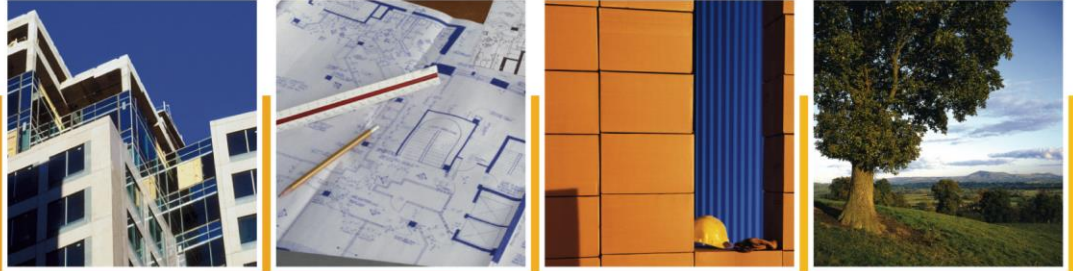


STATEMENT OF ENVIRONMENTAL EFFECTS



For
Battery Energy Storage System

At
981 New England Highway, Aberdeen 2336

Prepared for
Clean Energy Transfer Fund Pty Ltd

April 2023
Report 23/012 Rev A

Prepared by



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1.0 EXECUTIVE SUMMARY

This Statement of Environmental Effects (SEE) has been prepared by HDB Town Planning and Design on behalf of Clean Energy Transfer Fund Pty Ltd. This SEE supports the lodgement of a development application seeking consent for a Battery Energy Storage System (BESS) including supporting Shed structures on RU1 zoned Lot 51 DP 776564, 981 New England Highway, Aberdeen 2336. The project is a part of Hive consisting of the installation of ten (10) BESS in total.

The SEE provides the following:

- Details of the Application (Section 2)
- An extensive assessment/analysis of the existing Site (Section 3)
- A detailed description of the proposed development (Section 4)
- An assessment of the proposed development against all the relevant planning controls and matters as outlined under Section 4.15 (Section 5)
- An assessment of the proposal with regard to the key planning and environmental issues identified (Section 6)
- Justification and Need for the Project (Section 7)

The subject site sits amidst the rural area of Aberdeen and is zoned RU1 – Primary Production under the council’s mapping. Primary access to the lot is from New England Highway. The property has an 11kv transmission line in the vicinity which will allow a relatively easy connection to the proposed battery grids.

The area of disturbance is restricted to a compound measuring 32.5m X 44.2m and is relatively insignificant in comparison to the size of the property.

The proposed development is permissible on the subject land under *section 2.36 – SEPP (Infrastructure and Transport) 2021* and is consistent with the objectives of the RU1 zone under Muswellbrook Shire Council’s Local Environment Plan (LEP) 2009. This report concludes that the proposal can be achieved with minimal environmental impacts.

Having reviewed and assessed the proposal, the application is submitted for the consideration of Muswellbrook Shire Council on behalf of our Client. Based on the assessment undertaken we recommend approval of the application, subject to the recommendations of this and the other supporting reports.

2.0 INTRODUCTION

2.1 PURPOSE

The SEE addresses the planning requirements pertaining to the proposed development of a Battery Storage Facility. It provides an assessment of the potential environmental impacts pursuant to the requirements of Section 4.15 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act).

The SEE has been prepared by HDB Town Planning and Design (HDB) on behalf of Clean Energy Transfer Fund Pty Ltd. The application is lodged with Muswellbrook Shire Council pursuant to Section 4.12 of the EP&A Act.

2.2 SITE DESCRIPTION

Lot 51 DP 776564

981 New England Highway, Aberdeen 2336

2.3 APPLICATION DETAILS

2.3.1 APPLICANT DETAILS

Clean Energy Transfer Fund Pty Ltd
C/- HDB Town Planning & Design
PO Box 40
MAITLAND NSW 2320

2.3.2 CONTACT DETAILS

Aprajita Gupta
HDB Town Planning & Design
PO Box 40
MAITLAND NSW 2320

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E: Aprajita@hdb.com.au

2.3.3 OWNERSHIP DETAILS

K.L. & H.R. Day Pty Ltd
See Title Search as *Appendix A*

2.4 DOCUMENT STRUCTURE

The SEE has been structured as follows:

- Section 1 - Executive summary - provides a general overview of the projects its findings and conclusions
- Section 2 – Introduction - provides a general background of the project and defines the site, the current owner and contact details
- Section 3 – Site Analysis – provides a detailed analysis of the site proposed for the development.
- Section 4 – Proposed Development – provides a detailed description of the proposal including its suitability to the site.
- Section 5 - Legislative Context – provides the legislative context of the development.
- Section 6 – Key Planning and Environmental Issues – provides details of any potential impacts of the project on the subject site and includes mitigation measures that are proposed to reduce and / or remove the potential impacts.
- Section 7 – Project Justification and Need – provides a summary of the project and a justification of the proposal with reference to the principles of ecologically sustainable development and objectives of the Environmental Planning and Assessment Act, 1979.
- Section 8 – Conclusion – provides a conclusion and requests that Muswellbrook Shire Council grant conditional consent to the proposed development.

3.0 SITE ANALYSIS

3.1 LOCATION

Address:	Lot 51 DP776564, 981 New England Highway Aberdeen 2336
Local Government:	Muswellbrook Shire Council
Locality:	Aberdeen
Area of site:	92.63 ha
Zone:	RU1 – Primary Production

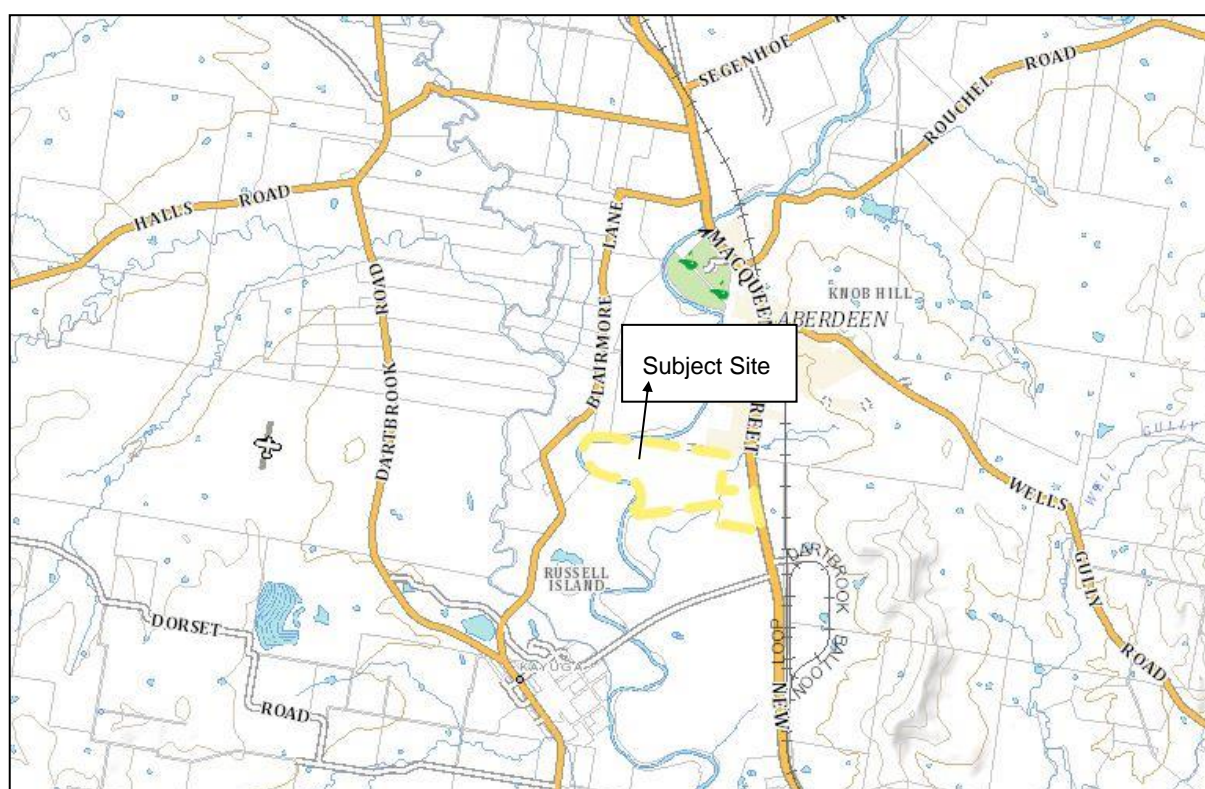


Figure 1: Location Plan

Source: NSW ePlanning Portal accessed April 2023

3.2 EXISTING SITE

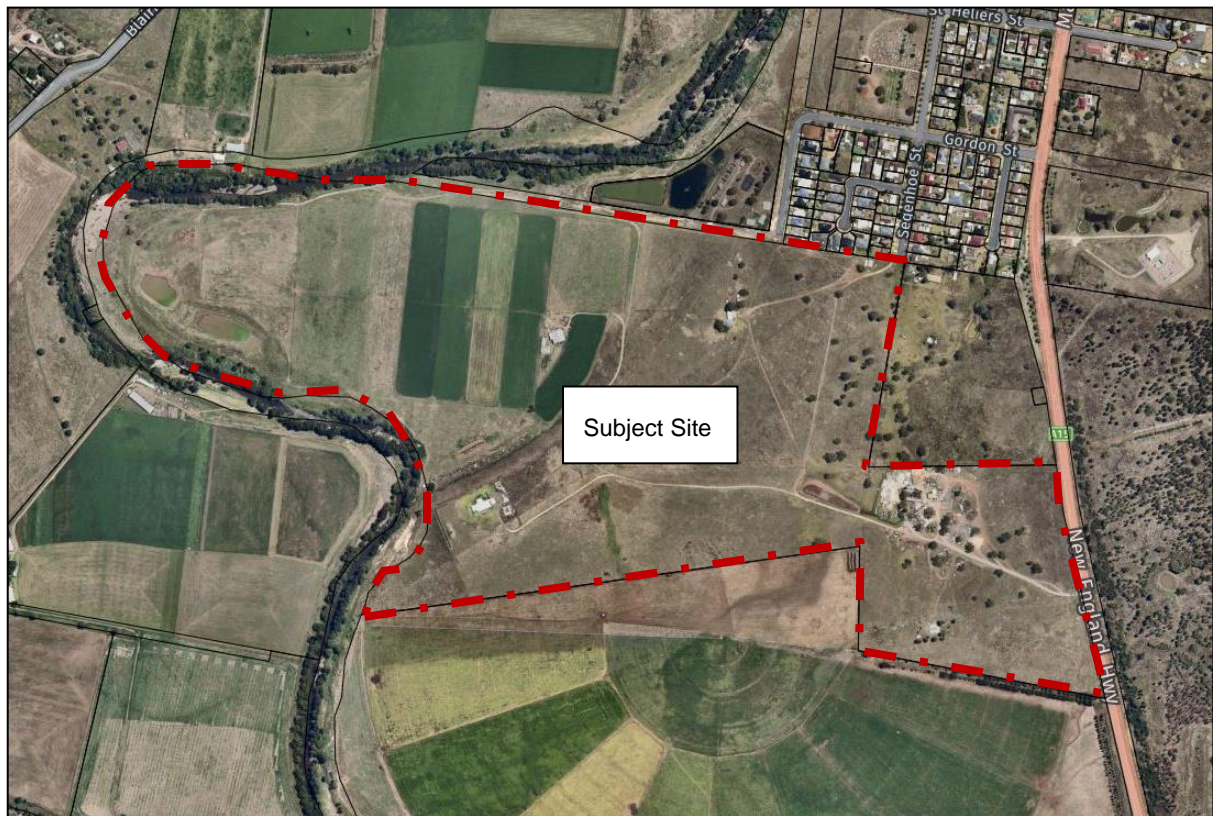


Figure 2: Site Plan

Source: Nearmaps accessed April 2023

The subject lot is located in the Aberdeen locality and has an area of 92.63 ha. It is zoned RU1 – Primary Production under Muswellbrook LEP 2009.

There are two dwellings and various small and large shed structures located on the site, see **Figure 2** above. Primary access to the lot is from New England Highway running along the eastern boundary. The lot has Hunter River to its west. Lot is generally flat and is predominantly cleared with improved pasture as ground cover.

3.3 ARCHAEOLOGY AND HERITAGE

A desktop investigation of the Aboriginal Heritage Information Management System (AHIMS) was undertaken (refer to **Appendix B – AHIMS Report**), which confirmed that there are no records of Aboriginal Heritage or archaeological items found within 200m of the site. The site does not contain any items of local or European Heritage significance.

3.4 ACCESS/ TRANSPORT

The primary access is from New England Highway which runs along the east boundary of the site.

3.5 TOPOGRAPHY, HYDROLOGY & VEGETATION

Lot is generally flat with elevation varying from 160m AHD to 184m AHD.

Improved Pature is located over the majority of the site. There are a few scattered trees to the north and east of the site. There are trees along the Hunter River to the west which are mapped to have bio-diversity values in the council's mapping, refer to **Figure 3** below.

Two other hydro lines pass through the site, as shown in the figure below.



Figure 3: Biodiversity & Hydrolines

Source: NSW ePlanning Portal accessed April 2023

3.6 FLOODING

The site is not mapped as Flood Planning Area under flood mapping by the council.

3.7 SURROUNDING LAND USE

Existing site uses to the south and west is generally rural living on farmland. There are conservation lands to the east and a mix of residential and industrial to the north.

3.8 SERVICES TO SITE

Currently, only Electricity is available for the site.

3.9 BUSHFIRE

Lot is identified as Bushfire-prone land in the Bushfire Planning map by Council, containing *Vegetation Category 3*, as shown in **Figure 4**.

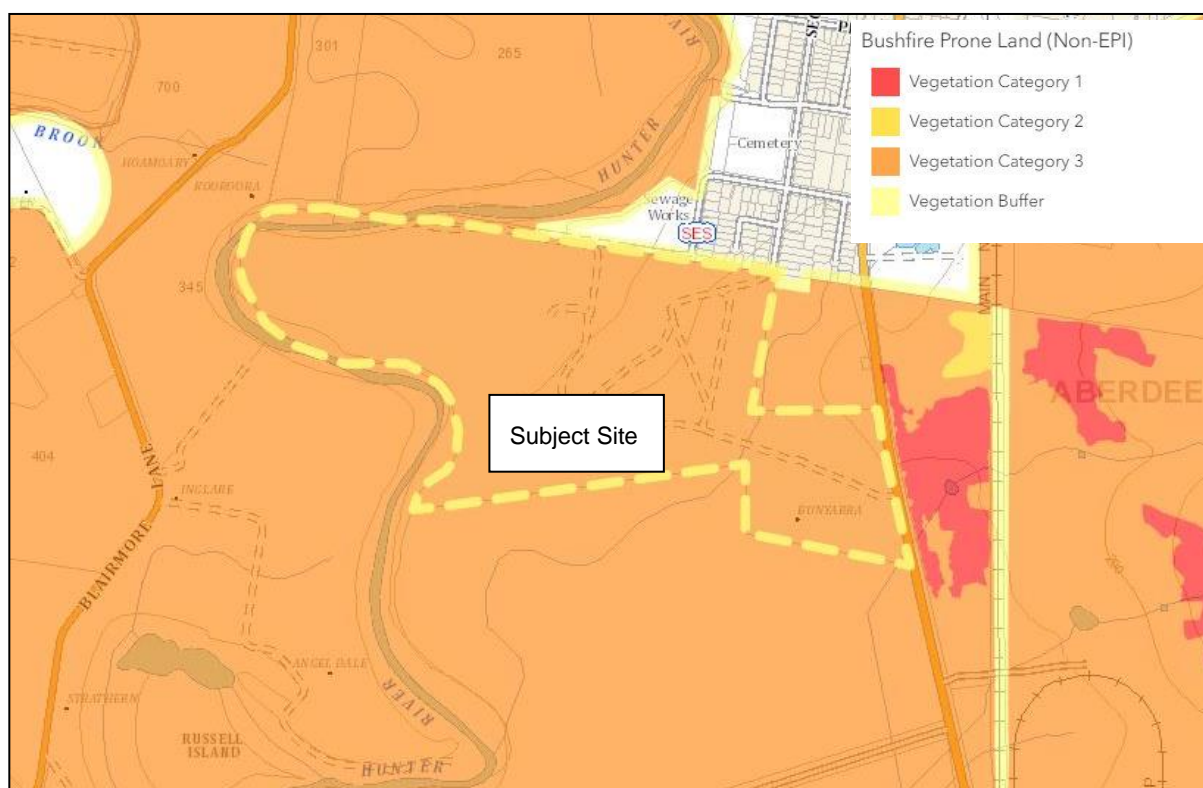


Figure 4: Bushfire Mapping

Source: NSW ePlanning Portal accessed April 2023

4.0 PROPOSED DEVELOPMENT

4.1 SUMMARY

The applicant seeks development approval for the installation of a Battery Energy Storage System (BESS) and associated shed structures.

A BESS is a 4.98 MW energy storage system that captures energy from the electrical grid at low demand and discharges electricity at times of high demand.

Ten (10) Battery Units will be initially installed on the land and a further two (2) in 4 years to cover degradation. The battery unit complex will be contained within a compound as shown in **Figure 5** below. Refer to **Appendix C** for further details.

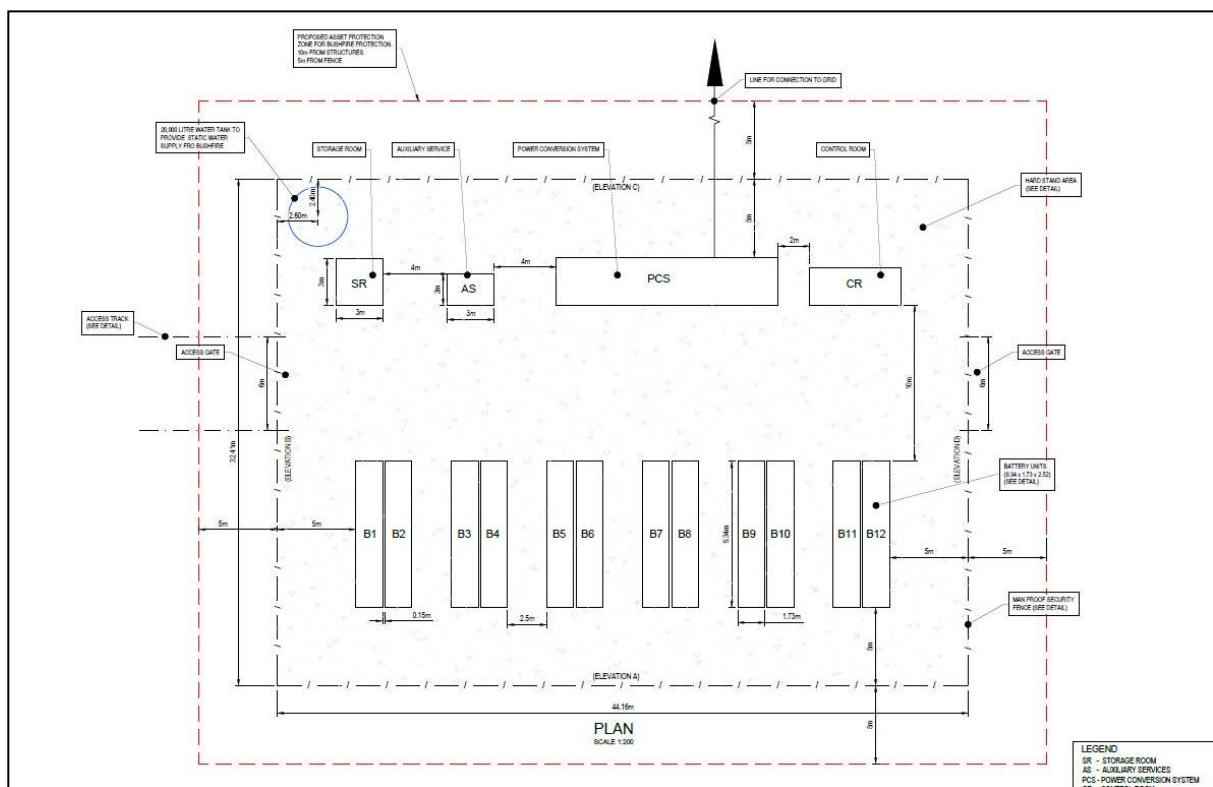


Figure 5: Compound Layout

Source: HDB

The following section provides details regarding the design, functioning, and installation of the proposed BESS.

4.2 DETAILS

4.2.1 DESIGN

The proposed BESS will consist of 10 to 12 Battery Cabinets (ST2752UX), and other sheds to house power equipment, switchgear, and controllers positioned in the direction of the connection line out to the boundary.

A summary of the design of the Battery Cabinets is shown in **Table 1** below, with the complete specifications available in **Appendix F**.

Battery Type - ST2752UX	
Battery Technology	Liquid Cooling Energy Storage System
Battery Cabinet Dimension	9340L X 2520H X 1730W mm
Battery Cabinet Weight	26,000 kg
Number of Battery Cabinets	10 to 12
Power Generation	4.98 Mw over 4 hours continuous

Table 1: Battery Cabinet

Source: Sungrow Power Supply Co. Ltd. 2021



Figure 6: Battery Cabinet

Source: Sungrow Power Supply Co. Ltd. 2021

4.2.2 ACCESS

There is an existing driveway from New England Highway that will provide access to the Battery facility. Refer to *Appendix C* for more details.

4.2.3 PARKING

No formal or dedicated parking facilities are proposed or required to be provided throughout the site, as the maintenance vehicles will park around the site as needed to service the batteries.

4.2.4 HOURS OF OPERATION

Construction will be off-site and delivery and erection will occur over a 4 to 6 hours time period. The site will be operated remotely and visitation for general maintenance will occur 1 to 2 times per month.

4.2.5 STAFFING

No permanent staff will be located on the site.

4.2.6 SECURITY

A security mesh fence (2.4m high) will be constructed around the facility, see *Appendix C*.

4.2.7 LANDSCAPING

Landscaping is proposed to all sides along the fencing, concealing BESS from the adjoining properties and the New England Highway to the east. This will be in accordance with the details shown in *Appendix I*.

4.2.8 STORMWATER MANAGEMENT

The site is mostly flat and a gravel hardstand area will be constructed in accordance with *Appendix E* within the facility. Due to the minimum area and small size of the proposed development, minimum stormwater treatments are required. General Details are shown in *Appendix E*.

5.0 LEGISLATIVE CONSIDERATION

5.1 RELEVANT LEGISLATION

5.1.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The Environmental Planning and Assessment Act 1979 (EP&A Act) provides the framework for environmental planning and development approvals and includes provisions to ensure that the potential environmental impacts of a development are assessed and considered in the decision-making process.

The application is subject to Part 4 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). The proposed development is permissible with the consent in accordance with Chapter 2, Part 2.3, Division 4 of *SEPP (Transport and Infrastructure) 2021*.

5.1.2 ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2021

The development is a 4.98 MW Energy System that does not fall within the definition of an “Electricity Generating Station” under Schedule 3 Designated Development, Part 2, Section 24 of the *Environmental Planning & Assessment Regulation 2021*. Therefore, an EIS is not required.

5.1.3 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997

Schedule 1 of the Protection of the Environment Operations Act 1997 (POEO Act) detailed the Activities required to obtain a license under the act.

The proposal is not listed in Schedule 1 of the POEO Act and therefore, does not require any further reference to this Act.

5.2 STATE ENVIRONMENT PLANNING POLICY (SEPP)

5.2.1 SEPP (TRANSPORT AND INFRASTRUCTURE) 2021

Chapter 2 of this SEPP aims to facilitate the effective delivery of infrastructure across the State of NSW. *Part 2.3: Division 4 Electricity Generating Works or Solar Energy Systems* of the SEPP provides permissibility for this use as follows:

Within the SEPP the Battery Storage is defined as:

electricity generating works means a building or place used for the following purposes, but does not include a solar energy system—

- (a) making or generating electricity,
- (b) electricity storage.

prescribed non-residential zone means any of the following land use zones or a land use zone that is equivalent to any of those zones—

(a) *RU1 Primary Production*

As identified above, Electricity Generating Works are permitted with consent under *Section 2.36* as follows;

2.36 Development permitted with consent

(1) *Development for the purpose of electricity generating works may be carried out by any person with consent on the following land—*

(a) *in the case of electricity generating works comprising a building or place used for the purpose of making or generating electricity using waves, tides or aquatic thermal as the relevant fuel source—on any land,*

(b) *in any other case—any land in a prescribed non-residential zone.*

Comment:

The proposal seeks to install Battery Energy Storage System (BESS) on the subject site.

BESS falls under the definition of “electricity generating works” which are permissible with consent under *Section 2.36* of the SEPP (Transport and Infrastructure) 2021 if the development is proposed in a prescribed zone. The subject site is zoned RU1 under the council’s LEP, which is a prescribed zone under this SEPP.

Therefore, the proposed development is permitted with consent on the subject lot.

5.2.2 SEPP (PLANNING SYSTEMS) 2021

Chapter 2 State and Regional Development of the SEPP identifies State significant development, State significant infrastructure, and critical State significant infrastructure.

Schedule 6, Section 5(a) of SEPP (Planning Systems) 2021 states:

5 Private infrastructure and community facilities over \$5 million

Development that has a capital investment value of more than \$5 million for any of the following purposes—

(a) *air transport facilities, electricity generating works, port facilities, rail infrastructure facilities, road infrastructure facilities, sewerage systems, telecommunications facilities, waste or resource management facilities, water supply systems, or wharf or boating facilities,*

(b) affordable housing, child care centres, community facilities, correctional centres, educational establishments, group homes, health services facilities or places of public worship.

Comment:

The proposal will have a capital investment value of more than \$5 million and will trigger Regionally Significant Development.

However, we understand due to the minor nature of the proposal, it is unnecessary to refer the application to the Hunter and Central Coast Regional Planning Panel for determination and that Council can request delegated authority from the Panel to assess and determine the application. A letter requesting to seek this variation has been attached as **Appendix G** with the report.

5.2.3 SEPP (RESILIENCE AND HAZARDS) 2021

4.6 Contamination and remediation to be considered in determining development application

(1) A consent authority must not consent to the carrying out of any development on land unless—

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subsection (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.

(3) The applicant for development consent must carry out the investigation required by subsection (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.

(4) The land concerned is—

(a) land that is within an investigation area,

- (b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,
- (c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—land—
- (i) in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and
- (ii) on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).

Comment:

The subject land has a long history of being utilised for agricultural pursuits with no history of contamination. The proposed development requires minimal disturbance of the land and will retain its existing viticultural and grazing lands; therefore, it is considered suitable in its current state for the proposed development.

5.3 MUSWELLBROOK COUNCIL LOCAL ENVIRONMENTAL PLAN 2009

The subject site is zoned RU1 – Primary Production as shown in **Figure 7** below and is considered permitted with consent under *section 2.1 Land Use Zones*.

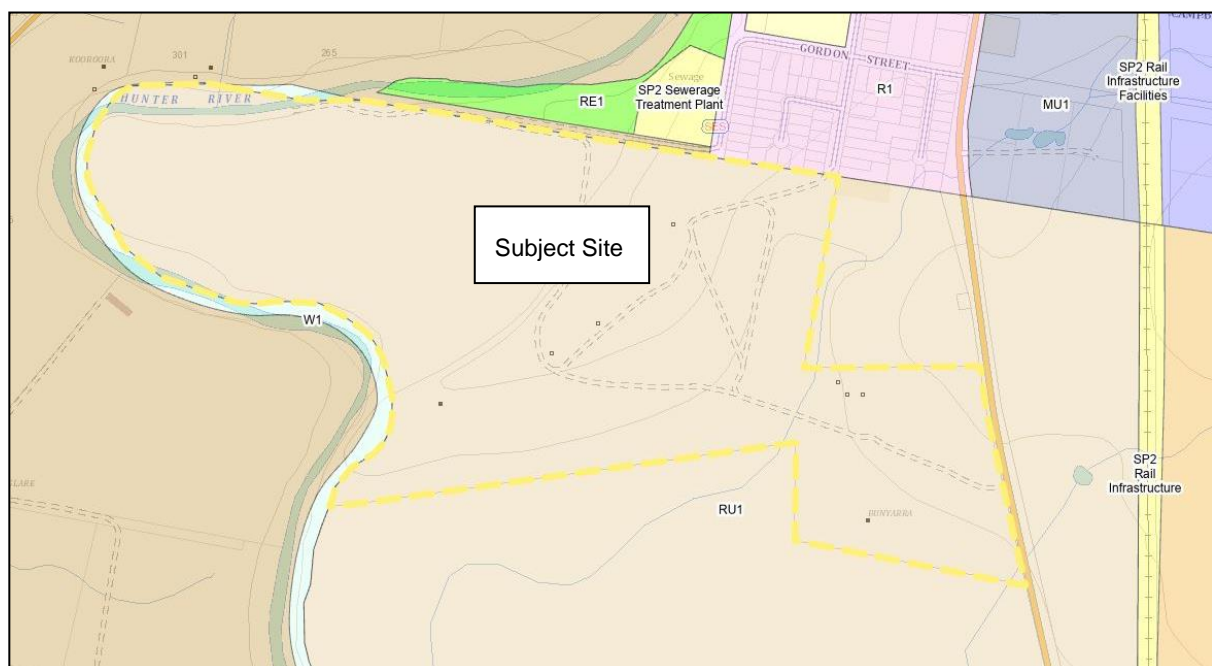


Figure7: Land Use Zone

Source: NSW ePlanning Portal accessed May 2023

Zone RU1 Primary Production

1 Objectives of zone

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To protect the agricultural potential of rural land not identified for alternative land use, and to minimise the cost to the community of providing, extending and maintaining public amenities and services.*
- *To maintain the rural landscape character of the land in the long term.*
- *To ensure that development for the purpose of extractive industries, underground mines (other than surface works associated with underground mines) or open cut mines (other than open cut mines from the surface of the flood plain), will not—*
 - (a) destroy or impair the agricultural production potential of the land or, in the case of underground mining, unreasonably restrict or otherwise affect any other development on the surface, or*
 - (b) detrimentally affect in any way the quantity, flow and quality of water in either subterranean or surface water systems, or*
 - (c) visually intrude into its surroundings, except by way of suitable screening.*
- *To protect or conserve (or both)—*
 - (a) soil stability by controlling development in accordance with land capability, and*
 - (b) trees and other vegetation, and*
 - (c) water resources, water quality and wetland areas, and their catchments and buffer areas, and*
 - (d) valuable deposits of minerals and extractive materials by restricting development that would compromise the efficient extraction of those deposits.*

2 Permitted without consent

Extensive agriculture; Home occupations; Intensive plant agriculture

3 Permitted with consent

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Eco-tourist facilities; Educational establishments; Environmental facilities; Environmental protection

works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems

4 Prohibited

Any development not specified in item 2 or 3

Comment:

As per Muswellbrook Local Environment (LEP) 2009, BESS is defined as “Electricity Generating Works”, which is not identified as a permissible use within the RU1 zone.

However, the proposed works fall within the provisions of SEPP (Transport and Infrastructure)2021, this policy prevails over Muswellbrook Local Environment (LEP) 2009 as identified by *section 2.7* of the SEPP and has been addressed in **Section 5.2** above.

Moreover, the proposed development is considered to be consistent with the relevant objectives of the zone, in particular noting the following;

- The proposal provides a new technology on the site, hence diversifying uses.
- BESS is a small addition of 32.5m X 44.2m which is insignificant for the 92.63 ha site. It will not intrude on the agricultural potential of the land.
- No vegetation clearing is required for the installation of the proposed facility. Additional landscaping is proposed around the development to avoid any visual impacts of the development on the surrounding properties/land uses.
- The proposed development only requires electricity which is already available to the lot, therefore, avoiding any unreasonable or uneconomic demands for the provision or extension of services.

5.4 DEVELOPMENT CONTROL PLAN

The following table provides an assessment of the proposal against the requirements of the Muswellbrook Development Control Plan (DCP) 2009. Where a variation is sought, due to the nature of the development/site, the potential impacts have been considered and justified in the following section.

Item	DCP Requirement	Proposed	Compliance
Section 8 – Rural & Environmental Zone Development			
8.1.1 Dwelling Houses on existing parcels of land	<p>(i) Development applications for new dwellings demonstrate that the subject land comprises the whole of an existing holding including historic ownership pattern from title documents.</p> <p>(ii) Development applications for new dwellings demonstrate development consent for original subdivision under the Muswellbrook LEP 1985 granted dwelling entitlement under that instrument.</p>	<p>Not Applicable.</p> <p>The proposal does not seek the development of a dwelling house.</p>	Not Applied
8.2.1 Scenic Protection and Building Location	<p>a) To ensure that the location of buildings do not detract from the natural or rural setting or scenic qualities of a site</p> <p>b) To ensure that buildings do not dominate the surrounding natural landscape features.</p>	<p>The proposed BESS compound is a small addition of 1436.5m² which is insignificant for the 92.63 ha site. It is sited in an area with appropriate setbacks to the existing road and other surrounding developments. Refer to Appendix C.</p> <p>Moreover, new landscaping will be integrated with the development to avoid any visual impact on the existing rural setting of the area. Refer to Appendix I.</p>	Yes
8.2.2 Setbacks	<p>a) To ensure that development in rural areas is located to minimise visual and acoustic impacts on public places</p> <p>b) To ensure that development in rural areas is located in consideration of existing and possible future land uses on adjoining land.</p>	<p>BESS is proposed in an area with appropriate setbacks from New England Highway. There are no existing dwellings/development within 100m of the proposed compound.</p>	Yes

	<p>c) Buildings are setback a minimum of 50m from any public road</p> <p>d) Buildings are not located within 10m of any property boundary.</p> <p>e) A suitable buffer area is established in the vicinity of agricultural operations that may occur on adjoining land.</p> <p>f) Separation fencing is provided between development land and any adjoining rail corridor.</p>	Moreover, separation fencing and additional landscaping are integrated with the development to provide a buffer and reduce the visual impact. Refer to <i>Appendix I</i> .	
8.2.3 Colours and materials	<p>(i) Use natural colours, muted and earth tones for major areas of the building, such as walls and roof, and restrict stronger colours to smaller features such as window frames, doors and decorative woodwork</p> <p>(ii) Use factory pre-coloured materials with low reflective properties.</p> <p>(iii) To ensure new buildings do not result in adverse visual impacts to road users or nearby properties.</p>	Due to the small-sized development, it will not have any visual impacts. The battery units are pre-fabricated and have low reflective properties.	Yes
8.2.4 Car parking and Access	a) To ensure that adequate car parking and access is provided to service new development	No formal or dedicated parking facilities are proposed or required to be provided on the site. Once installed, the site will work independently without any permanent/full-time staff. Maintenance vehicles can park within the site as needed to service the batteries.	Yes
8.2.5 Temporary Dwellings	a) To ensure that buildings used for temporary dwellings do not detract from the general amenity of the locality	No Temporary Dwelling has been proposed as part of the application, therefore, not applicable.	Not Applied

	b) To ensure consistency in the application of provisions relating to periods of temporary occupation		
8.3.1 Topography	<p>a) To preserve the natural landform of the Shire</p> <p>b) To ensure that any developments are constructed to be unobtrusive and consistent with relevant landform conditions</p> <p>c) To ensure that any filling of area or rehabilitation is undertaken to produce a final landform that is consistent with surrounding topography.</p>	<p>The proposed development consists of modular battery storage units of size about 10m X 1.7m. The whole compound is a small addition of 1436.5m² which is insignificant for the 92.63 ha site. Refer to Appendix C. Moreover, the compound is proposed in an area that is generally flat and no major earthworks are proposed for the installation of the BESS.</p>	Yes
8.3.2 Vegetation	<p>a) To protect and enhance the remnant vegetation distributed across the Muswellbrook Shire</p> <p>b) To comply with the provisions of Native Vegetation Act 2003 which aims to prevent broad scale clearing across NSW</p> <p>c) To protect and preserve natural fauna habitat through the protection of native remnant vegetation</p> <p>d) Consideration of matters during the assessment of development applications as listed by the Fisheries Management Act 1994, Threatened Species Conservation Act 1995 and Environmental Protection and Biodiversity Act 1999.</p> <p>e) To minimise the amount of clearing required to develop properties to that only as necessary for development.</p> <p>f) Reduce the spread of weed species.</p>	<p>The development has been proposed in an area devoid of any existing vegetation or biodiversity values. No clearing or other impact has been considered with the proposal. Moreover, additional landscaping will be integrated with the development. Refer to Appendix I.</p>	Yes

8.3.3 Riparian buffers	<p>(i) A riparian buffer area is generally defined as the area located within 40m of each bank of a river, stream, creek, tributary or other natural water course.</p> <p>(ii) Avoid undertaking works within riparian buffer areas where other options are available. Any proposed development within the riparian buffer area is accompanied by a detailed consideration of the environmental impacts associated with the proposal and alternative options considered and reasons why those alternatives are not viable.</p> <p>(iii) Consideration of habitat connectivity during the assessment of developments which may impact on watercourses and riparian vegetation.</p>	The BESS compound is not proposed within 40m of the existing hydro-lines or riparian buffer area. Therefore, this clause does not apply to the proposed development.	Not Applied
8.3.4 Management of Rivers, Creeks, Streams and Drainage	<p>a) To protect and enhance natural water courses and their associated vegetation throughout the Shire</p> <p>b) Protection of fauna habitat associated with water courses and riparian vegetation to promote biodiversity</p> <p>c) Consideration of matters during the assessment of development applications as listed by the Fisheries Management Act 1994, Threatened Species Conservation Act 1995 and Environmental Protection & Biodiversity Act 1999.</p> <p>d) Ensure that development maintains and enhances the integrity of water quality, ecosystem health and biodiversity within or adjacent to key aquatic habitats</p>	As mentioned above, the proposed compound is not within 40m of any existing creek/water dams. It will not cause any disturbance to existing natural water courses or vegetation.	Yes

	e) Protect and enhance wildlife corridors which are located in the riparian vegetation of watercourses.		
8.3.5 Services	a) To ensure that rural development is provided with adequate services.	The proposed development will not require any additional services other than electricity which is already available on the site.	Yes
8.3.6 Buffers	a) Adequate buffers are provided between proposed development and existing development on adjoining land or where potential land use conflicts may arise. b) The agricultural potential or residential amenity of land will not be diminished as a result of a development proposal.	The development has been proposed in an area adequately setback from New England Highway. There is no existing development within 100m of the proposed compound. Moreover, a 2.4m high fencing and landscaping will be integrated with the proposed compound to avoid any visual impact. Refer to <i>Appendix I</i> .	Yes
8.4 Frost Control Fans	a) To provide an equitable balance between the use of frost control fans and the amenity of surrounding properties; b) To address the interface issues regarding the installation and operation of frost control fans and the concern of adjacent neighbours; c) To set standards appropriate for the installation and operation of frost control fans; and d) To allow for sustainable horticulture.	Not Applicable. No Frost Control Fan has been proposed as part of the application.	Not Applied

Table 2: DCP Compliance Table
Source: HDB Town Planning and Design

6.0 KEY PLANNING/ENVIRONMENTAL ISSUES

6.1 CONTEXT AND SETTING

The proposal seeks approval to install a Battery Energy Storage System (BESS) on about 92.63-ha rural property.

The proposed development is 32.5m X 44.2m is relatively insignificant when compared to the size of the property. The facility will have a high-security fence around it. Additional landscaping is also included around it, screening the development from surrounding properties and New England Highway. Refer to **Appendix I**.

Therefore, it is considered the proposal would not have any impact on the surrounding rural character.

6.2 ACCESS, TRANSPORT, AND TRAFFIC

There is an existing driveway from New England Highway that will provide access to the Battery facility. Refer to **Appendix C** for more details.

6.3 VISUAL IMPACT

The site has New England Highway to its east.

The proposed structures are not prominently visible and stand a maximum of 2.52m high. They are manufactured of non-reflective material.

To effectively screen all views of the battery plant, a perimeter screen planting of shrubs and trees is proposed all around the development, refer to **Appendix I**. This will effectively intercept view paths for drivers on New England Highway.

6.4 SERVICES

The proposed development will not require any additional services other than electricity which is already available on the site.

6.5 STORMWATER

The proposal will not increase the impervious surfaces, nor will it require a connection to public drainage.

All water falling on the battery cabinets and other structures will go to the ground which will remain in its current form, refer to **Appendix E** for more detail.

6.6 FLORA AND FAUNA

The proposed compound is located on disturbed grazing land. No significant vegetation will be removed for the installation of the proposal.

6.7 HERITAGE

There are no recorded items of Heritage or Aboriginal Cultural significance on the site. Refer to *Appendix B – AHIMS Report*.

6.8 BUSHFIRE

The site is mapped as a Bushfire Prone Land. A bushfire report is attached as *Appendix H – Bushfire Report*.

6.9 FLOODING

The site is not mapped as Flood Planning Area under flood mapping by the council.

6.10 WASTE

During the construction phase, the waste will be collected in large skip bins on-site and removed at the completion of construction for recycling. Construction waste will generally consist of:

- Excess wiring from installation and attachment to grid.
- Steel offcuts from framing; and
- Cardboard and plastic from packaging of battery units.

The general waste management practices that will be followed on the site will be:

- Avoidance – design, measure and calculate materials required to avoid excess materials being generated.
- Reuse – there is limited potential for reuse of materials during construction, however, items such as fencing may be reused where possible; and
- Recycling - the waste will be separated into various recyclable products, i.e. timber, glass, metals, and be disposed of at the appropriate recycle centres as required. The timber pallets will be advertised locally for free collection for recycling purposes.

Most of the waste will be removed for recycling.

No waste will be generated during the operation of the Battery Energy Storage System (BESS).

6.11 SAFETY AND SECURITY

It is considered that the proposal will not have any adverse impacts on the safety and security of the area.

A 2.4m high-security fence will be constructed around the compound as shown in *Appendix E*.

7.0 PROJECT JUSTIFICATION AND NEED

The proposal to develop a new 4.98 MW Battery Energy Storage Facility on an existing agricultural grazing property provides the local area with a source of renewable energy, whilst having minimal environmental impacts and disturbance to the land.

The subject site has an ideal location with easy access to the property and an existing electrical grid and substation. It will have negligible impacts on the surrounding properties or existing and future uses.

This proposal is one of several future BESS proposed for the Region, and is consistent with the goals under *Objective 1: Diversifying the Hunter's mining, energy and industrial capacity* and *Objective 7: Reach net zero and increase resilience and sustainable infrastructure* of Hunter Regional Plan 2041.

8.0 CONCLUSION

This Statement of Environmental Effects has been prepared having regard to the requirements of s4.15 of the *Environmental Planning and Assessment Act 1979*.

In reviewing the relevant statutory and non-statutory planning standards and objectives, it is concluded that the proposal presents:

- Minimal adverse impacts on the surrounding environment;
- Permissible development under *section 2.36 – SEPP (Infrastructure and Transport) 2021*;
- A sustainable design that enables creative and efficient use of the land; and
- Compliant with all relevant statutory and non-statutory planning provisions.

Muswellbrook Shire Council is therefore respectfully requested to grant consent to this development application, with appropriate conditions.

APPENDIX A

TITLE SEARCH

APPENDIX B

AHIMS REPORT

APPENDIX C

SITE LAYOUT

APPENDIX D

COMPOUND LAYOUT

APPENDIX E

COMPOUND DETAILS

APPENDIX F

BESS SPECIFICATIONS

APPENDIX G

LETTER TO MSC

APPENDIX H

BUSHFIRE REPORT

APPENDIX I

LANDSCAPE PLAN