and Port Augusta, which is located approximately 2.7km north-west the development site, has a population of approximately 13,515 persons. Port Augusta is the largest township in the region and provides key economic and social functions to the broader regional community.

4.4.2 Major Infrastructure

4.4.2.1 Roads

The development site is serviced by an existing access from Northern Power Station Road which is a two-lane bi-directional locally maintained road that is sealed but un-kerbed.

Northern Power Station Road intersects with Augusta Highway, which is a State Maintained Road. Augusta Highway is an all-weather sealed road, with shoulders, barriers and line markings. The road is a four (4) lane highway and is a key road corridor connecting Port Wakefield and Port Augusta. The highway forms part of the National Land Transport Network connecting South Australia and interstate (DIT, 2025). The road has been designed to accommodate freight and passenger vehicles.

4.4.2.2 Rail

Port Augusta is a major rail transport hub, providing for The Ghan and Indian Pacific passenger services, along with significant freight services

These rail corridors play an important role in moving freight and long haul, bulk products such as grain and minerals, and include the transcontinental rail line that connects Sydney to Perth and Adelaide to Darwin.

The transcontinental line is managed by the Australian Rail Track Corporation (ARTC) and provides regional and interstate passenger and freight services. Passenger services on the transcontinental rail line are tourism-oriented and include the Indian Pacific (Sydney – Perth) and The Ghan (Adelaide – Darwin) services. The rail line passes through Port Augusta and Pimba before heading west and on to Darwin and Perth.

The Ghan is operated by Journey Beyond and provides luxury tourist travel between Adelaide and Darwin and passes through Port Augusta. The railway line is located approximately 2.6km north of the development site. Due to the separation distance, existing built form and flat terrain, it is unlikely that the development site will be visible from the railway line.

Pichi Richi Railway is operated by the Pichi Richi Railway Preservation Society as a not-for-profit business and provides steam train and heritage diesel train passenger transport between Quorn and Woolshed Flat This railway is located some 40km north-east of the development site on the eastern side of the Flinders Ranges.

The transcontinental rail corridor is located to the east of the subject land and east of the Augusta Highway. It is estimated that the development site is approximately 3.2km east of the operative railway line. Construction and operational activities of the BESS are unlikely to be of a height or form that would be visually dominant from the railway corridor, albeit there are several other renewable energy projects that would be visible from the railway corridor to both the east and west.

Within the subject land is part of the former Leigh Creek railway corridor. The trainline used to transport an average of three (3) million tonnes of coal each year from the Leigh Creek coalfields in SA's far north down to the Port Augusta Power Station (the subject land), however has been disused since the power station was decommissioned in 2016. It is understood that there is a private business who have expressed interest to the State Government to reactivate the 250km government-owned rail freight corridor.

As part of the definition of the development site for the BESS, the lease with the property owner requires a setback of 100m from the railway corridor, which has been incorporated.

4.4.2.3 Airports and Airfields

There are no Defence Force land holdings within the locality of the development site.

The Stirling North Airfield and Port Augusta Flying Club is located on the eastern side of Augusta Highway, approximately 4.3km east of the development site.

Port Augusta Airport is located approximately 8.6km west of the development site on the western side of the Spencer Gulf.

Construction and operational activities of the BESS are unlikely to be of a height or form that would impact upon aircraft utilising either of these airfields. However, the development would need to satisfy any relevant aviation legislative requirements.

4.4.2.4 Energy

South Australia currently generates more than 70% of its electricity from renewable sources and by 2025/2026, this is projected to reach 85%, with a target of 100% net renewable energy by 2027.

Renewable energy in South Australia is generated from wind farms, rooftop solar systems, solar photovoltaic (PV) farms and solar thermal farms, complemented by large-scale battery energy storage systems.

The Port Augusta Renewable Energy Park (PAREP) is a major source of renewable energy in the region and provides both wind and solar photovoltaic technologies. PAREP is located approximately 3.1km south-east of the development site and is located adjacent the Augusta Highway. Solar panels, wind turbines and transmission lines are visible within the locality.

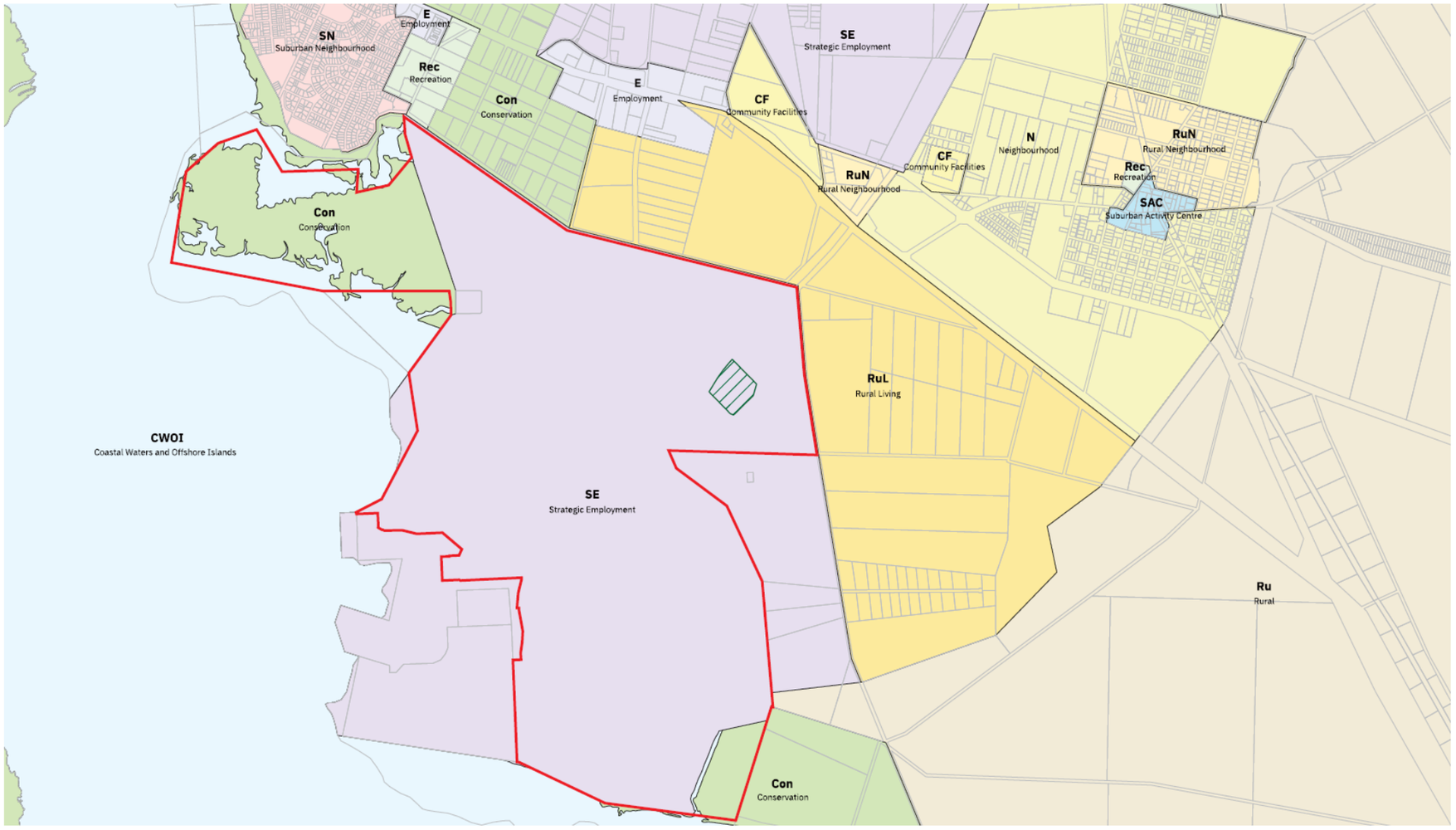
The electricity transmission network within South Australia consists of approximately 6,600km of transmission lines ranging in capacity from 66 kV to 275 kV (ElectraNet, 2024). The electricity distribution network is operated by SA Power Networks and consists of more than 88,000km of power lines that deliver electricity to more than 860,000 customers (Energy Networks Australia, 2024).

The subject land is located directly north of the Davenport Substation and proposes an underground transmission line connection between the Northern Battery (BESS) and Davenport Substation.

4.5 Land Use

4.5.1 Zoning

The subject land in its entirety is contained within two (2) land use zones under the Planning and Design Code, as shown on the Zoning Plan in **Figure 11** below. The majority of the subject land and specifically the development site, is entirely within the Strategic Employment Zone. Other areas of the subject land are located within the Conservation Zone; however, these are not relevant to the Davenport BESS proposal.



Source: Extract from Planning and Design Code

Figure 11: Land Use Zone Plan

As stated in the Strategic Employment Zone of the Planning and Design Code (revision 19 dated 9 October 2025) the zone envisages *"a range of industrial, logistical, warehousing, storage, research and training land uses together with compatible business activities generating wealth and employment for the state"* (Desired Outcome (D0) 1). Renewable energy facilities (other than a wind farm) are an envisaged land use within the Strategic Employment Zone (Designated Performance Feature (DPF) 1.1). Development within the Strategic Employment Zone should be compatible with other land uses, whilst addressing the interface with land uses in other adjoining zones.

In the case of the proposed Northern Battery development, the land use is appropriate but must address the interface with sensitive uses within adjoining zones, such as the rural residential dwellings within the Rural Living (RuL) Zone to the east.

The planning policies applicable to the site of the development under the P&D Code are summarised in **Table 4** below:

Table 4: Planning and Design Code Policy

Zone/Overlay	Details
Zone	Strategic Employment (SE) Zone
Overlays [6]	• Building Near Airfields • Coastal Areas • Hazards (Flooding) • Hazards (Bushfire – Regional) • Hazards (Flooding – Evidence Required) • Marine Parks (Managed Use) • Native Vegetation • Water Resources
Technical Numerical Variations (TNV)	Minimum Frontage – 25m Minimum Site Area – 2,000m²
General Development Policies	• Clearance from Overhead Powerlines • Design • Infrastructure and Renewable Energy Facilities • Interface between Land Uses • Site Contamination • Transport, Access and Parking

4.5.2 Mining and Energy Resources

The exploration and mining of mineral and energy resources is administered by the Department for Energy and Mining (DEM) under the *Mining Act 1971* (Mining Act) and *Energy Resources Act 2000* (ER Act).

[6] In accordance with Part 1 – Rules of Interpretation of the P&D Code, some of the overlays are not spatially relevant to the development site.

There are no active mining tenements or licences over the development site. SA Government data also indicates there are no historic exploration licences for minerals or opals on the site and/or in the locality. There are current applications for Associated Infrastructure Licenses under the HRE Act within the locality of the subject land as depicted in **Figure 12** below. We note that the Proponent for the land at 2B Marks Road, Port Paterson is also GGE.

Source: SARIG

Figure 12: Applications, Associated infrastructure Licence State Overlay

Petroleum Exploration Licence Application (PELA 749) as shown in **Figure 13**, is sited over the subject land and a substantial portion of the Port August area of the Spencer Gulf. The Proponent is aware of the need to liaise with the licence holder in relation to the proposed Northern Battery Project.

Source: SARIG

Figure 13: Applications, Exploration Licence (Petroleum) State Overlay

Geothermal Exploration Licence (GEL 572) as shown in **Figure 14**, is sited over the subject land and a substantial portion of the Port August area. The licence area is relatively consistent with the boundaries of historic exploration licenses. Notwithstanding, the Proponent is aware of the need to liaise with the licence holder in relation to the proposed Northern Battery Project.

Source: SARIG

Figure 14: Geothermal Exploration Licences State Overlay

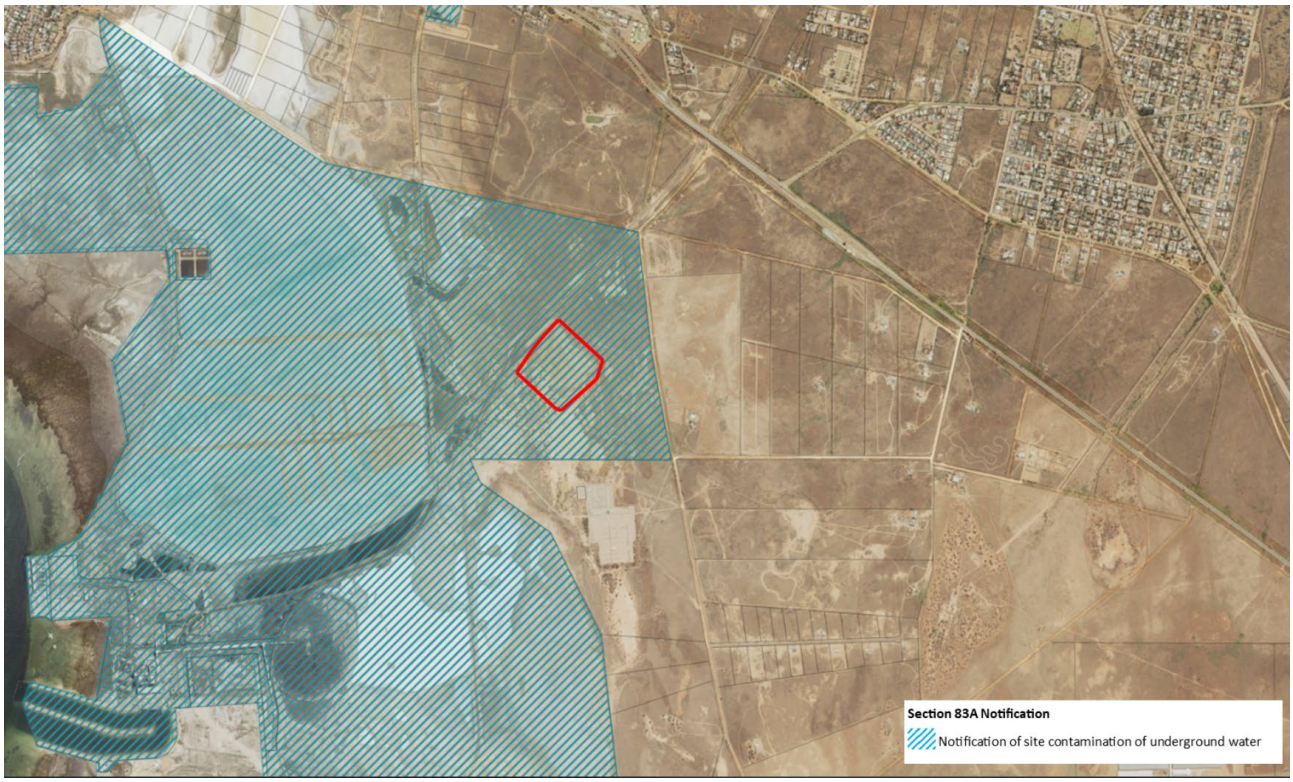
4.5.3 Contaminated Sites

The site of the development was part of the former Northern Power Station for a number of years. The development site appears to have comprised vegetation and an internal access track for the past 25 years and was part of a former ash (borrow) pit.

Contaminated sites are recorded on Environment Protection Australia's (EPA) Site Contamination Index. However, unknown contamination may exist and/or may be encountered during disturbance activities. A search of the EPA's Index reveals that a Section 83A notice has been served over the subject land indicating prior contamination, although it is unclear if this pertains specifically to the development site, or is most likely linked to the Northern Power Station located within the western portion of the subject land.

A Preliminary Site Investigation (PSI) report has been prepared by Gama Environmental (included in **Attachment G**). The PSI confirms that there are no potentially contaminating activities within the site of the Northern Battery development or within 60m, however on the greater overall area the historical contamination at the former Port Augusta Power Station is located approximately 1.6-1.8 km to the south west of the development site.

As illustrated in **Figure 15**, the entirety of Allotment 8 (the subject land) is contained within an area where groundwater is known to be contaminated, which is anticipated to be associated with the historical and wider use of the subject land. The BESS does not propose to extract or utilise groundwater.



Note: Notification of site contamination of underground water shown in blue shading with development site illustratively shown in red.

Source: SAPPA

Figure 15: Site Contamination of Underground Water

The PSI states (within the Executive Summary) that:

> *"Given the distance, the hydraulic gradient, and the low-intensity nature of the BESS development, it is considered highly unlikely that any off-site contamination would pose a risk to human health or the environment at the development site.*
>
> *As the proposed development involves the construction of an energy storage facility, a low-intensity land use with minimal soil disturbance and no chemical or waste generation that could interact with off-site contamination. As such, the potential for exposure to humans or the environment is negligible, and any historical contamination at the former power station is not expected to pose a risk to the proposed development site.*
>
> *Therefore, site contamination at the specific development site is considered unlikely and a low risk to the future development and environment".*

4.5.4 Conservation

Conservation areas exist across South Australia including on or near freehold land. Conservation areas may include parks and reserves proclaimed under the *National Parks and Wildlife Act 1972* (NPW Act), Wilderness Protected Areas under the *Wilderness Protection Act 1992*, native vegetation heritage agreement areas (NVHA) and Ramsar wetlands. Conservation areas also include areas of significant environmental benefit (SEB) established under the EPBC Act or the *Native Vegetation Act 1991*.

An on-ground SEB or environmental offset is an area of land for conservation to compensate for the impact to the environment. Under the *Native Vegetation Act 1991*, the establishment of SEB offset areas is designed to maintain or improve the same vegetation type that occurs at the site of impact, must be located as close to the area of impact as possible to ensure local impacts are adequately offset, and are conserved in perpetuity. Under the EPBC Act, an environmental offset must be established where impacts to MNES cannot be avoided and must relate directly to the environmental impact of the project.

NVHAs and SEB and/or environmental offset areas exist within all landscape management regions containing freehold land.

A review of Nature Maps reveals that there are no Ramsar Wetlands within the boundaries of the subject land. The Native Vegetation Data Clearance report does not identify any MNES within 5km of the development site.

With regard to conservation, SAPPA shows that a portion of the subject land is within a Conservation Zone (refer to the Zone Plan contained in **Figure 11**), however the development site sits outside of this zone.

4.5.5 Tourism

The development site is located within the SA Arid Lands regions which comprises a network of parks and reserves which are critical of the long-term protection of natural and cultural heritage (Landscape Boards SA, 2025).

The Southern Flinders Ranges are particularly relevant as they extend along the western side of Augusta Highway through Quorn. The Ranges are approximately 15km west of the subject land and are a visible backdrop within the broader locality.

4.6 Heritage

4.6.1 Aboriginal Heritage

Aboriginal sites, objects and remains (together, Aboriginal heritage) may intersect any part of the State, including freehold land.

Aboriginal sties, objects or remains are defined under section 3 of the *Aboriginal Heritage Act 1988* (AH Act) as being of significance to Aboriginal tradition or Aboriginal archaeology, anthropology or history.

Certain landscape features are more likely to contain evidence of Aboriginal occupation and/or be Aboriginal sites and therefore pose a higher risk for the discovery of Aboriginal heritage. Landscape features that often have cultural significance include distinctive hills, rocky outcrops, rock holes or trees.

The AH Act provides for the legal protection and preservation of all Aboriginal heritage (known and unknown) in the State.

The subject land is within the Nukunu (Area 2) Native Title Claim Area, which has been determined by the Federal Court and deemed not to exist within the current project area. There is a registered Indigenous Land Use Agreement (ILUA) between the Nukunu People and the Attorney General for the State of South Australia; however, this is not applicable in areas the Federal Court has determined that native title does not exist.

Whilst the project area is entirely within the lands traditionally claimed by the Nukunu People, the Kokatha people also have social, cultural and ceremonial interests in the area around Port Augusta.

Independent Heritage Consultants (IHC) have undertaken an Aboriginal heritage desktop assessment for the proposed BESS (not a public document), with a summary contained in the Technical Memorandum. An AGD-AAR Taa Wika Register of Aboriginal sites and objects search indicated that there were no entries for Aboriginal sites or objects identified in the central archives for the search area (BESS infrastructure area or adjacent area). The assessment notes that the "*project area is located on flat and featureless land that has been significantly developed and modified with low archaeological and ethnographic potential.*"

Within the boundaries of the subject land, there is an existing artefact scatter record known as the "Davenport Artefact Scatter." This scatter site is not located within the development site.

The findings of the desktop assessment indicate that there is a low risk of works encountering unknown Aboriginal sites and objects on the development site. However, consultation has been undertaken with the Nukunu and Kokatha communities as part the EIR and SEO process and will continue during project development, construction and operational phases.

4.6.2 Non-Aboriginal Heritage

A site or place may be of national, State or local heritage significance because of its history, evolution, rare qualities, or contribution to historical understanding. These places are often identified to protect and enable their special heritage values to be passed on to future generations.

Non-Aboriginal heritage in South Australia includes historical buildings and monuments, relics of agricultural and industrial heritage, archaeological artefacts and fossils, caves, mines and volcanic and geological sites, shipwrecks, lighthouses and whaling stations.

Pursuant to the Planning and Design Code and mapping contained within the SAPPA, there are no historic or heritage adjacency overlays, historic shipwrecks, Local Heritage Places, State Heritage Areas or Places within the locality (2km radius) of the subject land.

4.6.2.1 State and Local Heritage

The South Australian Heritage Register contains information about State Heritage Areas, Places and related Objects of State significance. The Register is maintained by the South Australian Heritage Council under the *Heritage Places Act 1993*. The South Australian Heritage Places Database contains details about South Australia's Local and State Heritage Places, Objects and Areas.

A State Heritage Area is a clearly defined region with outstanding natural or cultural elements significant to South Australia's development and identity. It may include early or important settlements, other significant towns or suburbs of heritage value, or natural landscapes, and are notable for their distinct heritage character or 'sense of place'. Port Augusta and surrounds, including the subject land is not within a State Heritage Area.

State Heritage Places (SHPs) include properties in a State Heritage Area and SHPs of geological, palaeontological, speleological and archaeological significance.

Whist there are no State Heritage Area's or Places within proximity (2km) of the development site, there are several State Heritage Places south-west of Victoria Parade, Port Augusta which sit just outside of this 2km range.

There are no local heritage places within 2km of the development site nor in the broader locality.

4.6.2.2 Geoheritage

Evidence of the geological processes that formed the Earth, and of the plants and animals that have lived on the Earth, can be found in landforms and natural rock outcrops, riverbanks, sea cliffs and shore platforms, in road cuttings, mines, quarries and other excavations. Some of the features displayed at these sites are sufficiently outstanding or rare that they are recognised, described, protected and enjoyed as part of South Australia's natural heritage.

The State's geoheritage sites are administered by the South Australian Geological Heritage Subcommittee of the Geological Society of Australia in close cooperation with the Geological Society of South Australia and DEW. The locations and defined boundaries of all geoheritage sites are available via the South Australian Resources Information Gateway (SARIG) (DEM, 2021).

The development site is not impacted by any geoheritage sites. It is noted that a known geoheritage site, Redcliff Point, is located approximately 14km south of the development site on the banks of Spencer Gulf (SARIG Catalogue, 2025).

4.6.3 National Heritage

The EPBC Act provides for the National Heritage List which lists places of outstanding heritage significance or national heritage value to Australia including natural, historic and Indigenous places. The EPBC Act also establishes the Commonwealth Heritage List which comprises natural, Indigenous and historic heritage places on Commonwealth lands and waters under the control of the Australian Government. The Commonwealth and National Heritage Lists are maintained by the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

There are no National Heritage Listed items within proximity (2km) of the development site nor within the broader locality.

4.7 Amenity

4.7.1 Noise

The noise environment in South Australia varies significantly between suburban, rural and remote areas.

In rural and remote areas, background noise levels are generally dominated by natural sources such as wind and waves (in coastal areas) with some contribution from incidental traffic and intermittent or periodic agricultural activities (e.g., farm equipment movements or aerial spraying). Traffic noise levels increase near major roads, and within townships there is an increase in traffic and residential noise. Some locations experience industrial noise originating from industry including mining activities, smelting and metallurgical operations, agricultural facilities (e.g., silos) and port operations.

In suburban areas, noise from road, rail and traffic, construction noise, entertainment venues, air conditioners and other household appliances contribute to the noise environment, particularly in daytime and evening hours.

The EPA regulates noise from business and industry under the Environment Protection (Commercial and Industrial Noise) Policy 2023, which sets noise level guidelines and standards for industrial, commercial and licensed premises. Meanwhile, local councils handle residential, construction and non-industrial noise issues under the *Local Nuisance and Litter Control Act 2016*.

The HRE Act requires that adverse effects on the environment are managed so as to reduce environmental damage as far as reasonably practicable and that an environmental impact assessment be prepared to:

- Take into account the environment.
- Take into account risks inherent to the health and safety of the public.
- Contain sufficient information to make possible an informed assessment of the likely impact on the environment.
- Include comparison against environmental impact assessment criteria.

The HRE Act and the HRE Regs do not include objective environmental noise impact assessment criteria. Reference is made to the Environment Protection (Commercial and Industrial Noise) Policy 2023 to provide objective environmental noise impact assessment criteria.

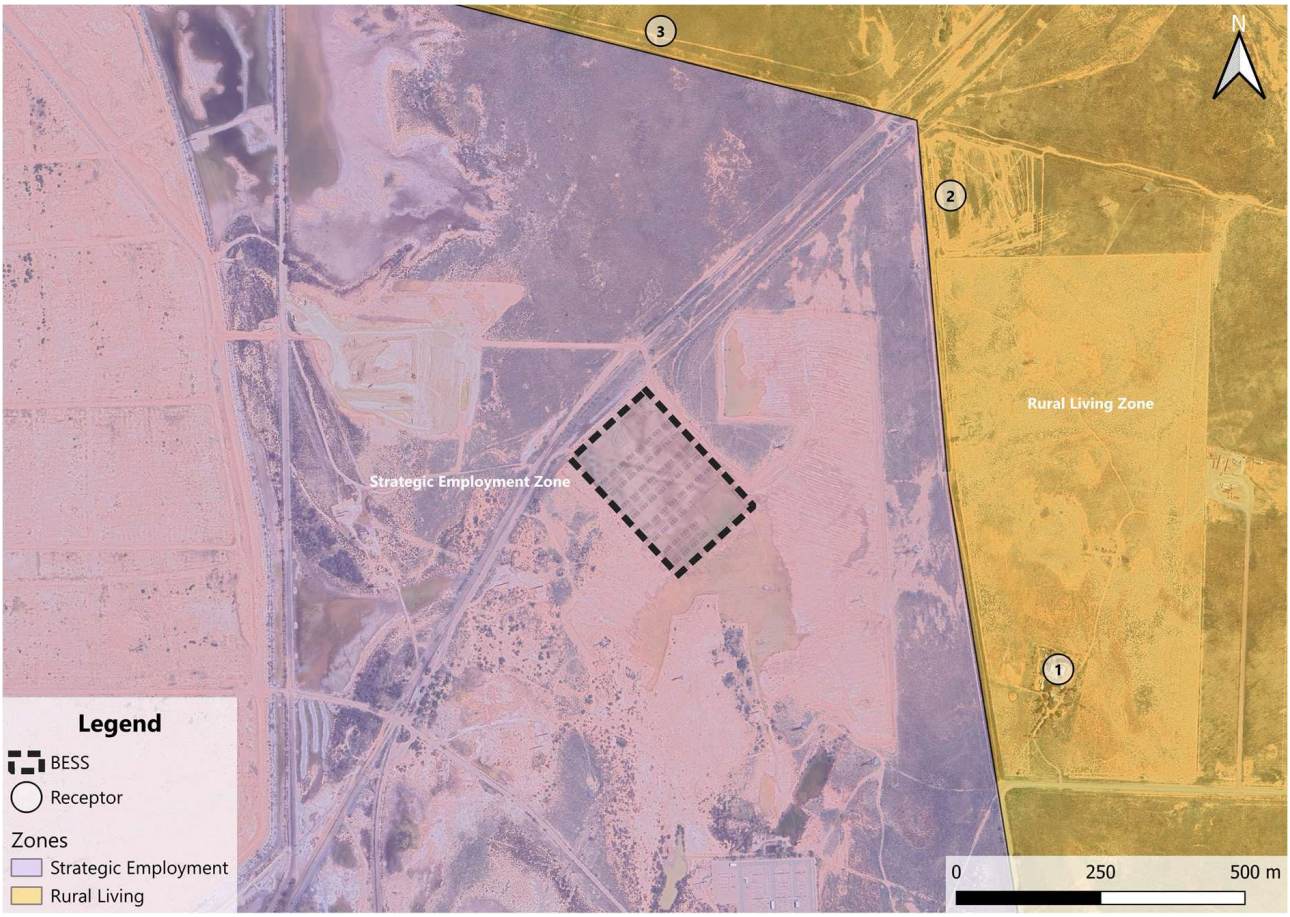
An Environmental Impact Assessment – Noise report has been prepared by Echo Acoustic Consulting in relation to the proposed BESS development (**Attachment E**). The noise assessment:

- Identifies noise levels to objectively assess whether adverse effects on the environment are managed so as to reduce environmental damage as far as reasonably practicable (the noise criteria).
- Identifies the potential environmental receptors, being the surrounding dwellings and vacant land principally allotted for future dwellings (the receptors) predicts the noise levels associated with the operation of the proposed batteries and inverters (the candidate BESS).
- Develops noise control and management strategies (the noise control measures) to achieve the noise criteria.

The noise from a BESS is predominantly associated with the systems used to control the temperature of the batteries and inverters. For a noise source that operates during the day and night, the more onerous noise level during the night is often the most relevant to the assessment, however the day noise level can also be important if the operational noise from the BESS varies at different times during the day and night. It is noted that for an existing receptor in a Rural Living Zone, the Policy also assigns a maximum noise level criterion.

The noise assessment notes that when predicting noise levels for comparison to the Policy, the predicted equivalent noise levels are to be adjusted (increased) where the BESS exhibits “annoying” characteristics (dominant tonal, impulsive, low frequency content, intermittent or modulation characteristics) in comparison to the ambient environment.

Location of the nearest sensitive receivers have been identified in the acoustic assessment as detailed in **Figure 16** and summarised in **Table 5** below.



Source: Environmental Assessment Report – Noise by Echo Acoustic Consulting

Figure 16: Sensitive Receivers

Table 5: Sensitive Receivers Location and Assessment

ID	Locational Details	Current Land Use	Zone	Equivalent Noise Level (L_{Aeq})		Predicted Noise Level – No Noise Control Measure	Predicted Noise Level – Incorporating Noise Control Measure
1	190 Port Paterson Road, Port Paterson Allotment 20, Deposited Plan D90356, Certificate of Title Volume 6194 Folio 990	Detached dwelling	Rural Living	51dB(A)	43dB(A)	69dB(A)	38dB(A)

ID	Locational Details	Current Land Use	Zone	Equivalent Noise Level (L_{Aeq})		Predicted Noise Level – No Noise Control Measure	Predicted Noise Level – Incorporating Noise Control Measure
2	Lot 21 Mary MacKillop Road, Port Paterson Allotment 21, Deposited Plan D90356, Certificate of Title Volume 6107 Folio 545	Vacant land	Rural Living	56dB(A)	48dB(A)	70dB(A)	39dB(A)
3	Lot 50 Augusta Highway, Stirling North	Vacant land	Rural Living	56dB(A)	48dB(A)	68dB(A)	37dB(A)

Noise level predictions included in the noise assessment report, utilise a three (3)-dimensional noise model, inputs (including location, topographical ground contours, location of receptors) and noise modelling inputs (selected battery and inverter system, temperature, humidity and ratio of hard/soft ground).

The candidate battery and inverter system utilised in the noise assessment is:

- 52 Sungrow inverters (SC-6900UD-MV), each with a sound power level up to 100 dB(A)3.
- 208 Sungrow batteries (ST5015UX_2H-UD), each with a sound power level up to 111 dB(A)4.

The above sound power levels are conservative as they represent operation at 100% capacity and without any specific noise control measures. In practice, the batteries and inverters can incorporate noise control measures and operate with temperature control systems at reduced operating capacity (especially during the night). As stated in the acoustic assessment, the BESS will easily satisfy the noise criteria and the environmental objectives where:

- Each of the 52 inverters achieve a maximum sound power level of 86 dB(A).
- Each of the 208 batteries achieve a maximum sound power level of 84 dB(A).
- The BESS is designed and operated such that it does not generate dominant noise characteristics at the receptors.

The acoustic assessment determines the noise from the operation of the BESS can achieve the requirements of the Environment Protection (Commercial and Industrial Noise) Policy 2023 and the HRE Act at all environmental receptors subject to the incorporation of reasonable and practicable noise control measures available from the manufacturer of the candidate BESS.

4.7.2 Air Quality

Air quality in South Australia is generally good but varies between rural and urban areas and across different regions.

Air quality is regulated by the EPA through monitoring, policy development and enforcement under the *Environment Protection Act 1993* and the Environment Protection (Air Quality) Policy 2016.

Construction activities would involve clearing of vegetation and movement of plant and equipment to and from the site, creating potential for dust to impact adjoining land uses, particularly sensitive users such as the occupiers of the rural residential properties in the locality.

It is understood that ash storage area of the former power station, maybe the source of some of the dust events in the locality. This ash storage area west of the proposed development site and linked to surface degradation. Whilst outside of the development site, this highlights the importance of appropriate dust controls and minimising exposed surfaces.

During the operational phase, malfunction of equipment that results in a fire may expel volatile organic compounds into the air. Maintenance of equipment and installation of appropriate fire management practices are key elements of the Fire and Emergency Management Plan and Operational Management Plan mitigate impacts of smoke/fumes to occupants of adjoining dwellings.

4.7.3 Visual Amenity

The visual amenity of a landscape or location is derived from a combination of the character and sensitivity of a landscape or view, and the effect of a development on its scenic appeal. The absence of urban development and major infrastructure generally results in a higher quality of landscape character.

The Planning and Design Code also defines a Scenic Quality, Significant Landscape Protection Overlay which covers parts of the Flinders Ranges, Clare Valley and Barossa Valley, areas near Port Lincoln, Callington, Mount Compass, Victor Harbor and Port Elliot, and much of the coast of Kangaroo Island. The development site is not impacted by either of these overlays.

A detailed visual assessment has been undertaken of the development site and locality by Landskap (refer **Attachment D**). The visual assessment notes that the topography of the area is flat to gently undulating, allowing broad panoramic views. To the east, the southern Flinders Ranges form a dominant backdrop at the broader landscape scale. To the west, views extend across Spencer Gulf towards the distant ranges of the Eyre Peninsula. The Augusta Highway, elevated above the surrounding land, provides open views across Port Paterson. Local roads, including Northern Power Station Road and Port Paterson Road, also provide open viewing corridors. While views within the local area are generally open, they are visually influenced by infrastructure.

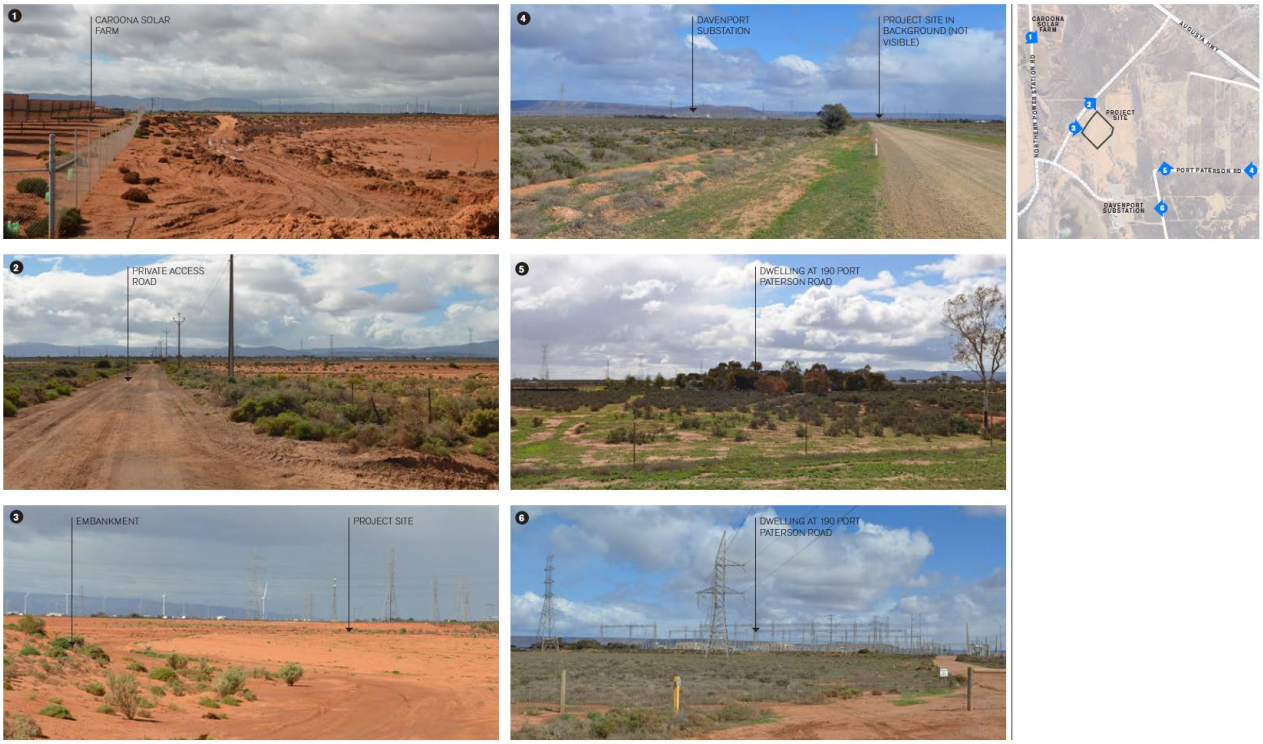
The visual assessment describes the development site as being located within a predominantly infrastructure, agriculture and rural living setting, approximately 10km south-east of Port Augusta. The local character is strongly influenced by the following large-scale energy and agricultural infrastructure:

- Davenport Substation.
- Sundrop Farms tower and solar farm.
- Caroona Solar Farm.
- Extensive high-voltage transmission lines.
- Wind farms and solar farms located further to the east.
- Rural dwellings and outbuilding are concentrated to the east of the site, along Port Paterson Road and Wagner Road. Dwellings are typically detached and located on large allotments.
- Vegetation within the local area is sparse, comprising low chenopod shrubland and scattered small trees, with planting largely confined to road corridors and adjacent rural dwellings.
- The overall landscape character is highly modified, reflecting extensive clearance and earthworks associated with infrastructure, rural living and agricultural activity.

Land use in the local area comprises a mix of infrastructure, agricultural activity, and dispersed rural living dwellings. Dwellings are primarily located to the east of the site along Port Paterson Road and Warner Road. Building styles within the local area are varied, with the built form characterised by low-density, single-storey detached dwellings with associated outbuildings, rainwater tanks, and farm infrastructure.

Landskap note that the local character is heavily influenced by the prominence of infrastructure, including the high-voltage transmission lines, the Davenport Substation, Sundrop Farms, Caroona Solar Farm and wind farms to the east, all of which form dominant visual elements within the landscape. The sparse vegetation and absence of significant tree cover contribute to open and largely uninterrupted views, which increases the visual prominence of these infrastructure elements. These landscape characteristics are illustrated in the following photographs included in the visual assessment report.

LOCAL AREA CHARACTER

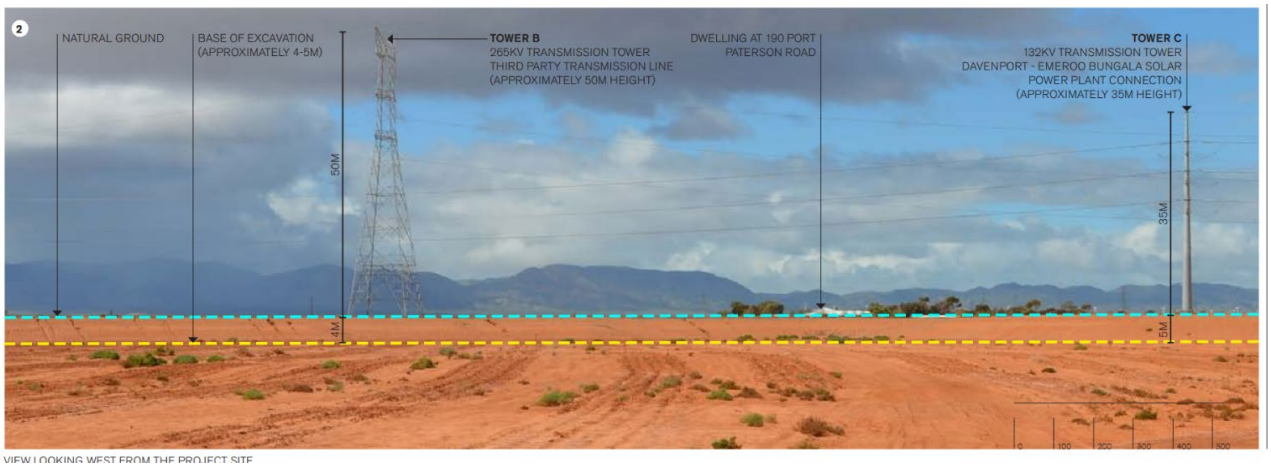


Source: Visual Assessment Report by Landskap

Figure 17: Photographs of Local Character

Landskap undertook a visual impact assessment of the proposed Northern Battery, which included several viewpoints which are illustrated in the figures below. Following the assessment Landskap concluded that the proposed BESS development will have a low visual impact on the local area that will lessen over time. The local area already has a strong infrastructure focus, which Landskap viewed as supporting the proposed facility and reduces its overall visual impact, that is most notably due to the following factors:

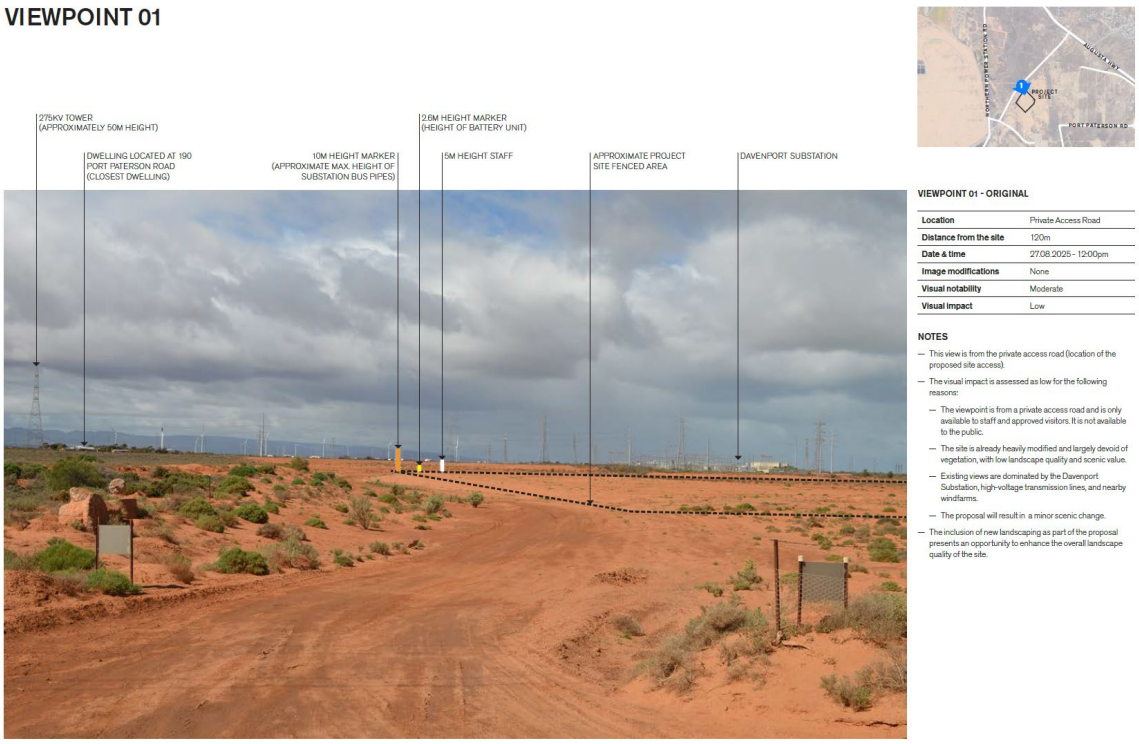
- The site is heavily modified and largely devoid of vegetation, with low landscape quality and scenic value.
- The local area is visually cluttered and dominated by overhead high-voltage transmission lines, the Davenport Substation, Sundrop Farms, and infrastructure associated with rural dwellings.
- The proposal is sited within a lower lying excavated area, resulting in very low visibility.
- Visibility from publicly accessible viewpoints will be very limited, restricted to a short section of Port Paterson Road and the Princes Highway.
- The surrounding topography is relatively flat, further limiting the visual scale of the facility within the local landscape, and minimising possible sky lining.
- Landscaping around the perimeter of the facility will assist in screening views from adjacent roads and private allotments.



Source: Visual Assessment Report by Landskap

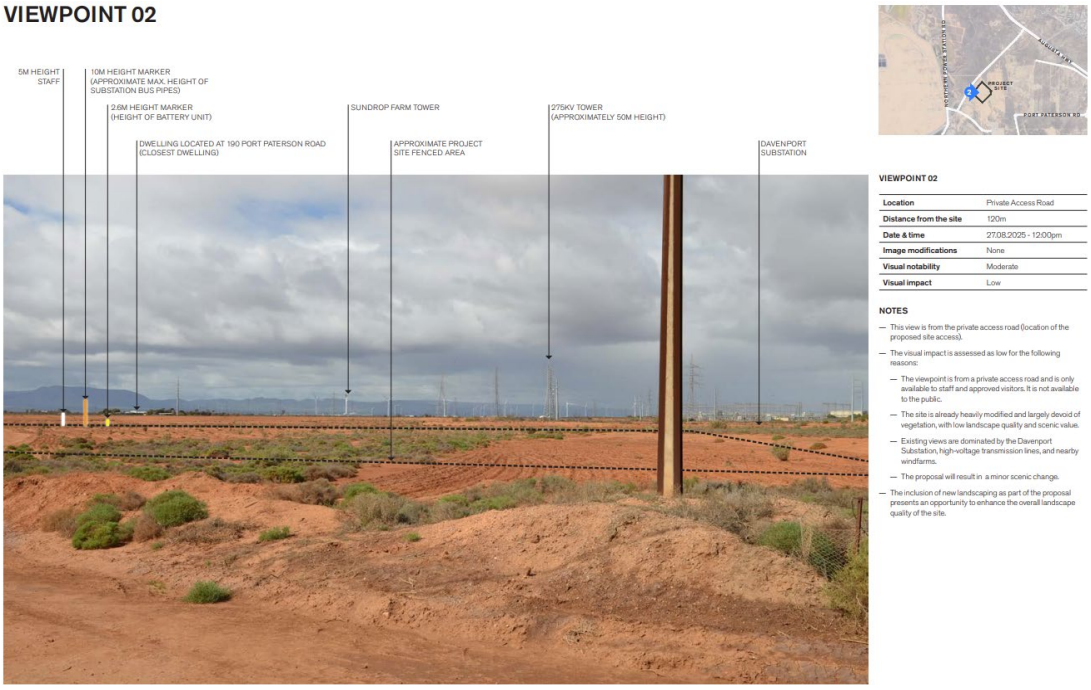
Figure 18: Photograph illustrating existing ground levels.

As illustrated on **Figure 18** above the development is located in an existing excavated area of the site, which is estimated to be approximately 4-5 metres below natural ground level. Location of the batteries and inverters within this excavated area means they are unlikely to be visible from the nearest residential dwellings to the east. Elements of the substation maybe visible at a distance, however these would be viewed as part of the existing electricity infrastructure within the locality. The Landskap Visual Assessment report notes that adjacent Port Paterson Road (within the Rural Living area) the visual impact is assessed as neglible/low given the distance to the project site; the siting within an excavated area (which results in very low visibility); the presence of existing visual clutter from high voltage transmission lines, the Davenport substation and Caroona solar farm).



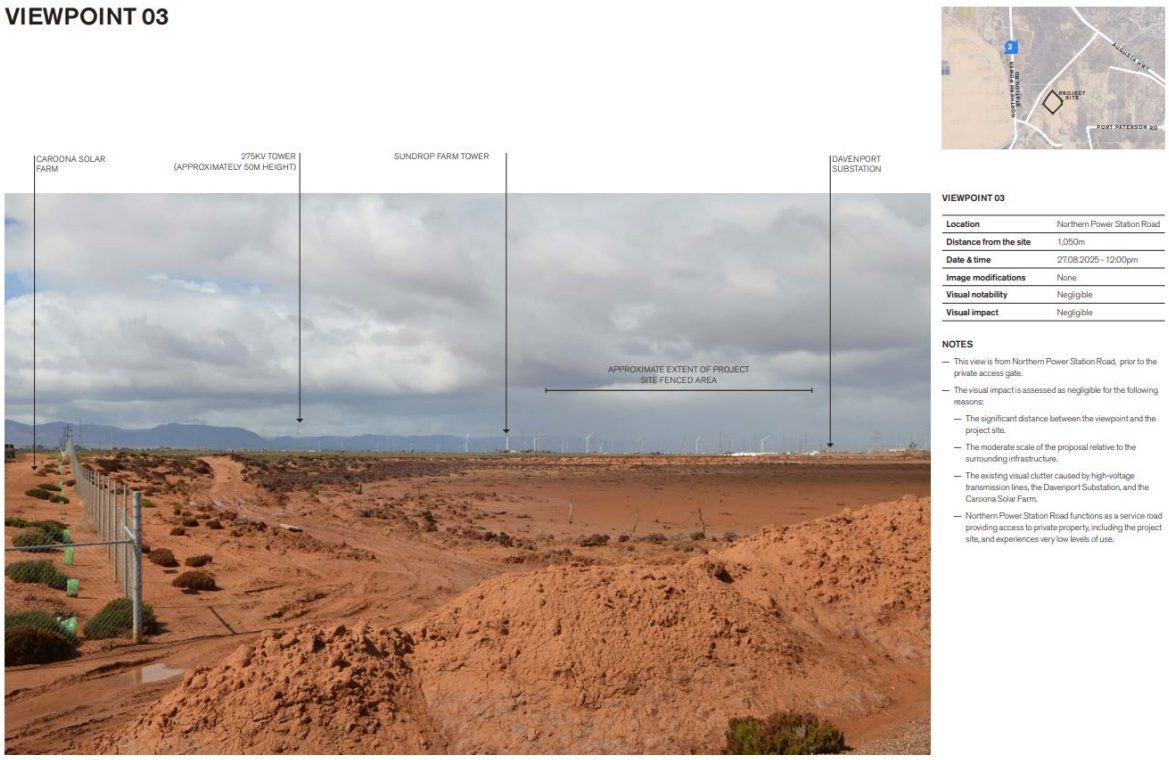
Source: Visual Assessment Report by Landskap

Figure 19: Viewpoint Assessment from Internal Driveway Proposed to Service the Development Site



Source: Visual Assessment Report by Landskap

Figure 20: Viewpoint Assessment from Internal Driveway Adjacent The Development Site



Source: Visual Assessment Report by Landskap

Figure 21: Viewpoint Assessment from Northern Power Station Road

Source: Visual Assessment Report by Landskap

Figure 22: Viewpoint Assessment from Port Paterson Road

Source: Visual Assessment Report by Landskap

Figure 23: Viewpoint Assessment from Augusta Highway

Landscaping is proposed within the development site, as detailed on the plans and shown in the Landskap visual assessment, which over time will further reduce visual impacts while providing tangible landscape and biodiversity benefits.

4.7.4 Setback Assessment under the Planning, Development and Infrastructure Act 2016

An assessment of visual amenity impacts on the receiving environment, particularly in relation to boundary setbacks, has been undertaken by MasterPlan and Landskap. Setback distances from boundaries and sensitive receivers (residential dwellings) are one mitigation tool to reduce the potential impacts of visual amenity on the local community.

The site of the development is located within the Strategic Employment Zone of the Planning and Design Code. Performance Outcome (PO) 1.1 of the Strategic Employment Zone identifies that development anticipated in the zone is *"...for a range of higher-impacting land uses including general industry, warehouse, transport distribution and the like"*, whilst considering the *"...interface with another zone that would be sensitive to impact-generating uses"*. The nearest zone which contains sensitive receivers is the Rural Living Zone, generally to the east of the site.

PO 1.2 of the Strategic Employment Zone seeks to mitigate adverse amenity on uses within the adjoining zone; this includes visual amenity. Specifically, PO 1.2 refers to *"development on land adjacent to another zone"*. As illustrated on Figure 11, the boundary between the Strategic Employment Zone and the Rural Living Zone is Port Paterson Road. The nearest associated piece of infrastructure to Port Paterson Road and the boundary of the Rural Living Zone is the underground transmission line (which will be part of a connection undertaken by ElectraNet), which does not have a visual impact and is approximately 130m at its nearest point to the zone boundary. Furthermore, "adjacent land" has a specific interpretation pursuant to the *Planning, Development and Infrastructure Act 2016*, and means land that is no more than 60m from the other land. The area which is proposed to contain the BESS, substation and other associated infrastructure is appropriately 350m from the zone boundary.

Whilst the site of the development is not technically on "adjacent land", the assessment undertaken by Landskap considers the visual impact on the nearest sensitive receiver, being the dwelling at 190 Port Paterson Road within the Rural Living Zone. The visual assessment states that *"…the closest residence, at 190 Port Paterson Road, may have limited visibility of the proposed substation buspipes, although the majority of the facility, including battery units and fencing, will be screened by its siting. Given the surrounding infrastructure focused land uses, the substation and buspipes are not anticipated to result in an unacceptable visual change".*

The Strategic Employment Zone does contain policy to guide built form and character; however, this policy generally relates to setback of buildings from street frontages. For sites where *"…there is no existing buildings on either of the abutting sites sharing the same street frontage"* (PO and DPF 3.3) the setback for buildings less than 6m in height is 8m and for buildings exceeding 6m the guiding setback is 10m to the primary street frontage. Setbacks to Port Paterson Road exceed 350m.

PO's 4.1 and 4.2 (and associated DPF's) provide guidance for interface height of buildings on residential development within a neighbourhood-type zone (which includes a Rural Living Zone). The setback of the infrastructure within the development site far exceeds the boundary setbacks sought to mitigate visual impact and any potential overshadowing.

In addition to the policies contained in the Strategic Employment Zone, the General Development Policies - Infrastructure and Renewal Energy Facilities of the Planning and Design Code incorporate specific policies to guide siting and design of renewable energy facilities.

Infrastructure and Renewal Energy Facilities
DO 1 Efficient provision of infrastructure networks and services, renewable energy facilities and ancillary development in a manner that minimises hazard, is environmentally and culturally sensitive and manages adverse visual impacts on natural and rural landscapes and residential amenity.

In relation to the Desired Outcome (DO) 1 of the Infrastructure and Renewable Energy Facilities policies, the proposed development provides a new and highly efficient renewable energy storage facility that will assist in providing electricity to the national grid during peak demand, thus assisting with the stability of the South Australian electricity network. Inclusion of a new form of infrastructure in the locality will result in some visual impacts; however, the locality is one that incorporates a range of infrastructure such as the Davenport Substation and large-scale solar farms, wind turbines and overhead transmission lines and is not one of high natural landscape value.

The proposed development is adequately separated from the nearest townships of Stirling North and Port Augusta, to not adversely impact on the residential amenity of people resident in those townships. A number of non-involved dwellings have been identified within 2km of the subject land. The most relevant policies of the Infrastructure and Renewable Energy Facilities policies of the Planning and Design Code relating to siting are:

Infrastructure and Renewal Energy Facilities	
General	
PO 1.1	Development is located and designed to minimise hazard or nuisance to adjacent development and land uses.
Visual Amenity	
PO 2.1	The visual impact of above-ground infrastructure networks and services (excluding high voltage transmission lines), renewable energy facilities (excluding wind farms), energy storage facilities and ancillary development is minimised from townships, scenic routes and public roads by: (a) utilising features of the natural landscape to obscure views where practicable (b) siting development below ridgelines where practicable (c) avoiding visually sensitive and significant landscapes (d) using materials and finishes with low-reflectivity and colours that complement the surroundings. (e) using existing vegetation to screen buildings (f) incorporating landscaping or landscaped mounding around the perimeter of a site and between adjacent allotments accommodating or zoned to primarily accommodate sensitive receivers.
PO 2.2	Pumping stations, battery storage facilities, maintenance sheds and other ancillary structures incorporate vegetation buffers to reduce adverse visual impacts on adjacent land.
PO 2.3	Surfaces exposed by earthworks associated with the installation of storage facilities, pipework, penstock, substations and other ancillary plant are reinstated and revegetated to reduce adverse visual impacts on adjacent land.

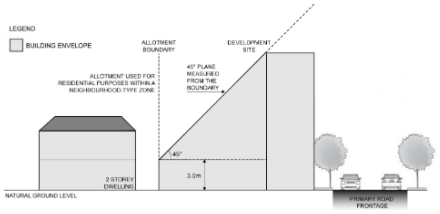
The proposed Northern Battery and ancillary infrastructure is compatible with the existing built form within the locality, which is visually infrastructure based, as it will:

- Is consistent with the other renewable facilities and electricity infrastructure within the locality, including solar farms, wind turbines and overhead transmission lines;
- Is practical given the adjacent Davenport Substation and existing transmission line on site; and
- Provides for appropriate setbacks from the site boundaries and will incorporate suitable landscaping to minimise the visual impact from the adjoining sites.

Table 6 below provides a summary of the relevant setback provisions under the Planning and Design Code under the PDI Act.

Table 6: Setback Distances – Planning and Design Code under the PDI Act

Associated Infrastructure Facility (BESS)	
Development includes landscape design to achieve high visual amenity.	Zones and Subzones, Strategic Employment Zone, Performance Outcome (PO) 3.1 – Built Form and Character *Development includes distinctive building, landscape and streetscape design to achieve high visual and environmental amenity particularly along arterial roads, zone boundaries and public open spaces.*
Visual impact of buildings (which would include BESS and ancillary infrastructure) to sensitive receivers include design elements to add to visual interest.	Zones and Subzones, Strategic Employment Zone, Performance Outcome (PO) 3.2 – Built Form and Character *Building facades facing a boundary of a zone primarily intended to accommodate sensitive receivers, a public road, or public open space incorporate design elements to add visual interest by considering the following:* *(a) using a variety of building finishes* *(b) avoiding elevations that consist solely of metal cladding* *(c) using materials with a low reflectivity* (d) *using techniques to add visual interest and reduce large expanses of blank walls including modulation and incorporation of offices and showrooms along elevations visible to a public road.*
Buildings are appropriately setback from street frontages.	Zones and Subzones, Strategic Employment Zone, Performance Outcome (PO) 3.3 and 3.4 – Built Form and Character *Buildings are set back from the primary street boundary to contribute to a consistent streetscape.* *Buildings are set back from secondary street boundaries to accommodate the provision of landscaping between buildings and the road to enhance the appearance of land and buildings when viewed from the street.*

Associated Infrastructure Facility (BESS)	
Building mitigates visual impacts.	Zones and Subzones, Strategic Employment Zone, Performance Outcome (PO) 4.1 & DPF 4.1 – Interface Height *Buildings mitigate visual impacts of building massing on residential development within a neighbourhood-type zone.* *Buildings are constructed within a building envelope provided by a 45 degree plane measured from a height of 3m above natural ground level at the boundary of an allotment used for residential purposes within a neighbourhood-type zone as shown in the following diagram (except where this boundary is a southern boundary or where this boundary is the street boundary):* 
Corner sites address both street frontages to reinforce streetscape patterns and setbacks of adjoining built form.	General Development Policies, Design, Performance Outcome (PO) 1.1 [all development (External Appearance)] *Buildings reinforce corners through changes in setback, articulation, materials, colour and massing (including height, width, bulk, roof form and slope).*
Amenity impacts to sensitive receivers (i.e., residents and tourists) is reduced through appropriate separation.	General Development Policies, Infrastructure and Renewable Energy Facilities, Performance Outcome (PO) 1.1 (General) *Development is located and designed to minimise hazards or nuisance to adjacent development and land uses.*
Risks from fire are minimised through appropriate separation from sensitive receivers and frequently visited public places.	General Development Policies, Infrastructure and Renewable Energy Facilities, Performance Outcome (PO) 4.2 (Hazard Management) *Facilities for energy generation, power storage and transmission are separated as far as practicable from dwellings, tourist accommodation and frequently visited public places (such as viewing platforms / lookouts) to reduce risks to public safety from fire or equipment malfunction.*
Visual impact of overhead transmission infrastructure is minimised by locating renewable energy infrastructure within proximity of existing transmission infrastructure.	General Development Policies, Infrastructure and Renewable Energy Facilities, Performance Outcome (PO) 7.1 (Renewable Energy Facilities) *Renewable energy facilities are located as close as practicable to existing transmission infrastructure to facilitate connections and minimise environmental impacts as a result of extending transmission infrastructure.*

The visual assessment by Landskap concludes that 'the proposal "*will have a low visual impact on the local area that will lessen over time*". The local area already has a strong infrastructure focus, which supports the proposed facility and reduces its overall visual impact. In combination, the setbacks and landscaping proposed will contribute positively to the landscape amenity of the locality, which is heavily modified by existing infrastructure.

4.8 Socio-Economic

Port Augusta City Council is part of the Upper Spencer Gulf region. "*The Upper Spencer Gulf region is a significant contributor to South Australia's economic prosperity and key to the state's efforts to reduce carbon emissions. Boasting world-class wind and solar resources, along with abundant deposits of copper, magnetite, and other critical minerals vital for industrial decarbonisation, the region is a key focus for investment in Australia's sustainable future. By becoming a central hub for sustainable industries, the Upper Spencer Gulf will help South Australia's transition to a cleaner, more innovative, liveable and diverse economy*" (Far North Regional Plan, SA Government, January 2026).

The project will result in economic benefits at State, regional and local levels. The proposed development is directly aligned with the strategic intent of the South Australian Government to support and encourage development of renewable energy projects. The Proponent is committed to supporting the regional and local communities by various means, including direct employment opportunities, purchasing goods and services from local business and implementation of a community benefit program.

Total investment for the proposed Northern Battery project at Port Paterson is estimated to be approximately $155 million. The Northern Battery project is proposed to be constructed within two (2) years of obtaining the Associated Infrastructure Licence. Construction is anticipated over an 18-month period, with the project being commissioned in the second half of 2028. The BESS will have an operation lifespan of 20 years, after which it may be decommissioned or refurbished, depending on market, legislative and landowner considerations.

4.8.1 Social Profile

Key features of Port Augusta City Council[7] area include:

- Land area of 1,196 square kilometres;
- Population of 14,420 (ABS 2023);
- 12% of population born overseas (ABS 2021);
- 20.4% indigenous population;
- Median age of population is 38 years;
- 7,785 rateable properties;
- 650 local businesses; and

[7] Source: Port Augusta City Council Strategic Directions 2025

- $870.65 million Gross Regional Product.

The Far North Regional Plan maps the state government's long-term planning vision for the region to 2051 and beyond. Port Augusta is a principal service centre for the region, which covers the Flinders Ranges and the states far north. The region comprises 26,714 people, of which more than 50% are located within Port Augusta. The Regional Plan projects a population of 27, 000 people in 2051 for the region, with the need for 720 new homes in the same time period.

Port Augusta City Council's goal is to capitalise on its role as a regional hub and pursue a thriving economy. Council identifies that its role will be one of an enabler and advocate for investment. Council has been active paricipants in the state's first Upper Spencer Gulf Workforce Strategy, developed with an aim to ensure that employment opportunities in traditional and emerging industries (which includes renewable energy) are accessible to a wide sector of the community.

The Proponent has engaged with Council regarding the Northern Battery project and will continue to build a working relationship as the project progresses given the significant investment proposed and the demand for labour, services and accommodation are further finalised.

4.8.2 Generation of Employment

The Northern Battery project is expected to generate employment for up to 120 persons during construction, directly boosting job opportunities and capacity building of a skilled workforce around the Upper Spencer Gulf region.

During the operational phase, employment would involve routine maintenance and administration. The facility would be operated and monitored remotely, however it is anticipated that there would continue to be direct and indirect employment in the vicinity of 1-2 FTE within the region.

4.8.3 Economic Benefits

The project will also have indirect economic benefits for businesses in nearby centres through sourcing of local products, materials and services, including construction supplies and materials, accommodation, food and fuel. The operational employment needs will be for routine and specialised maintenance tasks.

4.8.4 Workers Accommodation

A shortage of affordable accommodation is a challenge within the Council area, along with the region more widely, particularly in towns which are experiencing high workforce demand associated with infrastructure projects. The Proponents will actively work with Council to identify opportunities for temporary accommodation options to minimise stress on the existing housing market.

Provision of accommodation for workers for the project is anticipated to be serviced by a variety of accommodation forms, including rental of existing housing stock, utilisation of existing short-term accommodation and/or the establishment of dedicated workers accommodation camp(s). Provision of accommodation within the broader region would be explored and may involve utilisation of accommodation in other towns in the Upper Spencer Gulf region.

The option to establish a workers accommodation camp either on the subject land, on an adjacent site or another remote site is being considered. The proponent of the project owns land within the locality which could be utilised (subject to relevant approvals) to establish a temporary workers accommodation facility.

It is recognised that there are several renewable energy projects which are proposed and/or have approval within the Mid-North and Far-North of the state. Whilst the construction timeframes for each of the projects are unknown, there is a potential for some overlap of projects, particularly as many of larger projects have construction timeframes over many years. The proponents of the Northern Battery project consider the development of other infrastructure projects in the region provides an opportunity to partner with other project developers in the provision of temporary workers accommodation.

4.8.5 Electricity Grid Stabilisation

The Northern Battery project aligns with the strategic policy of the State Government to stablise the electricity grid, manage the intermittency of high renewable energy (wind/solar), provide emergency backup, lower costs, and support the goal of 100% renewable energy by providing dispatchable power, and reducing emissions.

4.8.6 Community Benefit Program

The Proponents have announced a community benefit fund of $40,000 per annum to provide assistance to a variety of local projects. This initial funding amount relates to the current development phase of the project and will increase as the project progresses through to construction and operation. The establishment, management and application of the community fund will be the subject of continued discussions with Port Augusta City Council and community members regarding long term community benefit sharing.

4.8.7 Relationship with First Nations Communities

The Proponents are committed to building respectful, enduring and mutually beneficial partnerships with First Nations peoples across Australia, working with First Nations peoples as empowered participants and partners in Australia's clean energy future.

AMPYR and Green Gold Energy have completed initial site surveys and due diligence analysis and are now working with Traditional Owners to undertake a full cultural heritage assessment and develop a joint Cultural Heritage Management Plan.

The Proponents have also commenced discussions with Traditional Owners, the Nukunu people, to develop a meaningful partnership for delivery of the project. This includes a potential equity partnership, building off AMPYR's award-winning First Nations equity partnership for the Bulabul Battery in Wellington NSW, to provide intergenerational benefits through a long-term equity revenue stream.

The Proponents will also work with partners and stakeholders to support First Nations jobs, training and business opportunities through the project.

5 Environmental Impact Assessment

This section summarises the methodology and results of the environmental impact assessment [8] for the construction, operation, maintenance and decommissioning of a Battery Energy Storage System.

5.1 Methodology

The impact assessment method has been developed in accordance with the Environmental Impact Assessment Criteria published under the HRE Act (DEM, 2024), using guidance provided in the Environmental Impact Assessment Criteria Guideline (DEM, 2024).

The impact assessment was undertaken using the following steps:

- Identifying environmental elements that could be impacted by the proposed regulated activities (Criteria 1).
- Identifying the potential impact events that could impact elements of the environment during the construction, operation and decommissioning phases (Criteria 2).
- Confirming the potential of impact events to occur (Criteria 3).
- Identifying relevant control and management measures for each potential impact event, needed to eliminate or otherwise reduce any potential environmental harm to as low as reasonably achievable (part Criteria 4).
- Identifying uncertainties and assumptions associated with the effectiveness of control and management strategies (part Criteria 4).
- Assessing environmental significance of each potential impact event, based on the sensitivity of the receiving environment and the magnitude of potential impacts, considering factors such as the frequency, duration, extent and severity of impacts as well as potential cumulative impacts (Criteria 5).
- Developing environmental objectives and assessment criteria for all potential impacts determined for the elements of the environment. These objectives are carried through to the SEO (Criteria 6).

The results of the impact assessment were then captured in the impact assessment summary tables provided in **Section 5.2**.

The steps followed in the impact assessment are described **below**.

[8] Environmental Impact Assessment references and quotes from Department for Energy and Mining 2025. *Environmental Impact Report, Renewable Energy Feasibility Permit Activities in South Australia,* Regulation and Compliance Division. Department for Energy and Mining, South Australia, Adelaide.

5.1.1 Identifying Environmental Elements

Elements of the environment that have the potential to be impacted by the regulated activities were first identified. All phases of the regulated activities including construction, operation and closure were considered.

The following elements of the environment were identified and considered in this environmental impact assessment:

- Flora and fauna.
- Surface water.
- Groundwater.
- Air quality.
- Noise and vibration.
- Soil and land quality.
- Visual amenity.
- Existing land use.
- Aboriginal and non-Aboriginal heritage.
- Public health and safety.
- Social environment (including land use and infrastructure).

5.1.2 Identifying Potential Impact Events

Elements of the environment may be impacted in different ways by the regulated activities. All potential impacts from the regulated activities were identified and defined as potential impact events.

Each potential impact event was characterised by:

- The source of impact, defined as the activities associated with the proposed operation that could reasonably be expected to negatively impact a receptor for the environmental element (considering construction, operation or decommissioning and rehabilitation stages);
- The pathway of impact, defined as the mechanism by which a proposed activity may interfere with environmental elements; and
- The environmental receptor of impact, defined as the component of the environmental element that may be detrimentally affected by the proposed activity in the absence of control measures.

Any uncertainties in the identification and description of the sources, pathways and environmental receptors as a result of assumptions or knowledge gaps were identified for each potential impact event.

5.1.3 Identifying Relevant Control and Management Measures

Measures to control and manage potential impact events were identified. The hierarchy of controls approach was adopted consistently with the Environmental Impact Assessment Criteria Guideline (DEM, 2024). Identification of control and management measures considered the following priority of order:

- **Elimination** measures that eliminate the source of a potential impact event, preventing the impact from occurring.
- **Substitution** measures that replace the material or process at the source of a potential impact event with a less hazardous one, significantly reducing the likelihood of a potential impact event to occur.
- **Design and engineering (physical) control** measures that act to separate the source from the pathway and environmental receptor to either:
  - avoid or reduce the likelihood of a potential impact event to occur, or
  - avoid or reduce the consequences of an impact event occurring.
- **Management system control** measures that implement a procedure to manage the activity at the source of a potential impact event to either:
  - avoid or reduce the likelihood of a potential impact event to occur, or
  - avoid or reduce the consequences of an impact event occurring.

5.1.4 Identifying Uncertainties and Assumptions

Uncertainties and assumptions related to the likely effectiveness of the proposed control and management strategies were identified. This included the assumptions underlying any analysis or modelling undertaken to assess potential impacts and effectiveness of proposed measures.

5.1.5 Assessing environmental significance

The level of significance of potential impacts was assessed considering the following factors outlined in the Environmental Impact Assessment Criteria Guideline (DEM, 2024):

- The level to which a potential impact can be avoided through elimination (prevention).
- The estimated frequency of the potential impact occurring.
- The anticipated duration of the potential impact.
- The extent of the potential impact.
- The severity of the potential impact.
- The cumulative effects (if any) of the potential impact when considered in conjunction with other impacts on the same receptor.
- The sensitivity of the receiving environment.

Each of the factors required to undertake the significance assessment has been defined in **Table 7**.

Table 7: Definitions used to Assess Significance of Potential Impacts

Factor	Description
Avoidance	Yes – Impacts can be avoided through the identified controls
	No – Impact cannot be avoided through the identified controls
Frequency	High: Impacts occur frequently or are present throughout the life of the project
	Moderate: Impacts occur several times during the lifespan of activities
	Low: Impacts occur infrequently
	Rare: Impacts not expected or only occur in exceptional circumstances
Duration	Permanent: Impacts to the environment are permanent and non-reversible
	Long lasting: Impact to the environment persist for a period of years but are reversible
	Short term: impacts of less than a year duration and are reversible
Extent	Widespread: Impacts occur on a regional scale
	Moderate: Impacts extend beyond the project site and immediate surrounds without occurring on a regional scale
	Localised: Impacts are limited to the project site and immediate surrounds
Severity	High: Statutory reference values or environmental quality standards are exceeded
	Moderate: Statutory reference values or environmental quality standards are not exceeded but the impact results in an increase in the occurring content/level
	Low: imperceptible or indistinguishable from natural background levels
Cumulative	Yes: Receptors are already impacted by similar activities
	Possible: Receptors could be impacted by similar activities depending on the site
	No: Receptors are not already impacted by similar activities
Sensitivity	Refer **Table 8**

The criteria in **Tables 8, 9 and 10** were used to determine the outcome of the significance assessment, i.e., the level of significance. These criteria were developed to broadly encompass the factors listed in **Table 7** above.

The category of impact and brief commentary on the factors considered are provided in the impact assessment summary tables in **Section 5.2**.

Impacts were considered acceptable if they were in the 'Negligible' or 'Low' category, while impacts in the 'Moderate' category were generally considered acceptable if they were as low as reasonably practicable (ALARP) following the application of mitigation measures. 'High' and 'Major' impacts were considered unacceptable necessitating redesign of the regulated activities.

Brief commentary on whether the impacts are ALARP for 'Moderate' impacts is provided in the impact assessment summary tables in **Section 5.2**.

The environmental significance assessment considers any proposed controls or management measures to determine the outcome of the significance assessment.

Table 8: Criteria for sensitivity

Sensitivity	Description
High	• The environmental value is protected as a result of Australia's international commitments. • The environmental value holds a statutory protection (national parks, etc). • The environmental value is intact. • The environmental value is unique to the environment in which it occurs. It is isolated to the affected system/area which is poorly represented in the region, territory, country or the world. • It has not been exposed to threatening processes, or they have not had a noticeable impact on the integrity of the environmental value.
Moderate	• The environmental value is recorded as being important at a regional or local level. • The environmental value is in a moderate to good condition despite it being exposed to threatening processes. • It is relatively well represented in the systems/areas in which it occurs but its abundance and distribution are limited by threatening processes. • Threatening processes have reduced its resilience to change.
Low	• The environmental value is not listed on any recognised or statutory register. • It is in a poor to moderate condition as a result of threatening processes. • It is abundant and widely distributed or representative examples exists throughout the host systems/areas. • There is no detectable response to change or change does not result in further degradation of the environmental value.

Table 9: Criteria for Magnitude

Magnitude	Description
High	• An impact that is widespread and/or is permanent or long-lasting. • An impact that occurs frequently. • Statutory reference values or environmental quality standards are exceeded.

Magnitude	Description
Moderate	• An impact that has a relatively large scope or is long-lasting. • An impact that occurs several times during the lifespan of activities. • Statutory reference values or environmental quality standards are not exceeded but the impact results in an increase in the occurring content/level.
Low	• An impact with no or little effects on the receptor. • The effects have a limited scope and are short-term. • An impact that is infrequent. • The effect is deemed to be imperceptible or indistinguishable from natural background levels.

The significance of potential impacts was assessed, based on a consideration of the sensitivity of the receiving environment and the magnitude of the impact. The matrix below shows how the significance of an impact is determined.

Table 10: Significance Assessment Matrix

	Magnitude of Impact		
Sensitivity of Environmental Value	**High**	**Moderate**	**Low**
High	Major	High	Moderate
Moderate	High	Moderate	Low
Low	Moderate	Low	Negligible

5.1.6 Developing Environmental Objectives and Assessment Criteria

Environmental objectives and assessment criteria were developed for all potential impacts determined through the environmental impact assessment process. Objectives were developed to align with the elements of the environment. These objectives are defined in the impact assessment summary tables provided in **Section 5.2** and are carried through to the SEO.

Leading performance criteria were also developed for impact events that rely significantly on a control strategy to reduce the potential environmental impact.

5.2 Environmental Impact Assessment Summary Tables

The results of the environmental impact assessment for each impact event are captured in the summary tables provided in the following sections. Brief discussion of impact significance is provided for each environmental element before the summary tables.

Potential impacts of the proposed regulated activities which are identified as negligible or low, do not contain additional commentary other than that in the summary tables. Impacts which are in the 'Moderate' category are discussed in terms of the application of mitigation measures and were generally considered acceptable if they were as low as reasonably practicable (ALARP).

5.2.1 Air Quality

5.2.1.1 Context

Table 11 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to air quality.

Table 11: Context Summary for Air Quality

Applicable legislation	Applicable non-legislated standards	Views of affected parties [9]	Environmental receptor
• *Environment Protection Act 1993.* • Environment Protection (Air Quality) Policy 2016. • *Local Nuisance and Litter Control Act 2016.* • *Fire and Emergency Services Act 2005.* • *Public Health Act 2011.* • *Work Health and Safety Act 2012.*	• National Environment Protection (Ambient Air Quality) Measure 2021. • AS1940 - The storage and handling of flammable and combustible liquids. • South Australian Country Fire Service – Design Check List – Renewable Energy Facilities (Version 1)	Concerns expressed by some local residents regarding generation of dust, as they currently experience fine dust in the air. Comments were received from members of the community, particularly those in the locality, that were pleased that vehicle movements would be via Northern Power Station Road and not roads within the rural living area. The SA CFS Design Check List seeks the Proponent effectively identifies and manages hazards and risks specific to the siting, infrastructure, layout, and operations at the facility.	• Local community (residents and landowners and occupiers). • Visitors. • Road users. • Flora. • Fauna.

5.2.1.2 Impact Events

The potential impact events relevant to air quality include:

- Dust generated by vehicles on local roads and construction activities results in deterioration of air quality at sensitive receivers (ID# AQ1).
- Off gassing – fire caused by failure of equipment (ID# AQ2).

5.2.1.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Low** category. The development site is within the Strategic Employment Zone which anticipates a range of commercial and industrial land uses. The nearest sensitive receiver in a dwelling located at 190 Port Paterson Road, Port Paterson which is located within a Rural Living Zone east of the development site and approximately 500 metres from the BESS elements of the development.

Vehicle access for the construction and operational phases of the development will utilise Augusta Highway and Northern Power Station Road. There is no vehicle access proposed on local roads within the Rural Living Zone.

Construction activities will occur for a relatively short period of time, approximately 18-24 months and will be controlled by a Construction and Environmental Management Plan (CEMP). It is however noted that the subject land contains former ash storage areas associated with the previous power station use. The former ash storage area is understood to be a highly degraded area of land (albeit outside of the site of the development) and the potential source of dust currently in the locality.

Impacts of fire may have a "Moderate" level of magnitude. The OMP will incorporate a Emergency Management Plan. With the inclusion of these control measures the magnitude of impact events is assessed as ALARP.

Potential impacts from the proposed activities are localised and readily manageable using standard control measures.

5.2.1.4 Environmental Impact and Significance Assessment

The tables **below** detail the impact assessment for the identified impact events.

Air Quality: Impact ID # AQ1	
Impact event	Dust generated on local roads and construction activities results in a deterioration of air quality at sensitive receivers.

[9] Intentionally left blank pending community engagement for all tables contained in Section 5.2.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Dust generated by vehicle movements on Northern Power Station Road and internal driveways within the subject land and construction activities.	Dust particles through air.	Local residents within Rural Living Zone. Local road users. Native Vegetation and/or biodiversity.	Yes – vehicle movements and ground-breaking activities will be required and thereby dust will be generated on-site, which may extend across the nearby properties and local roads.	Site Establishment/Construction Operation. Decommissioning & Rehabilitation.	Frequency of vehicle movements required. Distinguishing the source of dust from the subject development and other current and former activities on the subject land.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Incorporation of landscaping/revegetation on the site of the development to minimise exposed surfaces. • Incorporate surface treatments around proposed infrastructure to minimise exposed surfaces. • OMP is developed, approved and complied with, and which includes appropriate dust management controls. • CEMP is developed, approved and complied with, and which includes appropriate dust management controls. These controls will include: – Dust control measures (e.g., water spraying) implemented if dust generation becomes a problem (e.g., near sensitive sites). – Vehicles are driven at speeds slow enough to minimise generation of dust. – Dust generating activities to be scheduled to avoid adverse weather conditions (e.g., periods of high winds). – Soil stockpiles are appropriately managed, e.g., through covering, of a reduced height and/or for minimal duration. – Existing internal driveways used where possible. – The extent of new exposed and stripped surface area is minimised. • System is in place for logging landowner communication and logging landowner complaints to ensure that any identified amenity issues are recorded, addressed as appropriate and complaints are resolved in a timely manner. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP.	• High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No –** dust impacts may occur as a result of construction activities.	Expected impact: **Low**
Frequency	**Medium** – construction and site preparation works will be undertaken in accordance with the Environment Protection (Commercial and Industrial Noise Policy 2023 (Noise Policy) which limits construction times to Monday – Saturday 7am to 7pm inclusively. Construction will occur for a relatively short period of time, that being 18 to 24 months.	Magnitude of impact: **Low**
Duration	**Short term** – construction and site preparation will take between 18 and 24months from commencement to completion. Impacts will be minimised by undertaking works in accordance with an appropriate CEMP.	
Extent	**Confined - Localised** – dust impacts are confined to subject land and adjoining properties.	
Severity	**Low** – on-site construction is moderate in scale and limited to access tracks, fencing, landscaping, construction of a stormwater retention basin, set down of pads/footings for the BESS and inverter structures and associated trenching to connect to the substation, footings for substation infrastructure. Impacts from dust can be suitably mitigated and contained within the subject land.	
Cumulative	**Possible** – other non-related development is approved on the subject land (outside of the development site). Other developments would be subject to conditions of development approval and/or EPA general environmental duty and/or conditions or licences to manage air quality impacts during construction and operation.	
Sensitivity	**Moderate** – sensitive receivers are located to the east and southeast of the development site within the Rural Living Zone. Dust impacts from vehicle movements are expected to be indistinguishable from background levels with appropriate controls in place.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No significant dust generation/disturbance resulting from regulated activities in excess of the parameters outlined in the Environment Protection (Air Quality) Policy 2016 (SEO OBJ. 1).	• Compliance with the following: – *Environment Protection Act 1993*. – Environment Protection (Air Quality) Policy 2016.	• Dust mitigation strategies are developed for inclusion in the CEMP and OMP. • Incorporate relevant EPA air Quality objectives/policies into the CEMP and OMP.

	Proposed environmental objective	Assessment criteria	Leading performance criteria
	Remediate and rehabilitate internal driveways and operational areas, where required (SEO OBJ. 13).	• Consultation with landowners and occupiers in the locality, the Council and other identified stakeholders to ensure potential impacts are identified and methodology to manage these are appropriately documented. • Stakeholder complaints are documented and steps taken to resolve them is demonstrated/documented in a complaints register.	• Establish and maintain a stakeholder complaints register. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

Air Quality: Impact ID # AQ2	
Impact event	Off gassing – deterioration of air quality due to fire in BESS.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Fire generated by malfunctioning equipment.	Volatile Organic Compounds (VOC) Particles through air.	Local residents. Workers and visitors to the local area at time of incident.	Uncertain – equipment should not contain faults, maintenance and monitoring should be sufficient to eliminate fire risk, and on-site security should prevent unauthorised access to equipment.	Operations.	Assumed that routine maintenance and monitoring of equipment will eliminate the risk of fire. Assume there are VOC's that may become air borne during, a worst-case scenario fire event.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Design, construction and operation of the development in accordance with SA CFS Design Check List. • Install and maintain early detection measures for the BMS, including; – Heat detection. – Gas detection. – Smoke detection. – Thermally activated gas suppression. • Toxic fume dispersion in case of fire is considered as part of emergency response where required. • Incorporate presence of toxic gases and fume dispersion being generated from the BESS into site emergency response plan, including appropriate exclusion zones, PPE for Emergency responders and communications required to neighbouring industries and local residents (regarding evacuation or remaining indoors). • Procedures, controls, monitoring, reporting and auditing requirements and ongoing • operational fitness to be conducted in accordance with the approved OMP. • OMP is developed, approved and complied with, and which includes appropriate fire and • emergency management controls. These controls may include evacuation of dwellings in • Rural Living Zone as deemed necessary by the Emergency Services.	• Increased/decreased risk of mechanical failure.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – controls in place to reduce fire in BESS and emission of particles in the air, however these do not completely remove the hazard of fire.	Expected Impact: **Moderate** Control measures for fire and emergency management minimise frequency and severity of events that may impact air quality of sensitive receivers and as such, impacts are managed to ALARP.
Frequency	**Low** – fire in BESS likely to occur infrequently.	
Duration	**Short-term** – impact of fire event is likely to be hours rather than longer timeframe.	Magnitude of Impact: **Moderate**
Extent	**Moderate** – fire and impact on air quality that extends beyond the subject land.	
Severity	**Moderate** – statutory air quality values exceeded for short period.	
Cumulative	**No** – receptors unlikely to be impacted by similar activities.	
Sensitivity	**High** – the value of dwellings within the Rural Living Zone not previously exposed to fire from BESS activities.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ. 2).	• Compliance with manufacturer's instructions for installation and ongoing maintenance.	• Incorporate monitoring and maintenance strategies in Fire and Emergency Management Plan of OMP.

5.2.2 Aviation

5.2.2.1 Context

Table 12 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to aviation.

Table 12: Context Summary for Aviation

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Airports Act 1996 of the Commonwealth*. • *Civil Aviation Safety Regulations 1998* 91.267 Minimum height rules -other areas. • Advisory Circulars from Civil Aviation Safety Authority (CASA) (AC) 91-10 v1.1 Operations in the vicinity of non-controlled aerodromes.	• National Airports Safeguarding Framework (NASF).	No comments received during consultation.	• Local airfield and aircraft operators.

5.2.2.2 Impact Events

The potential impact events relevant to aviation include:

- Disruption to aircraft operations due to use of crane(s) during construction and decommissioning.
- Potential additional overhead transmission lines.

5.2.2.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Moderate** category. Potential impacts from the proposed activities are localised and contained within the subject land. Construction infrastructure may include cranes, which are unlikely to exceed the height of existing electricity infrastructure (including transmission lines) on the subject land and there is suitable separation from the nearest airfield Stirling North. The magnitude of impact has the potential to be high, as an event may result in injury or death of aviators. With the application of mitigation measures relating to construction activities and particularly machinery utilised during construction, the impacts are considered ALARP.

5.2.2.4 Environmental Impact and Significance Assessment

Aviation: Impact ID # AV1	
Impact event	Disruption to aircraft operations due to use of crane(s) during construction and the presence of transmission line.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Crane operations during construction and decommissioning Transmission lines (overhead)	Machinery height encroaching into flight path(s). Aircraft accident	Airport/Airfield operators Aircraft users	Uncertain – maximum height of machinery not confirmed, however Stirling North airfield is known in the locality	Construction. Decommissioning	Maximum height of machinery required during construction.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• CEMP and OMP is developed, approved and complied with, and includes restrictions to equipment height such that it does not exceed the height of existing structures on-site, and standard operating procedures for crane use. • Consultation with nearby aerodrome / landing areas / airstrip owners and local pilots where relevant. • Transmission line structure design/ lighting/notification in accordance with Civil Aviation Safety Authority (CASA) requirements where relevant. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated.	• Machinery may not encroach flight path. • High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**Yes** – while crane operation is anticipated to move heavy equipment into place, a low height option (such as a truck mounted crane) can be utilised. Controls in place to reduce hazards to aviation.	Expected Impact: **High** Potential impacts can be avoided by compliance with the CEMP and OMP limiting the height of vehicles and equipment in a manner that does not impinge on standard circuit of airfield. Control measures in place require the avoidance of infrastructure associated with aviation, e.g. aerodromes, landing strips and transmission line structure design/ lighting/notification in accordance with Civil Aviation Safety Authority (CASA) requirements where relevant. As such, impacts are managed to ALARP.
Frequency	**Low** – once crane is on-site, it will remain until no longer needed. There will not be multiple movements to/from the site. Infrastructure will be sited avoiding areas of frequent aviation traffic.	Magnitude of Impact: **Moderate**
Duration	**Short-term** – crane use will only be required for a limited portion of the construction period. Hazard of infrastructure (BESS and any overhead transmission lines) will exist for the life of the project – **Long lasting duration**.	
Extent	**Confined** – potential aviation impacts are confined to any intrusion into airspace over the site and any flight paths within this area.	
Severity	**High** – disturbance of airport/aircraft operations could have severe impacts if an aircraft should collide with encroaching equipment and could result in injury or death	
Cumulative	**Possible** – activities that encroach a flight path or airport operations typically require a separate permit/authorisation and locality currently contains existing overhead electricity infrastructure	
Sensitivity	**Moderate to high** – the environment is not densely populated but still comprises sensitive receivers (residential dwellings).	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ 2).	• Any notifiable incidents (as per s35 of the Work Health and Safety Act 2012) involving the public investigated by a suitably qualified independent third party and the results of the investigation show that the accident could not have been reasonably prevented by the operator.	• Overhead transmission line structure design, lighting and notification in accordance with Civil Aviation Safety Authority (CASA) requirements where relevant.
	No encroachment of construction machinery into airport/airfield airspace (SEO OBJ. 3).	• Restrict height of vehicles and machinery utilised during construction and maintenance to less than the existing structures on the subject land.	• Incorporate equipment height restrictions and crane operation protocols in the CEMP and OMP. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.
	Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).		

5.2.3 Cultural Heritage

5.2.3.1 Context

Table 13 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to cultural heritage.

Table 13: Context Summary for Cultural Heritage

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *South Australian Aboriginal Heritage Act 1988.* • *Commonwealth Native Title Act 1993.* • *Native Title Act 1993.* • *Coroners Act 2003.* • *Heritage Act 1993.* • *Heritage Places Act 1993.*	• Attorney-General's Department – A Guide to Aboriginal heritage in South Australia • Aboriginal Ancestral Remains Discovery Protocol (24 March 2025 by AAR)	Discussions have occurred with both the Nukuna and Kokatha representatives and further investigations are underway. Acknowledge that the site is within a degraded area, with the key matter for concern being the proposed alignment of the underground transmission connection to the Davenport substation. AAR questioned whether Barngarla community had an interest in the locality. ElectraNet sought engagement with indigenous communities in addition to desktop assessment for Davenport substation, and encourage cultural heritage plan.	• Aboriginal site, objects and remains. • Native title holders. • Traditional owners. • Local communities. • Community.

5.2.3.2 Impact Events

The potential impact events relevant to cultural heritage include the

- Disturbance/damage or loss of cultural heritage (known or unknown sites, objects and/or remains) of Aboriginal heritage (CH1).

5.2.3.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that this impact is generally in the **Moderate** category. Whilst control measures and due diligence significantly reduce the likelihood of discovery or disturbance, the value and sensitivity of Aboriginal heritage sites, objects and remains are high. Engagement with relevant Traditional Owners and appropriate Aboriginal heritage assessments are in place to avoid or manage impacts to ALARP.

5.2.3.4 Environmental Impact and Significance Assessment

Cultural Heritage: Impact ID # CH1	
Impact event	Disturbance/damage or loss of cultural heritage (known or unknown sites, objects and/or remains) of Aboriginal heritage.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Earthworks for installation of infrastructure (including transmission corridor) and disturbance of unknown Aboriginal sites, objects and/or remains. Decommissioning of project elements that require ground disturbance.	Soil disturbances. Damage/disturbance of Aboriginal sites, object and/or remains.	Aboriginal communities - Nukunu Wapma Thura Aboriginal Corporation and Kokatha Aboriginal Corporation RNTBC. Local community.	Uncertain – it is unknown if any cultural heritage sites, objects and/or remains exist on-site other than those identified during preliminary investigations.	Stormwater Basin Construction. BESS and Transmission Corridor Construction. Decommissioning.	Unknown location(s) of cultural heritage sites, objects and/or remains. The location of the activity area and proximity to identified Aboriginal heritage has not been ascertained.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• AAR central archives search is conducted and the area for construction is clear of any known Aboriginal heritage. • Traditional Owners consulted and cultural heritage survey or 'work area clearance' undertaken prior to land disturbing activities. • Land disturbance is confined to areas subject to cultural heritage survey or work area clearance and undertaken in accordance with recommendations of the survey or work area clearance. • CEMP and OMP is developed approved and complied with and includes discovery protocols that are consistent with the *Aboriginal Heritage Act 1988*. • Contractor to ensure appropriate induction and awareness training is given to all construction personnel with regard to Aboriginal Cultural Heritage. • Proponents and their contractors shall have a reporting system in place for cultural sites discovered during activities.	• High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – impacts to be minimised by undertaking investigations to identify known objects, sites and/or remains, however unexpected finds may occur.	Expected Impact **High** Control measures in place require desktop assessments and surveys to identify areas of Aboriginal heritage for avoidance and relevant unexpected finds procedures must be in place, including that works must cease in the event of an unexpected find. As such, impacts are managed to ALARP.
Frequency	**Low** – early control measures should limit occurrence of disturbances with only "unknown" items being uncovered.	Magnitude of Impact: **Moderate**
Duration	Permanent if an object of cultural significance is disturbed, the damage or loss is irreversible.	
Extent	**Localised** – impacts are confined to the area where the object is discovered.	
Severity	**High** – Damage or loss of Aboriginal heritage, without appropriate authorisations, is a breach of the *Aboriginal Heritage Act 1988*.	
Cumulative	**Unlikely - Possible** – early due diligence should minimise the likelihood of multiple disturbances occurring on-site, but multiple incidents will result in a cumulative impact.	
Sensitivity	**High** – Aboriginal heritage has statutory protection and where undisturbed is expected to be intact. The sensitivity of the receiving environment may vary depending on the occurrence of landforms that have a higher likelihood of being associated with Aboriginal heritage and incidence of unexpected finds.	

SEO	Proposed environmental objective	Assessment criteria	Leading performance criteria
	No damage, disturbance or interference to Aboriginal heritage and non-Aboriginal heritage sites, objects, remains and places (SEO OBJ. 4).	• Compliance with the following legislation: – *Aboriginal Heritage Act 1988.*	• Incorporate discovery protocols in the CEMP and OMP. • Development of and adherence to a cultural heritage management plan (if/as required by Nukunu and/or Kokatha communities).

5.2.4 Declared Pests, Plants and Animals

5.2.4.1 Context

Table 14 summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to declared pests, plants and animals.

Table 14: Context Summary for Declared Pests, Plants and Animals

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Native Vegetation Act 1991.* • *Environment Protection and Biodiversity Conservation Act 1999.* • *Natural Resources Management Act 2004.* • *National Parks and Wildlife Act 1972.* • *Landscape South Australia Act 2019.* • *Local Nuisance and Litter Control Act 2016.*	• SAALLB Land Management Control Policy.	SAALLB provided constructive comments to include additional declared plant species and removal of declared plant species prior to construction. Clarification was also sought regarding management of waste. If not managed correctly waste may attract pest predators and could impact local native fauna.	• Control existing pest species and minimise risk of introducing new species to the area.

5.2.4.2 Impact Events

The potential impact events relevant to declared pests, plants and animals include:

- Introduction, spread or regeneration of Declared pest plants and animal species (DP1).

5.2.4.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Negligible-Low** category. Potential impacts from the proposed activities are localised and small scale and readily manageable using standard control measures.

5.2.4.4 Environmental Impact and Significance Assessment

Declared Pests, Plants and Animals: Impact ID # DP1	
Impact event	Introduction, spread or regeneration of declared pest plants and animal species.

	Source	**Pathway**	**Receptor**	**Confirmation of SPR**	**Project Phase**	**SPR uncertainties and assumptions**
Potential Impact	Weed/pest/pathogen introduction, spread or regeneration.	Vehicle, equipment, materials and worker movements.	Local ecosystem – native flora and fauna. Landholders. Livestock.	Yes – possibility for weeds to impact local ecosystems and/or agriculture.	Site Establishment. Stormwater Basin Construction. BESS and Transmission Corridor Construction. Operation. Decommissioning & Rehabilitation.	Assumption that appropriate weed management practices and hygiene practices are undertaken, and vehicles wheels and undercarriage are washed prior to entering/exiting the site. Assumption that Declared pest plants and animals are completely removed from site prior to construction.

Control measure	**Uncertainties regarding likely effectiveness of control strategies**
• Appropriate consultation regarding weeds, pathogens and pests is undertaken with landholders and PIRSA/DEW/Landscape Boards, where relevant. • Environmental assessment undertaken during the planning stage to identify specific weed, pathogens and/or pests at the site or within transport routes to the site. • Removal of identified pest plants within the development site prior to construction. • Weed Management and Hygiene Plan developed, approved and complied with for inclusion in the CEMP and OMP. • Equipment that has been operating outside the State or in areas of known weed infestation must be cleaned (washed down where appropriate) before arrival at the survey location. All vehicles and equipment should generally be cleaned before arrival at site, and between properties where required, unless it is demonstrated that the risks are not significant. • Cleaning of equipment must be carried out in accordance with pre-determined company procedures and/or industry standards. • Proponents and their contractors shall have a reporting system in place detailing equipment cleaning, which is made readily available upon request for audit purposes. • Proponents and their contractors shall have records of pest detection (whether introduced by an operator or not), monitoring, eradication or control of introduced species which are made readily available upon request for audit purposes. • Disturbance of significant weeds, (e.g., weeds of National Significance) is avoided unless for their control. • Records of detection (whether introduced by an operator or not), monitoring, eradication or control of introduced species are kept and shared with landscape boards. • All waste contained within appropriate waste containers and regularly removed from site. • All waste construction materials removed on a regular basis and at the end of construction. • Any waste requiring an EPA licence will be collected, removed from site and processed by an EPA licenced waste contractor. • Waste management included in the CEMP and OMP. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how many infrastructure or equipment will be decommissioned and the land rehabilitated.	• Appropriate control measures for weed/pest management practices and hygiene practices are well understood and implemented by construction industry providing a high level of certainty that weed/pests and pathogens are manageable ALARP.

	Environmental significance assessment	**Environmental significance assessment outcome**
Avoidance	**No** – Controls in place prioritise the prevention of spread or introduction of weeds, however, the potential exists that weeds, pests, or pathogens may be introduced or spread as a result of activities.	Expected Impact: **Low** Potential impact can be avoided/managed with control measures to ALARP.
Frequency	**Low** – limited primarily to construction, decommissioning phases with only minimal access and on-site movements during the operational phase. Vehicle movements overall are low and controllable.	Magnitude of Impact: **Negligible**
Duration	**Short-term** – construction and site preparation will take between 18 and 24months from commencement to completion. Impacts will be avoided by undertaking appropriate avoidance and mitigation measures. Where the spread of weeds, pests of pathogens are identified this may have the potential to have longer lasting effects on biodiversity, however, management plans will be in place are required to address this. Mitigation measures are to include ongoing maintenance of site, including removal of weeds and Declared pest plants and animals.	
Extent	**Localised**– impacts may affect the local area, particularly if pest species are spread via vehicles entering/exiting the development site to undertake authorised activities.	
Severity	**Moderate -** if the potential impact occurs, it would result in an increase in the occurrence of weeds, pests or pathogens and would require a high level of management.	

	Environmental significance assessment	Environmental significance assessment outcome
Cumulative	**Unlikely** – mitigation protocols should eliminate/restrict instances from occurring within the development site and internal road network. Where multiple projects occur within the subject land, the potential exists for cumulative effects to impact biodiversity, however, these are generally mitigated by the relevant controls in place.	
Sensitivity	**Low** – the subject land is generally arid and not of a high ecological value (i.e., not part of a conservation area or wildlife habitat) and the development site is previously substantially disturbed. There are patches of native vegetation that are sensitive, but those will be avoided or subject to approval for clearance in accordance with the control measures. The broader locality, particularly Spencer Gulf and the Southern Flinders Ranges, are much more sensitive receiving environments.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No introduction or spread of weeds, pest animals, pathogens or diseases as a consequence of regulated activities (SEO OBJ. 5). No clearance of native vegetation or disturbance to native fauna unless prior approval under the relevant legislation is obtained (SEO OBJ. 6). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Compliance with the following: – *Environment Protection and Biodiversity Conservation Act 1999.* – *Natural Resources Management Act 2004.* – *National Parks and Wildlife Act 1972.* – *Landscape South Australia Act 2019.* – *SA Arid Lands Landscape Board: Land Management Control Policy.* • CEMP and OMP includes relevant management procedures that effectively manages and minimises the potential for introduction and spread of weeds, pest animals or pathogens. • Baseline weed, pest animal and/or pathogen assessment undertaken by appropriately trained and experienced personnel prior to commending operation. • Compliance with the following: – *Environment Protection and Biodiversity Conservation Act 1999.* – *Natural Resources Management Act 2004.* – *National Parks and Wildlife Act 1972.* – *Landscape South Australia Act 2019.* – *Landscape Board: Land Management Control Policy.* • CEMP and OMP includes relevant management procedures that effectively manages and minimises the potential for and spread of weeds, pest animals or pathogens. • Records of audits/inspections carried out in accordance with management and monitoring plan demonstrate that the presence of weeds, pest animals or pathogens is consistent with or better than pre-disturbance conditions and adjacent land. • Declared plants occurring within/adjacent to operational areas are reported and managed in accordance with relevant legislation and Regional Landscape Plan.	• Incorporate weed management and hygiene procedures in the CEMP and OMP. • Records demonstrate that all equipment and vehicles are inspected, and cleaned where required, before arrival at the site. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

5.2.5 Ecology – Flora and Fauna

5.2.5.1 Context

Table 15 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to ecology.

Table 15: Context Summary for Ecology (Flora and Fauna)

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Native Vegetation Act 1991.* • *Environment Protection and Biodiversity Conservation Act 1999.* • *Natural Resources Management Act 2004.* • *National Parks and Wildlife Act 1972.* • *Landscape South Australia Act 2019.*	• Significant Impact Guidelines 1.1: Matters of National Environmental Significance.	No comments received from members of the community or Government Agencies in relation to flora and fauna. General comments received from SA Arid Lands Landscape Board regarding the opportunity for on-ground SEB offset in lieu of payment to the Native Vegetation Fund. Native Vegetation Council provided comments in relation to mitigation hierarchy; regeneration of vegetation; and suggested additions to receptors for various potential impacts.	• State and Nationally significant flora and fauna.

5.2.5.2 Impact Events

The potential impact events relevant to ecology include:

- Adverse impact on native vegetation that results in loss or degradation of native vegetation and habitat (E1).
- Presence of personnel, vehicles, noise and vibration during the regulated activities impacts local fauna (E2).
- Direct mortality of fauna as a result of collision with vehicles and infrastructure (E3).

5.2.5.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts range from **Negligible to Low.** Potential impacts from the proposed activities are localised and small scale, within an area previously disturbed, and readily manageable using standard control measures. With the application of mitigation measures relating to construction activities and ongoing operations, the impacts are considered as low as reasonably practicable (ALARP).

The following tables detail the impact assessment for the identified impact events.

5.2.5.4 Environmental Impact and Significance Assessment

Ecology: Impact ID # E1	
Impact event	Adverse impact on native vegetation that results in loss or degradation of flora and habitat.

	Source	**Pathway**	**Receptor**	**Confirmation of SPR**	**Project Phase**	**SPR uncertainties and assumptions**
Potential Impact	Vegetation clearance for regulated activities.	Direct disturbance.	Native flora and fauna.	Yes-flora and fauna on the development site have been identified, and native vegetation clearance is proposed.	Stormwater Basin Construction. BESS and Transmission Corridor Construction. Decommissioning & Rehabilitation.	SPR confirmation is based on native plant and animal species identified and analysed in Native Vegetation Clearance Data Report prepared by Environments by Design.

Control measure	**Uncertainties regarding likely effectiveness of control strategies**
• Appropriate ecological assessments undertaken and areas of vegetation identified to be retained and removed, as per Native Vegetation Clearance Data Report prepared by Environments by Design. • Development site largely located within previously disturbed area. • Vehicle access utilises local roads and existing internal access driveways. • Assessment and removal of declared plant species prior to construction commencing. • Native Vegetation clearance application lodged and approved under the Native Vegetation Act prior to construction. • Limit vegetation clearing to that approved by Native Vegetation Council (NVC). • All vegetation clearing or disturbance is approved and undertaken in compliance with approved plans and relevant conditions (if any). • Any payment into the native vegetation fund is done so in accordance with the relevant assessment methodology and associated standards. • Vegetation preservation and revegetation protocols developed, approved and complied with for inclusion in the CEMP and OMP. • Best practices for avoiding disturbance of fauna developed, approved and complied with for inclusion in the CEMP and OMP. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated.	• High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	**Environmental significance assessment outcome**
Avoidance	**No** – removal of native vegetation (in accordance with NVC approval) is required to facilitate construction. Other vegetation to be removed has not been identified as constituting native vegetation.	Expected Impact: **Low** A large area of the development site has previously been cleared of native vegetation and the area of native vegetation to be cleared for the regulated activities has been identified. Clearance will be undertaken in accordance with the NVC permit conditions.
Frequency	**Low**– native vegetation will be cleared from the site prior to the commencement of construction.	Magnitude of Impact: **Negligible**
Duration	**Short-term** – risk to flora and fauna is limited to the site establishment and construction phases. Risk significantly decreases once the site is in operation as the site will not be frequently visited by personnel or vehicles.	
Extent	**Localised** – impacts are limited to the development site.	
Severity	**Low** – the subject land is not of high ecological value (i.e., not part of a conservation area or wildlife habitat). Proposed activities are small scale and generally, with control measures in place, are not expected to generate impacts that would result in the degradation biodiversity.	

	Environmental significance assessment	Environmental significance assessment outcome
Cumulative	**Possible**– clearance of multiple sites in close proximity may impact biodiversity.	
Sensitivity	**Low** – subject land is generally arid and not of a high ecological value (i.e., not part of a conservation area or wildlife habitat). The development site contains an area previously disturbed and utilised as a borrow pit. There are patches of native vegetation which are to be retained.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No clearance of native vegetation or disturbance to native fauna unless prior approval under the relevant legislation is obtained (SEO OBJ. 6). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Compliance with the NVC clearance approval and conditions. • Compliance with the following legislation: – *Native Vegetation Act 1991.* – *Environment Protection and Biodiversity Conservation Act 1999.* – *Landscape South Australia Act 2019.* – *National Parks and Wildlife Act 1972.* • Management and monitoring measures for any vegetation and or biodiversity impacts are documented in the Construction Environmental Management Plan, where required. • Records of audits/inspections carried out in accordance with the OMP demonstrate there has been no unauthorised clearing of native vegetation.	• Apply for NVC clearance approval. • Pay Significant Environmental Benefits contribution fee. • Develop vegetation preservation and revegetation protocols for inclusion in the OMP. • Develop best practices for avoiding disturbance of fauna for inclusion in the OMP. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

Ecology: Impact ID # E2	
Impact event	Presence of personnel, vehicles, noise and vibration during the regulated activities impacts local fauna.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Generation of noise/vibration during installation and decommissioning of regulated activities.	Direct disturbance. Noise and vibration.	Native fauna.	Yes-there are possibilities for native fauna within the subject land.	Stormwater Basin Construction. BESS and Transmission Corridor Construction. Operation. Decommissioning & Rehabilitation.	SPR confirmation is based on native animal species identified and analysed in Native Vegetation Clearance Data Report prepared by Environments by Design.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Appropriate ecological assessments undertaken as per Native Vegetation Clearance Data Report prepared by Environments by Design. • Development site largely located within previously disturbed area with minimal impact on habitat for fauna. • Vehicle access utilises local roads and existing internal access driveways. • Limit speed of vehicles on internal driveways as a control measure in CEMP and OMP. • Equipment operated and maintained in accordance with manufacturer specifications. • Maintenance of machinery to minimise unnecessary disturbing noise sources. • Noisy equipment and machines are shut down when not in use. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines decommissioning and the land rehabilitated.	• High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – Controls in place prioritise the prevention of impacts to and avoidance of native fauna, however, unexpected incidents may occur.	Expected Impact: **Low** Industry standard control measures that are well understood and that have been successfully implemented to minimise impact to ALARP.
Frequency	**Low** – Site access is only expected to occur during construction, decommissioning and occasional maintenance and the number of vehicles and people required on site is generally expected to be low.	Magnitude of Impact: **Negligible**

	Environmental significance assessment	Environmental significance assessment outcome
Duration	**Short-term** – risk to fauna is generally limited to the site establishment and construction phases. Risk significantly decreases once the site is in operation as the site will not be frequently visited by personnel or vehicles.	
Extent	**Localised** – impacts are limited to the development site and vehicle access on local roads.	
Severity	**Low** – the subject land is not of high ecological value (i.e., not part of a conservation area or wildlife habitat). Proposed activities are small scale and generally, with control measures in place, are not expected to generate impacts that would result in the disturbance or impact on fauna.	
Cumulative	**Possible**– Potential cumulative effects on native fauna will depend on the scope of other projects in the area. Where multiple projects are within a similar area, the potential exists for cumulative effects to impact native fauna, however, these are generally mitigated by the relevant controls in place.	
Sensitivity	**Low** – subject land is generally arid and not of a high ecological value (i.e., not part of a conservation area or wildlife habitat). The development site contains an area previously disturbed and utilised as a borrow pit. No MNES have been identified in the flora and fauna assessment undertaken.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No clearance of native vegetation or disturbance to native fauna unless prior approval under the relevant legislation is obtained (SEO OBJ. 6). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Compliance with the NVC clearance approval and conditions. • Compliance with the following legislation: – *Native Vegetation Act 1991.* – *Environment Protection and Biodiversity Conservation Act 1999.* – *Landscape South Australia Act 2019.* – *National Parks and Wildlife Act 1972.* • Management and monitoring measures for any fauna impacts are documented in the Construction Environmental Management Plan, where required. • Records of audits/inspections carried out in accordance with the OMP demonstrate there has been no unauthorised clearing of native vegetation and impact on fauna.	• Significant areas for native fauna are avoided. • Develop best practices for avoiding disturbance of fauna for inclusion in the OMP. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

Ecology: Impact ID # E3	
Impact event	Direct mortality of fauna as a result of collision with vehicles and infrastructure fauna.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Collision with vehicles during construction.	Vehicle movements, direct disturbance from infrastructure.	Native fauna. Native vegetation and/o biodiversity.	Yes – there are possibilities for native fauna within the subject land.	Stormwater Basin Construction. BESS and Transmission Corridor Construction. Operation. Decommissioning & Rehabilitation.	The occurrence and abundance of fauna have been considered in the Native Vegetation Clearance Report.

Control measures	Uncertainties regarding likely effectiveness of control strategies
• Fence development site. • Utilise existing road network and internal access driveways. • Drive at appropriate speed to avoid undue disturbance. • Driver awareness training for all personnel. • Excavations are kept open for the minimum amount of time and are regularly checked for trapped fauna. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated.	• Moderate to high certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – Controls in place prioritise the prevention of impacts to native fauna, however, unexpected incidents may occur.	Expected Impact: **Low**
Frequency	**Low** – Site access is only expected to occur during construction, decommissioning and occasional maintenance and the number of vehicles and people required on site is generally expected to be low.	Magnitude to Impact: **Moderate**

	Environmental significance assessment	Environmental significance assessment outcome
Duration	**Short-term** – Site access is only expected to occur during construction, decommissioning and occasional maintenance and the number of vehicles and people required on site is generally expected to be low.	
Extent	**Localised** - The proposed activities are small scale, the work area limited, and relevant controls are in place to avoid native fauna.	
Severity	**Low** - Proposed activities are small scale and generally, with control measures in place, are not expected to result in disturbance or impacts to native fauna.	
Cumulative	**Possible** - Potential cumulative effects on native fauna will depend on the scope of other projects in the area. Where multiple projects are within the subject land, the potential exists for cumulative effects to impact native fauna, however, these are generally mitigated by the relevant controls in place.	
Sensitivity	**Low** - The subject land has a high level of human disturbance and has been extensively cleared and limited native fauna has been identified.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No clearance of native vegetation or disturbance to native fauna unless prior approval under the relevant legislation is obtained (SEO OBJ. 6). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Compliance with the NVC clearance approval and conditions. • Compliance with the following legislation: – *Native Vegetation Act 1991.* – *Environment Protection and Biodiversity Conservation Act 1999.* – *Landscape South Australia Act 2019.* – *National Parks and Wildlife Act 1972.* • Management and monitoring measures for any fauna impacts are documented in the Construction Environmental Management Plan, where required. • Records of audits/inspections carried out in accordance with the OMP demonstrate there has been no unauthorised clearing of native vegetation and impact on fauna.	• Significant areas for native fauna are avoided. • Develop best practices for avoiding disturbance of fauna for inclusion in the OMP. • Develop a Decommissioning and Rehabilitation Plan inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 month prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

5.2.6 Fire Management

5.2.6.1 Context

Table 16 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to fire management.

Table 16: Context Summary for Fire Management

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Bushfire Emergency Services Act 2005.* • *South Australian Fire and Emergency Services Act 2005*	• SA Country Fire Service Design Check List – Renewable Energy Facilities Version 1	SA CFS provided the Proponents with the SA CFS Design Check List and sought additional information regarding compliance with the design parameters. CFS have advised that compliance with the design parameters will be required.	• Loss of human life. • Damage to nearby buildings and infrastructure. • Loss of local wildlife and vegetation.

5.2.6.2 Impact Events

The potential impact events relevant to fire management include:

- Fire sparked from overheating or electrical faults during installation and equipment testing (FM1).
- Spread of bushfire (FM2).
- Fire caused by malfunction of BESS (FM3).
- Fire caused by electrical fault/malfunction from substation (FM4).

5.2.6.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Moderate** category. The impact of fire that spreads beyond the development site or boundaries of the subject land may have a high impact should it extend to dwellings within the Rural Living area to the east. However, with the application of mitigation measures relating to fire and hazard management incorporated in CEMP and OMP's, the impacts are considered as low as reasonably practicable (ALARP).

5.2.6.4 Environmental Impact and Significance Assessment

Fire Management: Impact ID # FM1	
Impact event	Fire sparked from overheating or electrical faults during installation and equipment testing.

	Source	**Pathway**	**Receptor**	**Confirmation of SPR**	**Project Phase**	**SPR uncertainties and assumptions**
Potential Impact	Electrical faults during construction activities and equipment testing. Human error.	Electrical spark or overheating of equipment sparks fire initiation.	Local residents. Local plants and wildlife.	Unknown – use of electricity is required during construction.	Construction. Operation.	Assumption that appropriate procedures are developed and implemented to reduce the risk of fire initiation and spread. Assumption that adequate fire-fighting infrastructure provided on-site.

Control measure	**Uncertainties regarding likely effectiveness of control strategies**
• Install and maintain early detection measures for the BMS, including; – Heat detection. – Gas detection. – Smoke detection. • Thermally activated gas suppression. • All personnel will be provided with mandatory induction and awareness training and will be made aware of their responsibilities with regard to reporting and response should an event occur. • Incorporate SA CFS Design Check List design parameters regarding vehicle access, fire water storage/hydrants, vegetation management and vegetation management zone. • Construction of all buildings and structures in compliance with the National Construction Code. • Finalise fire prevention and management procedures as part of the OMP, which may include an Emergency Management Plan (EMP) and/or Incident Management Plan. • An EMP will be prepared and will include the following: ▪ Exact locations of the dedicated water tank at site; ▪ Standard Operating Procedures (SOP) established for management of fire risk; ▪ The emergency contact number (readily available online and is always attended by trained staff); ▪ Key emergency contacts list an emergency contact protocols are available to the CFS, allowing for clear and timely communications to / from the CFS; ▪ Site mapping with locations of water supply, emergency vehicle access and routes, gates and locks; ▪ Implementing and testing bushfire response plans; ▪ Providing appropriate emergency response training and equipment to all staff and contractors; and ▪ During the construction phase, periodical updates to the CFS as the project is progressively built. • Prior to operations the facility, operators should offer a familiarisation visit and explanation of emergency procedures to the CFS and MFS. Information in relation to the specific hazards and fire suppression requirements of the site should be provided to the CFS and MFS during this visit. In addition, a schedule for ongoing site familiarisation to account for changing personnel, site infrastructure and hazards should be developed in conjunction with the local CFS Brigade. • Toxic fume dispersion in case of fire is considered as part of emergency response where required. • Incorporate presence of toxic gases and fume dispersion being generated from the BESS into site emergency response plan, including appropriate exclusion zones, PPE for Emergency responders and communications required to neighbouring industries and local residents (regarding evacuation or remaining indoors). • All personnel will be briefed on and be expected to comply with the EMP and any other protocols the head contractor deems appropriate. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated. • Prepare a Safety, Reliability, Maintenance and Technical Management Plan (SRMTMP) pursuant to the *Electricity Act 1996*. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP.	• Assumption that appropriate procedures are developed and implemented to reduce the risk of fire initiation and spread. • Assumption that adequate firefighting infrastructure/supplies are available and maintained on-site for fire-fighting purposes.

	Environmental significance assessment	**Environmental significance assessment outcome**
Avoidance	**No**– early detection and mitigation mechanisms seek to avoid initiation of fire outbreak but cannot avoid all scenarios.	Expected Impact: **Moderate** It is unlikely that an event will occur with control practices implemented. Mitigation procedures contained in the OMP will be put in place to swiftly extinguish fire and stop spread should an event occur and as such, impacts are managed to ALARP.
Frequency	**Low** – implementation measures and fire-fighting procedures can avoid the initiation of fire and stop its spread should an event occur.	Magnitude of Impact: **Moderate**
Duration	**Short** – fire-fighting and reporting protocols will limit the duration should an impact event occur.	
Extent	**Confined** - impacts are limited to the boundaries of the site.	

	Environmental significance assessment	Environmental significance assessment outcome
Severity	**Low to Medium** – impacts of an event may result in damage to expensive infrastructure.	
Cumulative	**Unlikely** – mitigation measures should avoid impact instances from occurring. Mitigation measures including fire response protocols and reporting should reduce impacts and spread in an event.	
Sensitivity	**Moderate to High** – whilst not densely populated, there are a number of sensitive receivers located on adjoining sites.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ. 2).	• Fire prevention and firefighting equipment is present, certified and maintained in accordance with applicable standards. • Compliance with the following legislation: – *Bushfire Emergency Services Act 2005.* – *South Australian Fire and Emergency Services Act 2005*	• Develop fire prevention and management procedures for inclusion in the OMP. • Develop Emergency Management Plan (EMP) and/or Incident Management Plan (IMP) for inclusion in the OMP.

Fire Management: Impact ID # FM2	
Impact event	Spread of bushfire.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Natural weather events (i.e., lightning strike), human error or equipment malfunction.	Fire burning through fuel sources within the local area.	Local residents. Local plants and wildlife. Site contractors.	Uncertain – weather events can't be controlled and initiation events occurring on other sites cannot be controlled.	Site Establishment. Construction. Operations. Decommissioning & Rehabilitation.	Assumption that fire can be contained by the local CFS. Assumption that controlled burn offs have occurred to reduce the risk of fire spread.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Install and maintain early detection measures for the BMS, including; – Heat detection – Gas detection – Smoke detection • Thermally activated gas suppression. • All personnel will be provided with mandatory induction and awareness training and will be made aware of their responsibilities with regard to reporting and response should an event occur. • Incorporate SA CFS Design Check List design parameters regarding vehicle access, fire water storage/hydrants, vegetation management and vegetation management zone . • Construction of all buildings and structures in compliance with the National Construction Code. • Finalise fire prevention and management procedures as part of the OMP, which may include an Emergency Management Plan (EMP) and/or Incident Management Plan. • An EMP willinclude the following: – A Bushfire Management Plan (BMP) established prior to the commencement of construction; – Exact locations of the dedicated water tank at site; – Standard Operating Procedures (SOP) established for management of fire risk; – The emergency contact number (readily available online and is always attended by trained staff); – Key emergency contacts list an emergency contact protocols are available to the CFS, allowing for clear and timely communications to / from the CFS; – Site mapping with locations of water supply, emergency vehicle access and routes, gates and locks; – Implementing and testing bushfire response plans; – Providing appropriate emergency response training and equipment to all staff and contractors; and – During the construction phase, periodical updates to the CFS as the project is progressively built. • Prior to operations the facility, operators should offer a familiarisation visit and explanation of emergency procedures to the CFS and MFS. Information in relation to the specific hazards and fire suppression requirements of the site should be provided to the CFS and MFS during this visit. In addition, a schedule for ongoing site familiarisation to account for changing personnel, site infrastructure and hazards should be developed in conjunction with the local CFS Brigade.	• Assumption that fire can be contained by the local CFS. • Assumption that controlled burn offs have occurred to reduce the risk of fire spread.
• Toxic fume dispersion in case of fire is considered as part of emergency response where required. • Incorporate presence of toxic gases and fume dispersion being generated from the BESS into site emergency response plan, including appropriate exclusion zones, PPE for Emergency responders and communications required to neighbouring industries and local residents (regarding evacuation or remaining indoors). • All personnel will be briefed on and be expected to comply with the EMP and any other protocols the head contractor deems appropriate.	

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – bushfire events can be triggered from outside of the development site and be inherent weather events.	Expected Impact: **Moderate to High** Potential impact is high given that there are a number of factors outside of the control of the Proponent and the proximity of sensitive receivers to the east. Incorporating fire and hazard management practices into CEMP/OMP would minimise impacts ALARP.
Frequency	**Low** – bushfires can occur at any time but are more likely to occur in the dry season.	Magnitude of Impact: **Moderate**
Duration	**Short to Medium-term** – bushfire control is dependent upon a number of factors, including wind, fuel sources etc.	
Extent	**Not confined** – impacts are limited to those properties affected by the bushfire event.	
Severity	**Low to high** – severity is dependent upon the extent of the fire and impacts to persons and property.	
Cumulative	**Potential** – weather may result in several independent fires burning within close proximity. Multiple fires would be more difficult to control due to distance and the drain firefighting resources (i.e., personnel and equipment).	
Sensitivity	**Moderate to high** – there are sensitive receivers located within the local area, including persons, buildings, vegetation and wildlife.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ. 2). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Fire prevention and firefighting equipment is present, certified and maintained in accordance with applicable standards. • Compliance with the following legislations: – *Bushfire Emergency Services Act 2005.* – *South Australian Fire and Emergency Services Act 2005*	• Develop fire prevention and management procedures for inclusion in the OMP. • Develop Emergency Management Plan (EMP) and/or Incident Management Plan (IMP) for inclusion in the OMP. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final recommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the project time plan and budget.

Fire Management: Impact ID # FM3	
Impact event	Fire caused by malfunction of BESS.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Overheating or other malfunction of Battery Management Systems (BMS) and / or failure of early detection systems.	Fire initiation and spread through site and to adjoining properties.	• Local residents. • Local plants and wildlife. • Site buildings and adjoining buildings/structures.	Yes – BMS is used to store and move electrical charge, and equipment is subject to overheating. Appropriate control measures are required to reduce risks of overheating and fire.	Operation.	• Assumption that equipment will be appropriately maintained and tested. • Assumption that early detection systems will not fail.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Install and maintain early detection measures for the BMS, including; – Heat detection – Gas detection – Smoke detection – Thermally activated gas suppression • All personnel will be provided with mandatory induction and awareness training and will be made aware of their responsibilities with regard to reporting and response should an event occur. • Incorporate SA CFS Design Check List design parameters regarding vehicle access, fire water storage/hydrants, vegetation management and vegetation management zone. • Construction of all buildings and structures in compliance with the National Construction Code. • Finalise fire prevention and management procedures as part of the OMP, including an Emergency Management Plan (EMP) and/or Incident Management Plan. • An EMP will include the following: – A Bushfire Management Plan (BMP) established prior to the commencement of construction; – Exact locations of the dedicated water tank at site; – Standard Operating Procedures (SOP) established for management of fire risk; – The emergency contact number (readily available online and is always attended by trained staff); – Key emergency contacts list an emergency contact protocols are available to the CFS, allowing for clear and timely communications to / from the CFS;	• Assumption that equipment will be appropriately maintained and tested. • Assumption that early detection systems will not fail.

Control measure	Uncertainties regarding likely effectiveness of control strategies
– Site mapping with locations of water supply, emergency vehicle access and routes, gates and locks; – Implementing and testing bushfire response plans; – Providing appropriate emergency response training and equipment to all staff and contractors; and – During the construction phase, periodical updates to the CFS as the project is progressively built. • Prior to operations the facility, operators should offer a familiarisation visit and explanation of emergency procedures to the CFS and MFS. Information in relation to the specific hazards and fire suppression requirements of the site should be provided to the CFS and MFS during this visit. In addition, a schedule for ongoing site familiarisation to account for changing personnel, site infrastructure and hazards should be developed in conjunction with the local CFS Brigade. • Toxic fume dispersion in case of fire is considered as part of emergency response where required. • Incorporate presence of toxic gases and fume dispersion being generated from the BESS into site emergency response plan, including appropriate exclusion zones, PPE for Emergency responders and communications required to neighbouring industries and local residents (regarding evacuation or remaining indoors). • All personnel will be briefed on and be expected to comply with the EMP and any other protocols the head contractor deems appropriate. • Prepare a Safety, Reliability, Maintenance and Technical Management Plan (SRMTMP) pursuant to the *Electricity Act 1996.* • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP.	

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**Yes** – mitigation measures, including early detection mechanisms, can avoid initiation of fire outbreak.	Expected Impact: **Moderate to High** Potential impact is high given the proximity of sensitive receivers to the east. Incorporating fire and hazard management practices into CEMP/OMP would minimise impacts ALARP.
Frequency	**Low** – implementation measures and fire-fighting procedures can avoid the initiation of fire and stop its spread should an event occur.	Magnitude of Impact: **High**
Duration	**Short** – fire-fighting and reporting protocols will limit the duration should an impact event occur.	
Extent	**Confined** - impacts are limited to the boundaries of the site.	
Severity	**Low to Medium** – impacts of an event may result in damage to expensive infrastructure.	
Cumulative	**Unlikely** – mitigation measures should avoid impact instances from occurring. Mitigation measures including fire response protocols and reporting should reduce impacts and spread in an event.	
Sensitivity	**Moderate to High** – whilst not densely populated, there are a number of sensitive receivers located on adjoining sites.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ. 2).	• Battery Management Systems (BMS) to be installed and maintained in accordance with manufacturer's instructions.	• Develop fire prevention and management procedures for inclusion in the OMP. • Develop Emergency Management Plan (EMP) and/or Incident Management Plan (IMP) for inclusion in the OMP.

Fire Management: Impact ID # FM4	
Impact event	Fire caused by electrical fault/malfunction from substation.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Equipment fault. Inherent weather event. Human Interference.	Electrical spark initiates fire.	Local residents. Local plants and wildlife. Site buildings and adjoining buildings / structures.	Yes – high voltage electrical currents will be evident on the substation. Appropriate control measures are required to reduce risks of electrical fire.	Operation.	Assumption that equipment will be appropriately maintained and tested. Assumption that signage and security will adequately prevent access/interference by unauthorised persons.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Install and maintain early detection measures for the BMS, including; – Heat detection – Gas detection – Smoke detection – Thermally activated gas suppression. • All personnel will be provided with mandatory induction and awareness training and will be made aware of their responsibilities with regard to reporting and response should an event occur. • Incorporate SA CFS Design Check List design parameters regarding vehicle access, fire water storage/hydrants, vegetation management and vegetation management zone. • Construction of all buildings and structures in compliance with the National Construction Code. • Finalise fire prevention and management procedures as part of the OMP, which may include an Emergency Management Plan (EMP) and/or Incident Management Plan. • An EMP will be prepared concurrent with or as part of the final OMP and will include the following: – A Bushfire Management Plan (BMP) established prior to the commencement of construction; – Exact locations of the dedicated water tank at site; – Standard Operating Procedures (SOP) established for management of fire risk; – The emergency contact number (readily available online and is always attended by trained staff); – Key emergency contacts list an emergency contact protocols are available to the CFS, allowing for clear and timely communications to / from the CFS; – Site mapping with locations of water supply, emergency vehicle access and routes, gates and locks; – Implementing and testing bushfire response plans; – Providing appropriate emergency response training and equipment to all staff and contractors; and – During the construction phase, periodical updates to the CFS as the project is progressively built. • Prior to operations the facility, operators should offer a familiarisation visit and explanation of emergency procedures to the CFS and MFS. Information in relation to the specific hazards and fire suppression requirements of the site should be provided to the CFS and MFS during this visit. In addition, a schedule for ongoing site familiarisation to account for changing personnel, site infrastructure and hazards should be developed in conjunction with the local CFS Brigade. • Toxic fume dispersion in case of fire is considered as part of emergency response where required. • Incorporate presence of toxic gases and fume dispersion being generated from the BESS into site emergency response plan, including appropriate exclusion zones, PPE for Emergency responders and communications required to neighbouring industries and local residents (regarding evacuation or remaining indoors). • All personnel will be briefed on and be expected to comply with the EMP and any other protocols the head contractor deems appropriate. • Prepare a Safety, Reliability, Maintenance and Technical Management Plan (SRMTMP) pursuant to the *Electricity Act 1996*. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP.	• Assumption that equipment will be appropriately maintained and tested. • Assumption that signage and security will adequately prevent access / interference by unauthorised persons.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**Yes** – mitigation measures, including early detection mechanisms, can avoid initiation of fire outbreak.	Expected Impact: **Moderate to High** Potential impact is high given the proximity of sensitive receivers to the east. Incorporating fire and hazard management practices into CEMP/OMP would minimise impacts ALARP.
Frequency	**Low** – implementation measures and fire-fighting procedures can avoid the initiation of fire and stop its spread should an event occur.	Magnitude of Impact: **High**
Duration	**Short-term** – fire-fighting and reporting protocols will limit the duration should an impact event occur.	
Extent	**Confined** - impacts are limited to the boundaries of the site.	
Severity	**Low to Medium** – impacts of an event may result in damage to expensive infrastructure.	
Cumulative	**Unlikely** – mitigation measures should avoid impact instances from occurring. Mitigation measures including fire response protocols and reporting should reduce impacts and spread in an event.	
Sensitivity	**Moderate to High** – whilst not densely populated, there are a number of sensitive receivers located on adjoining sites.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ. 2).	• Fire prevention and firefighting equipment is present, certified and maintained in accordance with applicable standards.	• Develop fire prevention and management procedures for inclusion in the OMP. • Develop Emergency Management Plan (EMP) and/or Incident Management Plan (IMP) for inclusion in the OMP.

5.2.7 Hazardous Substances

5.2.7.1 Context

Table 17 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to hazardous substances.

Table 17: Context Summary for Hazardous Substances

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Environment Protection Act 1993.* • *Environment Protection Regulations 2009.* • *South Australian Dangerous Substances Act 1979.* • *South Australian Dangerous Substances (General) Regulation 2017.*	• EPA Guidelines for Bunding and Spill Management. • Australian Code for the Transport of Dangerous Goods by Road and Rail 7th Ed., Australian Standards AS1940 and AS 3833. • Safety Data Sheets (SDS) information specific to the substance(s) being handled and stored. • Australian Standard AS1940-2017: The storage and handling of flammable and combustible liquids.	No specific comments received from community or Government Agencies in relation to hazardous substances.	• Contamination of surface water and/or groundwater, including stormwater systems. • Health impacts to humans and wildlife due to • contaminated water supply.

5.2.7.2 Impact Events

The potential impact events relevant to hazardous substances include:

- Contamination of the environment with hazardous substances/materials (HS1).

5.2.7.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Moderate** category. The site of the development does not contain surface water and is a highly disturbed site, which may comprise contaminated ground water associated with the previous activities as a power station. The potential for contamination of the environment by the regulated activities are considered manageable. With the application of mitigation measures relating to construction and operation phases, the impacts are considered ALARP.

5.2.7.4 Environmental Impact and Significance Assessment

Hazardous Substances: Impact ID # HS1	
Impact event	Contamination of the environment with hazardous substances/materials.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Construction compound, BESS, inverters and substation.	Contamination of soil and water runoff due to chemical/material spills.	Local residents. Local soil and water sources. Native vegetation and/or biodiversity.	Yes – construction compounds are required to undertake construction works. Appropriate control measures (bunding and spill management) are required to reduce risk of spills.	BESS and Transmission Corridor Construction. Operation.	Unknown chemicals and quantities required to be stored on-site to complete construction works.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Hazard Management Plan (HMP) developed, approved and complied with for inclusion in the OMP and CEMP which includes procedures for spill management and storage of hazardous materials. • Implementation of bunding/spill management in accordance with EPA requirements, OMP and CEMP. • Implementation of surface drainage measures to control runoff generated within the site in accordance with the OMP and CEMP. • All personnel will be briefed on relevant protocols for the storage, handling and remediation protocols for hazardous materials. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP.	• Unknown chemicals and quantities required to be stored on-site to complete construction works and during operation. • Assumption that spill management equipment will be installed and maintained appropriately.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**Yes** – appropriate procedures will be implemented for safe storage and handling of chemicals / hazardous materials.	Expected Impact: **Moderate** Appropriate spill and bunding measures incorporated in the CEMP/OMP (in accordance with EPA Bunding and spill management guidelines) would minimise impacts ALARP.
Frequency	**Low** – avoidance measures will reduce the likelihood of an event occurring.	Magnitude of Impact: **Moderate**
Duration	**Medium-term** – hazardous substances / materials may be kept on site from construction through the lifespan of the project (20+ years).	
Extent	**Confined** – impacts are limited to the area of a spill event. Control measures will ensure appropriate cleanup is undertaken to prevent impacts spreading.	
Severity	**Low** – affected soil / water may need to be disposed of to prevent spread.	
Cumulative	**Unlikely** – appropriate procedures will be implemented for safe storage and handling of chemicals.	
Sensitivity	**Moderate** – the site will not be occupied by persons, however, impacts to surface water and ground water that extends beyond the subject land may impact the community.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No disturbance or contamination of soil by hazardous substances or materials (SEO OBJ. 7).	• Compliance with the: – *Environment Protection Act 1993.* – *Environment Protection (Water Quality) Policy 2015.*	• Develop a Hazard Management Plan for inclusion in the OMP.

5.2.8 Land Use

5.2.8.1 Context

Table 18 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to land use.

Table 18: Context Summary for Land Use

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Planning, Development and Infrastructure Act 2016* • *Planning, Development and Infrastructure (General) Regulations 2017.*	• Planning and Design Code.	Department for Housing and Urban Development (DHUD) indicated the development was appropriate within the Strategic Employment Zone, noting the need to address potential interface/amenity considerations such as noise, dust etc. Views expressed by members of the community, including residents in the locality, were supportive of the proposed development within the former power station site.	• Local community residents and land owners.

5.2.8.2 Impact Events

The potential impact events relevant to land use include:

- Compatibility of the BESS with land use policies (LU1).

5.2.8.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the Negligible -Low category, as the regulated activities are proposed within the Strategic Employment Zone (of the Planning and Design Code), which specifically anticipates the development of renewable energy facilities.

5.2.8.4 Environmental Impact and Significance Assessment

Land Use: Impact ID # LU1	
Impact event	Compatibility of the BESS with land use policies.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Interface between land uses within the Strategic Employment Zone and adjacent zones, including the Rural Living Zone and Conservation Zone.	Land use conflicts and interface with more sensitive uses.	Local residents. Adjacent land owners. Port Augusta City Council.	No – site of the development is entirely within the Strategic Employment Zone where renewable energy facilities are anticipated.	Operation.	No uncertainty or assumptions apply.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Incorporate appropriate setbacks of BESS and associated infrastructure from boundaries of the Rural Living Zone. • Establish and maintain landscaping to screen on-site activities, in accordance with the site plans and recommendations in the Landskap Visual Assessment Report prior to operation.	• Assumption that potential interface impacts have been appropriately interpreted.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**Yes** – renewable energy facilities to be constructed only within identified zones which includes the Strategic Employment Zone.	Expected Impact: **Low** The project is within an appropriately zone, namely the Strategic Employment Zone.
Frequency	**High** – interface impacts for the life of the project.	Magnitude of Impact: **Negligible**
Duration	**Long-term** – the lifespan of a BESS facility is 20+ years.	
Extent	**Localised** – interface between Strategic Employment Zone and Rural Living Zone and Conservation Zone.	
Severity	**Low** - The locale has an existing electrical infrastructure focus. The BESS is low in scale within the context of infrastructure facilities within the locale including the Davenport Substation located on the land immediately west of the subject land.	
Cumulative	**Potential** – if other renewable infrastructure projects are constructed within the locale, Council may undertake a Code Amendment to change the zoning to allow for and encourage further renewable energy infrastructure projects.	
Sensitivity	**Low** – the surrounding residential environment is semi-rural in nature with dwellings located on very large allotments with large separation distances. The nearest sensitive receiver will be located some 500m southeast of the subject land.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	Not applicable.	Not applicable.	Not applicable.

5.2.9 Native Vegetation

5.2.9.1 Context

Table 19 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to native vegetation.

Table 19: Context summary for Native Vegetation

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *South Australian Native Vegetation Act 1991 and Regulations.* • *Commonwealth Environment Protection and Biodiversity Act 1999.* • *National Parks and Wildlife Act 1972.*	• Guide for applications to clear native vegetation.	Native Vegetation Council did not provide comment on the draft EIR and SEO. In-principle approval has been granted by the Native Vegetation Council (by email dated 1 December 2025) for the clearance of 6.7 ha of vegetation in accordance with Application No. 2025/3325/660.	• Native vegetation • Native flora and fauna • Threatened flora • Threatened fauna

5.2.9.2 Native Vegetation Impact Events

- Clearance or disturbance of native vegetation that results in loss or degradation of native vegetation and biodiversity (NV1).

5.2.9.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Negligible - Low** category as the site is highly disturbed. Potential impacts on regenerated native vegetation on the development site have been assessed, and approval will be sought from the Native Vegetation Council for the clearance of native vegetation. The remainder of the land within the development site has already been cleared or would be retained by the layout of the regulated activities. With the application of mitigation measures particularly during construction, the impacts are considered ALARP.

The following tables detail the impact assessment for the identified impact events.

5.2.9.4 Environmental Impact and Significance Assessment

Native Vegetation: Impact ID # NV1	
Impact event	Clearance or disturbance of native vegetation that results in loss or degradation of native vegetation and biodiversity.

	Source	**Pathway**	**Receptor**	**Confirmation of SPR**	**Project Phase**	**SPR uncertainties and assumptions**
Potential Impact	Clearance of native vegetation for regulated activities.	Physical disturbance/removal of vegetation.	Native flora and fauna.	Yes – native vegetation assessment has identified occurrence with the project area. Clearance is necessary to establish the project.	Site Establishment. BESS and Transmission Corridor Construction. Operation. Decommissioning & Rehabilitation.	SPR confirmation is based on native plant and animal species identified and analysed in Native Vegetation Clearance Data Report prepared by Environments by Design.

Control measure	**Uncertainties regarding likely effectiveness of control strategies**
• Appropriate ecological assessments undertaken and areas of vegetation identified to be retained and removed, as per Native Vegetation Clearance Data Report prepared by Environments by Design. • Development site largely located within previously disturbed area. • Vehicle access utilises local roads and existing internal access driveways. • Native Vegetation clearance application lodged and approved under the Native Vegetation Act prior to construction. • Limit vegetation clearing to that required for construction and safety. • All vegetation clearing or disturbance is approved and undertaken in compliance with Native Vegetation Council approval and conditions. • Payment into the native vegetation fund is done so in accordance with the relevant assessment methodology and associated standards. • Vegetation preservation and revegetation protocols developed, approved and complied with for inclusion in the CEMP and OMP. • Best practices for avoiding disturbance of fauna developed, approved and complied with for inclusion in the CEMP and OMP. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated.	• High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	**Environmental significance assessment outcome**
Avoidance	**No** – removal of native vegetation (in accordance with NVC approval) is required to facilitate construction.	Expected impact: **Low** A large area of the development site has previously been cleared of native vegetation; however, 6.7ha of vegetation will be cleared associated with the regulated activities. Clearance will be undertaken in accordance with the NVC permit conditions.
Frequency	**Low**– native vegetation will be cleared from the site prior to the commencement of construction.	Magnitude of Impact: **Negligible**
Duration	**Short-term** – risk to flora and fauna is limited to the site establishment and construction phases. Risk significantly decreases once the site is in operation as the site will not be frequently visited by personnel or vehicles.	
Extent	**Localised** – impacts are limited to the development site.	
Severity	**Low** – the subject land is not of high ecological value (i.e., not part of a conservation area or wildlife habitat). Proposed activities are small scale and generally, with control measures in place, are not expected to generate impacts that would result in the degradation biodiversity.	
Cumulative	**Possible**– clearance of multiple sites in close proximity may impact biodiversity.	
Sensitivity	**Low** – subject land is generally arid and not of a high ecological value (i.e., not part of a conservation area or wildlife habitat). The development site contains an area previously disturbed and utilised as a borrow pit. There are patches of native vegetation which are to be retained.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No clearance of native vegetation or disturbance to native fauna unless prior approval under the relevant legislation is obtained (SEO OBJ. 6).	• Compliance with the NVC clearance approval and conditions. • Compliance with the following legislation: – *Native Vegetation Act 1991.* – *Environment Protection and Biodiversity Conservation Act 1999.* – *Landscape South Australia Act 2019.* – *National Parks and Wildlife Act 1972.*	• Apply for NVC clearance certificate. • Pay Significant Environmental Benefits contribution fee. • Develop vegetation preservation and revegetation protocols for inclusion in the OMP. • Develop best practices for avoiding disturbance of fauna for inclusion in the OMP. • Develop a Decommissioning and Rehabilitation Plan for inclusion to the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

5.2.10 Noise

5.2.10.1 Context

Table 20 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to noise.

- Local residents disturbed by noise generated from increased traffic movements and use of heavy vehicles and equipment (N1).
- Local residents disturbed by noise generated from construction activities (N2).
- Local residents disturbed by noise from BESS and substation facility (N3).

Table 20: Context Summary for Noise

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Environment Protection Act 1993.* • *Local Nuisance and Litter Control Act 2016.*	• Environment Protection (Commercial and Industrial Noise) Policy 2023. • Guideline for the Management of Noise and Vibration: Construction and Maintenance Activities (Department of Infrastructure and Transport). • Australian Standard AS2436-2010: Guide to noise and vibration control on construction, demolition and maintenance sites.	Comments received from members of the community, particularly those within the locality were pleased to note that the development was located further from their dwellings than previous BESS proposals. There was general support for the proposed development and not specific concerns relating to potential noise impacts. Comments were received from members of the community, particularly those in the locality, that were pleased that vehicle movements would be via Northern Power Station Road and not roads within the rural living area.	• Local community/residents.

5.2.10.2 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Low-Moderate** category. Potential noise impacts to sensitive receivers located to the east and south-east of the development site (within the Rural Living Zone) are appropriately managed, as detailed in the Environmental Noise Assessment report. With the application of mitigation measures the impacts are considered ALARP.

5.2.10.3 Environmental Impact and Significance Assessment

Noise: Impact ID # N1	
Impact event	Local residents disturbed by noise generated from increased traffic movements and use of heavy vehicles and equipment.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Noise generated by vehicle access and movements.	Acoustic waves through air.	Local residents.	Yes – some noise will be heard by local residents during the construction period.	BESS and Transmission Corridor Construction. Operation. Decommissioning & Rehabilitation.	Noise emissions assumed to be in accordance with Environment Protection (Commercial and Industrial Noise) Policy 2023.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Identify sensitive noise receptors and plan site establishment in a manner that maximises noise attenuation. • CEMP and OMP developed, approved and complied which includes reasonable and practicable noise mitigation measures relating to vehicles and plant/equipment, including speed of vehicles, use of internal access roads and hours of construction. • Provide an induction for all project team members and contractors for noise management prior to the commencement of works. • Maintain a complaints register and respond to any complaints received. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP	• Noise emissions assumed to be in accordance with Environment Protection (Commercial and Industrial Noise) Policy 2023.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – vehicles and machinery are required to access the site during construction. Control measures include use of designated route to access site via Augusta Highway and Northern Power Station Road, which are not adjacent sensitive users.	Expected Impact: **Low** Noise pollution may lead to a loss of amenity for adjoining residents during site establishment and the construction period. Impacts will be mitigated ALARP by compliance with the *Environment Protection Act 1993*, the EPA (Commercial and Industrial Noise) Policy 2023, *Local Nuisance and Litter Control Act 2016* and measures incorporated in the CEMP/OMP.
Frequency	**Medium to High** – during the construction period there will be increased traffic movement to/from the site. Heavy vehicles are necessary to delivery materials and equipment to site.	Magnitude of Impact: **Low**
Duration	**Short-term** – construction and site preparation will take between 18 and 24months from commencement to completion. Impacts will be minimised by undertaking works in accordance with an appropriate CEMP and OMP.	
Extent	**Limited** – noise impacts are limited to the adjoining and adjacent sensitive receivers (residents).	
Severity	**Low** –Impacts from noise can be mitigated where reasonable and practicable. Construction activities will comply the with EPA Noise Policy.	
Cumulative	**Potential** – if other construction projects are occurring nearby and at the same time.	
Sensitivity	**Moderate** – residents of the adjoining and adjacent dwellings (within the Rural Living Zone) enjoy and expect to continue to benefit from a high level of amenity.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No significant noise or vibration resulting from the regulated activities in excess of the parameters of the Environment Protection (Commercial and Industrial Noise) Policy 2023 (SEO OBJ. 8). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Compliance with the following: – *Environment Protection Act 1993.* – *Environment Protection (Commercial and Industrial Noise) Policy 2023.* • Guideline for the Management of Noise and Vibration: Construction and Maintenance Activities (Department of Infrastructure and Transport). • Australian Standard AS2436-2010: Guide to noise and vibration control on construction, demolition and maintenance sites. • Stakeholder complaints are documented and steps taken to resolve them is demonstrated/documented in a complaints register.	• Incorporate relevant EPA Noise objectives for construction in the CEMP/OMP. • Incorporate vehicle management techniques in the CEMP/OMP. • Establish and maintain a stakeholder complaints register. • Develop a Decommissioning Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the project time plan and budget.

Noise: Impact ID # N2	
Impact event	Local residents disturbed by noise generated from construction activities.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Noise generated by construction activities (i.e., excavation, loading/unloading of materials etc)	Acoustic waves through air.	Local residents.	Yes – some noise will be heard by local residents during the construction period.	BESS and Transmission Corridor Construction. Decommissioning & Rehabilitation.	Noise emissions assumed to be in accordance with Environment Protection (Commercial and Industrial Noise) Policy 2023.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Identify sensitive noise receptors and plan site establishment in a manner that maximises noise attenuation. • CEMP and OMP developed, approved and complied which includes reasonable and practicable noise mitigation measures. • Provide an induction for all project team members and contractors for noise management prior to the commencement of works. • Maintain a complaints register and respond to any complaints received. • OMP includes and decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitation.	• Noise emissions assumed to be in accordance with Environment Protection (Commercial and Industrial Noise) Policy 2023.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – vehicles and machinery are required to during construction.	Expected Impact: **Moderate** Noise pollution may lead to a loss of amenity for adjoining residents during site establishment and the construction period. Impacts will be mitigated ALARP by compliance with the *Environment Protection Act 1993*, the EPA (Commercial and Industrial Noise) Policy 2023, *Local Nuisance and Litter Control Act 2016* and measures incorporated in the CEMP/OMP.
Frequency	**Medium to High** – during the construction period there will be increased traffic movement to / from the site. Heavy vehicles are necessary to delivery materials and equipment to site.	Magnitude of Impact: **Moderate.**
Duration	**Short-term** – construction and site preparation will take between 18 and 24months from commencement to completion. Impacts will be minimised by undertaking works in accordance with an appropriate CEMP/ OMP,	
Extent	**Limited** – noise impacts are limited to the adjoining and adjacent sensitive receivers (residents).	
Severity	**Low** –Impacts from noise can be mitigated where reasonable and practicable. Construction activities will comply the with EPA Noise Policy and construction guidelines.	
Cumulative	**Potential** – if other construction projects are occurring nearby and at the same time.	
Sensitivity	**Moderate** – residents of the adjoining and adjacent dwellings (within the Rural Living Zone) enjoy and expect to continue to benefit from a high level of amenity.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No significant noise or vibration resulting from the regulated activities in excess of the parameters of the Environment Protection (Commercial and Industrial Noise) Policy 2023 (SEO OBJ. 8).	• Compliance with the following: – *Environment Protection Act 1993.* – Environment Protection (Commercial and Industrial Noise) Policy 2023. • Guideline for the Management of Noise and Vibration: Construction and Maintenance Activities (Department of Infrastructure and Transport). • Australian Standard AS2436-2010: Guide to noise and vibration control on construction, demolition and maintenance sites. • Stakeholder complaints are documented and steps taken to resolve them is demonstrated/documented in a complaints register.	• Incorporate relevant EPA Noise policies in the CEMP/OMP. • Establish and maintain a stakeholder complaints register. • Develop a Decommissioning and Rehabilitation Plan or inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the project time plan and budget.
	Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).		

Noise: Impact ID # N3	
Impact event	Local residents disturbed by noise from BESS and substation facility.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Noise generated from on-site equipment (e.g., batteries, inverters).	Acoustic waves through air.	Local residents.	Yes	Operation.	Noise emissions assumed to be in accordance with Environment Protection (Commercial and Industrial Noise) Policy 2023.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Undertake Noise Modelling and incorporate recommended mitigation controls and monitoring into the OMP. • Identify sensitive noise receptors and plan site establishment in a manner that maximises noise attenuation. • Undertake noise modelling and incorporate recommended mitigation controls and monitoring into the OMP. BESS will satisfy the noise criteria and the environmental objectives where: – each of the 52 inverters achieve a maximum sound power level of 86 dB(A) – each of the 208 batteries achieve a maximum sound power level of 84 dB(A) – the BESS is designed and operated such that it does not generate dominant noise characteristics at the receptors. • OMP developed, approved and complied which includes reasonable and practicable noise mitigation measures. • Provide an induction for all project team members and contractors for noise management prior to the commencement of works. • Maintain a complaints register and respond to any complaints received. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP	• Noise emissions assumed to be in accordance with Environment Protection (Commercial and Industrial Noise) Policy 2023. • Noise modelling required prior to finalisation of design with selected models of batteries and inverters.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – cooling fans are required on batteries and inverters to reduce the risk of equipment overheating and fire hazard.	Expected Impact: **Moderate** Noise pollution may lead to a loss of amenity for adjoining residents during site establishment and the construction period. Impacts will be mitigated ALARP by compliance with the *Environment Protection Act 1993*, the EPA (Commercial and Industrial Noise) Policy 2023, *Local Nuisance and Litter Control Act 2016* and measures incorporated in the CEMP/OMP.
Frequency	**Medium** – fans will typically run more often and for longer periods of time on hotter days/nights.	Magnitude of Impact: **Moderate.**
Duration	**Medium to long-term** – noise from cooling systems will be intermittent over the lifespan of the BESS.	
Extent	**Limited** – noise impacts are limited to the adjoining and adjacent sensitive receivers (residents).	
Severity	**Low** – noise will be mitigated as far as is practicable by boundary setbacks and regulated sound power levels of equipment.	
Cumulative	**Potential** – if other BESS facilities are approved nearby the cumulative noise impacts could amplify.	
Sensitivity	**Moderate** – residents of the adjoining and adjacent dwellings (within the Rural Living Zone) enjoy and expect to continue existing level of amenity	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No significant noise or vibration resulting from the regulated activities in excess of the parameters of the Environment Protection (Commercial and Industrial Noise) Policy 2023 (SEO OBJ. 8).	• Compliance with the following: – *Environment Protection Act 1993.* – Environment Protection (Commercial and Industrial Noise) Policy 2023. • Australian Standard AS2436-2010: Guide to noise and vibration control on construction, demolition and maintenance sites. • Stakeholder complaints are documented and steps taken to resolve them is demonstrated/documented in a complaints register.	• Incorporate relevant EPA Noise policies in the OMP. • Incorporate recommendations of the Noise Modelling in the OMP. • Establish and maintain a stakeholder complaints register.

5.2.11 Traffic

5.2.11.1 Context

Table 21 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to traffic.

Table 21: Context Summary for Traffic

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Road Traffic Act 1961.* • *Road Traffic (Road Rules – Ancillary and Miscellaneous Provisions) Regulations 2014.* • *Local Government Act 1999.* • *Local Nuisance and Litter Control Act 2016.*	• Australian Road Research Board (ARRB) Best Practice Guide for Unsealed Roads October 2020, Edition 2. • Australian Standard AS2890.1:2024. • Australian Standard AS2890.2:2018. • Austroads' Guide to Road Design – Part 3: Geometric Design (February 2021). • Austroads' Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections (February 2021).	Comments were received from members of the community, particularly those in the locality, that were pleased that vehicle movements would be via Northern Power Station Road and not roads within the rural living area. No comment was received from the Commissioner of Highways.	• Council and DIT road maintenance. • Road users, including passenger vehicles, heavy vehicles, pedestrians and cyclists. • Disturbance to nearby sensitive receivers including residential dwellings and/or wildlife along the construction route to and from the site. • Possible property damage through vibrations impacts along haul route to and from construction site. • Accelerated deterioration of local road network.

5.2.11.2 Impact Events

The potential impact events relevant to traffic include:

- Road users and residents disrupted by project-related traffic increases (T1).

5.2.11.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Negligible-Low** category, as the regulated activities would gain vehicular access from Augusta Highway and Northern Power Station Road, which is well separated from sensitive receivers. In addition, with the application of mitigation measures during the construction phase, the impacts are considered ALARP.

5.2.11.4 Environmental Impact and Significance Assessment

Traffic: Impact ID # T1	
Impact event	Road users and residents disrupted by project-related traffic increases.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Use of Augusta Highway and Northern Power Station Road for vehicle access including OSOM vehicles access.	Disturbance	Road users. Local community.	• Yes – public road infrastructure utilised for development.	• Site Establishment. • Stormwater Basin Construction. • BESS and Transmission Corridor Construction. • Operation. • Decommissioning and Rehabilitation.	No uncertainty or assumptions apply – vehicle access route established

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Identify dust sensitive locations (i.e., residential dwellings etc) prior to the commencement of construction. • Prepare a traffic management control measures for inclusion in the CEMP/ OMP • Obtain approvals (as required) for Restricted Access Vehicles (RAVs) and/or Over-Dimension and Over-Mass (OSOM) vehicles, from the National Heavy Vehicle Regulator (NHVR) and the road managers (Port Augusta City Council and the Department for Infrastructure and Transport). • All personnel will be briefed on and expected to comply with the EPA's Air Quality Policy and any other relevant protocols the head contractor deems appropriate, as included in the CEMP/OMP.	• Yes uncertainty as to whether OSOM vehicles are utilised in construction (and ongoing maintenance) of the development. • Uncertainty surrounding quantity of vehicle movements required during construction. • Assumption that baseline used in the traffic impact assessment is transferrable to this project.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – Vehicles will utilise public roads. Control measures include use of designated route to access site via Augusta Highway and Northern Power Station Road, which are not adjacent sensitive users.	Expected Impact: **Low** Given that disruptions will be limited in extent and duration and the use of roads which currently service land uses/industry within the Strategic Employment Zone. Traffic movements are not proposed on local roads that pass dwellings within the Rural Living Zone. Management measures are identified in CEMP/OMP regarding traffic routes for construction and operational phases of the project.
Frequency	**Low** – disruptions will be minimised as much as possible and will be limited in their extent and duration.	Magnitude of Impact: **Negligible**

	Environmental significance assessment	Environmental significance assessment outcome
Duration	**Short-term** – construction and site preparation will take between 18 and 24months from commencement to completion. Impacts will be minimised by undertaking works in accordance with an appropriate traffic management measures in the CEMP/ OMP. Vehicle movements during operational and maintenance phase of project will be low in number and continue to utilise Augusta Highway and Northern Power Station Road.	
Extent	**Limited** – disruption will be limited to Augusta Highway and Northern Power Station Road.	
Severity	**Low** –Both Augusta Highway and Northern Power Station Road are designed and have the capacity to accommodate vehicles associated with the development. Augusta Highway is gazetted for use by Restricted Access Vehicles (RAVs) up to 36.5 m in length (Road Trains) and PBS Level 3B vehicles. Northern Power Station Road is gazetted for use by Restricted Access Vehicles (RAVs) up to 36.5 m in length (Road Trains) and PBS Level 3A vehicles.	
Cumulative	**Potential** – Other construction activities in the locality may compound traffic disruption.	
Sensitivity	**Low**– Northern Power Station Road and Augusta Highway are utilised by heavy vehicles and passenger vehicles and provide access to existing industrial activities on the subject land.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	Minimise disruption to local residents and road users during construction (SEO OBJ. 9).	• Compliance with the following: – *Road Traffic Act 1961.* • Stakeholder complaints are documented and steps taken to resolve them is demonstrated/documented in a complaints register.	• Develop traffic management measures for inclusion in the CEMP/OMP. • Establish and maintain a stakeholder complaints register.

5.2.12 Water Quality, Erosion and Sedimentation

5.2.12.1 Context

Table 22 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to water quality, erosion and sedimentation.

Table 22: Context Summary for Water Quality, Erosion and Sedimentation

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Environment Protection Act 1993.* • *Environment Protection Regulations 2009.* • *Landscape South Australia Act 2019.* • *Local Nuisance and Litter Control Act 2016*.	• Environment Protection (Water Quality) Policy 2015. • EPA: Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry. • Landscape Board: Land Management Control Policy.	Comments received from the SA Arid Lands Landscape Board, but they did not specifically relate to water quality, erosion or sedimentation.	• Surface water • Groundwater • Users of surface water and ground water • Ecosystems

5.2.12.2 Impact Events

The potential impact events relevant to water quality, erosion and sedimentation include:

- Nuisance to local residents and road users from soil and / or water on public road (WQES1).
- Civil construction works adversely impacting surface water and groundwater resources through disturbance or sedimentation (WQES2).
- Contamination of surface water and groundwater resources (WQES3).

5.2.12.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts range from **Negligible to Moderate.** There is uncertainty to the extent of existing groundwater contamination on the development site due to previous power station activities. However, the application of mitigation measures for the regulated activities are considered to manage the impacts ALARP.

Potential impacts from the proposed activities are localised and small scale and readily manageable using standard control measures.

5.2.12.4 Environmental Impact and Significance Assessment

Water Quality. Erosion and Sedimentation: Impact ID # WQES1	
Impact event	Nuisance to local residents and road users from soil and/or water on public road.

	Source	**Pathway**	**Receptor**	**Confirmation of SPR**	**Project Phase**	**SPR uncertainties and assumptions**
Potential Impact	Driveways and access point not compacted or sealed adequately to prevent soil/water leaving the site. Vehicles not being adequately cleaned prior to exiting the site.	Sediment tracked onto public roads via vehicles moving to/from site.	Local road users. Local community.	Yes – vehicles are required to access the site during construction. Appropriate control measures are required to reduce risks soil and water leaving the site.	BESS and Transmission Corridor Construction. Decommissioning & Rehabilitation.	No uncertainty or assumptions apply.

Control measure	**Uncertainties regarding likely effectiveness of control strategies**
• Prepare a Soil Erosion and Drainage Management Plan (SEDMP) prior to construction with recommendations incorporated into CEMP/OMP. • All personnel to be briefed on and expected to comply with the SEDMP requirements and any other protocols deemed relevant by the head contractor. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated.	• No uncertainty or assumptions apply.

	Environmental significance assessment	**Environmental significance assessment outcome**
Avoidance	**Yes** – establish new driveways / access tracks with all-weather surface treatment; implement surface runoff and sediment controls during construction in accordance with Management Plan(s) / OMP ; and wash down vehicle tyres and surrounds prior to vehicles exiting the site, where required.	Expected Impact: **Low** Impacts mitigated ALARP by compliance with the *Environment Protection Act 1993*, Environment Protection (Water Quality) Policy 2015, *Local Nuisance and Litter Control Act 2016* and the measures incorporated in the management plans (SEDMP/CEMP and OMP).
Frequency	**Low** – all personnel will be briefed on relevant protocols and will be expected to follow the recommendations of the Management Plans and any other protocols the head contractor deems appropriate.	Magnitude of Impact: **Negligible**
Duration	**Short-term** – any instances will be rectified by relevant personnel as soon as is practicable.	
Extent	**Limited** – instances will be limited to Northern Power Station Road within proximity of the development site. Multiple occurrences could lead to numerous complaints and an overall negative perception of the project long-term.	
Severity	**Low** – the scale of the disruption will be low and of mere nuisance value.	
Cumulative	**Potential** – multiple occurrences may result in complaints from local residents and business owners.	
Sensitivity	**Low** – site is within highly disturbed industrial environment and vehicles utilise Northern Power Station Road and not local roads which service dwelling within the Rural Living Zone.	

	Proposed environmental objective	**Assessment criteria**	**Leading performance criteria**
SEO	No significant changes in soil stability, structure, quality or composition resulting from regulated activities (SEO OBJ. 10). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Compliance with the following legislation: – *Environment Protection Act 1993.* – *Environment Protection (Water Quality) Policy 2015.* – EPA: Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry.	• Develop a SEDMP for inclusion in the CEMP/OMP. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the project time plan and budget.

Water Quality. Erosion and Sedimentation : Impact ID # WQES2	
Impact event	Civil construction works adversely impacting surface water and groundwater resources through disturbance or sedimentation.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Vehicle movements to/from the site. Removal of vegetation. Changes to ground levels and stability.	Surface water runoff.	Downstream water systems, including natural systems (i.e., Spencer Gulf to the west), groundwater and urban stormwater systems. Native vegetation and/or biodiversity.	Yes – construction will result in changed surface conditions. Vehicle access is required to facilitate the project.	BESS and Transmission Corridor Construction. Decommissioning & Rehabilitation.	Surface water and sediment control will be managed to industry standards.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Undertake surface water assessment prior to work and identify permanent and ephemeral surface water features • Areas with permanent or ephemeral surface water are avoided. • Construct swales and detention basin in accordance with plans and Stormwater Management Strategy by WGA. • Water affecting activity permits obtained where required under the relevant landscape board's Water Affecting Activities Control Policy. • Prepare a Soil Erosion and Drainage Management Plan (SEDMP) prior to construction with recommendations incorporated into CEMP/OMP. • Excavated material is stockpiled and reused for backfill wherever possible. • Sediment and erosion control measures, e.g., earth bunds, soil stabilisers, silt fences) installed where necessary. • Integrity of sediment and erosion controls inspected following significant rainfall events and any necessary maintenance implemented. • Groundwater dependent ecosystems are identified and avoided. • All personnel to be briefed on and expected to comply with the SEDMP requirements and any other protocols deemed relevant by the head contractor. • OMP includes a decommissioning and rehabilitation plan (or similar) that outlines how any infrastructure for equipment will be decommissioned and the land rehabilitated.	• Moderate to High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented. • Previous excavation of the development site has altered surface water and ground water.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** - the primary control measure is avoidance of surface water bodies, limiting the possibility for sedimentation to reach water bodies, however, complete avoidance may not be possible for all projects.	Expected Impact: **Moderate** Impacts to be mitigated by compliance with site design and stormwater management measures, the *Environment Protection Act 1993,* Environment Protection (Water Quality) Policy 2015 and the measures incorporated in the CEMP/OMP.
Frequency	**Low -Moderate** – Clearance of native vegetation and earthworks are expected to occur principally at construction. Potential additional earthworks required at decommissioning and for occasional maintenance. However, disturbed areas over time may result in sedimentation of runoff to surface waters, however onsite controls are included in design to manage sedimentation.	Magnitude of Impact: **Moderate**
Duration	**Short to Medium-term** – Impacts are generally expected to be limited based on the disturbed nature of the site and disturbance activities being managed in accordance with the Stormwater Management Strategy. Control measures identified are recognised as standard practice for limiting sedimentation to surface waters. However, disturbed areas over time may result in sedimentation of runoff to surface waters that may be difficult to reverse.	
Extent	**Localised** - Proposed activities are generally within existing disturbed areas and sedimentation runoff to surface water would be limited in extent. Control measures identified are recognised as standard practice for limiting sedimentation to surface waters.	
Severity	**Low to Medium** – The scale of the activities within the existing disturbed area, in conjunction with the control measures in place, are not expected to generate impacts that would result in the degradation of surface water quality.	
Cumulative	**Possible** - -Potential cumulative effects on surface water quality depend on scope of other projects on the subject land. Where multiple projects are within a similar area, the potential exists for sedimentation to generate cumulative effects on surface waters.	
Sensitivity	**Moderate** -The site is within disturbed industrial land and does not extend to the more sensitive areas of the subject land adjacent Spencer Gulf.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No significant disturbance to surface drainage patterns and no adverse impacts to surface water and groundwater quality or quantity (SEO OBJ. 10).	• Compliance with the following legislation: – *Environment Protection Act 1993.* – Environment Protection (Water Quality) Policy 2015.	• Develop a SEDMP for inclusion in the CEMP/OMP.

	Proposed environmental objective	Assessment criteria	Leading performance criteria
	Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	– EPA: Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry. • Management and monitoring measures for erosion, sedimentation and surface water impacts documented in the CEMP/OMP.	• Sediment and erosion control measures installed in accordance with Stormwater Management Strategy by WGA. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

Water Quality, Erosion and Sedimentation: Impact ID # WQES3	
Impact event	Contamination of surface water and groundwater resources.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Contamination of soil and water runoff due to chemical/material spills from installed plant and equipment.	Surface water runoff and groundwater.	Downstream water systems, including natural systems (Spencer Gulf to the west), ground water and urban stormwater systems. Native vegetation and/or biodiversity.	Yes – Appropriate control measures are required to reduce risks e.g., bunded cabinet, sealed inverter units etc.	Operation.	That potential contamination would extend beyond the site of the development and subject land. Control measures will be managed to industry standards.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Implementation of bunding/spill management in accordance with EPA requirements in CEMP/OMP. • Hazard Management Plan (HMP) developed, approved and complied with for inclusion in the CEMP/OMP which includes procedures for spill management and storage of hazardous materials. • Implement surface drainage measures to control runoff generated within the site in accordance with the OMP and CEMP. • All personnel will be briefed on relevant protocols for the storage, handling and remediation protocols for hazardous materials. • Prepare a Soil Erosion and Drainage Management Plan (SEDMP) prior to construction with recommendations incorporated into CEMP/OMP. • All personnel to be briefed on and expected to comply with the SEDMP requirements and any other protocols deemed relevant by the head contractor. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP.	• Water quality control will be managed to industry standards and incorporate measures in Stormwater Management Strategy. • The extent and nature of groundwater contamination as it relates to the site of the development is unknown, however control measures for the regulated activities are considered appropriate.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** –primary control measure is avoiding impact by appropriate procedures for safe storage and handling of chemicals / hazardous materials; however, there may be instances where a events occur that impact groundwater or surface water.	Expected Impact: **Moderate** With appropriate spill and bunding measures incorporated (in accordance with EPA Bunding and spill management guidelines) as Avoidance measures and clean up protocols within the OMP.
Frequency	**Low** – avoidance measures will reduce the likelihood of an event occurring.	Magnitude of Impact: **Moderate**
Duration	**Medium-term** – hazardous substances / materials may be kept on site from construction through the lifespan of the project (20+ years).	
Extent	**Localised** – impacts are limited to the area of a spill event. Control measures will ensure appropriate cleanup is undertaken to prevent impacts spreading.	
Severity	**Moderate** – affected soil/water may need to be disposed of to prevent spread.	
Cumulative	**Unlikely** – appropriate procedures will be implemented for safe storage and handling of chemicals.	
Sensitivity	**Moderate** – the site is disturbed industrial land that is identified as potentially contaminated groundwater.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No significant changes in soil stability, structure, quality or composition resulting from regulated activities (SEO OBJ. 10).	• Compliance with the following legislation: – *Environment Protection Act 1993.* – *Environment Protection (Water Quality) Policy 2015.* – EPA: Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry.	• Develop a Hazard Management Plan (HMP) for inclusion in the CEMP/OMP. • Develop a SEDMP for inclusion in the CEMP/OMP. • Sediment and erosion control measures installed in accordance with Stormwater Management Strategy by WGA.

5.2.13 Visual Impact

5.2.13.1 Context

Table 23 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to visual impact.

Table 23: Context Summary for Visual Impact

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Planning, Development and Infrastructure Act 2016.* • *Planning, Development and Infrastructure (General) Regulations 2017.*	• Planning and Design Code.	General comments were made from members of the locality that they were not concerned about the visual impact of the development. Comments received from DHUD questioned the methodology for the proposed planting of vegetation on the site.	• Local community residents and land owners and occupiers of Port Paterson and portions of Stirling North. • Regular and casual users of the Augusta Highway.

5.2.13.2 Impact Events

The potential impact events relevant to visual impact include:

- Visual amenity of local residents adversely impacted by construction activities (VI1).
- Regulated activities result in reduced visual amenity for local residents (VI2).

5.2.13.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicates that these impacts are generally in the **Negligible-Low** category. Potential impacts from the proposed activities are localised and readily manageable using setbacks and landscaping. With the application of mitigation measures the impacts are considered ALARP.

5.2.13.4 Environmental Impact and Significance Assessment

Visual Impact: Impact ID # VI1	
Impact event	Visual amenity of local residents adversely impacted by construction activities.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Construction activities visible from adjoining properties.	Line of sight.	Local residents. Visitors.	Yes – construction activities are required to facilitate implementation of the project.	Stormwater Basin Construction. BESS and Transmission Corridor Construction. Decommissioning & Rehabilitation.	Assumed that activities will be screened and orientated away from view, where possible.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Ensure all waste is contained and litter is removed from site, including around the perimeter of the site and that site is maintained in a tidy manner at all times. • Structures/infrastructures are sited as per site plan with suitable separation from boundaries, as far as is practicable from adjoining residential dwellings, in accordance with the setback distances defined in **Section 4.7.4.** • System is in place for logging landowner complaints to ensure that issues are recorded, addressed as appropriate and complaints are resolved in a timely manner. • OMP includes a decommissioning a rehabilitation plan (or similar) that outlines how any infrastructure or equipment will be decommissioned and the land rehabilitated.	• High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** - construction activities, materials and equipment are required to facilitate the project.	Expected Impact: **Low** Construction activities are necessary and will occur for a limited duration only.
Frequency	**Moderate** –concentrate activities will occur for a period of 18-24 months and will impact the subject land, the adjacent access road and Augusta Highway. Vehicle access and use will primarily be localised to the subject land. The primary control measure in place to reduce the frequency of impacts is by consulting landowners prior to construction and minimising vehicle and equipment movements/use as much as possible.	Magnitude of Impact: **Negligible**
Duration	**Short-term** – construction and site preparation will take between 18 and 24months from commencement to completion.	
Extent	**Limited** – visual impact is limited to the adjoining and adjacent property owners, users the adjacent access road and Augusta Highway. Visual impacts vary depending on proximity to the development site.	
Severity	**Moderate** – visual impacts may result in a decrease in visual amenity during the construction period. Visual amenity within the locality is low and has an existing infrastructure focus. decreased.	
Cumulative	**Potential** – Potential cumulative effects on visual amenity will depend on the scope of other projects in the area. Where multiple projects or activities, particularly related to other tall structures, are being undertaken within a similar area. This should be considered on a case-by-case basis in the context of potential receptors.	
Sensitivity	**Low** – the surrounding residential environment is semi-rural in nature with dwellings located on very large allotments with large separation distances. The nearest sensitive receiver will be located some 500m south-east of the subject land.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	Minimise visual impact of regulated activities (SEO OBJ. 12).	• Due regard to the setback requirements of the Planning and Design Code outlined in **Table 6** as relevant to the *Planning, Development and Infrastructure Act 2016.* • Stakeholder complaints are documented and steps taken to resolve them is demonstrated/documented in a complaints register.	• Ensure final design incorporates appropriate boundary setbacks and suitable landscape screening particularly where activities are viewed from adjoining sensitive receivers.

Impact event	Regulated activities result in reduced visual amenity for local residents.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Built form visible from adjoining properties	Line of sight.	Local residents. Visitors.	Yes – the BESS, substation and ancillary structures will be visible from adjoining properties.	Operation.	No uncertainty - built form will be setback appropriately from site boundaries, screened and views softened with landscaping.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Establish perimeter screen vegetation in accordance with site plans and recommendations of Landskap Visual Assessment Report prior to operation. • Ensure all litter is removed from site, including around the perimeter of the site and that site is maintained in a tidy manner at all times. • Structures/infrastructures are sited as per site plan with suitable separation from boundaries, as far as is practicable from adjoining residential dwellings, in accordance with the setback distances defined in **Section 4.7.4.** • System is in place for logging landowner complaints to ensure that issues are recorded, addressed as appropriate and complaints are resolved in a timely manner.	• High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** - Visual impacts may occur as a result of activities and additional infrastructure in the landscape.	Expected Impact: **Moderate** The infrastructure is contextually appropriate and of a small scale within the context of other infrastructure within the locale, including the Davenport Substation, Sundrop Farm and windfarms. Impacts have been assessed by Landskap and will be minimised by limiting views of with landscaping.

	Environmental significance assessment	Environmental significance assessment outcome
Frequency	**Moderate** – upon construction the BESS and substation will be visible through the life of the project. The primary control measure in place to reduce the frequency of impacts is by siting the BESS and substation away from public viewpoints and consulting landowners prior to construction. At decommissioning the visual amenity of the landscape is likely to be fully restored (in consultation with the landowner).	Magnitude of Impact: **Low**
Duration	**Long-term** – the lifespan of a BESS facility is 20+ years.	
Extent	**Limited** – visual impact is limited to the adjoining and adjacent property owners and users of the Augusta Highway (approximately 1.3km away).Visual impacts vary depending on proximity to the development site. Vegetated screening to boundaries will minimise visual impacts.	
Severity	**Low** – the visual impact is low and will lessen over time. The locale has an existing infrastructure focus. The project infrastructure is low in scale within the context of infrastructure facilities within the locale including the Davenport Substation located on the land immediately west of the subject land.	
Cumulative	**Potential** – Potential cumulative effects on visual amenity will depend on the scope of other projects in the area. Where multiple projects or activities, particularly related to other tall structures, are being undertaken within a similar area. This should be considered on a case-by-case basis in the context of potential receptors.	
Sensitivity	**Low** – the surrounding residential environment is semi-rural in nature with dwellings located on very large allotments with large separation distances. The nearest sensitive receiver will be located some 500m south-east of the subject land. Existing visual amenity is low due to the existing infrastructure facilities within the locality including the Davenport Substation.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	Minimise visual impact of regulated activities (SEO OBJ. 12). Remediate and rehabilitate operational areas, where required (SEO OBJ. 13).	• Due regard to the setback requirements of the Planning and Design Code outlined in Table 5 as relevant to the *Planning, Development and Infrastructure Act 2016.* • Ensure landscaping is planted and maintained in accordance with the approved plans. • Stakeholder complaints are documented and steps taken to resolve them is demonstrated/documented in a complaints register.	• Ensure final design incorporates appropriate boundary setbacks and suitable landscape screening particularly where activities are viewed from adjoining sensitive receivers. • Develop a Decommissioning and Rehabilitation Plan for inclusion in the OMP. • Final decommissioning and rehabilitation plan to be provided 6 months prior to decommissioning activities commencing. Plan to be approved by DEM. • Rehabilitation is included in the projects time plan and budget.

5.2.14 Public Health and Safety

5.2.14.1 Context

Table 24 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to public health and safety.

Table 24: Context Summary for Public Health and Safety

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Fire and Emergency Services Act 2005* • *Electrical Safety Act 2002* • *Public Health Act 2011* • *Work Health and Safety Act 2012* • *Road Traffic Act 1961* • *Civil Aviation Act 1988 and Regulations 1988*	• AS1940 - The storage and handling of flammable and combustible liquids. • Design Guidelines and Model Requirements for Renewable Energy Facilities (CFA, 2023). • AS/New Zealand Standards (NZS) 5139-2019: Electrical installations – Safety of battery systems. • AS/NZS 3000 Electrical installations • Built environment section policy 14: above ground water storage tanks for firefighting purposes (SA Fire Authorities, 2016). • Best Practice Guide: Battery Storage Equipment (Australia Industry Group et al., 2018). • SA CFS Design Check List. • National Airports Safeguarding framework – Guideline E: Managing the risk of distractions to pilots from lighting in the vicinity of airports.	General comments were made from members of the community in the locality that related to movement of vehicles. Detailed comments were received from the SA CFS in relation to design of BESS, including guidelines in the form of a Design Check List.	• Local community residents and land owners and occupiers of Port Paterson and portions of Stirling North. • Regional community • Regular and casual users of the Augusta Highway. • Aircraft users (Stirling North airfield).

5.2.14.2 Impact Events

The impact events relevant to public health and safety are:

- Fires caused by the regulated activities result in injuries or fatalities to members of the public and/or loss of native vegetation and habitat (#FM1, FM3 and FM4).
- Project-related traffic increases road disturbance and/or safety hazard for local residents and other road users (#T1).
- BESS and associated infrastructure increase public safety hazard (#SAF1).
- Presence of the transmission line increases aviation hazard or affects air access (e.g. local airstrips) (#AV1).

5.2.14.3 Impact Assessment Outcomes

The impact assessment detailed in the following tables indicated that expected impacts were generally in the **Low to Moderate** category. The magnitude of impact events has the potential to be high but with proposed control measures it is assessed as ALARP.

5.2.14.4 Environmental Impact and Significant Assessment

Public health and safety: Impact ID #SAF1						
Impact event	Fires caused by the regulated activities result in injuries or fatalities to members of the public and/or loss of native vegetation and habitat.					
	Source	**Pathway**	**Receptor**	**Confirmation of SPR**	**Project Phase**	**SPR uncertainties and assumptions**
Potential Impact	• Use of equipment and machinery. • Hot works such as welding, cutting, soldering, mowing, slashing. • Electrical hazards associated with BESS, such as overheating or water ingress, resulting in fire ignition. • Thermal runaway in BESS leading to production and dispersion of toxic gases. • Accumulation of venting gas within BESS enclosure causing fire ignition or explosion. • Bushfire impacting the site causing further fire ignition.	Spread of fire Dispersion through air	Local residents. Visitors. Native vegetation Native fauna	Yes – there will be machinery and project infrastructure onsite that could cause accidental ignition which lead to fire.	Construction Operation Decommissioning	Assumption that appropriate procedures are developed and implemented to reduce the risk of fire initiation and spread. Assumption that adequate fire-fighting infrastructure provided on-site.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Firefighting equipment available as appropriate for location and use. • *Fire and Emergency Services Act 2005* requirements complied with (e.g. permits for 'hot work' on total fire ban days). • Ensure all vehicles are fitted with appropriate fire-fighting equipment and spark arrestors. • Avoid driving over long dry grass. Maintain grass on site at or below 100mm in height during the declared Fire Danger Period or in areas where heavy equipment will be working. • Procedures are in place to minimise the risk of initiating and propagating fire during periods of high temperatures and high winds. • Hazard identification plan for immediate implementation on days of high temperatures and winds. • Response plan for the safety of crew personnel should a fire approach or be initiated by field crew. • Crews are trained in use of firefighting equipment. • Guides, codes and standards are available to provide appropriate prevention and management measures, as provided by the Fire and Emergency Services Act 2005 and local Country Fire Service. • Battery containers to have a built-in fire suppression system and fire water to be available on-site for emergency services to utilise. • Compliance with the Design Guidelines and Model Requirements for Renewable Energy Facilities (CFA, 2023) and AS/New Zealand Standards (NZS) 5139-2019: Electrical installations - Safety of battery systems. • Appropriate design and construction of buildings to reduce the impact of bushfire, in accordance with the SA CFS Design Guidelines, the Building Code of Australia and relevant Australian Standards (AS) including, but not limited to AS/New Zealand Standards (NZS) 5139-2019: Electrical installations - Safety of battery systems for use with power conversion equipment and AS 1940-2017: The storage and handling of flammable and combustible liquids. • Establish vegetation management zone around BESS infrastructure. • Exclude vegetation from within the BESS enclosure. • Maintenance of perimeter firebreaks around the BESS site and asset protection zones, with fuel reduction carried out where required. • Installation of an above ground water tank holding dedicated firefighting water supply in accordance with SA CFS guidelines • Critical equipment and infrastructure to be constructed to provide sufficient freeboard above any shallow sheet flows that may occur at the site to prevent water ingress in the battery containers. • Use of circuit breakers and fuses to interrupt any electrical fault. • Battery containers to have a built-in automatic fire extinguishing system (e.g. heptafluoropropane) of total flooding automatic exhaust device system, including fire warning devices, automatic fire system and exhaust system. • Proposed battery and ancillary infrastructure designed to reduce trapping of burning debris through: • Minimising voids within the infrastructure (as much as reasonably practicable). • Implementing regular maintenance regimes to clear any debris trapped in voids or against or underneath structures • Toxic fume dispersion in case of fire is considered as part of emergency response where required. • Incorporate presence of toxic gases and fume dispersion being generated from the BESS into site emergency response plan, including appropriate exclusion zones, PPE for Emergency responders and communications required to neighbouring industries and local residents (regarding evacuation or remaining indoors). • Develop a Emergency Management Plan (EMP) in consultation with the CFS to be followed by all staff and contractors during the life of the development. • Multiple access and egress points on site to provide alternate access/egress options and to optimise access to fire water for the fire authority. • Procedures, controls, monitoring, reporting and auditing requirements and ongoing operational fitness to be conducted in accordance with the approved OMP.	High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** - Management system measures are put in place to prevent initiation of fire and ensure propagation of potential fire is quickly managed, however fire may occur during exceptional circumstances.	Expected Impact: **Moderate** ALARP assessment: Control measures recognised as standard industry practice, and considered effective, would be implemented to ensure likelihood of occurrence, duration and severity of impact are kept to ALARP. Containment measures would be implemented to ensure fire spread is reduced to ALARP.
Frequency	**Low** – Potential fire risk from site activities is only expected to occur on an infrequent basis, i.e. during construction, decommissioning and potential maintenance. Fire from BESS is very infrequent occurrence.	Magnitude of Impact: **Moderate**
Duration	**Short term** to **Long-lasting** – Fire events as a result of site activities are only expected to occur during construction, decommissioning and maintenance. Long term impacts are possible depending on the scale of the fire.	
Extent	**Moderate** – Impacts from a fire may extend beyond the project site and immediate surrounds but would not be expected to occur on a regional scale. Management system measures are put in place to prevent initiation of bushfire and ensure propagation of potential bushfire is quickly managed.	
Severity	**High** – Fires could result in death or damage to property or extensive damage to native vegetation and habitat.	
Cumulative	**Possible** – If fires have occurred in nearby areas or within the same area, additional fires may result in cumulative impacts.	
Sensitivity	**Moderate** – The subject land has a high level of human disturbance from its former power station land use and has been extensively cleared. The BESS is sited to avoid close proximity to residents and townships. Control measures in place ensure that fire readiness is requisite to undertake authorised operations.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ. 2). No clearance of native vegetation or disturbance to native fauna unless prior approval under the relevant legislation is obtained (SEO OBJ 6)	• No uncontrolled fires as a result of authorised activities. • OMP includes an emergency response plan (or similar) that clearly outlines the response to a fire related incident (considering control measure mentioned above), both caused by authorized activities and/or threatening authorised activities from offsite. • Fire and Emergency Services Act 2005 requirements are complied with. • BESS constructed and verified for compliance with the certified design. • No uncontrolled fires as a result of authorised activities. • OMP includes an emergency response plan (or similar) that clearly outlines the response to a fire related incident, both caused by authorized activities and/or threatening authorized activities from offsite. • Fire and Emergency Services Act 2005 requirements are complied with.	• Battery containers to have a built-in fire suppression system and fire water to be available on-site for emergency services to utilise. • Fire prevention and firefighting equipment is present, certified and maintained in accordance with applicable standards. • Development of a Fire Management Plan (FMP) in consultation with the CFS to be followed by all staff and contractors during the life of the development. • Fire prevention and firefighting equipment is present, certified and maintained in accordance with applicable standards.

Public health and safety: Impact ID #SAF02 (Refer T1)	
Impact event	Project-related traffic increases road disturbance and/or safety hazards for local residents and other road users

Public health and safety: Impact ID #SAF03	
Impact event	BESS and associated infrastructure increase public safety hazard

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	• Construction and decommissioning activities • Regulated activities and associated infrastructure (e.g. operation of BESS and transmission line at activity location)	Direct disturbance/ interaction Electric shock Arc flash causing flash burns Exposure to hazardous chemicals	General public Workers	Yes – there will be workers/contractors on site.	Construction Operation Decommissioning	No uncertainty or assumptions apply as site is defined and separated from adjoining landowners. The site of the development will be fenced.

Control measure	Uncertainties regarding likely effectiveness of control strategies
• Construct BESS and associated infrastructure in accordance with relevant standards. • Restriction of public access (e.g. fencing where appropriate, anti-climb design, security systems). • Signage to indicate restricted access to discourage third party access to infrastructure. • Appropriate induction of all project personnel.	High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** - Authorised activities (including the presence of infrastructure) may result in increased public safety hazard.	Expected Impact: **Low** ALARP assessment: Control measures recognised as standard industry practice, and considered effective, would be implemented to ensure likelihood of occurrence, duration and severity of impact are kept to ALARP. Containment measures would be implemented to ensure fire spread is reduced to ALARP.
Frequency	**Low** – it is not expected that the public will access the site.	Magnitude of Impact: **Low**
Duration	**Long-lasting** –the presence of the BESS will occur over numerous years.	

	Environmental significance assessment	Environmental significance assessment outcome
Extent	**Limited** – public safety hazard occurs in relation to the site of the BESS and associated infrastructure.	
Severity	**Low –** relevant security measures/controls in place to ensure public cannot access the site.	
Cumulative	**Low** – It is not expected that multiple BESS or other projects within an area would increase the risk to public safety where appropriate safety controls are in place.	
Sensitivity	**Low** – The subject land has a high level of human disturbance from its former power station land use and has been extensively cleared. The BESS is sited to avoid close proximity to residents and townships. Control measures in place to reduce public safety hazard.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	No injuries, deaths or health impacts to the public or third parties from regulated activities that could have been reasonably prevented by the operator (SEO OBJ. 2).	• Any notifiable incidents (as per s35 of the Work Health and Safety Act 2012) involving the public investigated by a suitably qualified independent third party and the results of the investigation show that the accident could not have been reasonably prevented by the operator. • BESS and transmission lines constructed and verified for compliance with the certified design. • Undertake fitness for purpose assessments and audits of management systems to ensure operational and procedural safety in accordance at a frequency as outlined in the OMP.	• Safety audits to be undertaken and any identified additional actions that could be reasonably implemented to reduce the risks to the public will be implemented. • Records show all personnel has undertaken appropriate induction.

5.2.15 Social environment, land use and infrastructure

5.2.15.1 Context

Table 25 below summarises the legislated and non-legislated standards, views of affected parties and lists the key environmental receptors relevant to social environment, land use and infrastructure.

Table 25: Context Summary for Social Environment, Land Use and Infrastructure

Applicable legislation	Applicable non-legislated standards	Views of affected parties	Environmental receptor
• *Landscape South Australia Act 2019* • *Biosecurity Act 2015* (Cth) • Environment Protection (Waste to Resources) Policy 2010 • *Public Health (Wastewater) Regulations 2013* • Civil Aviation Safety Regulations	• Guideline EPA 080/16 Bunding and Spill Management. • AS 1940 - The storage and handling of flammable and combustible liquids. • Australian Dangerous Goods Code. • National Environment Protection (Assessment of Site Contamination) Measure 1999 as amended 2013 (Site Contamination NEPM).	SAALLB sought further confirmation regarding management of waste materials, pest plant management and native vegetation. SA CFS sought further clarification regarding the satisfaction of various fire management criteria. General comments/questions raised by Council and members of the public regarding traffic movements, provision of workers accommodation and water supply.	Landowners and occupiers Regional Community Native fauna

5.2.15.2 Impact events

The impact events relevant to social environment, land use and infrastructure are:

- Waste is created onsite during construction and decommissioning and is inappropriately handled (#SOC1).
- Regulated activities disturb landholder infrastructure or activities (refer #AQ1, AQ2, AV1, CH1, HS1, LV1, N1, N2, N3, T1, WQES1, WQES2, WQES3, VI1, VI2).
- Introduction and spread of weed(s), pest(s) and/or pathogen(s) impacts land use (refer #DP1).
- Additional stress on housing market, workforce and social services (#SOC2).

5.2.15.3 Impact assessment outcomes

The impact assessment detailed in the following tables indicated that expected impacts were generally in the Low category. The magnitude of impact events has are localised and limited in scale and readily manageable using standard control measures. Events such as disturbance to landowner infrastructure and introduction of weeds and pests are unlikely to occur due to the control measures to be implemented.

5.2.15.4 Environmental Impact and Significant Assessment

Social Environment, land use and infrastructure: Impact ID #SOC1	
Impact event	Waste is created onsite during construction and decommissioning and is inappropriately handled.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential Impact	Generated waste from the building process People working on site bringing in material from outside. During decommissioning, parts of the project infrastructure might be considered waste. Wastewater from temporary ablution facilities	Disposing of materials	Landowners and occupiers Local environment	Yes	Construction Decommissioning	No significant uncertainties or assumptions

Control measures	Impact prediction uncertainties and assumptions
• Waste management undertaken with regard to EPA's Waste Hierarchy model, the Environment Protection (Waste to Resources) Policy 2010 and the Public Health (Wastewater) Regulations 2013. • Waste streams segregated on site where practicable to maximise opportunities for waste recovery, reuse and recycling. • Covered bins are provided for the collection and storage of wastes. • No waste storage near watercourses. • Waste removed off-site as soon as practicable and disposed of at appropriately licensed waste handling facility. • Liquid wastes stored in accordance with relevant standards and guidelines, including AS 1940, EPA guideline 080/16 Bunding and Spill Management and the Australian Dangerous Goods Code (ADG). • High standards of 'housekeeping' implemented. • Secure systems used for storage and transport of waste. • Hazardous wastes (if generated) handled in accordance with relevant legislation and standards. • Licensed contractors used for waste transport.	High certainty that proposed control measures will be effective. Industry standard control measures that are well understood and that have been successfully implemented. Limited potential for unplanned event due to factors such as human error.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – waste is expected to be created onsite as a result of authorised activities.	Expected Impact: **Low** ALARP assessment: Control measures recognised as standard industry practice, and considered effective, would be implemented to ensure likelihood of occurrence, duration and severity of impact are kept to ALARP.
Frequency	**Low** – Control measures in place are well understood in being effective in managing waste. Waste generated on site will only occur during construction and decommissioning, and occasional maintenance in low volumes.	Magnitude of Impact: **Low**
Duration	**Short-term** – Waste generated on site will only be present during authorised activities being undertaken. Control measures ensure that waste is appropriately removed to avoid long term impacts.	
Extent	**Limited** – waste will only occur at the site of the authorised activities.	
Severity	**Low –** relevant control measures will result in waste being negligible.	
Cumulative	**Possible** – Proposed activities are limited scale and produce limited quantities of waste, cumulative impacts are not expected to occur unless improper handling of waste occurs across multiple sites or at the site.	
Sensitivity	**Moderate** – the locality contains industrial and rural residential land uses which may be sensitive to any waste material being improperly handled.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	Optimise waste management (in order of most to least preferable): avoidance; reduction; reuse; recycling; treatment; and disposal (SEO OBJ14).	• Management measures for waste generated during the construction and decommissioning stages documented in the Construction Environmental Management Plan and decommissioning and rehabilitation plan. • Records of audits/inspections carried out in accordance with the OMP demonstrate wastes have been segregated and transported to an EPA licensed waste disposal facility for recycling or disposal. • Hazardous wastes (if generated) handled in accordance with relevant legislation and standards.	• Waste is securely contained prior to removal from site. • Waste management is undertaken in accordance with the EPA's Waste Hierarchy model, the Environment Protection (Waste to Resources) Policy 2010 and the Public Health (Wastewater) Regulations 2013. • Records of waste disposal to licensed contractors kept for proof of compliance.

	Proposed environmental objective	Assessment criteria	Leading performance criteria
	Rehabilitate land adversely affected by regulated activities (SEO OBJ14).	• Records demonstrate that all waste has been removed from site following completion of activities unless alternative agreement is reached with the regulator and landowner. • Records demonstrate no reasonable stakeholder complaints regarding rehabilitation of land are left unresolved.	• Inspections demonstrate no evidence of soil contamination or waste remaining as a result of activities.

Social Environment, land use and infrastructure: Impact ID #SOC2	
Impact event	Additional stress on housing market, workforce and social services is appropriately managed.

	Source	Pathway	Receptor	Confirmation of SPR	Project Phase	SPR uncertainties and assumptions
Potential impact	Workforce required during construction would increase housing stress in the community by utilising available rental accommodation and/or short term accommodation. Utilisation of social services by workforce.	Housing market Tourist accommodation Health and social services.	Local and Regional Community	Yes	Construction Decommissioning	Yes uncertainties regarding volume of workers at any one time requiring accommodation and availability of accommodation at that time. Uncertain as to requirements of workers on health and social services.

Control measures	Impact prediction uncertainties and assumptions
• Identify and plan accommodation requirements as part of CEMP. • Ongoing liaison with Council and other infrastructure project developers to identify opportunities for accommodation provision. • Community benefit initiatives to support community services/activities (community benefit scheme).	Uncertainty about cumulative impacts of various infrastructure being developed concurrently and impacting on accommodation, workforce and services. Assumption that the maximum number of workers for the project (estimated at 40) can be accommodated within the region.

	Environmental significance assessment	Environmental significance assessment outcome
Avoidance	**No** – there will be additional workers to be accommodated and a demand for services as a result of authorised activities.	Expected Impact: **Moderate** ALARP assessment: Control measures such as dedicated workers accommodation facilities are recognised as standard industry practice, and considered effective, would be implemented (if required) to ensure likelihood of occurrence, duration and severity of impact are kept to ALARP.
Frequency	**Low** – Control measures in place are well understood in being effective in managing workers accommodation and this will only occur during construction and decommissioning.	Magnitude of Impact: **Low-Moderate**
Duration	**Short-term to Long Term** – Accommodation and service requirements during construction period. Long-term community benefit scheme/fund for the life of the project.	
Extent	**Moderate** – Impacts on housing market and short term accommodation may extend to townships within the region. Options for accommodation are put in place to address accommodation for workforce to manage impact.	
Severity	**Low – Moderate** - relevant control measures such as distribution of workers throughout region and various accommodation sectors and/or workers accommodation facilities will limit impact on housing and short term accommodation sector.	
Cumulative	**Possible** – Proposed activities may occur at same time as other infrastructure projects are under construction within the region.	
Sensitivity	**Moderate** – the region has identified affordable and available accommodation as a matter of strategic importance.	

	Proposed environmental objective	Assessment criteria	Leading performance criteria
SEO	Minimise disruption to local residents, community and road users during construction (SEO OBJ9).	• Accommodation strategy for workers incorporated in CEMP • Establishment of criteria and operation of community benefit fund.	• CEMP • Records of community benefit fund operation.

6 Consultation

Preparation of the Associated Infrastructure Licence pursuant to the HRE Act, requires consultation on the Environmental Impact Report (EIR) and Statement of Environmental Objectives (SEO). Sections 61(4) and 63(3) of the HRE Act, establish the requirement for consultation on the EIR and SEO, with regulation 33 setting out the requirement and manner for this to be undertaken by the licensee or applicant.

Regulation 33 of the *Hydrogen and Renewable Energy Regulations 2024* (the Regulations) establishes the requirements for a consultation plan (also referred to as an engagement plan), which must be submitted to the Department for Energy and Mining (DEM) prior to the consultation occurring. The consultation plan identifies a range of affected stakeholders to be consulted, such as landowners, the council and government agencies.

The consultation plan has been submitted to DEM with the draft EIR and SEO and was approved for consultation.

Consultation has been undertaken with the community and key stakeholders for a four (4) week period during November 2025.

Following the conclusion of the consultation, an Engagement Report has been prepared in accordance with HRE Regulation 33(4) which details:

- The persons consulted.
- Any issues of concern raised by persons consulted.
- The steps (if any) proposed to be taken by the Proponent to address these concerns.

The Engagement Report is attached to this EIR (**Attachment H)** and submitted to the Minister as part of the final EIR and SEO.

The EIR and SEO are now submitted to the DEM for a decision on the licence application.

7 Abbreviations and Glossary

Abbreviation / Glossary	Definition
(SA) CFS or CFS	South Australian Country Fire Service
AH Act	*Aboriginal Heritage Act 1988*
ALARP	As Low As Reasonably Practicable
AMSL	Above Mean Sea Level
ARRB	Australian Road Research Board
ARTC	Australian Rail Track Corporation
BESS	Battery Energy Storage System
BMP	Bushfire Management Plan
BMS	Battery Management System
CEMP	Construction Environmental Management Plan
dB	Decibels
DCCEEW	Department of Climate Change, Energy the Environment and Water
DEM	Department for Energy and Mining
DEW	Department for Environment and Water
DHUD	Department for Housing and Urban Development
DIT	Department for Infrastructure and Transport
DO	Desired Objective
DPF	Designated Performance Feature
EBD	Environments by Design
EIR	Environmental Impact Report
EMP	Emergency Management Plan
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ER	*Energy Resources Act 2000*

Abbreviation / Glossary	Definition
FeS	Iron Sulfide
GAB	Great Artesian Basin
GEL	Geothermal Exploration Licence
GGE or 'the Proponent'	Green Gold Energy
ha	Hectares
HMP	Hazard Management Plan
HRE Act	*Hydrogen and Renewable Energy Act 2023*
HRE Regs	*Hydrogen and Renewable Energy Regulations 2024*
IHC	Independent Heritage Consultants
ILUA	Indigenous Land Use Agreement
IMP	Incident Management Plan
km	Kilometres
km²	Square Kilometres
m	Metres
MFS	South Australian Metropolitan Fire Service
MNES	Matters of National Environmental Significance
MW	Megawatts
NASF	National Airports Safeguarding Framework
NHVR	National Heavy Vehicle Regulator
NPW Act	*National Parks and Wildlife Act 1972*
NVC	*Native Vegetation Council*
NVHA	Native Vegetation Heritage Agreement
OMP	Operational Management Plan
OSOM	Oversize-Overmass
PAREP	Port Augusta Renewable Energy Park
PDI Act	*Planning, Development and Infrastructure Act 2016*

Abbreviation / Glossary	Definition
PELA	Petroleum Exploration Licence Application
PIRSA	Primary Industries and Regions South Australia
PMST	Protected Matters Search Tool
PO	Performance Objective
PV	Photo Voltaic
RAV	Restricted Access Vehicle
RuL	Rural Living Zone
SAPPA	South Australian Property and Planning Atlas
SDS	Safety Data Sheet
SE	Strategic Employment Zone
SEB	Significant Environmental Benefit
SEDMP	Soil Erosion and Drainage Management Plan
SEO	Statement of Environmental Objectives
SHP	State Heritage Place
SOP	Standard Operating Procedures
TEC	Threatened Ecological Communities
TIA	Traffic Impact Assessment
VOC	Volatile Organic Compounds

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