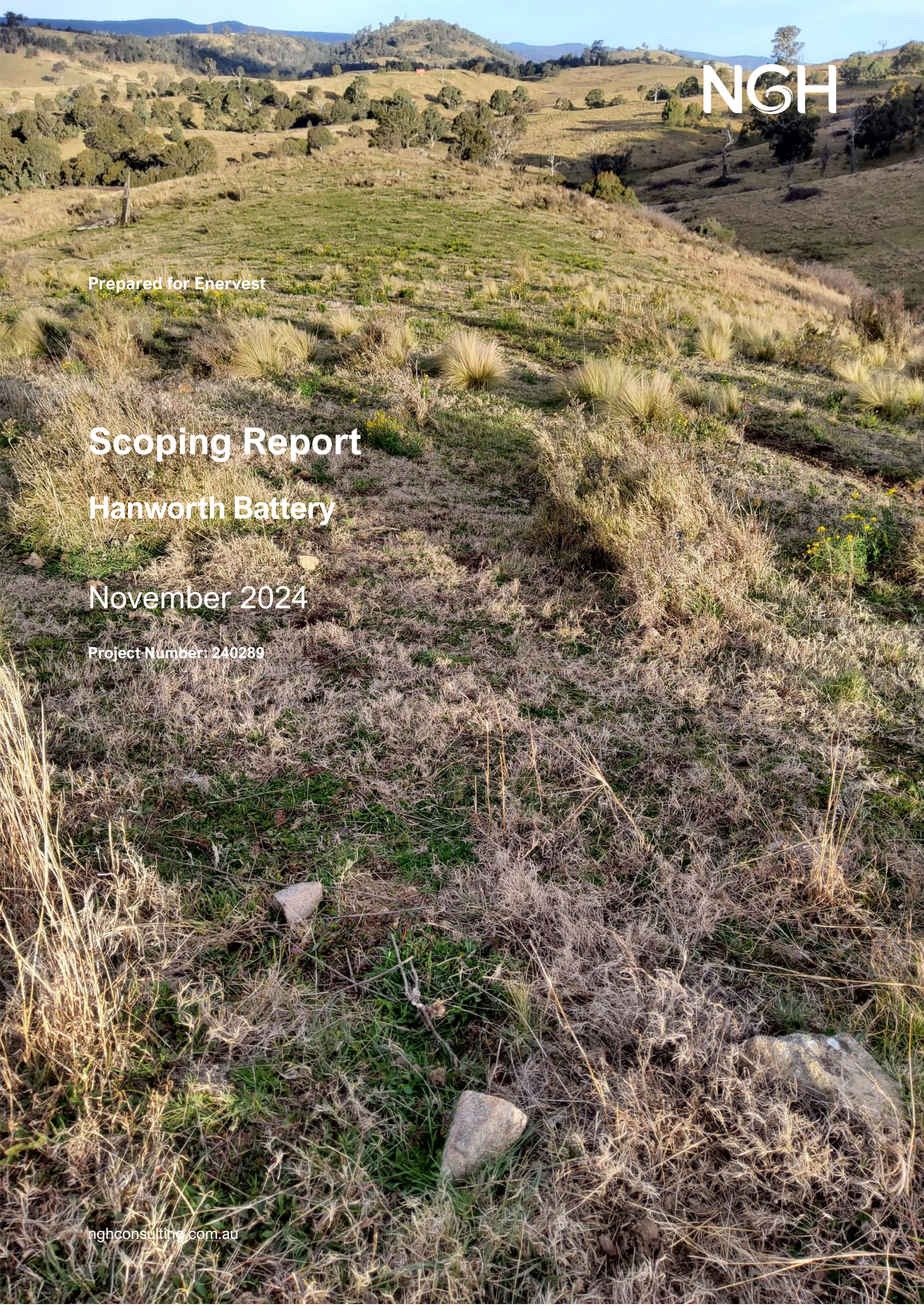


Prepared for Enervest

Scoping Report

Hanworth Battery

November 2024

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We acknowledge the traditional owners of this land and pay our respect to Elders past, present and emerging. We recognise that the First Nations peoples of Australia have traditionally managed the resources of this land in a sustainable way, and that they are the original stewards of the Australian environment.

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Acronyms and Abbreviations

AC	Alternating Current
AEMO	Australian Energy Market Operator
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
APZ	Asset Protection Zone
ASL	Above sea level
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
CEMP	Construction environmental management plan
Cth	Commonwealth
CSP	Community Strategic Plan
DA	Development Application
DC	Direct Current
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Cth) (formerly DAWE)
DCCEEW	Department of Climate Change, Energy, the Environment and Water (NSW) (formerly DPE)
DPHI	Department of Planning, Housing and Infrastructure (NSW) (formerly DPE)
EDC	Estimated Development Cost
EIS	Environmental impact statement
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
FM Act	*Fisheries Management Act 1994* (NSW)

GW	gigawatt
ha	hectares
Heritage Act	*Heritage Act 1977* (NSW)
HV	High Voltage
ISP	Integrated System Plan
TISEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021 (NSW)
km	kilometres
kV	kilovolt
LEP	Local Environment Plan
LGA	Local government area
LV	Low Voltage
m	metres
MNES	Matters of National Environmental Significance
MV	Medium Voltage
MW	Megawatt
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
PCS	Power Conversion System
PCT	Plant Community Type
PHA	Preliminary Hazard Assessment
PSIA	Preliminary Social Impact Assessment
REZ	Renewable Energy Zone
SAL	Suburbs and Localities
SAII	Serious and irreversible Impact
SEARs	Secretary's Environment Assessment Requirements
SHI	State Heritage Inventory

SSD	State Significant Development
TEC	Threatened ecological community
ULSC	Upper Lachlan Shire Council
VPA	voluntary planning agreement

Key terms in this report

Project Site: The area that is being considered for the Project including potential road upgrades and site access routes but is not necessarily the final disturbance area (see Development footprint).

Involved Lands: All lots and easements that are intersected by the Project Site. All lots and easements are listed in Section 1.3.

Development footprint: The area of land that will be directly impacted by the project (construction and operation) i.e. where temporary/permanent infrastructure will go (including access roads and transmission lines).

The Development footprint is currently indicative. It would be established within the Project Site and be subject to the consideration of constraints identified through further detailed assessment and consultation.

Associated Receivers: A receiver on privately owned land in which the owner has reached an agreement with the Applicant in relation to the development and management of impacts

Non-Associated Receivers: A receiver on privately owned land in respect of which the owner has not reached an agreement with the Applicant in relation to the development. Nearby non-associated receivers are fully assessed for all environmental impacts, such as noise, vibration and visual impacts.

Infrastructure siting investigation area: The area of land within the Project Site that is being considered for the siting of project related BESS infrastructure.

1. Introduction

1.1. Project outline

Enervest is planning the development of the Hanworth Battery (the Project) being a battery energy storage system (BESS). The Project is located on Lot 401 DP1265813 and 402 DP1265813 Hanworth Road and is approximately 47.70 hectares (ha). There is an 11ha transmission corridor to a substation over TransGrid's neighbouring Lot 2 DP1096390. The site is zoned RU2 Rural Landscape under the Upper Lachlan Shire Local Environmental Plan 2010. It is currently used for agricultural activities, and any undeveloped land will continue to be grazed.

The site access is from Hanworth Road, a local gravel road extending from Bannaby Road.

The Project would include the following key components.

- 2–4 hour BESS.
- Onsite switching station.
- Overhead transmission lines connecting the onsite switching station with the neighbouring existing 330 kilovolt (kV) Transgrid substation.
- Ancillary infrastructure including access roads, above and underground cabling and associated operational facilities.
- Upgrade of an existing building for use as an operational staff facility.

The Project will have a capacity of approximately 1.2 gigawatt (GW) with 4.8 gigawatt hour (GWh) storage and will connect into the national electricity network via an onsite switching station (330kV) and transmission line to the Transgrid substation.

The Scoping Report provides a high-level description of the Project, including its strategic context, and identifies key environmental issues relevant to the Project and proposed investigation strategies for them.

1.2. Project objectives

The Project aims to provide a meaningful contribution to NSW's transition to renewable energy and is aligned with Federal, NSW and local land use policies in this regard. The increase in renewable energy generation, supported by appropriate storage and transmission infrastructure, will reduce Australia's reliance on fossil fuels for electricity generation and the consequent harmful effects of climate change.

Specifically, the Hanworth Battery will seek to:

- Optimise the storage of renewable energy and feeding back into the national Grid via the Transgrid Bannaby 330 kV substation.
- Help address a real and current need that the national and NSW electricity marked has for energy storage and energy delivery flattening.
- Be responsive to the site's environmental character
- Be responsive to local social feedback and build in broader community benefits, assuring social license to operate this long-term development within the community.

Strategies to minimise impacts and reflect local values would be further investigated as part of detailed environmental assessments and community engagement processes in the environmental impact statement (EIS) preparation stage.

1.3. Location

The Project is located approximately 5km from Bannaby, 20km from Taralga and 60km from Goulburn as shown in Figure 1-1. The Project Site is characterised by rolling hills with low relief. Mostly cleared of native vegetation, the site has been continuously used for agricultural purposes since settlement and has significant cleared open areas that have been used for grazing. Remnant vegetation is limited to riparian areas and steeper less accessible areas. There are two unnamed Strahler Order 1 waterways which drain off the site.

The Project's infrastructure will be largely located on 47.70ha parcels of privately owned land located off Hanworth Road. An approximately 1.5km transmission corridor will connect to the nearby substation.

The Project intersects or is located within the following lots and easements provided in Table 1-1 and shown in Figure 1-2.

Table 1-1 Involved Lands

Owner	Proposed usage for the Project	Lot	Deposited Plan (DP)
Associated Landowner	Siting for the BESS	401 and 402	DP1265813
	Potential Access to site	4	DP1258207
Council	Upgrade road for access if required	Road Easement	Hanworth Road
Transgrid	Siting for the connecting transmission line and connection to the existing substation	2	DP1096390
Crown Land	Crossed by the connecting transmission line	N/A	N/A

The Project is within 20km of the following National Parks, Reserves, Karst Conservation Reserves and State Forests:

- Blue Mountains NP
- Nattai NP
- Mares Fores NP
- Wombeyan KCR
- Wollondilly River NR,
- Guula Ngurra NP
- Tarlo River NP
- Kerrawary NR
- Bangadilly NP
- Belanglo State Forest

The closest is Guula Ngurra NP, located approximately 5km away.

290 MW Paling Yards WF
Blue Mountains NP
WOLLONDILLY LGA
Nattai NP
Mares Forest NP
Wollondilly River NR
UPPER LACHLAN SHIRE LGA
Taralga
107 MW Taralga WF
Bannaby
Guula Ngurra NP
Bangadilly NP
WINGECARRIBEE LGA
Kerrawary NR
BELANGLO STATE FOREST
Tarlo River NP
Moss Vale
Illawarra Renewable Energy Zone
110MW Crookwell 2 WF
Wattle Creek Energy Hub
100 MW Marulan SF and BESS
144 MW Carrick SF
Nattai National Park
Goulburn
Nowra
M7
M31
M1
A9
A1
M23

LEGEND

- Project Site
- Existing Substations
- Local Government Area boundary
- State Forest
- National Park
- Wind Projects in NSW
- Solar Projects in NSW
- Renewable Energy Zones in NSW

Electricity Transmission Lines

- 330 kV
- 500 kV
- Key Fish Habitat

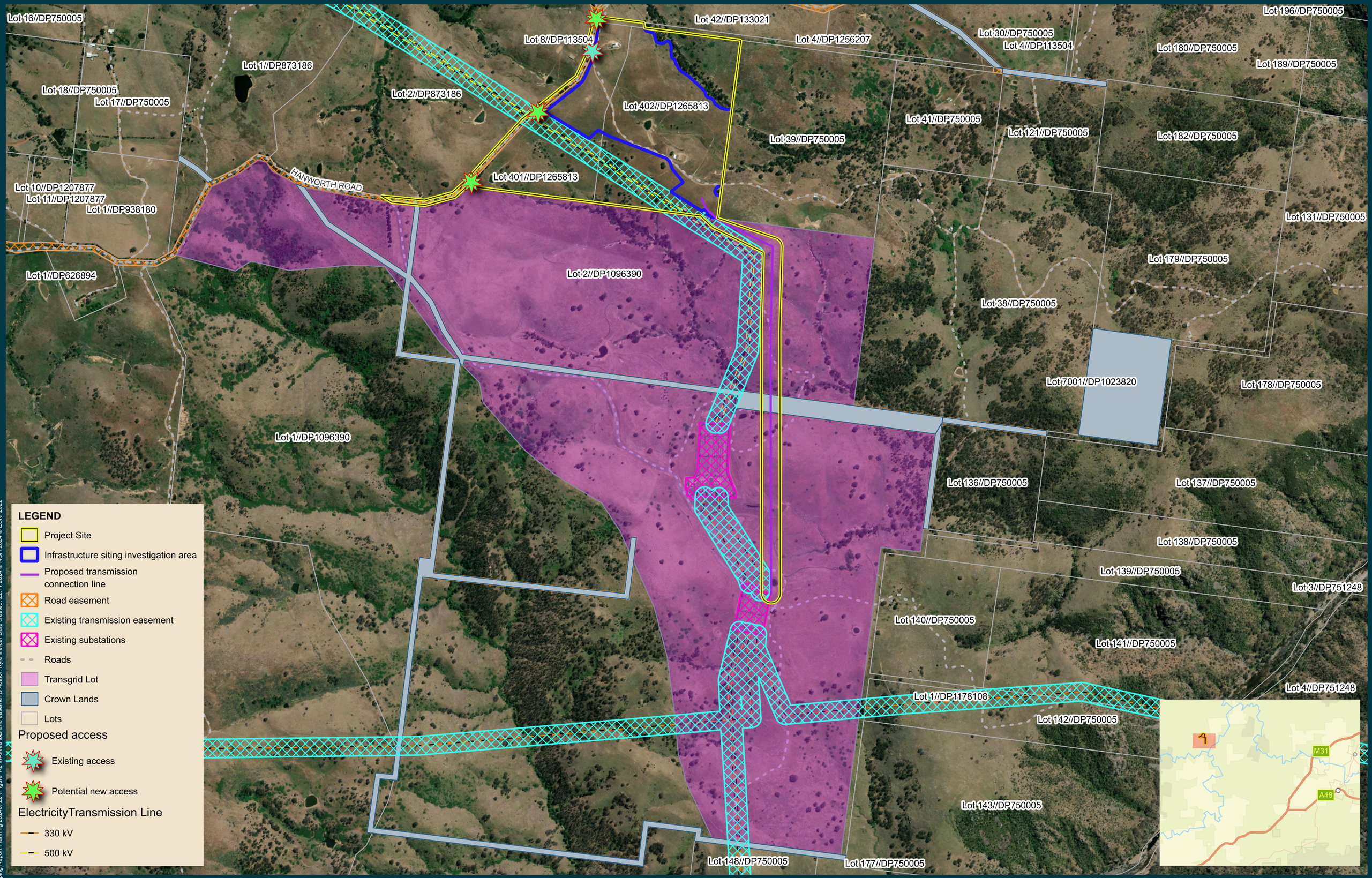
Datum: GDA2020 / MGA Zone 56

0 10 20 km

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 | Figure 1-1 Regional locality Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

Hanworth Battery

Figure 1-1 Regional locality



Datum: GDA2020 / MGA Zone 56

0 0.5 1 km

Hanworth Battery

FIgure 1-2 Involved lots and easements

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 \ Figure 1-2 Involved lots and easements Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

1.4. Subdivision

The Applicant owns lots 401 and 402 of DP1265813 which is the nominated site for the BESS and Lot 4 DP1258207 nominated as potential access. The applicant is pursuing an easement for the connecting transmission line through Lot 1 DP1096390 owned by Transgrid. As such subdivision is not required for the Project at this stage.

1.5. The applicant

The Project is being developed by Enervest (the Applicant), refer to Table 1-2 for company details.

Enervest is an Australian-owned and operated company specialising in energy storage projects. Enervest was founded in 2008 and provides engineering and operational services for Australia's decarbonisation journey. Enervest has a national presence, working alongside local communities and industry partners to develop projects that provide an overall positive impact on both the environment and the community. The Enervest team of experts are dedicated to developing large-scale renewable energy projects that deliver clean, green energy into our transmission network, reducing our reliance on fossil fuels and helping mitigate climate change.

Table 1-2 Applicant details

Condition	Detail
The Applicant	Enervest
Legal Entity Company Name	Enervest Operations PTY LTD
Office Address	Level 6, 627 Chapel St South Yarra 3141
ACN	160 709 286

1.6. Project background

The Applicant has been investigating the potential to develop a renewable energy project in the area since early 2023. Specific consideration was given to grid connectivity and capacity, commercial viability, statutory legislation and environmental and planning constraints.

Ongoing refinement of the Project with consideration of the above will continue through the development of the EIS. At this stage of the Project, the environmental scoping assessment in Section 6 has identified risks that may require avoidance or risk minimisation/offsetting. At this stage of the Project areas clearly constrained by topography or high biodiversity value have been avoided as much as possible but the investigation area remains broad so that the layout can be responsive to detailed studies proposed in the EIS.

1.7. Related development

There are no existing or approved developments that would be incorporated into or operated in conjunction with the Hanworth Battery under a separate development consent, nor development required for the project subject to a separate assessment. Therefore, there is no related development applicable to this Project.

1.8. Purpose of the document

The Scoping Report has been prepared to support a request to the Department of Planning Housing and Infrastructure (DPHI) for the Secretary's Environment Assessment Requirements (SEARs) for the proposed Project. The SEARs would guide the preparation of an EIS for the Project, pursuant to Part 4 of the NSW *Environmental Planning and Assessment act* 1979 (EP&A Act). An EIS is required as the Project has an Estimated Development Cost (EDC) exceeding $30 million and therefore is classified as State Significant Development (SSD).

This Scoping Report provides a high-level description of the Project, including its strategic context, statutory context, and identifies key environmental issues relevant to the Project and proposed investigation strategies for them.

2. Strategic context

2.1. Regional setting

The Project is located 53km west of the Illawarra Renewable Energy Zone (Illawarra REZ) (refer to Figure 1-1). It is located 1.5km north of the current 330kV Transgrid substation.

New HumeLink Transmission lines are to be constructed from the 550kV substation and run west towards Wagga Wagga. It should be noted that the Hanworth Battery is being proposed independently and is not associated with the HumeLink project.

The Upper Lachlan Shire Council (ULSC) Area is located in the Southern Tablelands region of NSW and was formed in 2004 from the merging of the Crookwell Shire, and parts of the Mulwaree, Gunning, and Yass Shires. The Upper Lachlan Shire is approximately 7,127km² in size and encompasses the townships of Bigga, Binda, Breadalbane, Collector, Crookwell, Dalton, Grabben Gullen, Jerrawa, Laggan, Taralga and Tuena.

Whilst the Upper Lachlan Shire is not currently part of an established REZ, renewable energy is an emerging sector in the region. There are currently nine wind farm developments that are operational within the LGA. The LGA is also home to a proposed solar farm 'Gunning Solar Farm' (100km south west) that is in the 'response to submissions' phase of the SSD pathway (as of June 2024).

2.2. Local setting

2.2.1. Zoning

The site is zoned Rural Landscape (RU2) under the Upper Lachlan Shire Council Local Environmental Plan 2010.

The objectives of this zone include:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To maintain the rural landscape character of the land.
- To provide for a range of compatible land uses, including extensive agriculture.

- To protect, manage and restore areas with high conservation, scientific, cultural or aesthetic value.
- To encourage development that generates employment opportunities, integrates with tourism and is compatible with, and adds value to, local agricultural production.
- To retain the significant historic and social values expressed in existing landscapes and land use patterns.
- To conserve and enhance the quality of potentially valuable environmental assets, including waterways, riparian land, wetlands and other surface and groundwater resources, remnant native vegetation and fauna movement corridors.

While the land is of substantial size, it is located on low value agricultural land, suitable for low density stocking rates for grazing animals. The Applicant owns the land and as such will not be subdividing and this will reduce any potential for fragmentation or alienation of land resources.

Adjoining the Transgrid substation lots, potential conflict between land uses is minimised.

The selection of the site to develop an energy facility supports these objectives. It will:

- Be highly compatible with the nearby Bannaby Substation
- Encourage employment opportunities during construction and operational phases
- Is located closely to the substation, so would not lead to fragmentation of agricultural land and assets. It will also avoid the need for third-party easements.

Development of a prescribed non-residential zone for energy production, storage and associated infrastructure is permissible with consent under the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP).

2.2.2. Site values

Project Site

The area surrounding the Project Site includes rural farm land, existing substation, scattered woodland and remnant vegetation following riparian areas and steep inaccessible areas of hills. The following national parks are within 20km proximity to the site

- Guula Ngurra NP
- Kerrawary National Reserve
- Tarlo River National Park
- Wollondilly River National Park
- Wombeyan
- Mares Forest National Park
- Blue Mountains National Park
- Nattai National Park

Belanglo State Forest is located within 15km (east) of the Project Site.

There are several out buildings, containers and sheds on site. There is one unpermitted dwelling located at the north west corner of the site which the Applicant intends to convert to an operational staff facility/permitted dwelling. The Project Site is traversed by one transmission easement, with a capacity of 500kV (refer to Figure 2-1). This is located to the south of the indicative battery layout. While high voltage transmission lines do traverse the Project Site, the Project proposed to construct a new Transmission line south to connect with the 330kV substation.



Figure 2-1 Example of the landscape with the Project Site under existing transmission lines

2.3. Alignment with strategic setting

2.3.1. Federal

Paris Agreement 2030 targets

The Paris Agreement is a legally binding international treaty on climate change adopted by 196 Parties (including Australia) at Conference of Parties 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016 (United Nations Climate Change, 2018). Australia proposed to reduce emissions by 26–28% below 2005 levels by 2030, which was upped to 43% by the *Climate Change Act* 2022. The Project assists in this reduction through its contribution to the energy transition, moving away from fossil fuels.

Climate change Act

On 8 September 2022, the federal government's *Climate Change Bill* 2022 passed both the House of Representatives and the Senate to become *Climate Change Act* 2022. The Act enshrines into law an emissions reduction target of 43% from 2005 levels by 2030, and net zero emissions by 2050. In addition, the Act ensures a whole-of-government approach to drive towards the target. The government has formally lodged this target as an enhanced Nationally Determined Contribution under the Paris Agreement. The Act supports the Government's Powering Australia Plan, which is focused on creating jobs, cutting power bills and reducing emissions by boosting renewable energy.

Integrated Systems Plan 2024

The 2024 Integrated System Plan (ISP) sets out how the Australian Energy Market Operator (AEMO) has identified the optimal development path (ODP) for the NEM and is a roadmap through the energy transition. The NEM services five regions – Queensland, NSW, Victoria, South Australia, and Tasmania. The plan is released every two years and aims to guide industry and government in the investments needed for an affordable, secure and reliable energy future, while meeting prescribed emissions trajectories. The 2024 ISP acknowledges that Australia's traditional energy supply system has been based on large-scale power stations with large-scale transmission systems and centralised asset hubs.

The need for renewable energy has been revised to 6GW of new energy per year compared to 4GW in the 2022 ISP to replace the coal generation. In response to the accelerated timeline for the closure of coal fired energy plants, the optimal development path requires significant additional utility-scale generation is required to replace the loss of coal-fired generation.

The AEMO states that there will be a demand for 82GW of utility-scale wind and solar in the NEM by 2034-35, and 126GW by 2049-50. The Hanworth Battery provides a contribution to these targets through energy storage and firming (refer to Section 5) for a summary of benefits to be gained from the construction of the Hanworth Battery.

Australian Government Renewable Energy Target (RET) 2000

The RET scheme was developed to achieve large-scale renewable generation of 33,000GWh in 2020, by encouraging additional generation of electricity from renewable sources, thus reducing emissions of greenhouse gases in the electricity sector. The RET of 33,000GWh target was met in September 2019, however, the scheme will continue to require high-energy users to meet their obligations under the policy until 2030 and is frequently used as a mechanism to prove voluntary emission reduction. This Project would assist in meeting this requirement for high-energy users required to purchase 'large-scale generation certificates' from large renewable energy power stations.

2.3.2. New South Wales Government

NSW Climate Change (NET Zero Future) Act 2023

The NSW Climate Change (Net Zero Future) Act 2023 was assented on 11 December 2023. It aims to '*set objective for New South Wales to be more resilient to a changing climate; and to establish the Net Zero Commission to monitor, review and report on progress towards the 2030 and 2050 targets and the objective and to exercise other related functions'*

The Act commits the NSW government to effective action on climate change to ensure a sustainable and fair future for the people, economy and environment of NSW. It legislates:

- Guiding principles for action to address climate change that consider the impacts, opportunities and need for action in NSW
- Emission reduction targets for NSW:
    - 50% reduction of 2005 levels by 2030
    - 70% reduction on 2005 levels by 2035
    - Net zero by 2050
- An object for NSW to be more resilient to a changing climate.
- Establishing an independent, expert Net Zero Commission to monitor, review, report on and advise on progress towards these targets (NSW Government, 2023).

This Act supports the Commonwealth governments' *Climate Change Act* 2022.

NSW Climate Change Policy framework

The *NSW Climate Change Policy Framework* (State of NSW and Office of Environment and Heritage 2016) aims to '*maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate, and current and emerging international and national policy settings and actions to address climate change*'.

The framework endorses and complements Commonwealth targets, and has the following aspirational long-term objectives:

- Achieve net zero emissions by 2050.
- NSW being more resilient to a changing climate.

Implementation of the framework encompasses both emissions reduction and adaptation to climate change. This includes the development of an advanced energy action plan, a new energy efficiency plan, a climate change adaptation action plan and additional policy investigations for sectors with significant opportunities and risks.

Net Zero Plan: Stage 1 2020–2030

The Net Zero Plan Stage 1: 2020–2030 sets out how the NSW Government will achieve its objective of net zero emissions by 2050 over the next decade. The Plan is financially supported by a Bilateral Memorandum of Understanding on Energy and Emissions Reduction Policy between the Commonwealth and NSW Governments (DPIE, 2020).

It is expected that by delivering the Plan, almost 2,400 jobs will be supported over the next ten years. Of the estimated $11.6 billion of investment expected over the next ten years, around two-thirds will go to regional and rural NSW. In addition, delivery of the plan is expected to save household $40 per year on electricity bills.

The development of utility-scale renewable energy projects, such as the proposed Hanworth Battery Project, are key to support the delivery of the Plan by providing emissions reduction technologies in the form of at scale renewable energy generating infrastructure.

NSW Electricity Infrastructure Roadmap

The NSW Government's Electricity Infrastructure Roadmap (the Roadmap) has been developed to provide a coordinated framework to guide whole-of-system energy transmission, generation and storage across NSW and deliver a cheap, clean, and reliable electricity system (DPIE, 2020).

The Roadmap aims to:

- Deliver approximately 12GW of new transmission capacity through the established Central-West Orana, New England and South-West Renewable Energy Zones by 2030.
- Support an estimated 3GW of new firm capacity in the NSW grid by 2030.
- Attract up to $32 billion in private investment in regional energy infrastructure investment by 2030.
- Support over 6,300 construction and 2,800 ongoing jobs by 2030, primarily in regional Australia.
- Save around $130 a year on the average NSW household electricity bill and $430 a year on the average small business electricity bill between 2023 and 2040.

- Contribute to the NSW Governments' Net Zero Plan by delivering 90M tonnes of reduced carbon emissions by 2030 (NSW Energy, 2020).

The *Electricity Infrastructure Investment Act* 2020 (NSW) has passed NSW State parliament and would give legal effect to the Roadmap.

The Roadmap considers the establishment of Renewable Energy Zones as a key part of delivering against these objectives. Although five zones have been identified, the priority zones for development are in the Central-West, New England and South-West regions of NSW. As highlighted in the *Transmission Infrastructure Strategy* (DPE, 2018), these zones have been selected in areas with energy resource potential, reduced land use constraints and where planned transmission upgrades can lower the cost of connection across multiple projects. They align with REZs identified by AEMO in the 2020 ISP (AEMO, 2020)

2.3.3. Regional

The Project Site is located within the Upper Lachlan Shire LGA in the Southern Tablelands region of NSW (Figure 1-1). Other nearby towns include Taralga, located approximately 20km southeast, and approximately 60km northeast of Goulburn, approximately 40 km west of Berrima NSW and 241 km to Port of Sydney. The main access to the Project Site is from the Hanworth Road with the main haulage rouge utilising the Hume Highway through Goulburn before accessing local roads for delivering the BESS components.

The Project Site exists on the traditional lands of the Gundungurra people.

2.3.4. Upper Lachlan Shire Council Community Strategic Plan 2042 (CSP)

The Upper Lachlan Shire Council Community Strategic Plan (CSP) is a collective, shared vision for the community. The outcome of the CSP is a result of extensive community consultation and is underpinned by the desire to build and maintain sustainable communities while retaining the region's natural beauty.

In 2015, United Nations Member States updated the 2030 Sustainable Development Goals, which are considered within the wider CSP. The Sustainable Development Goals related to the Project include:

- Goal 7: Affordable and Clean Energy
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation and Infrastructure

Strategic objectives that align with the Project within the CSP include:

- **C. Our Environment**
  - Adopt environmentally sustainable practices
  - Rural character and natural landscapes are protected and maintained through:
    - considering community feedback, local character and identity, economic factors and social impact in planning decision
    - encouraging positive social and environmental contributions from developers.
- **E. Our Civic Leadership**
  - Our community is informed and engaged in decision-making by:
    - empowering the community to access engagement opportunities to provide input into their future
    - allowing residents to have access to timely, relevant and accurate information
    - aim to engage 'hard to reach' community members in the region.

2.3.5. Upper Lachlan Shire Council Operational Plan 2023/2024 (OP)

The Operational Plan 2023/2024 (OP) outlines the principal activities of the Council in 2023 and 2024 to address the Community Strategic Plan (CSP) priorities. The OP prioritises and allocates responsibility for each activity and details the associated action plans.

The Project will contribute to objectives outlined within the OP, including:

11. Ecologically sustainable development strategies

- Achieve development that meets the needs of the present without compromising the ability of future generations to meet their needs
- Achieve development that improves quality of life, both now and into the future, in a way that maintains the ecological processes on which life depends
- Implementation of Section 94A Development Contributions Plan (adopted in 2012) for the following types of development:
    - power station developments
    - wind power developments
    - state significant developments.

2.3.6. Upper Lachlan Shire Council Energy Masterplan (2019) (EM)

The Upper Lachlan Shire Council's (ULSC) Energy Masterplan (EM) sits within the Council's Strategic Plans and highlights the energy-related strategies and goals. The EM aims to increase the proportion of the Council's energy supplied from renewables and energy efficiency.

Short, medium, and long-term opportunities outlined within the EM have a heavy focus on various solar and wind developments in the region and the benefits it would bring to the ULSC LGA. The Project would assist in bringing the energy security and storage required for these developments and would support the Upper Lachlan Shire in achieving broader renewable energy goals.

2.3.7. South East and Tablelands Regional Plan 2036

The South East and Tablelands Regional Plan is a blueprint developed for the next two decades and aims to leverage the region's significant infrastructure assets. It encompasses the vision, goals and actions for the region and for those who live within it.

The Project would contribute to achieving goals outlined within the Regional Plan, including:

- **Goal 1: A connected and prosperous economy:**
    - Direction 6: Position the region as a hub of renewable energy excellence. Actions include:
        - 6.1 Identify opportunities for renewable energy industries
        - 6.2 Develop analytical tools to map large-scale renewable energy potential
        - 6.3 Encourage the co-location of renewable energy projects to maximise infrastructure, including corridors with access to the electricity network
        - 6.4 Promote best practice community engagement and maximise community benefits from renewable energy projects
        - 6.5 Promote appropriate smaller-scale renewable energy projects using bioenergy, solar, wind, small-scale hydro, geothermal or other innovative storage technologies.

2.3.8. Draft South East and Tablelands Regional Plan 2041

The South East and Tablelands Regional Plan 2041 was produced following a review of the Regional Plan 2036. The Project aligns with the following 2041 vision statement outlined within the Plan, envisioning the region to be at the forefront of innovation in sustainable practices

Priorities for the Upper Lachlan outlined within the Plan included:

- Ensuring the growth in each centre (Crookwell and Gunning) does not undermine the viability, investment and role they provide for their immediate communities
- Improve transport access to nearby strategic centres to expand the communities' access to essential goods and services
- Provide a strategic approach to planning for the growth of each area, in line with a shared vision drawn from community engagement.

The Project will contribute to achieving goals outlined within the Regional Plan, including:

- **Theme 2: Enhancing sustainable and resilient environments**
    - ‘Potential indicators’ include the approval and construction of new renewable energy developments across the region and demonstrated community and council engagement and knowledge.
    - Objective 8: Plan for a net zero region by 2050
        - Identify areas for potential renewable energy sites, including consideration for grid capacity, supporting networks and community resilience.
    - Strategy 8.1
        - Promote opportunities for clean energy generation in the region including bioenergy, solar, wind, hydro, geothermal and storage technologies
        - Promote opportunities for energy storage, including community-scale batteries, deep battery storage, pumped hydro, electrolysers and other innovative storage technologies
        - Encourage the co-location of renewable energy generation and storage infrastructure, in proximity to the current and proposed future electricity transmission network, but also to minimise any cumulative adverse effects on the natural environment.
- **Theme 3: Leveraging diverse economic identities**
    - ‘Potential indicators’ include increased growth in the value of the priority growth sectors to the regional economy and increased jobs in strategic centres and clusters
    - A priority growth sector that has been highlighted within the Plan is renewable energy. The renewable energy industry has been identified as bringing the potential for substantial economic growth to the region.
- **Theme 4: Planning for fit-for-purpose housing and services**
    - Housing stress as a result in temporary workers during the construction of large-scale developments (such as renewable energy) has been identified as a major obstacle to the

region. The Plan encourages developers to consider the anticipated impacts on local housing markets and to work to address these effectively.

2.3.9. Southern Tablelands Regional Economic Development Strategy (REDS) 2023 update

In 2018, the NSW Government developed Regional Economic Development Strategies (REDS) for 38 Functional Economic Regions (FERs) across regional NSW. The 2023 update has outlined that over $1.7 billion has been invested into renewable energy generation facilities across the region including Bango, Biala, Collector, Crookwell II and Rye Park wind farms.

Key themes from the consultation highlighted the significant investment being made into renewable energy projects in the region and expressed a desire to ensure the region's communities derive long-term economic benefits from these projects. Items outlined in the updated 2023 Southern Tablelands REDS strategies that align with the Project include:

Maximise community benefits from the region's emerging strength in renewable energy generation

- Facilitate community benefits from the growth of off grid energy storage, generation and transmission capacity across the region while ensuring compatibility with surrounding land uses, such as agriculture.

There is also a strong focus throughout the REDS update on renewable energy as an emerging industry in the region. Given the significant investment into several renewable energy generation projects in the region, energy generation has significant capacity to continue to grow as a specialisation industry for the ULSC LGA.

The REDS also outlines that developments in the region should consider 'the provision of housing for works, the capacity of existing and planned infrastructure to service accommodation for workers, and provision for worker's accommodation sites' (Department of Regional NSW 2023).

2.4. Project justification

2.4.1. Supporting the clean energy transition

The project's key justification is in its contribution to electricity reliability, including:

- Facilitating energy shifting and provide for peak demand periods
- Easing energy wastage (curtailment)
- Easing the peak demand and defers the alternative costly network upgrades associated with providing energy in remote locations. Increasing population and economic development results in an increase on energy demands and pushes for costly network expansion
- Improved voltage support, improved power quality and contributes to network system strength as coal generators exit the market
- Support the Australian transition to a renewable energy future through the implementation of a large-scale BESS.

While most of Australia's electricity is currently provided by coal-fired power stations, as many as three-quarters of these plants are operating beyond their original design life (Department of Industry and Science, 2015). The reduction in energy supply from coal-fired power stations requires the development of reliable and sustainable energy supply and energy storage.

Electricity consumption in Australia is exceptionally high, resulting in costly electricity bills and frequent disruptions to electricity supply during peak times. The renewable energy sector has responded to this high demand and to the need for viable alternative options for electricity generation contributing to 39.4% of

Australia's overall electricity in 2024 (Clean Energy Council, 2024) with 5.9GW of renewable generation capacity added in 2023. By the end of 2023, 27 utility-scale batteries were under construction with $4.9 billion in new investments in large-scale storage during 2023.

The Project would benefit the electricity grid by balancing the network through the addition of energy storage. This stored energy would be of great benefit during periods of low renewable output and high demand. This is especially important during the states transition from centralised to decentralised power generation as coal fired plants are decommissioned. Greater utilisation of large-scale battery storage in conjunction with other dispatchable energy resources may decrease peak wholesale prices. This is due to the ability of battery storage to buffer the energy market during tightened supply times when demand is high (Finkel, Moses, Munro, Effeney, & O'Kane, 2017). The market price effect of dispatchable energy resources such as battery storage is modelled below in Figure 2-2.

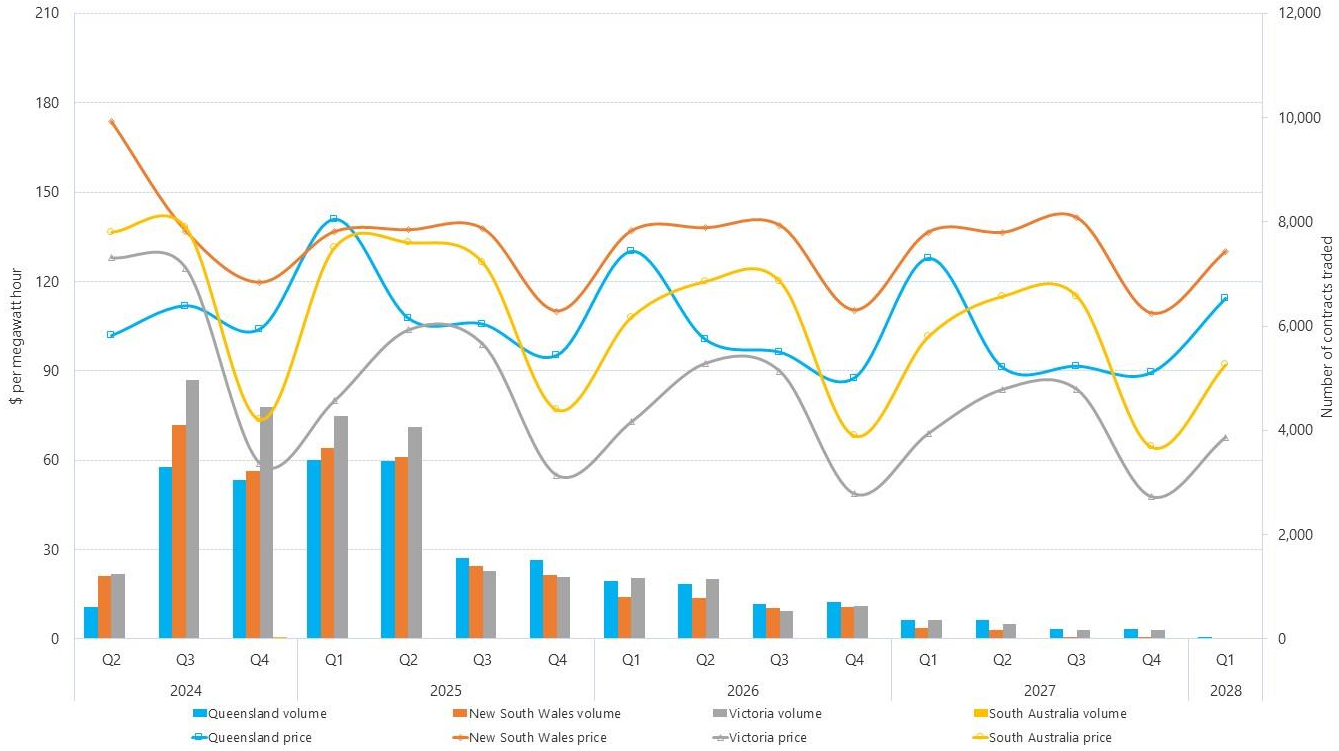


Figure 2-2 Quarterly base future prices and volume traded AET (AMEO, 2024)

2.4.2. Site suitability

The Project is located within close proximity to two large Transgrid substations, in a sparsely populated area and as such, by virtue of its location and its capacity to avoid significant biodiversity impacts, it is well placed to generate efficient renewable energy, supporting the transition of the network away from coal generation. The site has been evaluated in Section 6 and no environmental or social factors have been identified that could not be avoided or minimised through the implementation of further detailed studies in the EIS. Design and assessment of the Project can then be undertaken with a focus on mitigating and managing unavoidable impacts.

2.5. Likelihood for cumulative impacts

The Project has the potential to result in cumulative impacts, most notably with the nearby HumeLink Project. These are addressed in Section 6.11 and would be assessed in detail in the EIS in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Project*s (NSW Department of Planning, Industry and Environment, 2021).

2.6. Project agreements

The Applicant would propose a community benefit fund or voluntary project activities in line with the requirements of the Upper Lachlan Development Control Plan 2010. The Applicant is currently engaging the community and Council to establish the most appropriate framework and structure for such a program in line with the Upper Lachlan Shire Council Operational Plan 2023/2024. More detail would be provided in the EIS.

3. The Project

3.1. Project description

The Project would involve the development, construction, operation and decommissioning of a BESS with a capacity of 1.2 GW / 4.8 GWh (4 hour storage). The Hanworth Battery is likely to use Lithium Iron Phosphate (LFP) technology. It would supply electricity to the national electricity market during peak periods after taking electricity from the grid when demand is low.

A BESS is an energy storage system that uses a group of batteries to store electrical energy from a variety of sources, including renewable energy. A BESS stores energy by accumulating energy through reversible electrochemical reactions. The energy is stored/extracted in DC (Direct Current) and converted/inverted into AC (Alternating Current) by an accompanying bi-directional inverter sized to the storage capacity.

The system compensates for the intermittency of electricity sources, providing backup power to address constraints such as weather conditions and lack of grid capacity. They are crucial to the increased adoption of dispersed energy sources and infrastructure, reducing the risk of widespread power outages.

The BESS Project Site as detailed in this Scoping Report is approximately 60ha of land which includes the two lots the BESS is located on, the road reserve corridor to be upgraded and the connection route to the nearby substation and area required for connection. It should be noted this is modelled as a worst-case scenario, allowing for uncertainty in design, and will be reduced following detailed design. The indicative development footprint envelope of 26 hectares is outlined in Table 3-1 and shown in Figure 3-1.

Table 3-1 Indicative development footprint size by Project components and lots

Project component	Lot/reserve location (and size)	Indicative development footprint (ha)
BESS	Lots 401 & 402 DP1265813 & Lot 4 DP1256207 50.76ha	Indicative BESS infrastructure development footprint – **12 ha** (within the 24ha Infrastructure siting investigation area) (including BESS, access, ancillary facilities and switching yard)
Road upgrade	Hanworth Road reserve 2.27 ha	Anticipated regrading and minor widening upgrade area **2.27** ha.
Connection transmission line	Lot 2//DP1096390 289.75ha	Approximately **11.00** ha (indicative disturbance corridor 1545m long by 70m wide)
Transgrid substation connection		Approximately **0.25ha**

Crown Reserve on Transgrid lot	No lot number	0.74ha (within the proposed connection transmission line)
Total indicative development footprint		**Approximately 26ha (to be further refined in the EIS)**

At this stage the Project is likely to include the following key BESS infrastructure:

- 810 battery containers measuring approximately 9.99m x 2.44m x 2.93m. Each container would house 56 battery modules/packs.
- 456 inverters (also known as Power Conversion Systems (PCS)). Each PCS includes an inverter, a medium-voltage transformer (converts the inverter output voltage to the medium-voltage of the system) and 33kv and medium voltage switchgear (which contains circuit breakers, disconnectors and distributes power). The PCS units are housed in a common 20-foot container skid (6.10m x 2.44Ym x 2.59m).

Additional facilitating equipment/facilities would include the following:

- 33kV Switchroom(s) (containing MV Switchgear which collect all the individual medium voltage cables from the PCS units for connection to the high-voltage 33/330kV Transformers).
- A control room/maintenance facility which contains battery-monitoring equipment and allows operators to control the plant remotely. The control room would also distribute the LV auxiliary power throughout the facility.
- An on-site 33kV to 330kV Sub-Station. This contains the main high-voltage 33/330kV Transformers and protection equipment which are required to connect to overhead transmission line(s). An overhead 330kV transmission line which connects the proposed BESS to the adjacent Transgrid Bannaby (southern) substation. The connection type is subject to TransGrid connection arrangement requirements (currently being worked through).
- Associated ancillary infrastructure
    - Internal access track and underground cabling (reticulation)
    - Storm water bunding & drainage systems
    - Construction laydown areas
    - Landscaping
    - Lighting, Security fencing & CCTV equipment
    - On-site car parking
    - Fire Water tank(s)
    - Operations and maintenance (O&M) building(s)
    - Ancillary storage areas and laydowns
    - Staff amenities
    - Auxiliary low-voltage transformers
    - Watercourse crossings for internal access tracks as required
    - Intersection and road upgrades as required
    - Pumpable sewerage holding tank.

The Project Site boundary and indicative Development Footprint is provided in Figure 3-1. The final development footprint will be assessed in the EIS will be informed by community and stakeholder consultation and detailed environmental investigations.

The construction phase is expected to take approximately 24 months, with peak construction taking around 12 months. It is anticipated that the Project would operate for about 40 years, after which time the Hanworth Battery would be decommissioned or repurposed as required

The decommissioning phase would involve removal of all above ground infrastructure and below ground infrastructure where possible and return the site to its existing land capability.

The construction worker force is expected to be 100 full time equivalent staff with 6 operational staff expected.

As per SSD requirements, the estimated cost of development (EDC) of the Hanworth Battery would be over $30 million. The final EDC figure would be subject to a detailed EDC report prepared as part of the development application process.

HANWORTH ROAD

LEGEND

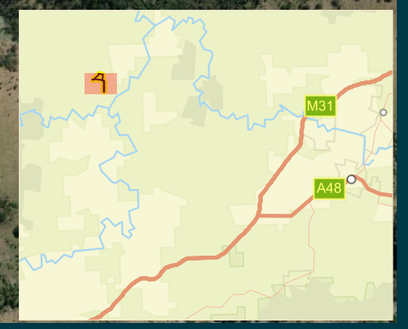
- Project Site
- Infrastructure siting investigation area
- Proposed transmission connection line
- Indicative switching station
- Indicative road upgrade
- Road
- Existing Substations

Existing Transmission Line

- 330 kV
- 500 kV

Access points

- Existing access
- Potential new access



Datum: GDA2020 / MGA Zone 56

NGH

0 0.25 0.5 km

Hanworth Battery

Figure 3-1 Project Site and indicative Development Footprint

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 | Figure 3-1 Project Site and indicative Development Footprint Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

3.2. Project delivery

The project delivery post approval can be separated into four key stages: Site establishment, construction, operation and decommissioning. The details of these stages are outlined below and would be described in more detail during the EIS phase.

Table 3-2 Indicative timeline

Phase	Approximate commencement	Approximate duration
Project Planning	August 2024	Approx. 24 months
Commercialisation	March 2026	Approx. 6 months
Site establishment	August 2026	Approx. 2 months
Construction	October 2026	Approx. 12 months
Operation	October 2028	Approx. 35-40 years
Decommissioning	TBC	8 months

Construction hours will be limited to:

- 7am to 6pm Monday to Friday
- 8am to 3pm Saturday
- No work on Sunday or public holidays.

The delivery of materials requiring an escort and/or emergency works may occur outside of the above construction hours. This would be detailed in the Traffic Impact Assessment (TIA) in the EIS.

3.2.1. Site establishment

The site establishment phase would include the establishment of the site access and associated road treatments required to facilitate the traffic movements for the construction phase. This period would be undertaken over approximately 2 months. The details of the access treatments would be covered in the EIS. However, the access would likely be via the existing access track from the Hanworth Road, which is currently used for agricultural purposes. An additional access point is proposed further to the south off Hanworth Road to be upgraded for construction access. This is discussed in Section 6.5 and would be further detailed in the EIS.

During this site establishment, activity may occur for early delineation of the site such as marking no go zones and compound area marking. Additional pre-construction works that may be undertaken also include installation of fencing, intersection upgrades, artefact survey and/or salvage, overhead line safety marking and geotechnical drilling and/or surveying.

3.2.2. Construction

The construction phase would begin following the road upgrades and is expected to take approximately 24 months. During peak construction there would be approximately 100 workers onsite. Construction would involve the following key activities:

1. Contractor mobilisation
2. Earthworks and internal access roads as required
3. Delivery of module components
4. Delivery of cabling, communication, and earthing components
5. Construction of foundations
6. Trenching
7. Installation of module components
8. Delivery and installation of inverter-transformer (PCS) stations
9. Delivery and installation of battery containers
10. Overhead/ Underground powerline connection
11. Construction of ancillary buildings, structures and equipment
12. Testing and commissioning

The construction program may be staged, and further detail would be provided in the EIS.

Materials

The following materials would be required to construct the project.

- Aggregates, gravel road base, and concrete.
- Steel security fencing materials.
- Concrete foundations.
- Cabling, and conduit.
- Container-based modules containing the battery units.
- Skid-based Power Conversion Units (inc Ring Main Units and transformers)
- Steel wall cladding and roofing for operations and maintenance building and control room with a steel frame structure.
- Timber and fixtures for building fit-out.

The material quantities would be estimated in more detail in the EIS when the Development Footprint is developed.

Equipment

The following typical equipment would be used throughout the construction of the Project.

- Excavators
- Mobile cranes
- Graders
- Telehandlers
- Forklifts
- Drum / padfoot rollers
- Wheeled loader
- Dump truck
- Trencher
- Water truck
- Hand tools.

Further details and quantities of these equipment would be provided in the EIS:

3.2.3. Operation

It is anticipated that the Project would operate for about 40 years. Hanworth Battery refurbishment would likely be required at approximately 20 years of operation. It is envisaged that some individual components, such as battery modules and inverter units, may need to be replaced before the end of this term due to unforeseen faults or general wear and tear.

It is estimated that 6 full-time staff would be employed onsite during operation, with an additional influx of staff required for refurbishment works. The Battery would primarily be operated remotely, which would require further 1-2 remote full-time staff. Additional contractors local to the region would also be required for jobs such as weed and pest control, landscaping, electrical maintenance, road and drainage maintenance.

3.2.4. Decommissioning

The Project has a finite life span. When that lifespan is reached, an upgrade of the BESS could be undertaken and consequently either an extension request or lodgement of a new Development Application (DA) if required.

If the site is not repowered at the end of its useful life, then it will be decommissioned. The decommissioning phase would involve removal of all above ground infrastructure and below ground infrastructure where possible, recycling of any appropriate materials, and return of the site to its existing land capability.

3.3. Estimated development cost

The estimated development cost (EDC) of the Hanworth Battery would be in excess of $30 million. The EDC figure would be subject to a detailed EDC report prepared as part of the development application process and submitted with the EIS to the DPHI.

3.4. Restrictions or covenants over the land

There are no known restrictions or covenants that apply to the Project Site

3.5. Analysis of alternatives

Alternatives considered below include statements regarding alternative site locations and alternative energy generating/storage technologies.

3.5.1. Alternative technologies and components

The critical components of a BESS include:

- Battery modules.
- Nearby grid connection infrastructure.

Over recent years, the underlying technology surrounding BESS development has been evolving at an increasingly rapid rate. The Applicant would utilise the latest technical and cost-efficient technology available at the time of construction.

3.5.2. Storage technology

Lithium-ion technology was chosen for electricity storage because it is a compact and cost-effective proven technology, which is readily available for broad scale deployment at the site. Other technologies such as long duration flow batteries may be considered as the battery development progresses, if feasible options are identified.

3.5.3. Alternative site locations

Alternative sites were considered in consideration of the following matters.

- Proximity to a grid connection, being the Transgrid 330kV substation nearby the site
- Low potential impacts to biodiversity and heritage
- Low potential social impacts, such as noise and visual
- Community acceptance
- Low land use conflict.
- Suitable planning context
- Appropriate access

Option 1: Alternatives

Sites on Hanworth Road further to the west were actively explored, but discounted due to lack of landholder interest, connection route concerns and visual concerns.

A site at Denham was explored as it was on the same power line, but it was discounted, as it would require construction of a new sub-station

Option 2: Do nothing

The do-nothing option considers the consequences of not carrying out the development. The strategic need for the Project outlined in Chapter 2 of this report is justified to address the state's current need for storage methods that address grid firming to support climate change commitments that are moving away from reliance on fossil fuels. Not undertaking the Project would not assist in the transition away from fossil fuel reliant energy production.

The do-nothing option would have the benefit of not having the environmental impacts of a BESS, however, the scale of the Project is not expected to have significant local or regional impacts, with further impact considerations and mitigation measures to be considered in the EIS.

Option 3: The Hanworth Battery

The Hanworth Battery is proposed and designed to connect to the adjoining Transgrid substation via an underground or overhead powerline. A more detailed description of this option has been outlined in the sections above. Mitigation measures were considered to avoid biodiversity impacts, traffic, Aboriginal heritage, visual and noise impacts. A brief evaluation of this option is presented in Table 3-3.

Table 3-3 Option 3 evaluation table

Advantages of Option 3	Disadvantages of Option 3
• Aligns with the strategic needs and project justification (refer to Section 2)	• Select environmental impacts that will be minimised through mitigation measures to be

Advantages of Option 3	Disadvantages of Option 3
• Ability to avoid key environmental impacts such as high value biodiversity (refer to Figure 6-1) • Broader benefits to the community through the voluntary planning agreement (VPA) and/or Community benefit fund to be developed in consultation Upper Lachlan Shire Council • Assists with firming supply of electricity, which is critical to a renewable grid.	developed in the EIS.

3.5.4. Application of avoid and minimisation principles

At this stage of the Project, the impact assessments in Section 6 have identified minimal notable issues requiring avoidance or risk minimisation/offsetting at the scoping stage. Some standard mitigations have been noted such as a minimum 10m Asset Protection Zone (APZ) for bushfire management and the general requirement that the Project would undertake a Biodiversity Development Assessment Report (BDAR) that would determine offsetting requirements.

4. Statutory context

The following Acts, Policies and plans have been used to meet the statutory context of the Project. Table 4-1 tabulates the information and it is categorised in accordance with the table 1 of the DPE Scoping report guidelines (DPE, 2022).

Table 4-1 Statutory requirements

Category	Statutory requirements	Relevance to Project
Power to grant consent	State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) *Environmental Planning and Assessment Act 1979* (EP&A Act).	Section 20 of Schedule 1 of the Planning Systems SEPP states that the following is considered an SSD: *Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:* *(a) has a capital investment value of more than $30 million…* 'Electricity generating works' as defined by the *Principal Local Environment Plan 2006* include electricity storage. The Project would have a capital investment cost estimate of more than $30 million. Therefore, the Project is classified as "State Significant Development" under division 4.7 of the EP&A Act. The Minister for Planning and Public Spaces is the consent authority for SSD, and SSD applications are assessed by DPHI (unless specific conditions occur e.g., where 50 or more people have objected to the application, the local council has objected to the application; and/or the applicant has disclosed a reportable political donation, whereby the Independent Planning Commission (IPC) would be the consent authority.
Permissibility	State Environmental Panning Policy (Transport and Infrastructure) 2021 (TISEPP) Upper Lachlan Shire Local Environmental Plan 2010 (ULS LEP).	The site is located within land zoned (Rural Landscape RU2) under the ULS LEP. Electricity generation is prohibited in this land zone. Section 2.36(1)(b) of the TISEPP states development for the purpose of electricity generating works may be carried out by any person with consent on any land in a non-prescribed residential zone. The land is zoned RU2 and under Section 2.35 of the TISEPP, a non-prescribed residential zone. The provisions of the TISEPP prevail over the ULS LEP. Therefore, the Project is permissible with consent.
Other approvals	*Environmental Planning and Assessment Regulation 2021* (EP&A Reg)	**Consistent approvals** • Section 4.42 of the EP&A Act states "An authorisation of the following kind cannot be refused if it is necessary for carrying out State significant development that is

Category	Statutory requirements	Relevance to Project
	Crown Lands Management Act 2016 (CLM Act), *Roads Act 1993* (Roads Act) *Heritage Act 1977,* *Water Management Act 2000* (WM Act), *National Parks and Wildlife Act 1974* (NPW Act), *Fisheries Management Act 1994* (FM Act) State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP)	authorised by a development consent under this Division and is to be substantially consistent with the consent": • An easement, licence or permit would be required under division 5.6 of the *Crown Lands Management Act 2016.* There are a number of crown owned paper roads throughout the adjoining Transgrid lot which will be impacted and included as part of the Project . • Consent under section 138 of the Roads Act for road upgrades to the public road network. • Part 8 Division 5 of the EP&A Reg specifies the form and content of EISs, which provide the basis for the Secretary's Environmental Assessment Requirements (SEARs) issued for Projects. • Section 59 of the EP&A Reg addresses public participation for SSD. • Section 251 requires an 'estimated cost' of the EDC of a DA in order for the Planning Secretary to make their determination. • If required, an excavation permit for details heritage surveys under Section 139 of the Heritage Act 1977 • A water use approval (Section 89), a water management work approval (Section 90) and an activity approval (Section 91) under the *Water Management Act 2000* would not be required. **Other approvals** Approvals/licenses that will be required for the Project include: • A preliminary hazard assessment (PHA) under the Resilience and Hazards SEPP for energy storage systems
Pre-condition to exercising the power to grant consent	State Environmental Planning Policy (Transport and Infrastructure) 2021	In accordance with Section 2.119 The consent authority must not grant consent unless it is satisfied of certain matters relating to vehicular access to the classified road, impacts on the safety, efficiency and operation of the classified road and sensitivity of development fronting the classified road

Category	Statutory requirements	Relevance to Project
		Section 2.122 of the Transport and Infrastructure SEPP requires 'traffic generating development' to be referred to TfNSW.
Mandatory matters for consideration	Consideration under the EP&A Act and EP&A Regulation	The EIS would consider the following objects of the EP&A Act in detail. Section 1.3 - Relevant objects of the Act: • To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources • To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment • To promote the orderly and economic use and development of land • To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats. Section 4.15 - Relevant environmental planning instruments and any proposed instruments: • State Environmental Planning Policy (Transport and Infrastructure) 2021 • State Environmental Planning Policy (Planning Systems) 2021 • State Environmental Planning Policy (Resilience and Hazards) 2021 • State Environmental Planning Policy (Biodiversity and Conservation) 2021 • State Environmental Planning Policy (Primary Production and Rural Development) 2021 • ULS Local Environmental Plan 2010 • ULS Development Control Plan 2010. Note: The provisions of the TISEPP override the provisions of the ULS Local Environmental Plan 2010 and ULS Development Control Plan 2010, however specific relevant environmental provisions of the LEP would be considered in the EIS.

Category	Statutory requirements	Relevance to Project
		Relevant planning agreement or draft planning agreements: • The Applicant is undertaking planning agreement discussions with council, with more detail to be provided at the EIS stage. Regulations • EP&A Regulation 2021 • Environment Protection and Biodiversity Conservation Regulations 2000. Under the provisions of the Act the Project would also consider: • Likely impacts of the development (environmental, social and economic) • Suitability of the site for development • Submissions made in accordance with the Act or regulations • Public interest.
Mandatory matters for consideration (specific instruments)	*Biodiversity Conservation Act 2016* (BC Act) State Environmental Planning Policy (Biodiversity and Conservation) 2021, State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP), *Native Title Act 1993*	• The Project would require a Biodiversity Development Assessment Report (BDAR) prepared in accordance with Section 7.9 of the *Biodiversity Conservation Act 2016.* The BDAR will be undertaken in consultation with the DPHI's Biodiversity Conservation Division (BCD) • ULS LGA is identified in Schedule 2 of the State Environmental Planning Policy (Biodiversity and Conservation) 2021 as a Koala LGA. As such the BDAR will consider Koala conservation in accordance with Chapter 3 & 4 of the SEPP • A Preliminary Hazard Analysis (PHA) will be completed that addresses Section 3.7 of the State Environmental Planning Policy (Resilience and Hazards) 2021 for energy storage systems • A native title search was undertaken on 09 August 2024 and returned no native title or active native title cases over the Project Site.

Category	Statutory requirements	Relevance to Project
Matters of National Environmental Significance (MNES)	*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).	10km Search of subject site. • 0 Wetlands of International Importance • 3 listed threatened ecological communities. • 55 listed Threatened Species • 12 Listed Migratory Species • 4 State and Territory reserves • 0 Nationally important wetland • 0 Commonwealth lands • 20 Listed Marine Species Where Matters of National Environmental Significance have potential to be significantly affected, a Commonwealth approval is required. Desktop searches and early surveys undertaken indicate 1 nationally listed threatened ecological community (TEC) occurs onsite. Several threatened species have potential to occur but cannot be confirmed without further survey. Early surveys indicate that 2 TECs and 2 PCTs and one Serious and irreversible Impact (SAII) species (with potentially more) occur on site. Further surveys to determine the presence and likelihood of impact to these entities would be undertaken during the preparation of the EIS. A determination of the requirement for an EPBC referral will be made following further surveys inside the Infrastructure Site Investigation Area.

5. Engagement

Early engagement has commenced for the Project with proactive engagement undertaken by the Applicant and NGH, as summarised below. A more detailed summary with supporting information can be found attached as Appendix D.

5.1. Community and stakeholder engagement

A Hanworth Battery Community and Stakeholder Engagement Strategy was developed to achieve the following objectives:

1. Produce clear information on the Project, potential impacts (positive and negative) and benefits for the environment, community, and wider Upper Lachlan Shire Council region by delivering high-quality communication channels across all targeted channels.
2. Endeavour to contribute towards positive impact in the region with shared local and broader regional social, economic and environmental benefits considered.
3. Develop a sense of local ownership in the Project by identifying local advocates.
4. Work together with the community in a collaborative way by identifying issues and likely mitigations throughout Project phases.
5. Support an uplift in the regional economy and level of local prosperity via a regional economic assessment.
6. Demonstrate sharing of Project benefits.
7. Support and engage local capabilities, engaging several local suppliers, including Aboriginal owned suppliers.
8. Maintain a positive corporate image for Enervest and the renewable energy industry with the development of social licence and management of social and reputational risks.
9. To inform the Social Impact Assessment (SIA) and potential benefit sharing schemes.

Community information has been gathered via phone, physical mail, posted newsletters, emails, an online survey, and face to face meetings.

In summary, engagement findings were been informed by the following activities:

- A face to face meeting with Upper Lachlan Shire Council.
- An online meeting with Federal member for Hume Angus Taylor MP.
- A face to face meeting with State Member for Goulburn Wendy Tuckerman MP.
- A face to face meeting with Pejar Local Aboriginal Land Council.
- A face to face meeting with Goulburn Mulwaree Aboriginal Community Inc.
- 50 mail out letters and 54 emails introducing the project, giving a point of project information, inviting discussions and directing them to the online survey and community information session.
- Approximately 21 face to face meetings and 26 phone calls with stakeholders and community members during property visits, phone calls and a community information session.
- Two responses to the online survey.
- An online meeting with DPHI.

5.2. Results of community and stakeholder engagement

The engagement analysis (refer Appendix D) has demonstrated that the sentiment towards the Project is neutral trending positive, with consideration for one (1) community member who does not support changes in energy infrastructure through battery developments more broadly.

The feedback gathered presented a range of perspectives and inputs for the Applicant to consider. The following conclusions were drawn:

- Based on all engagement activities undertaken, the sentiment towards the Project overall was 14% positive, 84% neutral, 1% mixed and 1% negative.
- The biggest opportunities were identified as:
    - Accommodation (as an area to explore further – mentioned nine (9) times)
    - Community benefit sharing (mentioned 13 times)
    - Economic injection in the local region through the use of local ancillary services (mentioned 11 times)
    - Employment and business opportunities (mentioned eight (8) times)
    - Skills training and education opportunities (mentioned three (3) times).
- The biggest concerns and/or challenges that were identified were:
    - Accommodation shortages (mentioned nine (9) times)
    - Concerns regarding perceived impacts on waterways due to the Project's location within the Greater Sydney water catchment area (mentioned four (4) times)
    - Concerns regarding private land access (raised by one non-associated receiver)
    - Environmental considerations through fire risk (mentioned eight (8) times
    - Mitigation of cumulative impacts (with other developments in the region such as HumeLink – discussed in the majority of conversations)
    - Practical issues such as water and sewage on site (raised by the ULSC)
    - Preservation of areas of cultural significance (mentioned five (5) times)
    - The use of lithium-ion batteries (raised by two (2) community members)
    - Traffic and road impacts (mentioned eight (8) times).
- The importance of maintaining continuous engagement with the local community was emphasised by approximately five (5) community information attendees, the ULSC, and the Member for Hume.
- Two (2) members of the community mentioned a preference for nuclear energy generation over renewable generation or battery storage.
- When considering community benefits, stakeholders emphasised the importance of keeping benefits local to Taralga/Bannaby.
- Both community survey respondents (2) strongly supported the Project.

Based on the feedback and engagement activities to date, the main concerns relate to road and traffic impacts, perceived impacts on waterways, private land access, accommodation shortages, fire risk, preservation of culturally significant areas, and cumulative impacts experienced in the broader community through various infrastructure developments.

The feedback and engagement activities to date indicate early engagement was appreciated, and the community is excited to benefit from the development of the Project through job opportunities, local economic injection through the use of ancillary services, and the creation of a community benefit scheme.

Implementation of a clear community benefit scheme, paired with mitigating risks early and robust ongoing engagement efforts will be critical in ensuring the stakeholders within the Bannaby and Taralga region are well-informed moving through the EIS phase and the wider SSD timeline.

5.3. Future engagement activities

Future engagement activities for the EIS will continue to align with the Department's community engagement guidelines. Specifically, the continuation of engagement would include:

- Consideration of the Consultation Summary Report to consider concerns identified and the likely mitigation requirements
- Engage with DPHI to further discuss the likely expectations for engagement, impact analysis/mitigation and community benefit planning required in the EIS stage
- Share decisions on mitigations with the non-associated sensitive receivers, Upper Lachlan Shire Council, First Nations groups, and the wider Taralga/Bannaby community.
- Work closely with non-associated sensitive receivers throughout the DA process, including participation within specialist assessments and sharing information about their outcomes with them
- Continue engagement and develop relationships with First Nation groups including the Pejar LALC and Goulburn Mulwaree Aboriginal Community.
- Be open and transparent with stakeholders and be committed to share information about the Project throughout the entire planning process
- Work proactively to develop strong relationships with neighbours, residents, businesses, and community members
- Mitigate impacts, develop a community benefit scheme, continue discussions regarding VPA with ULSC, and deliver a sophisticated communications and engagement program for the EIS that engages comprehensively with the wider community.

5.3.1. Community influence on design

It is a recommendation in the Consultation Summary report that the Application engage in ongoing discussions with affected stakeholders about the aspects of the project that their feedback can influence during the environmental assessment process. This includes considerations related to visual impacts, traffic and road management, as well as community benefits.

5.3.2. Monitoring and evaluation

The effectiveness of the community engagement will be continuously monitored, reviewed, and adapted to ensure understanding and enhance participation in the project. This monitoring will align with the objectives outlined in the Community and Stakeholder Engagement Strategy.

NGH and the Applicant will continue to capture community feedback via a Stakeholder Relationship Management platform during the issuance of SEARS and the EIS phase. This process will help to gather insights into participants' experiences and perceptions of the engagement process, allowing NGH and the Applicant to identify areas for improvement and adjust the strategies accordingly.

The engagement approach will remain flexible and will be progressively updated throughout the Proposal's duration, particularly at the beginning and end of each project phase. Based on the monitoring and feedback analysis, NGH and the Applicant will adapt the engagement strategies to suit, which may include changing meeting formats, diversifying communication channels, or addressing specific issues that the community has prioritised.

5.3.3. EIS exhibition and submissions report

Once the EIS is completed and submitted to DPHI, the report will be placed on public exhibition for a minimum of 30 days, mandated by the EP&A Act. During the exhibition period, government agencies and the community (both individuals and organisations) will have the option to make a written submission to the DPHI

for consideration in its assessment of the project. Each submission can either be in support, objection, or a general comment about the EIS.

Once all the submissions are received, the Applicant prepares a Submissions Report that addresses the submissions. If any significant changes to the Project occur following the consideration of submissions, then an Amendment Report would also be submitted. The Amendment Report outlines all the changes from the EIS to the revised Project and updates environmental impact assessments where appropriate

6. Environmental assessment

6.1. Biodiversity

6.1.1. Existing environment

The Project Site in within the southern tablelands region of NSW, with elevation ranging between 690m above sea level (ASL) to 740m ASL. The landscape supports agriculture and is primarily used for grazing sheep, cattle and goats. The Project Site has been extensively cleared in the past, and most remnant trees remaining are now confined to major watercourses onsite within steeply incised gullies that have been subjected to gully erosion. Soils are bleached and highly dispersive and prone to erosion. Pasture improvement has occurred within areas that are easily accessible from Hanworth Road. A mix of exotic and native groundcovers were observed dominating areas devoid of trees, within the Infrastructure Site Investigation Area (refer Figure 6-1).

Where woody vegetation does exist, dominant trees were stringybarks (*Eucalyptus eugenioides*) and Blakely's Red Gum (*E blakelyi*) and Coastal Grey Box (*E bosistoana*). Shrubs were sparsely scattered across the Project Site within cleared areas as well as vegetated gullies. Shrubs had the highest cover abundance along parts of the Hanworth Road. Overall, dominant shrubs included *Lissanthe strigosa* (Peach Heath), *Olearia viscidula* (Wallaby Weed) and *Cassinia* spp. Groundcover composition was variable across cleared areas. Native groundcovers encountered included *Microlaena stipoides* (Weeping Grass), *Rytidosperma* spp. (Wallaby Grasses) and *Bothriochloa macra* (Red Grass).

6.1.2. Issues for consideration

Based on the desktop assessment and the preliminary site inspection, the following ecological values are known to be present within the Hanworth Battery Infrastructure Site Investigation Area:

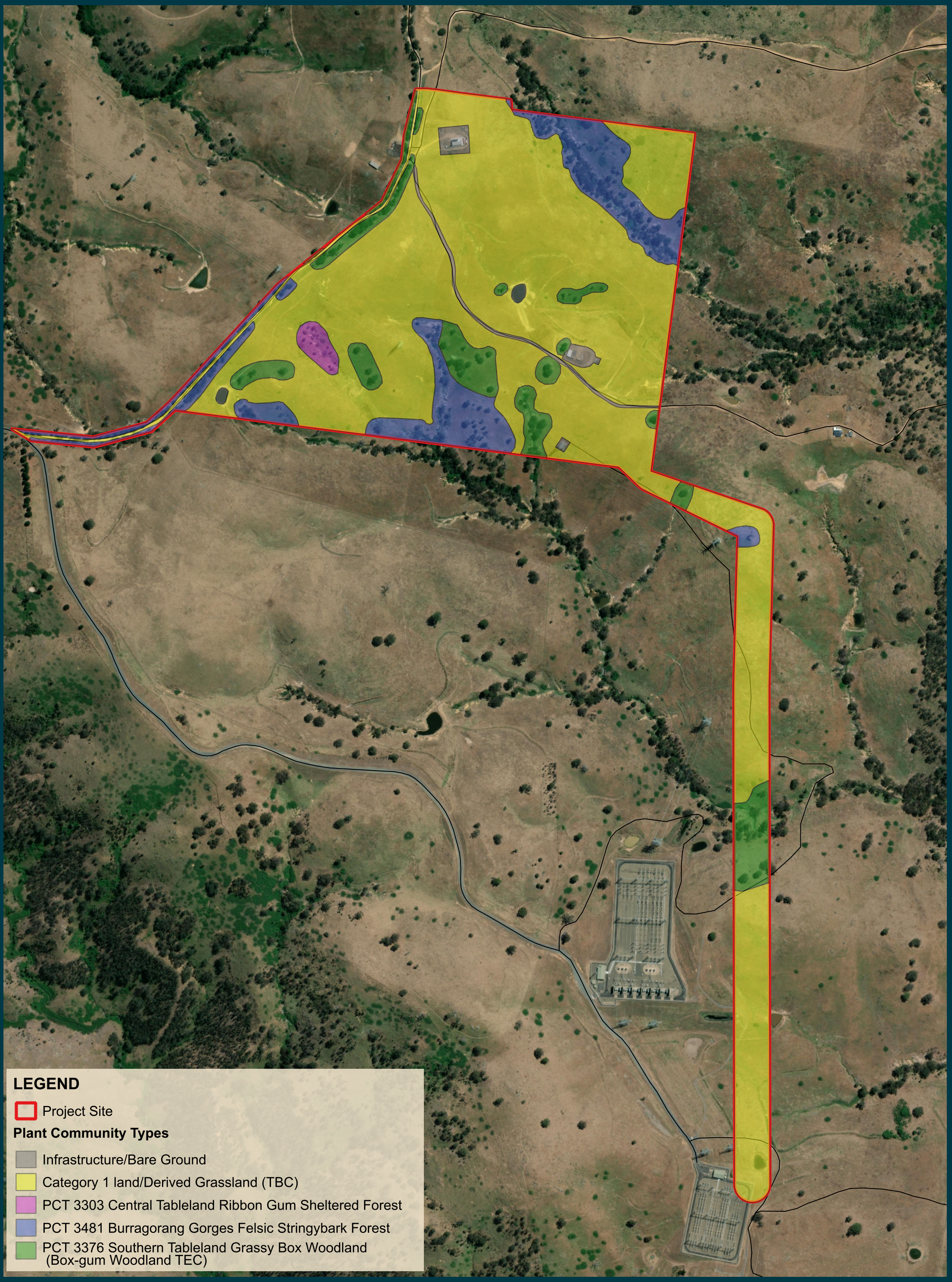
- Three PCTs have been confirmed on site
    - PCT 3303 Central Tableland Ribbon Gum Sheltered Forest
    - PCT 3481 Burragorang Gorges Felsic Stringybark Forest
    - PCT 3376 Southern Tableland Grassy Box Woodland
- Two threatened ecological communities (TEC) occur on site.
    - Within the Project site, wooded areas of PCT 3376 are likely to conform with both the BC Act and EPBC Act listed threatened ecological community (TEC) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
- Habitat features are present for threatened species, these include areas that:
    - are associated with gullies/riparian zones for threatened species included live trees forming corridors, fallen timber/logs, leaf litter, grassy groundcover, occasional hollow bearing trees, ephemeral ponds within sandy substrate.
    - are associated with hilltops for threatened species included rocky knolls, with stones embedded and loose as well as grassy groundcover (being a mix of exotic and native species).

    - All trees within the Subject Land are remnant PCT patches and are not isolated scattered trees.
- One SAII entity, box gum woodland, is likely present on site with further confirmation to occur following future studies.

A project assessed under the Biodiversity Assessment Method (BAM) must demonstrate that avoidance of impacts has been addressed. Mitigation strategies and offset generation should only be applied after all measures have been taken and documented in any impact assessment to avoid impacts.

Early consultation with relevant authorities regarding impact thresholds to threatened entities, particularly SAII candidates, is recommended.

All relevant Matters of National Environmental Significance (MNES) that are likely to be present would be included in targeted surveys with impacts reported upon and offset (where applicable) in the Biodiversity Development Assessment Report (BDAR). The requirements for an EPBC Referral would be assessed following quantification of the impacts to all relevant listed entities.



Datum: GDA94 / MGA zone 56

NGH

0 200 400 m

Hanworth Battery

Figure 6-1 Preliminary PCT mapping

Ref: 240289 Hanworth BESS Scoping Report Bio 20240722 \ Scoping: Biodiversity Constraints Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

6.2. Landscape and visual amenity

Visual amenity impacts are assessed in terms of the change in visual character produced by a development, the degree of contrast produced and the likely sensitivity of receivers to the change. Important factors to consider are potential to:

- Create a dominant view of the development, either due to proximity or by surrounding a property
- Generate glint and glare from development infrastructure.
- Impacts to recreational areas (views from outdoor recreational areas are considered more important than general house or yard views, or those from paddocks)
- Impacts to town character; where close to towns, the infrastructure can become a defining feature of a locality and in such cases social acceptability of the Project is more important. Views from transport corridors, while limited in duration, can be similarly important in this sense.
- Mitigate views; planting vegetation screens either on the Project Site or on a receiver's property may not be effective where a receiver has an elevated view or where the view is extensive.

For BESS developments, the low-profile infrastructure is usually not perceivable beyond 2km, depending on terrain. Undulating sites that offer near residences elevated views, however, can create higher levels of impact.

6.2.1. Existing environment

The Project is located off Hanworth Road approximately 20km to Taralga. A switchyard will be located on the southeast part of the Infrastructure siting investigation area and will connect to new 330kV transmission lines to then connect with the Bannaby 330kV substation. The Project Site is mostly cleared with some patches of remnant vegetation located along drainage lines and waterways which have been excluded from the area identified as suitable for the siting of the Project infrastructure. Based on 10m contours, elevations across the Project Site ranges from 740m above sea level (ASL) to 690m ASL. The highest point of the Project Site is adjacent Hanworth Road and falls to the east.

Table 6-1 predicts the capacity for nearby receivers to view the Project based on topographical features. It is noted that the area has a high proportion of weekender style shed accommodation without occupation certificates and many receivers may not meet requirements to be considered permissible dwellings by guidelines. Table 6-1 Nearby Receivers (within 2km) and potential views to Project infrastructure

Receiver Number	Distance to Infrastructure siting investigation area (m)	Elevation (m ASL)	Comments
R1	606	730	There is an intervening hill rising to 750m.
R2	882	680	Intervening Hill to 720m
R3	1647	680	Intervening Hill to 700m
R4	1022		Existing substation

Receiver Number	Distance to Infrastructure siting investigation area (m)	Elevation (m ASL)	Comments
R5	1343	730	Intervening hill to 730m (may see edge of development)
R6	1843	710	Intervening hill to 720m

Preliminary viewshed analysis

The preliminary viewshed analysis shown in Figure 6-2, considers areas likely and unlikely to receive views of the BESS infrastructure based only on topography. Screening by intervening infrastructure or existing vegetation is not taken into account. This tool helps to define the areas that may be screened by topography and those areas with theoretical visibility. In reality, at distance and with the effects of intervening vegetation and other structures, the visability would be much less that portrayed in this figure.

The preliminary viewshed assumed a scenario that a consistent height of 4m infrastructure would be present across the entire Infrastructure siting investigation area. Preliminary assessment estimates that six non-associated receivers may have limited views of the Project based on topography alone from the entire BESS Infrastructure siting investigation area. One of the non associated receivers is the Bannaby substation. The dewlling status of receivers with potential visibility has not been established.

Issues for consideration

On-site and off-site visual landscape mitigation strategies would be developed in response to the assessment and community consultation if required. The purpose of the mitigation strategies would be to ensure the Project is integrated into the existing landscape and to mitigate identified visual impacts to an acceptable level.

An assessment of the level of visual impact (including night lighting) of all components of the Project would be analysed in more detail as part of the EIS process and would include consideration of the effectiveness of mitigation options. In the absence of BESS specific guidelines, the Landscape and Visual Impact Assessment (LVIA) would reference the *latest version of the Large-Scale Solar Energy Guideline's Landscape and Visual Impact Assessment Technical supplement*. The LVIA would identify and include detailed assessments from key viewpoints, road corridors and sensitive receivers.

It is noted that many identified receivers may not meet requirements of guidelines to be considered residential dwellings during further detailed assessment.

R 12
BANNABY FIRETRAIL
R 7c
R 7b
R 21
R 7
R 1
R 15
R 3
R 10
R 8
R 5
R 11
HANWORTH ROAD
R 22b
R 22a
R 18
R 9
R 2
R 16
R 20
R 22
R 6
R 17
ADAVALE ROAD
R 23
R 4
OLD COOWONG ROAD
BRAYTON ROAD
R 19

LEGEND

- Project Site
- Infrastructure siting investigation area
- Buffer - 4km
- Existing Substations

Receivers

- 4kBuffer
- Road

Preliminary Viewshed

% visible

100

0

M31

A48

Datum: GDA2020 / MGA Zone 56

NGH

0 1 2 km

Hanworth Battery

Figure 6-2 Preliminary viewshed analysis

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 \ Figure 6-2 Preliminary viewshed analysis Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

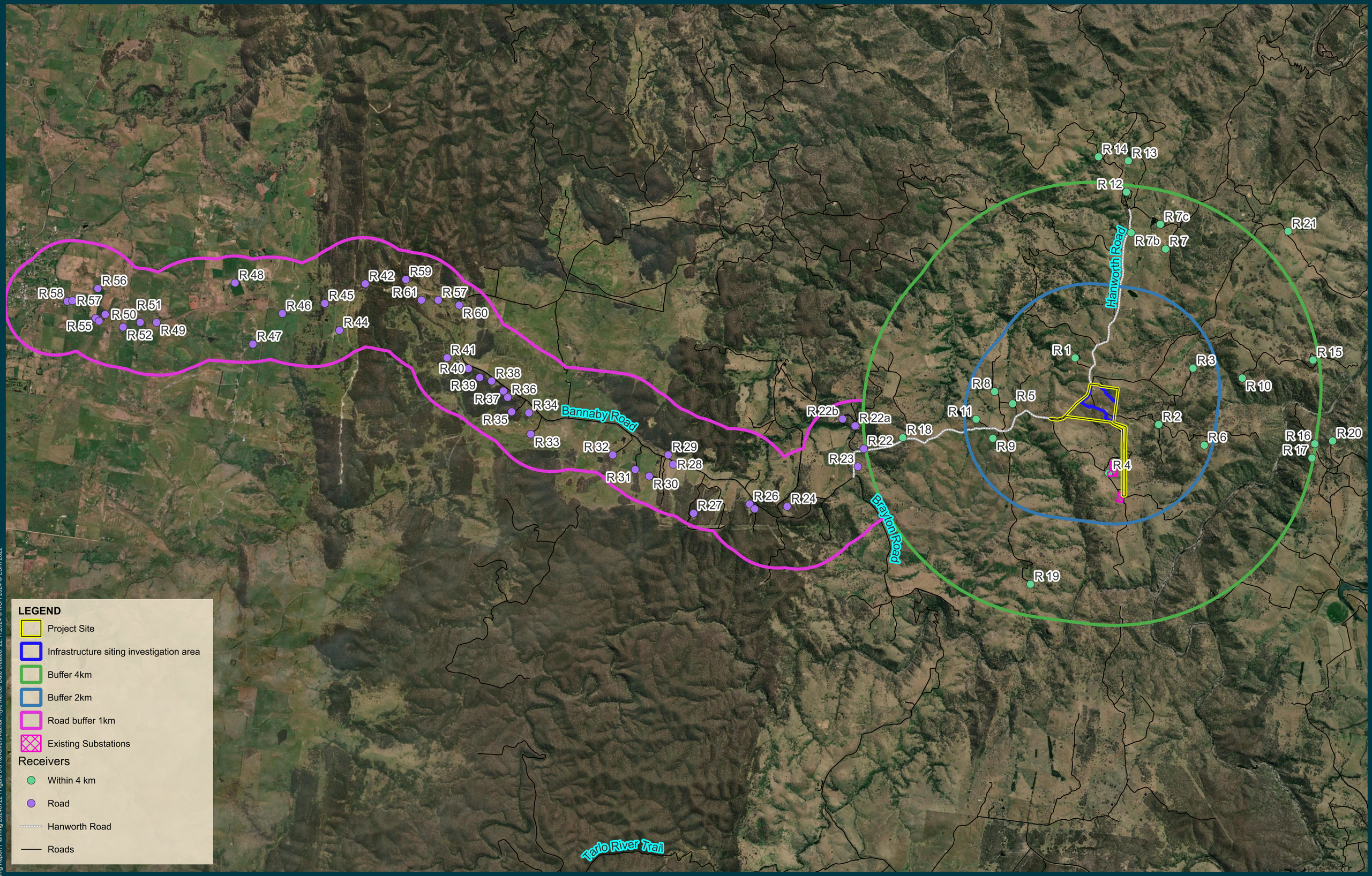
6.3. Noise and vibration

6.3.1. Existing environment

The Project Site is located within a rural setting, subject to regular background noise impacts including farming equipment, and road traffic from Hanworth Road adjacent to the Project Site. There are two sensitive receivers as shown in Figure 6-3, within 1km of the Project Site. The Project Site and locality comprise a generally undulating landscape. Topographical noise barriers are present, and noise would be dampened in places by intervening hills and existing vegetation. The nearest receiver to the Project Site is R1 (648m). During the construction phase, earthworks associated with benching, delivery and installation of BESS components and construction of internal tracks would be most relevant in contributing to noise and vibration impacts. Noise would be generated during operation from the BESS cooling system as well as the substation and switchgear (anytime during a 24-hour period but only during charging or discharging), and any maintenance works undertaken at the site.

6.3.2. Issues for consideration

A construction and operational noise and vibration assessment would be undertaken as part of the EIS to assess potential noise impacts for affected residents. The report would include an assessment of road traffic noise as a qualitative assessment of offsite traffic movements inclusive of a review of existing and future traffic movements for the Project. This would include assessment along Bannaby Road. Receivers located within 1km of Bannaby Road between Taralga and the project are shown in Figure 6-3 The assessment would be undertaken in accordance with the Interim Construction Noise Guideline (DECC, 2009), NSW Noise Policy for Industry (NSW EPA, 2017), Assessing Vibration: A Technical Guideline (NSW DEC, 2006) and NSW ‘Road Noise Policy’ (DECCW, 2011)



Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 \ Figure 6-3 Revevers Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

Datum: GDA2020 / MGA Zone 56

NGH

0 2.5 5 km

Hanworth Battery

Figure 6-3 Receivers

6.4. Soils and Land use

6.4.1. Existing environment

Existing land uses in the Project Site and surrounds are shown in Figure 6-4. These uses correspond with the NSW statewide Landuse map layer and include the following with the Project Site:

- 3.2.0 Grazing modified pastures
- 2.1.0 Grazing native vegetation
- 1.2.0 Managed resource protection

The majority of the Infrastructure siting investigation area is classified as “Grazing modified pastures with a small section of “Grazing native vegetation”. The small section of “Managed resource protection” is currently excluded from the proposed development footprint and would be an exclusion area that would have no direct impacts on it.

It should be noted that the mapping obtained from the NSW data portal was collected in 2017 and predates the two TransGrid substations. These substation areas would likely be reclassified as an infrastructure type land use.

The Project Site is not mapped as State Significant Agricultural Land (SSAL), which is land of high agricultural value currently considered in the draft stages of the Draft State Significant Agricultural Land Map (DPI, 2024).

The Project Site is mapped within the Land and Soil Capability (LSC) (refer Figure 6-5) Assessment Scheme state-wide mapping as Class 5 and Class 6:

Class 5 land has severe limitations for high impact land management uses such as cropping. There are few management practices generally available to overcome these limitations. However, highly specialised land management practices can overcome some limitations for high value crops or products. This land is generally more suitable for grazing with some limitations or very occasional cultivation for pasture establishment

Class 6 Low capability land: Land has very high limitations for high-impact land uses. Land use restricted to low-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation.

The soil landscape for the project is Hanworth erosional (eSpade, 2024) (refer to Appendix B) which has moderate to severe stabilised to active gully erosion (sometimes >3m) in many drainage lines, plus sheet erosion on many cleared slopes due to the highly erodible nature of the soils coupled with past high grazing pressure.

A search of the Contaminated Lands Register 24 September 2024 indicates that there are no recorded contaminated site on or near the Project Site.

6.4.2. Issues for consideration

The Project would involve earthworks and ground disturbance. This would be limited to the Project Site, access, road upgrades and transmission lines.

The impact of the Project on all adjacent land uses, such as airports, residential areas, cropping areas, grazing areas, would be assessed in detail in the EIS through a Land Use Conflict Risk Assessment (LUCRA).

A soil survey would be undertaken to verify and ground truth the land and soil capability and limitations of the soil within the Development Footprint and develop site specific mitigation measures to protect against

erosion. These will be finalised during the EIS. Due to the limited scale of the Project a detailed Agricultural Impact Assessment is not proposed.

Consideration of best practice soil and erosion impact mitigation s in accordance with *Managing Urban Stormwater: Soils & Construction (Landcom, 2004) and Managing Urban Stormwater: Soils and construction - Volume 2A manual (Landcom, 2008)* and management of potential sources of contamination would be included within the EIS. This would include commitments to ensure the site is rehabilitated for a suitable alternative land use at the end of the project's life.

LEGEND

- Project Site
- Proposed transmission line connection
- Infrastructure siting investigation area

Landuse

- 1.2.0 Managed resource protection
- 2.1.0 Grazing native vegetation
- 3.2.0 Grazing modified pastures
- 3.3.0 Cropping
- 5.4.0 Residential and farm infrastructure
- 5.4.3 Rural residential without agriculture
- 5.6.5 Electricity substations and transmission
- Existing substations

Datum: GDA2020 / MGA Zone 56

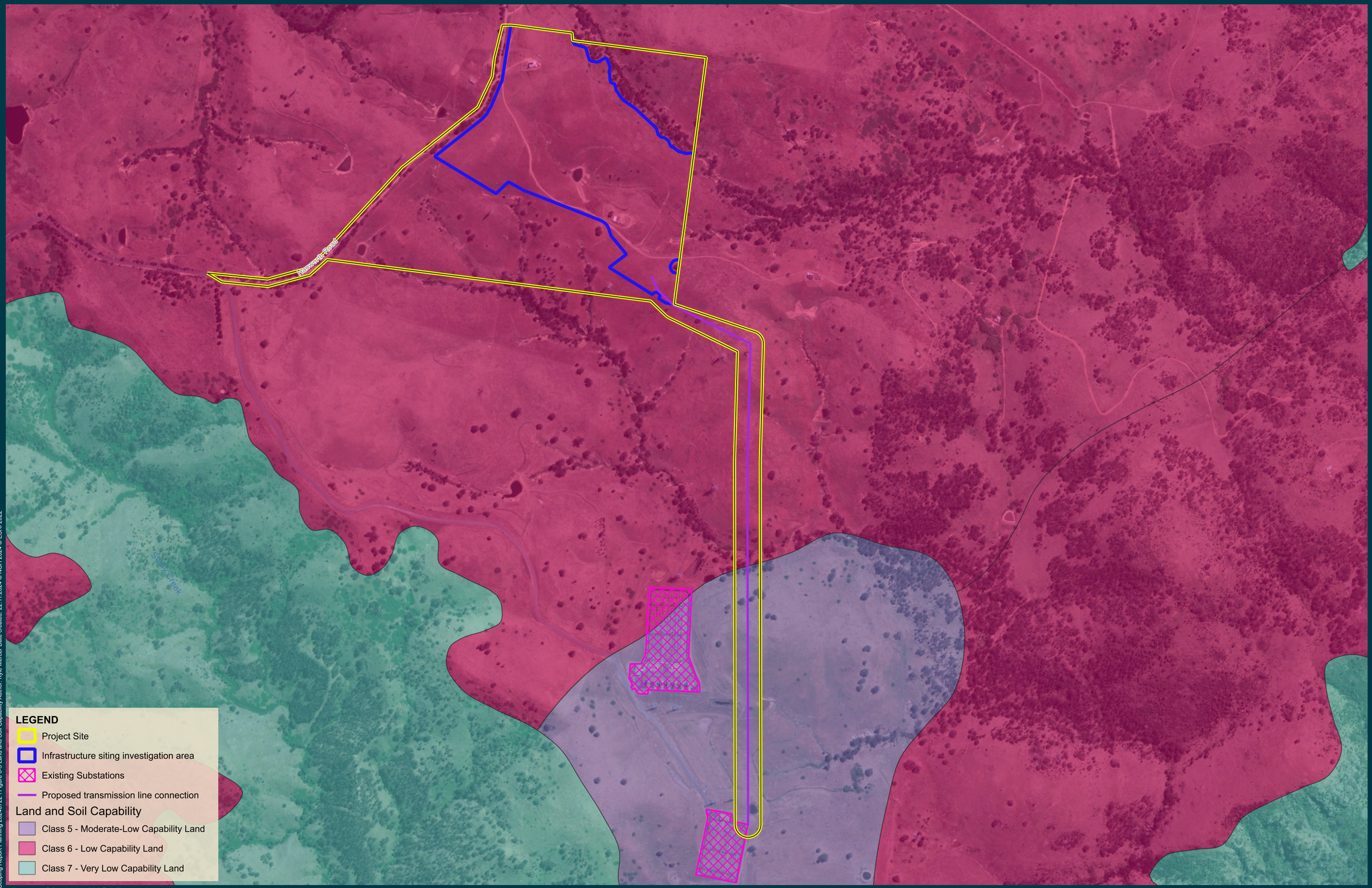
NGHA

0 0.25 0.5 km

Hanworth Battery

Figure 6-4 Land use

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 \ Figure 6-4 Land use Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022



Datum: GDA2020 / MGA Zone 56

0 0.25 0.5 km

Hanworth Battery

FIgure 6-5 Land and soil capability

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 \ Figure 6-5 Land and Soil Capability Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

6.5. Access and traffic

6.5.1. Existing environment

The Project Site is located approximately 215km from Sydney and if using Port Botany, the key haulage route would utilise the Hume Motorway/Highway. The project is also:

- Approximately 150km from Wollongong
- Approximately 360km from Newcastle
- Approximately 740km from Melbourne

Heavy vehicles would be required for transportation of BESS infrastructure. Construction staff would be accessing the site via light vehicles and shuttle buses. There are approximately 100 staff expected to be working on the construction of the BESS at peak construction periods and it is expected that shuttle buses would move the majority of staff members in the morning and night. During operation, 6 staff members travelling in light vehicles in the morning and night is anticipated.

One new Construction site access point from Hanworth Road is being considered and would be retained for operation (see Figure 6-6). This access point would be constructed as part of the Project. Upgrades to Hanworth road are anticipated from the existing Transgrid substation intersection to the proposed site access point with the final option to be determined in the EIS.

6.5.2. Issues for consideration

Intersection upgrades, surface upgrades/sealing and other improvements to existing roads may be required to safely access the site. New access roads may also be required. An assessment of site access will be undertaken as part of the EIS to determine if intersection or road upgrades are necessary to meet Council and TfNSW guidelines. If upgrades to existing road infrastructure is required, it will be undertaken in consultation with the relevant road authorities prior to the submission of the EIS.

Internal access roads would be established within the Project Site to facilitate movement around the site during construction and to allow for ongoing maintenance during operation. Internal access roads would be between four metres and six metres wide and comprise of a gravel or sealed surface. The final surface would be suitable for large vehicles including fire fighting vehicles and would be designed in consultation with the Rural Fire Service.

Management of traffic, for safety as well as road pavement conditions would be required.

The access options would be further investigated during the preparation of the EIS. Construction traffic impacts would be considered in the EIS and take into consideration existing traffic volumes and any requirements from the roads' authority.

A traffic impact assessment will be undertaken by a specialist in consultation with the road's authorities will be undertaken as part of the EIS to determine if intersection or road upgrades are necessary to meet the best practice guidelines for road and intersection design which are:

- *Austroads Guide to Traffic Management Part 12 and TfNSW supplement*
- *Austroads Guide to Road Design and TfNSW supplements*
- *TfNSW Guide to Traffic Generating Developments*
- *Unsealed Roads Manual: Guidelines to Good Practice (2009).*

Hanworth Road

LEGEND

- Project Site
- Infrastructure siting investigation area
- Proposed tranmission line connection
- Proposed switching station
- Road corridor/upgrade investigation extent

Proposed access

- Existing access
- Potential new access

Road

Electricity Transmission Line (existing)

- 500 kV

Datum: GDA2020 / MGA Zone 56

NGH

0 0.1 0.2 km

Hanworth Battery

Figure 6-6 Indicative access and road upgrades

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 | Figure 6-6 Indicative access and road upgrades Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

6.6. Social and economic impacts

A Preliminary Social Impact Assessment (PSIA) has been undertaken by social impact specialists at NGH to gain initial insights into the potential social impacts and benefits of this Project. The full report is included as Appendix E.

6.6.1. Existing Environment

The Project Site is in the Bannaby SAL (Suburbs and Localities) within the Upper Lachlan Shire LGA in the Southern Tablelands Region of NSW. The LGA sits entirely on the lands of the Gundungurra Aboriginal people (.idcommunity, n.d.). Crookwell is the largest urban centre within the LGA with a population of 2,686 (ABS, 2021). Goulburn SAL is another major regional centre located approximately 45km to the east of the LGA (ABS, 2021). Taralga is the closest township to the Project site and has a population of 403 (ABS, 2021).

The Upper Lachlan Shire LGA's economy is largely driven by the agriculture, forestry, and fishing industries, employing approximately 24.3% of the population. Construction, healthcare and social assistance, and retail trade are also key sectors. The LGA's Gross Regional Product (GRP) grew by approximately 30.8% over the past decade, reflecting steady economic growth (.idcommunity, n.d.). This coincides with the LGA's 10.6% population increase over a five-year period. However, smaller townships like Taralga have seen a population decline of 13.7%, indicating migration toward more populated centres within or outside the LGA (Upper Lachlan Shire Council, 2022).

6.6.2. Issues for consideration

The PSIA has identified social impacts and benefits arising from the Project. The key potential benefits and impacts of this Project and their associated level of assessment to be undertaken as part of the full SIA within the EIS Phase are summarised in Table 6-2. Further, draft recommended enhancement and mitigation measures, directly responding to the identified potential social impact and benefits, are suggested in the full PSIA. Further work is required to refine, develop, add to, and test the suggested mitigation measures.

Key findings of the PSIA include:

1. Socio-Economic Benefits
    - The construction phase is expected to create between 100-150 full-time equivalent (FTE) jobs, with an additional 6 FTE positions during operation. The local economy will benefit from increased demand for goods and services, including construction materials, accommodation, and local labour. Opportunities for local workforce training and upskilling, particularly benefiting under-represented groups such as young people, women, and Aboriginal populations.
2. Community Benefits:
    - The Applicant plans to introduce a Community Benefit Fund and an Indigenous Fund to provide long-term value to the region. There will be particular focus on local stakeholder engagement to ensure transparent communication and inclusive decision-making.
3. Potential Social Impacts:
    - Increased demand for housing and services during the construction phase could strain existing infrastructure in the Upper Lachlan Shire. Stakeholders have expressed concerns about the limited availability of affordable housing, accommodation for workers, and the capacity of social infrastructure such as schools, hospitals, and community facilities. Local businesses have expressed desires for investment in accommodation if the Project is approved.
    - Environmental concerns, such as fire risk associated with lithium-ion batteries and the project's proximity to major waterways, are prominent among stakeholders.

- There are concerns about the relationship between developers and the local community, with past projects highlighting a lack of transparency. For this project to gain support, a more collaborative mindset and clear, honest communication will be essential to building trust.

Table 6-2 Social impact level of assessment required in full SIA

Potential impact	Stakeholder category	Assessment level in full SIA
Access		
Increased pressure on housing and accommodation	• Broader community and region • Community organisations and special interest groups • Council	• Detailed
Increased pressure on social infrastructure	• Business groups/small businesses • Broader community and region	• Standard
Increased traffic on local roads	• Near neighbours • Road receivers • Broader community	• Standard
Community		
Potential changes to community cohesion	• Broader community	• Minor
Change in community feel	• All categories	• Minor
Culture		
Potential damage to Aboriginal cultural assets	• First Nations • Broader community and region	• Standard
Decision-Making Systems		
Perceived lack of procedural fairness and exclusion from decision-making	• Broader community	• Detailed
Increased participation in decision making	• Broader community	• Detailed
Livelihoods		
Increased local employment opportunities	• First Nations • Business groups/small businesses • Broader community and region	• Detailed

Potential impact	Stakeholder category	Assessment level in full SIA
Increased local economic activities (diversification of income stream)	• First Nations • Business groups/small businesses • Broader community and region	• Detailed
Potential impacts to property values and insurances	• Broader community	• Standard
Surroundings		
Safety (Bushfires)	• Broader community	• Standard
Change to landscape character and visual amenity	• Near neighbours • Road receivers • Broader community and region	• Detailed
Way of Life and Health and Wellbeing		
Environmental concerns	• Broader community	• Standard
Impacts on privacy, peace and enjoyment	• Near neighbours	• Detailed
Amenity impacts (air quality, noise)	• Near neighbours • Broader community and region	• Standard
Stress and anxiety to those opposing the Project	• Near neighbours • Road receivers	• Detailed

6.7. Aboriginal heritage

In NSW, Aboriginal heritage is principally protected by two legislative acts:

- *National Parks and Wildlife Act 1974* (NSW) (NPW Act) and it's subordinate legislation, the *National Parks and Wildlife Regulation 2019; and*
- E*nvironmental Planning and Assessment Act 1979* (NSW) (EP&A Act)

All Aboriginal objects in NSW are protected under the NPW Act.

6.7.1. Existing environment

The Project Site exists on the traditional lands of the Gundungurra people. Where native title does exist in relation to the Project Site, the Proponent would comply with the provisions of the *Native Title Act 1993*. A search of the Register of Native Title Claims on 09 August 2024 identified no claims or existing Native Titles over the Project Site.

A search of relevant heritage registers for Aboriginal sites and places provides an indication of the presence of previously recorded sites. A search of the NSW State Heritage Inventory (SHI) database was conducted

which indicated that there are no previously recorded Aboriginal Places listed under the NPW Act within the Upper Lachlan Shire LGA.

The Aboriginal Heritage Information Management System (AHIMS) is a database of previously recorded Aboriginal heritage sites in NSW. A search provides basic information about any Aboriginal sites previously identified within a search area. However, a register search is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected and details of any sites located have been provided to add to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the Project Site.

An extensive search of AHIMS on 09 August 2024 identified 67 previously recorded Aboriginal sites and no recorded Aboriginal Places within an approximately 10km^2 area centred on the Project Site. Of these sites 13 are located within 2km of the Project Site, with the closest known site (a modified tree) located approximately 220m west of the Project Site. The results of the AHIMS search are summarised in Table 6-3 below and shown in Figure 6-7. No previously recorded AHIMS sites are located within the Project Site. It is important to note that an absence of sites on AHIMS within the Project Site does not reflect the absence of Aboriginal sites, objects or the potential for sites to occur.

Table 6-3 Extensive AHIMS search results by site type

Site Type	Number	%
Artefact (1 or more)	43	64
Art (Pigment or Engraved)	5	7.5
Grinding Groove	3	4.5
Modified tree (carved or scarred)	2	3.0
Ceremony and dreaming	2	3.0
Artefact, ceremony and dreaming	1	1.5
Artefact, stone arrangement, ceremony and dreaming	1	1.5
Potential Archaeological Deposit (PAD)	1	1.5
PAD and Modified tree (carved or scarred)	1	1.5
Artefact and grinding groove	1	1.5
Artefact and hearth	1	1.5
Art, artefact, grinding groove and hearth	1	1.5
Art, artefact and hearth	1	1.5
Art, artefact and PAD	1	1.5
Art, artefact and shell	1	1.5
Art, artefact, shell, non-human bone and organic material.	1	1.5
Art, grinding groove, PAD, hearth, non-human bone and organic material.	1	1.5
Total	**67**	**100**

In addition to the above searches there is a range of landscape features in the region that have higher potential to contain Aboriginal objects. It is therefore necessary to consider whether there are landscape features of undisturbed land that may contain Aboriginal objects within the Project Site. Landforms with increased Aboriginal heritage potential within the Project Site include:

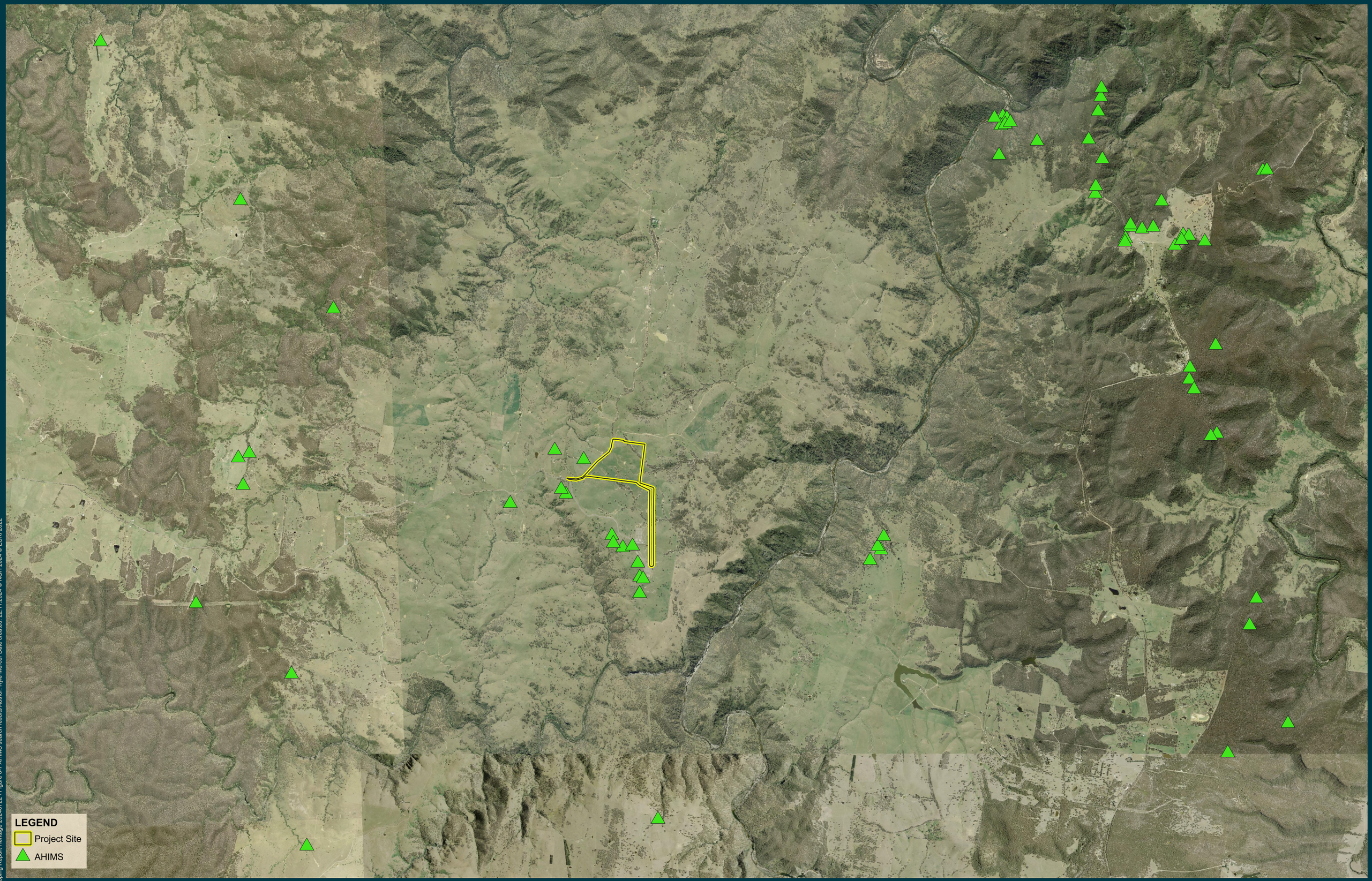
- Areas within 200m of water;
- Crest, spur and saddle landforms;
- Slight elevated areas in proximity to water; and
- Areas of remnant native vegetation and isolated mature native paddock trees.

Given that sensitive landforms are within the Project Site and that the AHIMS extensive search identified a number of sites recorded in the local area there is potential for Aboriginal objects to exist within the Project Site. This is most likely to be in the form of stone artefacts (1 or more) and modified trees.

6.7.2. Issues for consideration

Given that the AHIMS extensive search identified a number of Aboriginal sites recorded in the local area and the preliminary desktop review notes sensitive landforms within the Project Site there is potential for Aboriginal objects to exist within the proposed development area. An Aboriginal Cultural Heritage Assessment (ACHA), which includes Aboriginal community consultation with registered stakeholders must be undertaken in conjunction with the following codes and guidelines to appropriately assess any proposed impacts on Aboriginal objects within the Project Site.

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010a);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010b); and
- *Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011).



Datum: GDA2020 / MGA Zone 56

NGH

0 1 2 km

Hanworth Battery

Figure 6-7 AHIMS search results

Ref: 240289 Hanworth BESS Scoping Report Heritage 20240722 \ Figure 6-7 AHIMS search results Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

6.8. Non-Aboriginal heritage

6.8.1. Existing environment

Desktop searches were undertaken on 09 August January 2024 of the relevant historic heritage registers including the Australian Heritage Database, the NSW State Heritage Inventory (SHI) and Section 170 registers, to identify any items that are currently listed within or adjacent to the Project Site. The Australian Heritage Database includes items on the National and Commonwealth Heritage Lists while the SHI includes items on the State Heritage Register and items listed by state agencies and local Government.

The results of the Australian Heritage Database search indicated that:

- There is one site, the Greater Blue Mountains Area, listed on the World Heritage List within the Upper Lachlan LGA. This site is not within or in close proximity to the Project Site.
- There two sites on the National Heritage List within the Upper Lachlan LGA. Both these sites are related to the Greater Blue Mountains Area and its additional values. These sites are not within or in close proximity to the Project Site.
- There are no sites on the Commonwealth Heritage List within the Upper Lachlan LGA.
- There are 29 sites listed on the Register of National Estate (a non-statutory archive) within the Upper Lachlan LGA. The only site within the suburb of Bannaby is the Bannaby Anglican Churchyard which is located approximately 4.6km south-west of the Project Site.

The results of the NSW SHI database search indicated that:

- There are five previously recorded heritage sites listed on the State Heritage Register within the Upper Lachlan LGA. The nearest site is the Hillas Farm Homestead and Outbuilding located approximately 4.3km west of the Project Site.
- There are 22 sites listed on the Section 170 register within the Upper Lachlan LGA. None are located within the suburb of Bannaby. None of these sites are located within and/or adjacent to the Project Site.
- There are 128 heritage sites listed on the Upper Lachlan Local Environmental Plan (LEP). None are located within and/or adjacent to the Project Site. The nearest sites located approximately 3.8km south-west of the Project Site are the ‘Bunnaby’ Homestead and Bannaby Shearing Shead.

6.8.2. Issues for consideration

As there is no known historic heritage features listed within and/or in close proximity to the Project Site it is likely that direct impacts to historic heritage items can be avoided. However, further investigation may be required as part of the EIS to confirm that no other non-listed heritage items in the locality may be impacted by the proposed works. A general assessment of impacts would be undertaken with incidental sightings recorded within the scope of the ACHA.

6.9. Hazards

6.9.1. Existing environment

An environmental hazard is a thing or situation which can threaten the environment or human health. Hazards may be natural or artificial or result from the interaction between human activity and the natural environment. Hazards relevant to the Project include risks associated with hazardous materials, electromagnetic fields, and fire.

6.9.2. Hazardous Material – issues for consideration

A 1.2 gigawatt (GW) with 4.8 gigawatt hour (GWh) BESS is proposed which is classed as being potentially hazardous under the State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP).

A Preliminary Hazard Analysis (PHA) would be prepared by a specialist as part of the EIS in accordance with *Hazardous Industry Planning Advisory Paper No. 6 'Hazard Analysis'* (DoP 2011) and *Multi-level Risk Assessment* (DoP 2011). The PHA would detail the potential hazards and controls to mitigate hazards to ensure the fire prevention and protection systems are adequate to protect the BESS. The mitigation and control measures afforded by the Applicant and the proposed construction contractor would reduce the likelihood of these events to manageable risk levels and contain the effects on-site.

6.9.3. Electromagnetic fields - issues for consideration

Electromagnetic Fields (EMFs) are produced within the vicinity of existing powerlines. The Transgrid lines that traverse the site are 500kV associated with 500kV substation and there are 330kV within the vicinity and feed out of the 330kV substation.

The BESS is proposed to connect directly to the northern side of the substation and is predicted produce additional EMFs within their vicinity. EMF levels associated with BESS would be well below the guideline for public exposure and would not be expected to have any adverse impact on human health. However, there can be perceived impacts for nearby residents.

EMF levels of the proposed BESS infrastructure would be assessed as part of the EIS against the *International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*. Standard design provisions are expected to ensure impacts comply with relevant guidelines together with communication of potential issues as required.

6.9.4. Bushfire - issues for consideration

The Project Site is located in an area that has classifications of both Category 1 vegetation which is the highest category for bushfire prone land and Category 3 vegetation which is the second highest category for bushfire prone land. This category is associated with grasslands and semi-arid woodlands in this locality around and within the Project Site. The surrounding landscape includes national parks and large areas of vegetation categorised as Class 1. A detailed Bushfire Assessment Report will be completed in the EIS phase. The assessment would demonstrate compliance against the requirements of the NSW RFS Planning for Bush Fire Protection 2019 (PBP) guide (NSW RFS, 2019)

6.9.5. Aviation – Glint and Glare - Issues for consideration

CAST (2023)define Glint and Glare as - 'Glint and glare' is the general term used to describe the reflection of sunlight from a reflective surface, typically one that is capable of producing specular solar reflections. The definition of glint and glare is as follows:

- Glint – a momentary flash of bright light typically received by moving receptors or from moving reflectors.
- Glare – a continuous source of bright light typically received by static receptors or from large reflective surfaces.

There are five private airstrips within 10km of the project and one private airstrip which intersects the edge of the 10km buffer. Two are to the southeast one to the north east, one to the south, two to the west.

Containers for batteries are benign in the landscape and are usually painted with a matte finish. They therefore reflect a very low percentage of the light they receive and are not considered likely to result in glare or reflections that would affect air traffic.

Concerns relating to glare have been raised for other BESS Projects, and whilst this not generally a risk from BESS infrastructure, this would still be assessed in the EIS.

LEGEND

- Project Site
- Existing Substations

Bushfire Prone Land

- Vegetation buffer
- Category 1 vegetation
- Category 2 vegetation
- Category 3 vegetation

Datum: GDA2020 / MGA Zone 56

NGH

0 1 2 km

Hanworth Battery

Figure 6-8 Bushfire Prone Land

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 | Figure 6-8 Bushfire Prone Land Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

6.10. Water

6.10.1. Existing environment

The Project Site sits high in the landscape and as such is at the head of several higher order streams.

Seven Strahler order 1 streams traverse the site. One Strahler order 1 stream is identified and mapped as an important Riparian Lands Watercourse in the Upper Lachlan LEP 2010. It drains into St Pauls Creek (Strahler Order 3 and Strahler order 4) creek which is identified and mapped as having Key Fish Habitat. St Pauls Creek is a tributary to Wollondilly River (Strahler order 8) which is located approximately 3.3km east of the Project.

There is no mapped Aquatic Groundwater Dependent Ecosystems (GDE), however, the Strahler Order 1 waterway identified above drains into St Pauls Creek which has been mapped as having Moderate potential GDE. There are no mapped groundwater bores on site nor areas of Terrestrial GDE.

The entirety of the site is located within the Sydney Drinking water catchment.

6.10.2. Issues for consideration

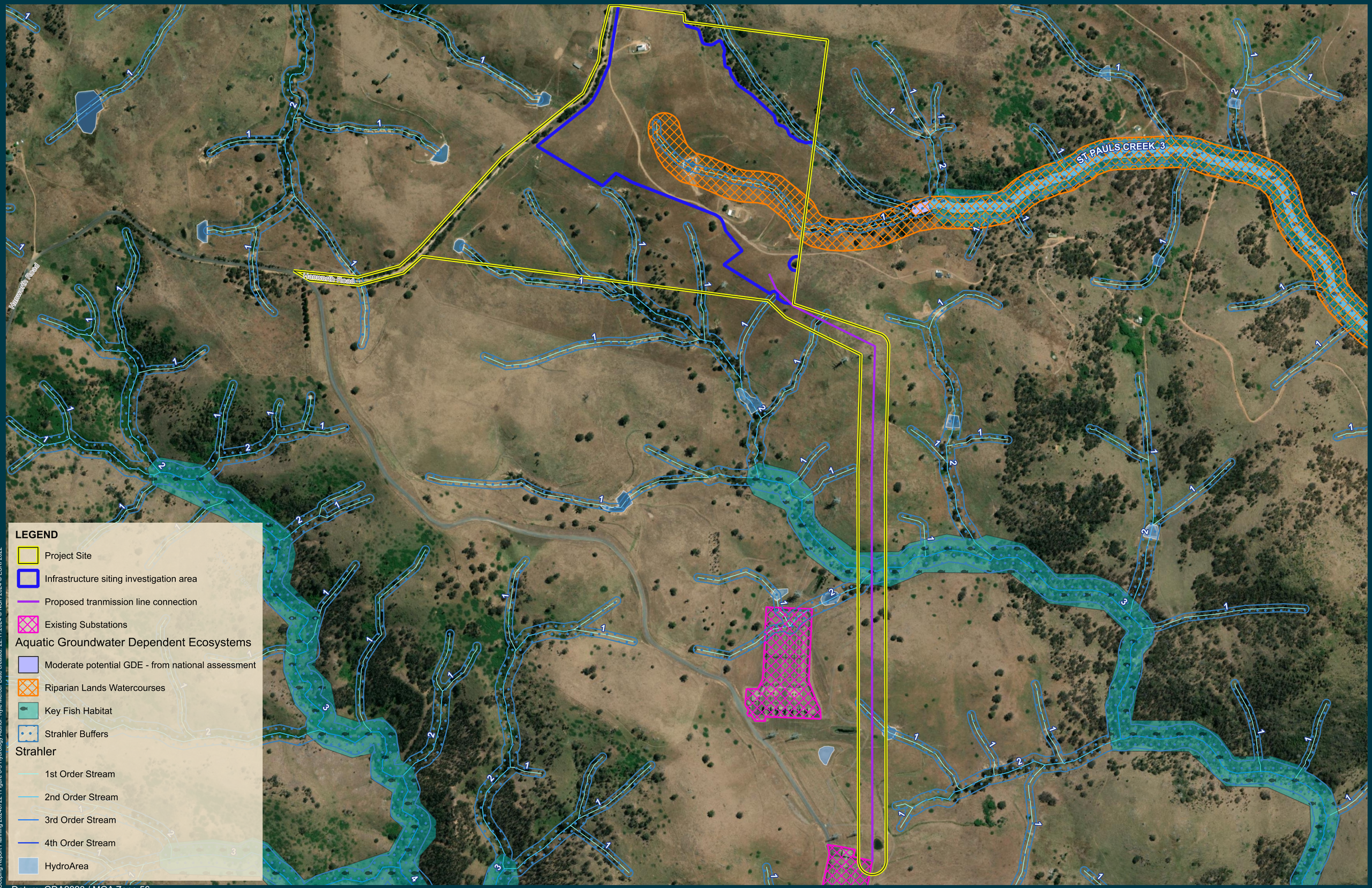
Sensitive Land and **Sydney Drinking Water Catchment**

The Strahler Order 1 waterway which drains through the middle of lot 402 is mapped as Sensitive Area Land (refer Figure 6-9) in the Upper Lachlan Local Environmental Plan 2010. These are mapped as Riparian Lands Watercourses and identified as the Strahler order 1 waterways that drain to St Pauls Creek. This is mapped within the Sydney Drinking water catchment. This matter will require ground truthing and detailed hydrological studies including stormwater flow modelling during the EIS phase to determine impact to onsite and receiving environment hydrological values.

Construction of the Project would require water supply for different activities in the form of both potable and non-potable water. Water quantities and sources required for construction and operation would be detailed in the EIS as part of the Project description. Investigations considering the purchase of water on the water market and delivery method would be explored further in the EIS.

Water balance for the site and local area would be investigated during the EIS studies.

The EIS would include mitigation measures to manage surface water, erosion, groundwater resources, include appropriate riparian land buffers (these have been indicatively shown in Figure 6-9), and any contamination risks (e.g. exposure acid sulphate soils).



Datum: GDA2020 / MGA Zone 56

NGH

0 0.25 0.5 km

Hanworth Battery

Figure 6-9 Hydrology

Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 | Figure 6-9 Hydrology Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

6.11. Cumulative impacts

Cumulative impacts relate to the combined potential effects of different impact areas of the Project as well as the potential interaction with other Projects in the local LGA. They may occur concurrently or sequentially.

The relevant cumulative impacts are those associated with other known or foreseeable developments occurring in proximity to the Project. Cumulative impacts have been considered possible for projects within 50km of the Project (regional scale). However, the scale of cumulative impacts occur at different scales as detailed in Table 6-4. Local impacts are considered within the visual and noise catchments identified in Section 6.2 and Section 6.3.

Table 6-4 Scale of cumulative impacts

Impact	Scale	Justification
Social and economic	Regional	Regional impacts on accommodation, employment and service providers
Landscape and visual	Local	Localised impacts with proposed and existing projects
Noise and visual	Local	Localised impacts with proposed and existing projects
Biodiversity	Regional	Regional impacts with proposed and existing projects will be considered
Land use	Nil	The Project would have negligible impacts on land use, due to the scale of the development
Hazards	Local	The Project would consider cumulative hazards specifically with consideration of the proposed HumeLink Project.
Aboriginal Heritage	Regional	Regional impacts with proposed and existing projects will be considered
Non-aboriginal heritage	Nil	The Project would have likely have no impacts on non-aboriginal heritage
Access and traffic	Regional	Regional impacts on traffic and access will be considered
Air quality	Local	Localised impacts with proposed and existing projects
Waste management	Regional	The Project would consider regional impacts on waste management
Water	Nil	The Project would have minimal impacts on water

As detailed in Section 3, construction is expected to commence in 2026/2027. The Project will commence operations in 2028, and will operate for approximately 40 years. Potential cumulative impacts associated with the construction and operation of the Project are detailed below

Table 6-5 Cumulative impact associated with timeline

Stage	Project timeframe	Likely impact	Duration	Potential cumulative impact
Construction	2026/2027	Moderate to major	Temporary	Social and economic Landscape and visual Noise and vibration

				Biodiversity Aboriginal heritage Access and traffic Air quality Waste
Operation	2028	Minor	Operational period	Landscape and visual Noise and vibration Hazards
Decommissioning	To be confirmed	Moderate	Temporary	Social and economic Landscape and visual Noise and vibration Access and traffic Air quality Waste

The relevant cumulative impacts are those associated with other known or foreseeable developments occurring in proximity to the Project (refer Table 6-6 and Figure 6-11). The study area has been considered to be the Upper Lachlan LGA and any other major project within 50km of the Project Site.

Table 6-6 Nearby Major Projects

Project	Stage	Status	Distance from Project (km)	Cumulative Impact to consider in EIS	Construction period likely to overlap with the Project?
HumeLink	Determined	Construction start date unknown	Within 1km south	Social and economic Landscape and visual Noise and vibration Biodiversity Aboriginal heritage Access and traffic Air quality Waste Hazards	Yes
Biala WF	Determined	Operational	63km south west	n/a	
Collector WF	Determined	Operational	74km south west	n/a	
Crookwell WF	Determined	Operational	39km west	n/a	
Gullen Range WF	Determined	Operational	61 km south west	n/a	
Taralga WF	Determined	Operational	14km west	n/a	
Paling Yards WF	Planning	Response to submissions	40km north west	Social and economic Biodiversity Aboriginal heritage	Yes

Project	Stage	Status	Distance from Project (km)	Cumulative Impact to consider in EIS	Construction period likely to overlap with the Project?
				Access and traffic Waste	
Marulan SF and BESS	Determined	Construction start date unknown	32km south south west	Social and economic Biodiversity Aboriginal heritage Access and traffic Waste	Yes
Western Range SF and BESS	Withdrawn	n/a	n/a	n/a	
Carrick SF	Withdrawn	n/a	n/a	n/a	
Wattle Creek Solar Farm (part of wattle creek energy park)	Planning	Prepare EIS	10km south	Social and economic Biodiversity Aboriginal heritage Access and traffic Waste	Yes
Wattle Creek Solar Farm (part of wattle creek energy park)	Planning	Prepare EIS	10km south	Social and economic Biodiversity Aboriginal heritage Access and traffic	Yes

Project	Stage	Status	Distance from Project (km)	Cumulative Impact to consider in EIS	Construction period likely to overlap with the Project?
				Waste	
Gunning SF	Determined	Construction start date unknown	93km south west	Social and economic Biodiversity Aboriginal heritage Access and traffic Waste	Yes
Barina hard rock quarry	Mod 2 determined	Operational	80km south west	Social and economic Access and traffic	Yes
Rye Park WF	Determined	Operational	93km south west	n/a	No

Issues for consideration

Potential cumulative impacts of overlapping construction periods are primarily associated with traffic impacts, pressures on local facilities, goods and services and vegetation clearing. The Hume Highway would be used as the major haulage routes for major Projects in the region. Cumulative traffic impacts on the haulage route would be assessed for impacts from major Projects.

Searches for nearby Projects was limited to the Major Projects Register as these Projects are generally of larger scale than Projects captured under council development applications.

The most significant potential relevant to the site includes the construction of new HumeLink Transmission line refer to Figure 6-10.

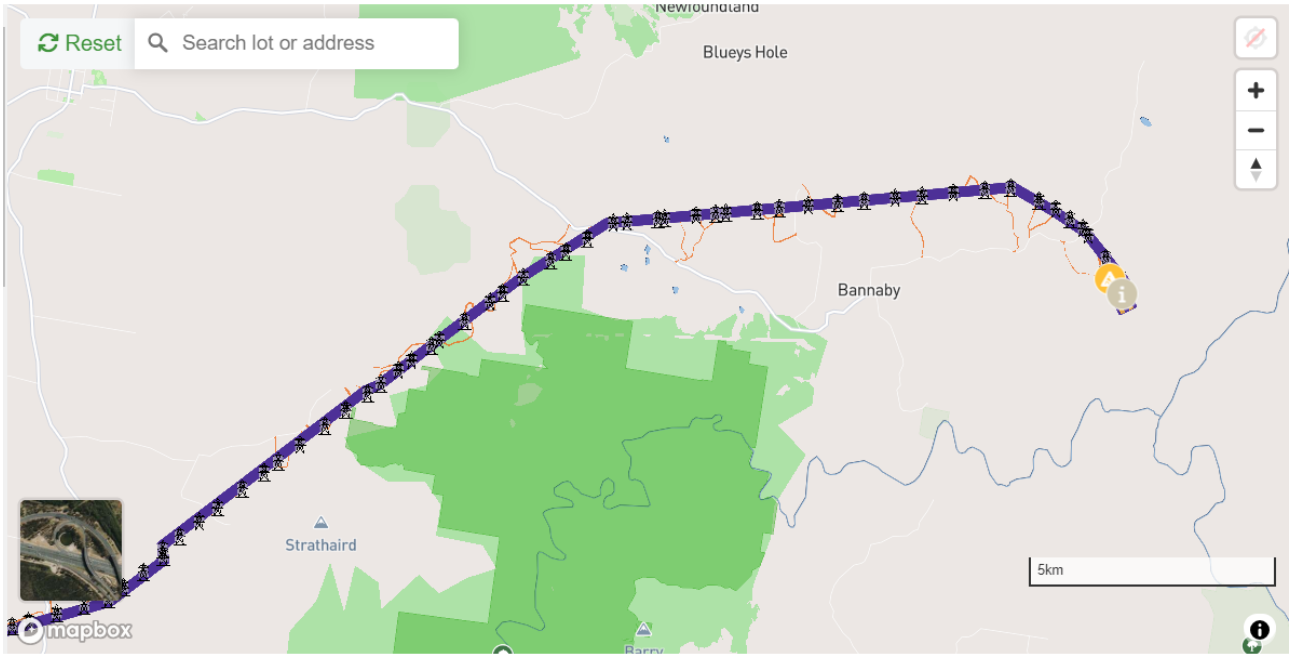


Figure 6-10 Indicative HumeLink development footprint from Bannaby 500kV substation heading west (source Transgrid HumeLink Project) .

The timing of works associated with the proposed developments nearby would be monitored throughout the EIS stage to ensure appropriate mitigation measures are implemented, particularly in relation to construction traffic and pressure on local services and facilities within the Upper Lachlan LGA and the broader region.

Potential cumulative impacts would be assessed within the EIS in line with the *Cumulative Impact Assessment Guidelines for State Significant Project*s (NSW Department of Planning, Industry and Environment, 2021).

Table 6-7 below addresses the *Cumulative Impact Assessment Guidelines for State Significant Project*s (NSW Department of Planning, Industry and Environment, 2021) detailed the level of cumulative assessment required in the EIS. Table 6-8 provides a summary of the cumulative impacts to be assessed for projects with potential construction overlaps.

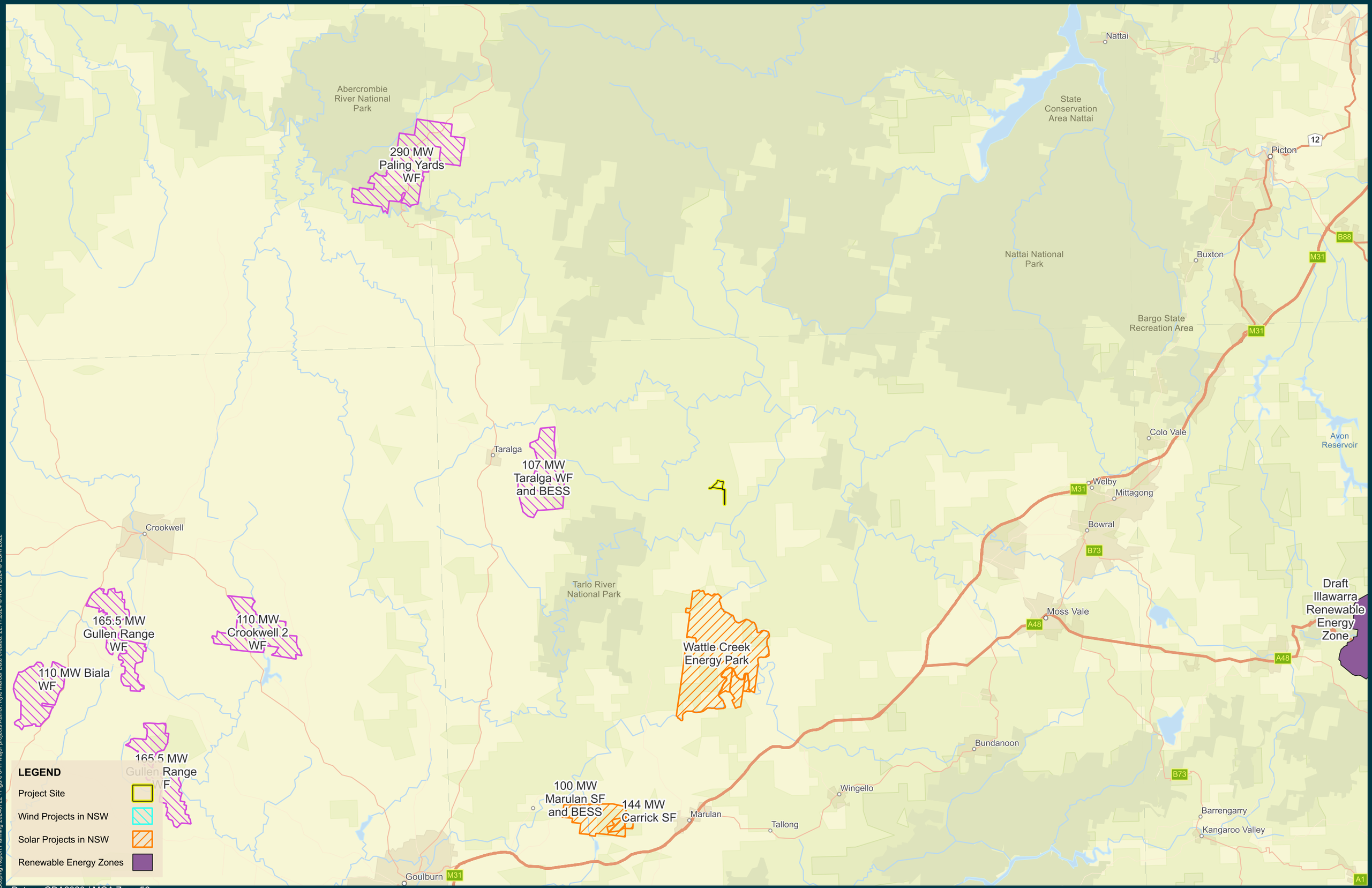
Table 6-7 Level of cumulative assessment required

Assessment	Description
Detailed	The project may result in significant impacts on the matter, including cumulative impacts.
Standard	The project is unlikely to result in significant impacts on the matter, including

Assessment	Description
	cumulative impacts.
N/A	No potential overlap in impacts between a future project (e.g. Project A) and the proposed project that would warrant any consideration in the cumulative impact assessment

Table 6-8 Cumulative Impact Assessment Scoping Summary Table

Project	Potential overlap								
	Social and economic	Landscape and visual	Noise and vibration	Biodiversity	Aboriginal heritage	Access and traffic	Air quality	Waste	Hazards
HumeLink									
Paling Yards WF									
Marulan SF and BESS									
Wattle creek energy park									
Gunning SF									
Barina hard rock quarry									



Ref: 240289 Hanworth BESS Scoping Report Planning 20240722 \ Figure 6-11 Major projects Author: Kyle Mercer Date created: 22.11.2024 © NGH 2024 © ESRI 2022

Hanworth Battery

Figure 6-11 Nearby Major Projects

6.12. Standard assessment Issues

6.12.1. Air quality

National ambient air quality standards

Under the National Environment Protection Measure for Ambient Air Quality, Australian governments have set a national ambient standards for particulate matter (DCCEEW, 2024)

PM_{10}

- 50 µg/m3 in outdoor air averaged over a 24-hour period
- 25 µg/m3 in outdoor air averaged over a year

$PM_{2.5}$

- 25 µg/m3 in outdoor air averaged over a 24-hour period
- 8 µg/m3 in outdoor air averaged over a year

The closest monitoring station to the Project is in Goulburn. A search of the National Environment Protection Measure for Ambient Air (Air NEPM) 2 October 2024 indicates the range for Goulburn averaged between 2018 and 2024 are below these standards. The population and pollution sources are expected to be lower at Bannaby compared to Goulburn. The air quality in Bannaby is generally expected to be good and typical of that found in a rural setting in NSW due to low population numbers. Existing sources of air pollution in such a location is expected to comprise dust from agricultural practices and some road-based emissions from vehicles travelling along the Hanworth Road (unsealed). During colder months, there may be a minimal increase in air contaminants due to smoke emissions from the operation of solid fuel heating from the nearby village of Taralga.

Issues for consideration

A standard assessment would be undertaken in the EIS as air quality would only be a factor during the construction phase of the project, and dust/emissions would be kept to a minimum. The EIS would include mitigation measures to manage dust emissions.

6.12.2. Waste management

The Project would generate several waste streams and utilise a variety of materials during the construction phase, including:

- Excavated materials (soil)
- Packaging from battery modules and other infrastructure
- General construction site waste
- Wastewater
- Scrap metal
- Vegetation

Issues for consideration

A Waste Management Plan would be incorporated into the Construction Environmental Management Plan (CEMP), applying the principles to avoid, re-use and recycle to minimise wastes. Cleared vegetation would be recycled as fauna habitat or mulch where possible.

All waste produced by the Project will be classified, handled and managed in accordance with the Waste Classification Guidelines – Part 1 Classifying Waste (NSW EPA, 2014) and Resource Recovery Orders and Exemptions issued by EPA guided by the Waste Classification Guidelines Part 1: Classifying waste and Resource Recovery Orders and Exemptions issued by NSW EPA. Targeted consultation with local waste processing facilities and council would be undertaken during the EIS.

Priority will be given to reusing materials on site or recycling if reusing is not possible.

During the Project's operational stage, there would be minimal waste. Any waste generated during operation would be dealt according to relevant guidelines.

Decommissioning of the site would generate a large volume of waste. The waste would involve batteries, inverters, cabling and any other items used for construction of the BESS. A suitable reuse / recycling plan will be investigated in the EIS phase. The EIS will also study waste management in detail and advise on mitigating impacts resulting from this waste.

6.13. Matters not requiring further assessment

The environmental matters below require no further assessment in this Project. These additional matters have been considered in reference to the matters included in Appendix B of the State significant development guidelines – preparing a scoping report (DPE, 2022). Refer to

Table 6-9 Impact matters requiring no further assessment

Impact	Description
Marine Port facilities	The Project does not propose a modification to port or airport facilities. It is noted that materials deliveries via ports will be assessed under the following impact headings: • Traffic and access (refer to Section 6.5) • Hazards (refer to Section 6.9)
Rail facilities	The Project does not propose a development that directly impacts rail facilities.
Odour	The Project does not propose a development that would be likely to produce odours.
Coastal hazards	The Project is not located nearby any coastal areas and as such does not address coastal hazards.

7. Conclusion

This Scoping Report has outlined the project and established the strategic and legislative context of the Project. The Project would be assessed under Part 4 of the EP&A Act and classed as SSD under the Planning Systems SEPP. At this stage, referral under the EPBC Act is yet to be determined by further detailed BDAR assessments using the BAM for the Project Site but this will be investigated further as a priority. The Project-specific SEARs are now sought to guide the preparation of the EIS. As well as detailed investigations, the EIS will set out the mitigation measures required to manage the impacts of the project to an acceptable level and will include further input from the community and other stakeholders through the continuation of the robust engagement process which is underway.

A scoping summary table is included in Appendix A which outlines the proposed level of assessment proposed for each impact category identified in Section 6. The level of assessment may be revised in response to Project specific SEARs or agency consultation.

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