Scoping Report

Bendemeer Solar Farm

January 2022

Project Number: 21-242

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Executive summary

The proposed Bendemeer Solar Farm (the Project) would involve the construction, operation and decommissioning of a photovoltaic (PV) solar facility with a capacity of up to 210 $MW_{(AC)}$ that would supply electricity to the national electricity grid, and a BESS with an indicative capacity of 200MW.

The Project is located in the New England region of New South Wales (NSW), approximately 1.5 kilometres east of Bendemeer. The site has been utilised for agricultural practices for the last 100 years with evidence of broad native vegetation modification resulting from agricultural land use within the subject land, and in some areas, used continuously for cropping and modified pasture grazing prior to and post 1990. Developing the solar energy resource identified at the site would generate significant investment in the broader Tamworth Local Government Area and would be compatible with existing agricultural activities.

The Project is being developed by Athena Energy Holdings Pty Ltd (Athena) founded in Australia in 2019. Athena has developed and is developing over 1.5GW of Solar, Wind and BESS Projects with the main locations in New South Wales, Western Australia, Bangladesh, Vietnam, Malaysia and China. Athena's mission is to develop clean and sustainable green Projects, providing long-term energy solutions, and operating across five regions in Australia (NSW, Queensland, South Australia, Victoria and Tasmania).

The Bendemeer Solar Farm is a landholder driven Project that aims to support the local community through development, delivery and operation, and also to give the local community of Bendemeer and the surrounding townships jobs. The Project was initiated by the Kentucky South Landowner Group (KSLG), who approached Athena's local representative in Tamworth in 2019 to collaborate on the development of the solar farm. The wider community of adjacent landholders, the town of Bendemeer and agencies such as Tamworth Regional Council are continually being engaged and provided opportunities to comment on the Project. The wider Bendemeer Renewable Energy Hub may include a future wind farm being investigated with landholders that if feasible would proceed through a separate development application. The two Projects combined could produce up to 1.6 million MW which is equivalent to powering over 350,000 Australian homes per year.

Planning context

The Project is classed as State Significant Development (SSD) under the *State Environmental Planning Policy (State and Regional Development) 2011* and will be assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A).

This Scoping Report describes the Bendemeer solar farm and BESS, and supports a request for Secretary's Environmental Assessment Requirements (SEARs) for the Project. An Environmental Impact Statement (EIS) will be prepared in accordance with the SEARs, and will be submitted to the Department of Planning, Industry and Environment (DPIE) for assessment.

Project justification

The electricity sector in NSW is undergoing a significant transformation. This is driven by the ageing and pending retirement of existing coal-fired generation together with increasing demand from global markets for action on climate change.

With its high quality solar and wind resources and advantageous site characteristics including access to the NSW electricity grid, the Project has the potential to deliver cheap, clean and reliable

energy for NSW consumers and contribute to the achievement of local, state and federal government objectives in relation to renewable energy and climate change policy.

Benefits of the site include proactive landholders, positive engagement with the local community, minimal number of close residential receivers, compatibility with existing land use, and good access to both existing and proposed electricity transmission infrastructure. The Project is located in the New England Renewable Energy Zone; an area that the NSW Government has identified as a target area for renewable energy development.

The Project would diversify the local economy and generate significant investment in the region.

Preliminary consultation

To date, the response from the community in relation to the Project has been positive.

Consultation to date has been undertaken with Project landowners, some of the neighbours to the Project, Tamworth Regional Council, local politicians, Tamworth Business Chamber, Landcare and industry stakeholders.

Due to restrictions arising from Covid-19, face-to-face meetings and neighbour visitation has not been possible during lockdowns periods, however prior to that, Athena have held face to face meetings with landholders and community groups. Since then, remote consultation has been undertaken, whereby parties have been contacted by phone. Project information has also been provided to the community by email through a Project newsletter, media coverage and a project website.

Ongoing consultation with the community and other stakeholders will be used to understand concerns and ensure that the Project responds to these concerns.

Preliminary environmental assessment

Preliminary assessment and consultation have identified specific key issues in this Scoping Report that will be subject to further detailed investigation in the EIS. This further investigation will shape the development of the Project and ensure that the detailed Project presented in the EIS is responsive to its environmental and social context. These are:

Key issues with potential for high impacts (high constraint):

- Biodiversity

Key issues with potential for moderate impacts (moderate constraint):

- Visual amenity
- Traffic impacts
- Aboriginal heritage
- Heritage
- Socio and economic
- Hazards

Other issues are expected to be able to be addressed through desktop investigation to inform appropriate mitigation and management measures.

The project-specific SEARs for the Project are now sought on the basis of this preliminary assessment.

Table of contents

Figures

Tables

Appendices

Acronyms and abbreviations

ABS	Australian Bureau of Statistics
ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BCS	Biodiversity and Conservation Services, Directorate of DPIE
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
Biosecurity Act	*Biosecurity Act 2015* (NSW)
BOM	Australian Bureau of Meteorology
BOS	Biodiversity Offsets Scheme
BSAL	Biophysical Strategic Agricultural Land
CEEC	Critically Endangered Ecological Community
CEMP	Construction environmental management plan
CIV	Capital Investment Value
Cwth	Commonwealth
DoEE	(Former) Department of the Environment and Energy (Cwth) (now DAWE)
DPIE	Department of Planning, Industry and Environment (NSW)
EIS	Environmental impact statement
EES	Environment, Energy and Science, department of DPIE
EMF	Electric and magnetic fields
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
ESD	Ecologically Sustainable Development
FM Act	*Fisheries Management Act 1994* (NSW)
GDE	Groundwater dependent ecosystem
ha	hectares
Heritage Act	*Heritage Act 1977* (NSW)
GHG	Greenhouse gas
HIPAP 6	Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'
HML	Higher mass limit
IPC	Independent Planning Commission of NSW

ISEPP	State Environmental Planning Policy (Infrastructure) 2007 (NSW)
KFH	Key Fish Habitat
KLG	Kentucky Landowner Group
km	kilometres
KSLG	Kentucky South Landowner Group
kV	Kilovolt
LALC	Local Aboriginal Land Council
LCA	Land Category Assessment
LEP	Local Environment Plan
LGA	Local Government Area
LUCRA	Land Use Conflict Risk Assessment
m	metres
MNES	Matters of National Environmental Significance under the EPBC Act (*c.f.*)
MW	Megawatt
$MW_{(AC)}$	Megawatt alternating current
MW HR	Megawatt hours
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NV Act	*Native Vegetation Act 2003* (NSW)
OEH	(Former) Office of Environment and Heritage (NSW) (now EES)
PCT	Plant Community Type
PMST	Protected Matters Search Tool
PV	Photovoltaic
RET	Renewable Energy Target
RFS	Rural Fire Service
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SoHI	Statement of Heritage Impact
SSD	State Significant Development
SR	Scoping Report
TEC	Threatened Ecological Community
TfNSW	Transport for NSW

Table of definitions for the Scoping Report

Bendemeer Solar Farm	The construction, operation and decommissioning of a 210 $MW_{(AC)}$ solar farm generally comprising a solar array, access roads, underground and above ground cables, on-site substation and associated operational facilities including the construction of a 200MW LFP(LiFePO4) Battery Energy Storage System (BESS).
Bendemeer Renewable Energy Hub (BREH)	A wider project concept being progressed, in consultation with the community and landholders, to potentially integrate a future wind farm with the Bendemeer Solar Farm and BESS.
Project	Bendemeer Solar Farm
Proponent	Athena Energy Australia (Holdings) Pty Ltd
Project Site	The area of land that is being investigated for siting of the Project. This land would include all lots, Crown land, Crown waterways, Crown roads and Council roads affected by the Project.
Development footprint (Indicative only)	The Development footprint for the Project would be established within the Project Site subject to consideration of constraints and infrastructure siting throughout design. The Development footprint is the area of land that would be directly impacted by the Project (construction and operation, including all temporary and permanent impacts).
Locality	Area within 10km of the Project Site.

1. Introduction

1.1 Purpose of this document

Athena Energy Australia (Holdings) Pty Ltd (Athena) is proposing to develop a Renewable Energy Hub inclusive of a 210 $MW_{(AC)}$ Solar Farm and 200 $MW_{(AC)}$ (approximately 300 MW HR) Battery Energy Storage System (BESS) (the Project) at Bendemeer with provision for a future 350 $MW_{(AC)}$ Wind Farm on a separate site within the Tamworth Local Government Area (LGA). This scoping report encompasses the Solar Farm and BESS only.

This Scoping Report has been prepared to support a request to the Department of Planning Industry and Environment (DPIE) for the Secretary's Environmental Assessment Requirement (SEAR's) in relation to the proposed Bendemeer Solar Farm (the Project). The SEAR's would guide the preparation of an Environmental Impact Statement (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 a capital investment value exceeding $30 million and is therefore classed as State Significant Development (SSD).

This Scoping Report provides a high level description of the Project, including the site and its surroundings, the environmental planning pathway for approval and identifies key potential environmental issues that may be associated with the Project and proposed investigation strategies for them.

The Project description would be refined in response to further detailed environmental investigation and consultation with stakeholders.

1.2 The proponent

Athena Energy Holdings Pte Ltd (Athena) was founded in 2018 with their Australian subsidiary Athena Energy Australia (Holdings) Pty Ltd founded in Australia in 2019. Within the overseas and Australian market, Athena has developed and is developing over 1.5GW of Solar, Wind and BESS Projects with the main locations in New South Wales, Western Australia, Bangladesh, Vietnam, Malaysia and China. Currently developing the Bendemeer Renewable Energy Hub in NSW, Athena is also developing two solar farms with private entities within Western Australia. Current and proposed work for Athena is presented in Figure 1-1.

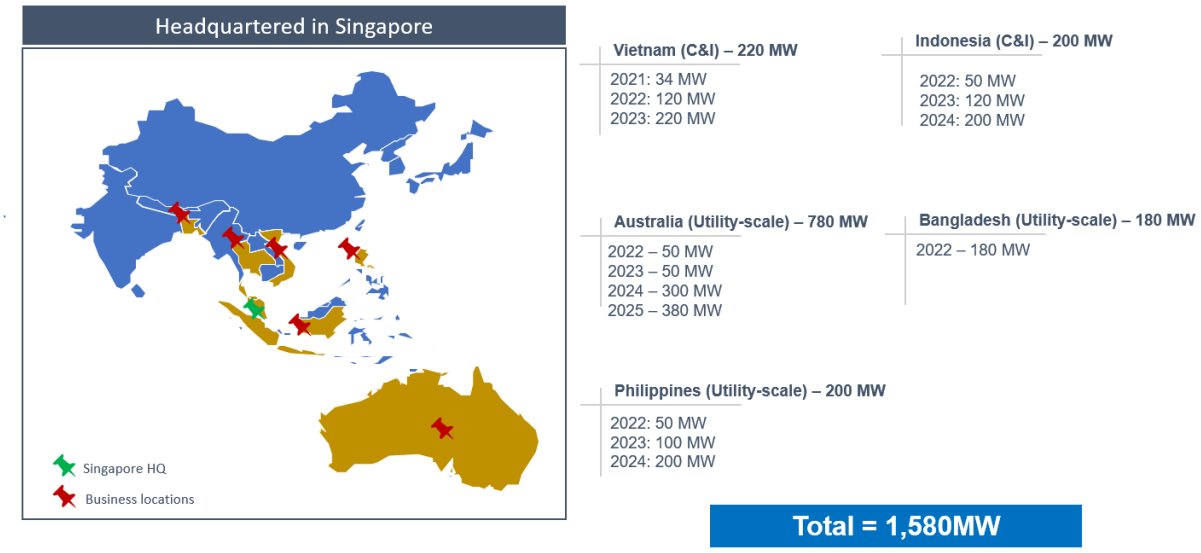

Figure 1-1 Athena renewable Projects

Athena's mission is to develop clean and sustainable green Projects, providing long-term energy solutions, and operating across five regions in Australia (NSW, Queensland, South Australia, Victoria and Tasmania).

The Bendemeer Renewable Energy Hub is a landholder driven Project that aims to support the local community through development, delivery and operation, and also to give the local community of Bendemeer and the surrounding townships jobs. The Project will initially start with the Solar and BESS Project (this State Significant Development proposal) then will be added to with wind power through a separate and somewhat parallel State Significant Development application. The two Projects combined will produce 1.6 Million MW which is equivalent to powering over 350,000 Australian homes.

Athena wishes to set a precedent within the Australian renewable energy market by ensuring every project they develop, they will also deliver and operate long term. This approach instils confidence within the community, ensuring that the project that they were promised at the start of the development is the same project that is delivered and operated.

Table 1-1 Summary of Proponent details

Company name	Athena Energy Australia (Holdings) Pty Ltd
ACN	630 577 418
Address	Unit 4, 9 Fitzroy Street, Tamworth, NSW, 2340

2. Strategic context

2.1 Site context

2.1.1 Regional

The Project sits within the Tamworth LGA situated in the New England Region of NSW, with an estimated population of 62,545 (.idcommunity, 2021). The Tamworth LGA covers 9,894 km^2, and the population density is 6.32 persons per km^2. The site sits within the Tamworth Local Aboriginal Land Council (LALC) area, and the traditional owners of the land are the Kamilaroi people.

Bendemeer, located approximately 1.2km west of the Project Site, is the closest town with a population of 492 (Australian Bureau of Statistics, 2016). Bendemeer has community facilities including a general store, hotel, caravan park, public school and post office. Tamworth, located approximately 30km south-west of the Project Site is the closest major regional centre with a population of approximately 37,326 (.idcommunity, 2021) in the urban suburbs. Tamworth has a number of facilities including a public and private hospital, banks, retail outlets, grocery stores, public and private schools, accommodation facilities including motels, caravan parks and short-term rentals. The Project's locality is shown in Figure 2-1.

2.1.2 Project site

The Project Site is approximately 550 hectares (ha). The lot and DPs are presented in Table 2-1 and Figure 2-2. The site address is 4409-4461 Oxley Highway Bendemeer 2355.

Table 2-1 Lot/DP list of Project Site

Lot/Dp	Area included in Project Site (ha)
Lot1/ DP1211502 (Freehold)	250
Lot 2/ DP1211502 (Freehold)	228
Lot3/ DP1211502 (Freehold)	42
Lot 7317/ DP1159220 (Crown Reserve) Managed by Local Land Services for travelling stock and camping.	Site access may be located off the Oxley Highway and through this lot, subject to further design and approvals from Crown Lands.

There is one existing residence within the Project Site. Current access to the Project Site is from Oxley Highway into Lot1/ DP1211502 via Lot 7317/DP1159220, a Crown Reserve. The Oxley Highway provides a connection between the New England Highway and the east coast of NSW.

The land is zoned RU1 (Primary Production) under the Tamworth Regional Local Environmental Plan (LEP) 2010 (Figure 2-3). The Project Site has been utilised for agricultural practices for the last 100 years. Activities have included:

- Ploughing.
- Sowing of pastures
- Sheep and cattle grazing

- Soil manipulation utilising dolomite, lime, and fertilisers.
- Erosion management.
- Tree clearing

The Land Category Assessment undertaken for the Project Site (NGH Pty Ltd, 2021) identified "evidence of broad native vegetation modification resulting from agricultural land use within the subject land, and in some areas, used continuously for cropping and modified pasture grazing prior to and post 1990" (refer to Appendix D).The Project Site is situated on a ridge with the top of the ridge running east to west through the Lots. The lowest elevation is approximately 860m in the south-west corner and rises to 970m in the south-east corner noting this is across approximately 4km. The northern half slopes to the Oxley Highway, with areas that have been sown with exotic pasture species and is generally heavily grazed. The southern half slopes more steeply to the Macdonald River (7th order stream), it is generally less heavily grazed with granite boulders scattered throughout. As a result, vegetation communities are more diverse on the southern half of the Project Site.

Watercourses within the Project Site are ephemeral and only first and second order streams which are not considered Key Fish Habitat (KFH) under the NSW *Fisheries Management Act 1991* (FM Act). A few small billabongs were present in the southern half of the Project Site, and dams were scattered throughout.

There are no National Parks or State Forests within 10km of the Project Site. The nearest National Park is the Watsons Creek Nature Reserve (14km north-west), and the nearest State Forest is the Attunga State Forest (22km south-west).

An existing 330kV transmission line passes through the Project Site (Figure 2-3).

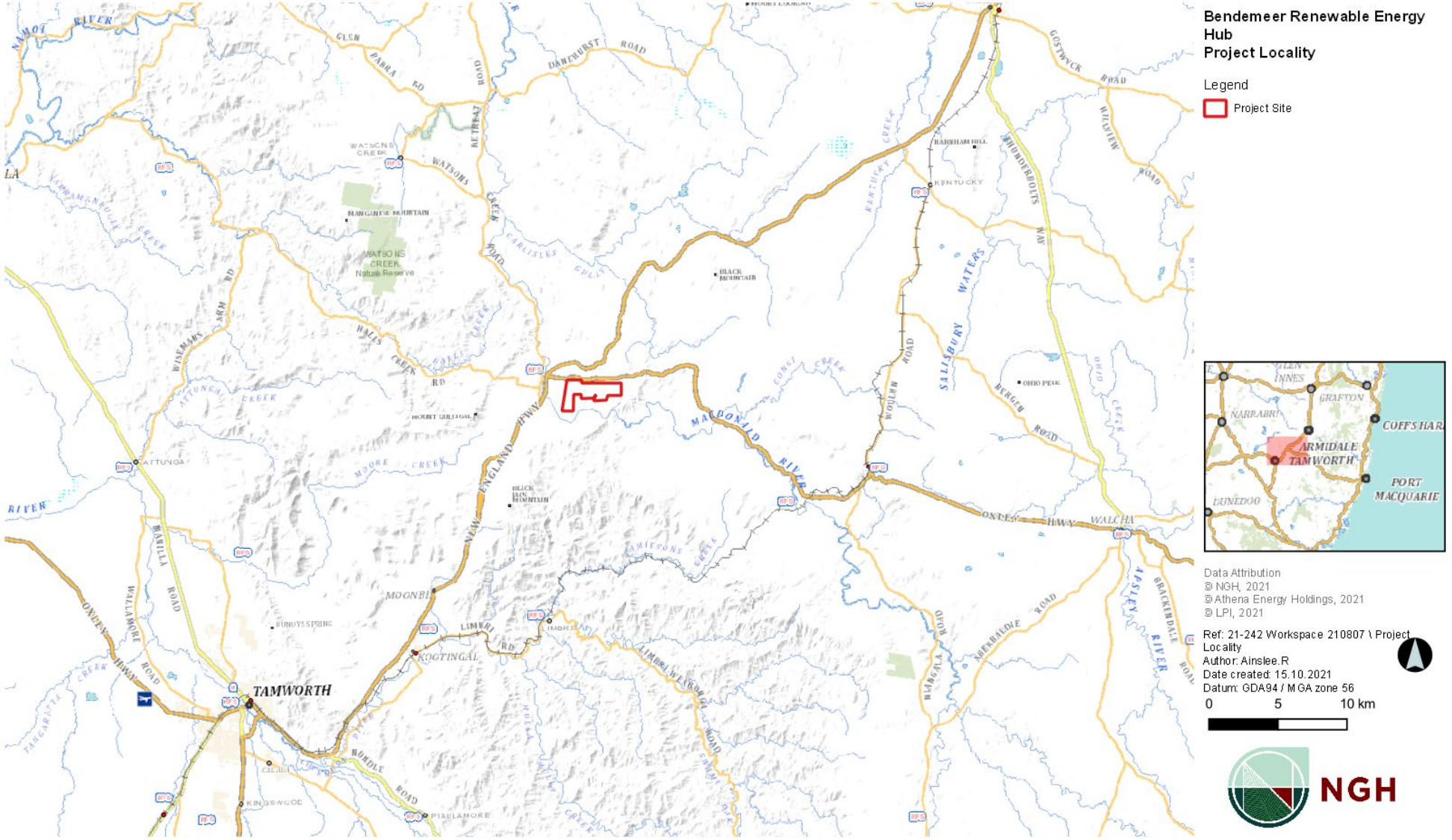

Figure 2-1 Project locality

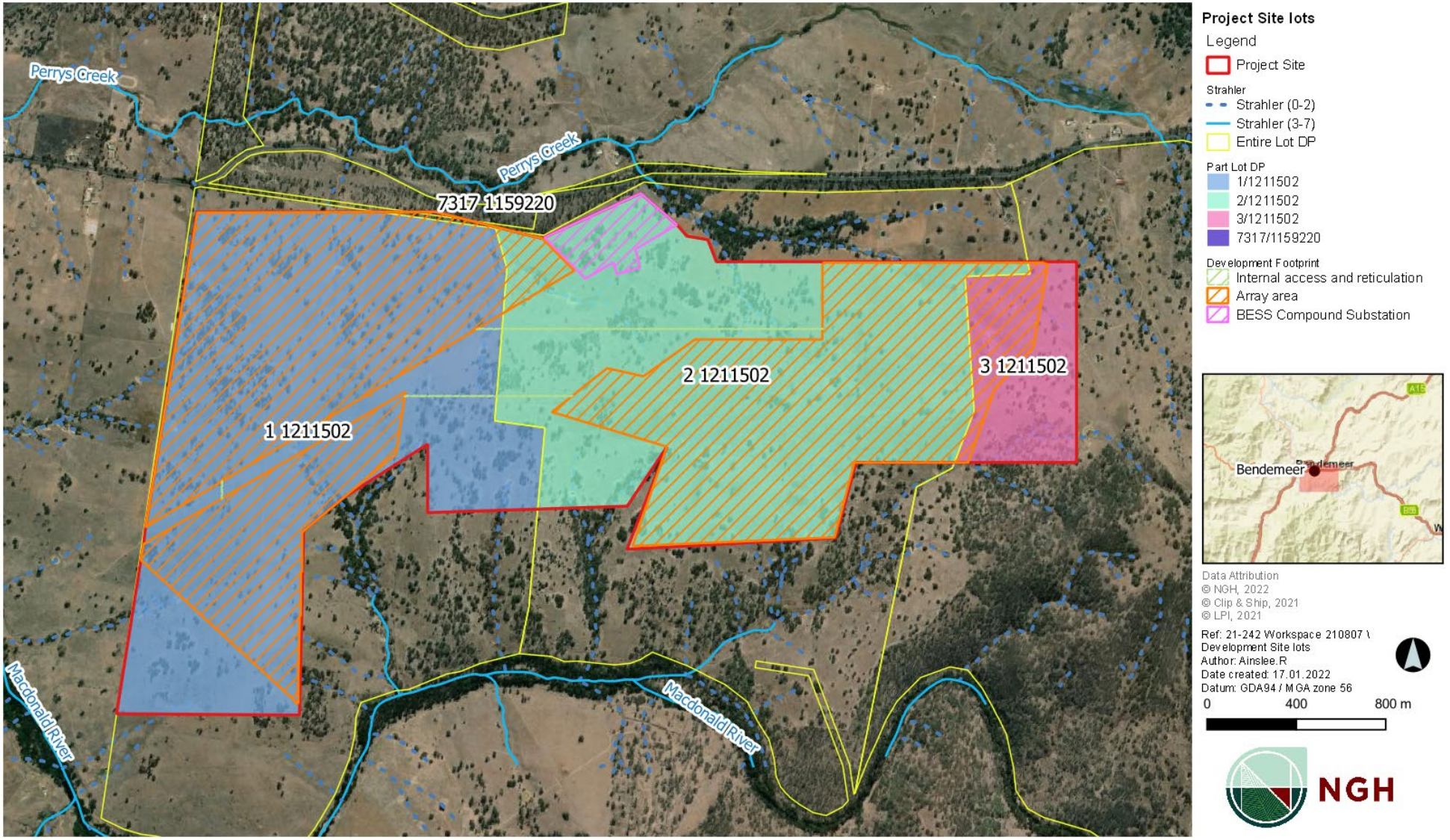

Figure 2-2 Lot/DPs associated with the Project Site

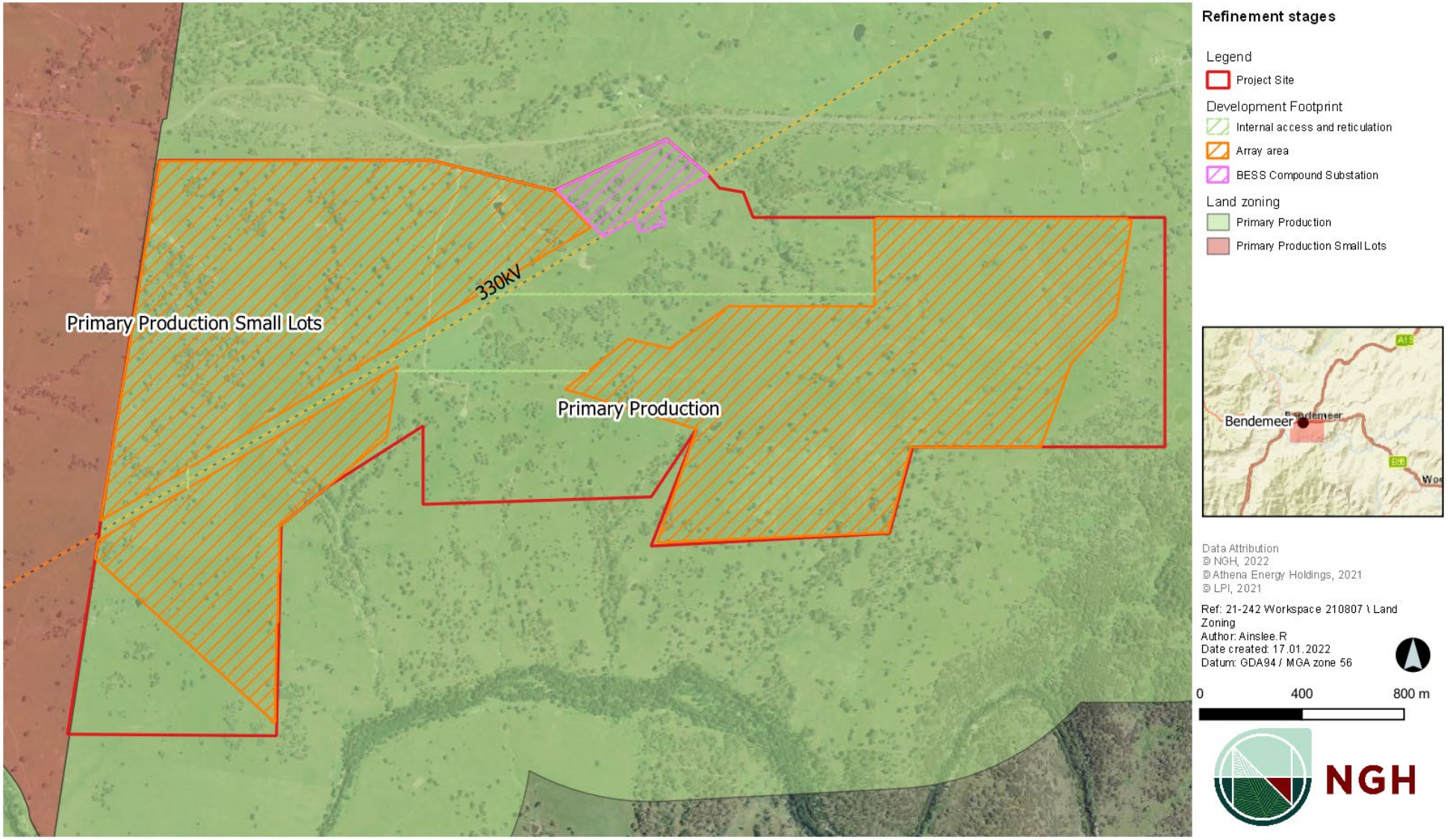

Figure 2-3 Land zoning

2.2 Strategic need

This section highlights the need that the national and NSW electricity market has for new generation capacity. It also outlines how the Project contributes to local, state and federal government objectives in relation to renewable energy and climate change policy.

In short, the NSW market needs electricity as ageing coal-fired power stations reach the end of their operational life. The Australian Energy Market Operator (AEMO) has forecast that four of the five coal-fired power stations in NSW are expected to retire by 2035 (AEMO, 2020). This is equivalent to 9000MW of generation capacity or approximately 75% of electricity supply in NSW. The scheduled retirement of Liddell in 2022-2023 means the NSW electricity market has an immediate need for new generation to bridge this gap.

More recently the AEMO has indicated in the Draft 2022 Integrated System Plan (Draft ISP) (AEMO December 2021) that nationally, coal is retiring at two to three times faster than anticipated. This includes indications of Eraring Power Station closing 1-2 years earlier than previously scheduled. Currently announced closures suggest that 5GW of the current 23GW coal capacity will be withdrawn by 2030. The Draft ISP forecasts faster withdrawals across all scenarios, in particular the suggested most likely Step Change scenario indicates 14GW of coal capacity may be withdrawn by 2030.

2.2.1 Alignment with strategic planning frameworks

International

In December 2015, Australia, among another 194 countries, agreed on the United Nations Paris Agreement on climate change. The following are key objectives of the agreement:

- a goal to limit the increase in global temperatures to well below 2 degrees and pursue efforts to limit the rise to 1.5 degrees
- a commitment to achieve net-zero emissions, globally, by the second half of the century
- differentiated expectations for developed nations, including Australia, that they will reduce their emissions sooner than developing nations.

As a signatory to the agreement, the Australian Government has committed to reduce greenhouse gas emissions by 26-28 percent on 2005 levels by 2030.

Electricity generation is one of the largest individual contributors of greenhouse gas emissions in Australia, representing 33.4 per cent of emissions in the year up to September 2020 (DoISER, 2020).

The development of renewable energy projects is considered to be one of the most effective ways to meet the nation's international commitments to reduce greenhouse gas emissions and the Project would contribute to Australia's effort to meet the Paris Agreement.

National

Renewable Energy Target

The Renewable Energy Target (RET) is an Australian Government scheme designed to reduce emissions of greenhouse gases in the electricity sector and encourage the additional generation of

electricity from sustainable and renewable sources. The Clean Energy Regulator (CER) administers the both the small and large-scale RET schemes. The Large-scale RET scheme incentivises investment in renewable energy power stations such as wind and solar farms. The Large-scale RET of 33,000 gigawatt hours of additional renewable electricity generation was met at the end of January 2021 (Clean Energy Regulator 2021). Whilst the annual target will remain at 33,000 gigawatt hours until the scheme ends in 2030, the CER Regulator expects large-scale renewable generation could reach up to 40,000 gigawatt hours in 2021.

The Project would support long term and stable energy policies such as the Renewable Energy Target (RET). Additionally, large-scale solar farm projects such as this provide an alternative power generation source resulting in the potential to benefit the Australian community by reducing average household electricity bills and power disruptions.

Specific to Australia's commitments, the Project would provide the following benefits:

- Reduced greenhouse gas (GHG) emissions, contributing to meeting our international climate commitments.
- Aid the transition towards cleaner electricity generation.
- Direct contribution to help in meeting the RET.

Integrated System Plan 2020

The Integrated Systems Plan 2020 (ISP 2020) prepared by the Australia Energy Market Operator is an "actionable roadmap for eastern Australia's power system to optimise consumer benefits through a transition period of great complexity and uncertainty." A Draft 2022 Integrated System Plan (ISP) was published on 10 December 2021.

REZ's are identified in the ISP 2020 as areas where "clusters of large-scale renewable energy can be developed to promote economies of scale in high quality areas and capture geographical and technological diversity in renewable resources" (Australia Energy Market Operator 2020)
The Project is located within the New England REZ, identified in the ISP and supported by a future ISP project, New England REZ network expansion, to connect the renewable generation to the load centre.

NSW context

Electricity policy

The NSW Government has released various policy documents since 2018, with the common objective of delivering cheaper, cleaner and more reliability electricity to support future growth. These include:

- NSW Transmission Infrastructure Strategy (DPE, 2018)
- NSW Electricity Strategy (DPIE, 2019)
- NSW Electricity Infrastructure Roadmap (DPIE, 2020)

As highlighted in the NSW Electricity Infrastructure Roadmap (the Roadmap):

> *NSW is at a crossroads. As our existing power sources come to the end of their lives and global markets seek cleaner, cheaper and more reliable energy sources, we have a once in a generation opportunity to redefine the State as a modern, global energy superpower*

The Transmission Infrastructure Strategy and the Roadmap both consider the establishment of Renewable Energy Zones (REZ) 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.

The Project is located in the proposed New England REZ. A draft Renewable Energy Zone (New England) Order 2021 was released for public exhibition in October 2021.

The Project would be beneficial to the Roadmap enabled under the *Electricity Infrastructure Investment Act 2020* to provide affordable, clean and reliable energy (NSW Government, 2021). It will generate and store clean energy to be fed into the electricity grid servicing the New England REZ, prioritised by the Roadmap to support 8000 MW of new transmission capacity.

In December 2020, the NSW Electricity Infrastructure Investment Act was enacted into law with bi-partisan support. Together with the Roadmap, this legislation is intended to:

- attract up to $32 billion in private investment for regional energy infrastructure by 2030
- support 6300 construction jobs and 2800 ongoing jobs, mostly in regional NSW
- save around $130 a year on the average NSW household electricity bill
- help reduce NSW electricity emissions by 90 million tonnes by 2030.

With an anticipated capital cost of approximately $450 million, and the potential to create up to 250 full time equivalent (FTE) jobs during construction, and up to 10 FTE jobs during operations, the Project would contribute to realising these aspirations.

Climate change policy

The NSW Climate Change Policy Framework was introduced in 2016, with an aspirational long-term objective of achieving net zero emissions by 2050. The NSW Renewable Energy Action Plan was also introduced in 2016, and the Project is consistent with the three goals of the plan which are:

1. Attract renewable energy investment and projects
2. Build community support for renewable energy
3. Attract and grow expertise in renewable energy.

In March 2020, the NSW State Government also introduced the Net Zero Plan Stage 1: 2020-2030, and this was updated in September 2021. The updated plan sets an interim target of reducing emissions by 50% by 2030 (when compared to 2005 levels).

The Project would generate up to 520GWh per year, saving approximately 370,000 tonnes of carbon dioxide per year when compared to typical fossil fuel electricity generation in Australia, and contribute to the achievement of this target.

The Project is also consistent with the current goals and targets for renewable energy generation in NSW. These include:

- Contributing to growing the economy, creating jobs and reducing emission over the next decade in line with the Governments Net Zero Plan Stage 1: 2020 - 2030 grow the economy, create jobs and reduce emissions between 2020 – 2030.

- Goal 22 of the NSW 2021: A plan to Make NSW Number One (Department of Premier and Cabinet, 2011):
    - Contribute to the national renewable energy target [i.e. 20% renewable energy supply] by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources.
- Contributing to achieving the NSW target of zero net emissions by 2050.
- Consistent with to the NSW Electricity Strategy (NSW Government, 2019), that outlines the NSW Governments plan for reliable, affordable and sustainable electricity.

2.3 Project justification

2.3.1 Project benefits

Socio-economic benefit

Regional Australia leads the world in agricultural and resource productivity, and solar is another valuable resource and a way of diversifying regional economies. In addition to providing an additional income stream to associated landholders, the Project is expected to create an additional 10 jobs during operation.

During construction, approximately 250 jobs would be created along with an additional 10 jobs during operation. The Project would create local employment and economic stimulus in Tamworth and surrounding areas including Bendemeer, Walcha, Woolbrook and Uralla. These areas would provide accommodation, food, fuel and trade equipment and services, mostly during the construction phase. During operation of the solar farm, economic benefits would be less, focussing on monitoring and inspections, maintenance, repair and upgrade of infrastructure, much of which is likely to be provided by the local labour force.

As well as employment and economic stimulus, the Project would provide an alternative drought proof income stream for host landowners, with flow on benefits for the local economy. Additional community agreements in place include:

- Community Enhancement fund which is a donation of $850 per MW per year to the local community of Bendemeer to be spent within the community
- Local community equity scheme that allows the local community to invest equity in the Project
- Lease and Option deed signed with Landowners.

The Australian Energy Market Commissions (AEMC) analysis indicated that multiple renewable energy projects is also likely to put downward pressure on the wholesale electricity prices, which has the potential to reduced electricity bills for households and businesses across NSW.

Environmental benefits

The Project will have the ability to produce up to 522,735 megawatt-hours (MW HR) of renewable energy per year, which will:

- Displace ~425,000 Tonnes of CO_2 e per year emissions
- Power 75,000 typical Australian homes

- Be the equivalent of removing ~80,000 cars from the road.

2.3.2 Site suitability

The Project is located within the New England Renewable Energy Zone (REZ).

The Large Scale Solar Energy Guidelines for State Significant Development (Department of Planning and Environment, 2018) notes the importance of demonstrating the suitability of the selected solar farm location and outlines key constraints that should be identified and considered. This process allows the opportunity to avoid or minimise negative impacts at the outset. Design and assessment of the Project can then be undertaken with a focus on mitigating and managing unavoidable impacts. Table 2-2 and Table 2-3 outline the suitability of the site for the Project.

Table 2-2 Site selection criteria - site conditions

Preferable site condition	Applicability to the Project
Optimal solar resources	The Woolbrook (Danglemah Road) weather station (located approximately 20 km from the Project Site) show good solar irradiance of 18 MJ m^{-2} on an annual basis between 1990 and 2021. To further support the location of the site, the solar resource map of Global Horizontal Irradiation (Solargis, 2021) indicates 1898 kWh/m2.
Suitable land	Low relief land containing predominantly modified, exotic and cultivated areas of vegetation. The Project would be highly visible from the Oxley Highway. Existing access is provided via 'Riverside' property (Figure 6-6).
Local impacts minimised	Early community engagement currently underway to enable the Project to reflect community issues. This early consultation did not raise any significant issues, and as such residences that have potential to be directly impacted by the Project are seen to be cooperative and would be responsive to mitigation measures to lessen any impacts determined through subsequent assessments. There are minimal receivers within 1km of the Project site (11 uninvolved) who may be impacted by construction noise. Due to this relatively low number, mitigating any potential noise impacts is predicted to be easily managed. Likewise, there are a small number of immediate neighbours who may be impacted visually, however due to the topography of the site, there is potential for residences further abroad to be impacted. This would be determined through a specialist visual impact assessment.
Capacity to rehabilitate	Pile driven array mounts are proposed resulting in minimal ground disturbance. Groundcover beneath panels would be retained and managed. Grazing, if undertaken, would be managed to protect the groundcover and continue some agricultural production onsite.
Proximity to electrical	Existing transmission line connection options within the Project Site: • Transmission 330 kV line 85: Armidale – Tamworth.

Preferable site condition	Applicability to the Project
network	
Connection capacity	Substation and connection point will be located within the development footprint. TransGrid has currently advised of a grid capacity of 300 $MW_{(AC)}$ at the connection point.

Table 2-3 Site selection criteria - constraints

Areas of constraint	Applicability to the Project
Native vegetation	One critically endangered ecological community (CEEC) under the *Biodiversity Conservation Act 2016* (BC Act) and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is present within the Project Site: • White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (BC Act), and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EPBC Act. Under the BC Act, this vegetation is a Serious and Irreversible Impacts (SAII) candidate. Areas in better condition will be avoided where possible, and commitment to actively manage retained remnants of the community onsite, or via additional offsetting, will be explored.
Potential residences	14 residences are located within 1 km of the Project Site boundary (three of these are involved landowners). Limited screening is provided by existing vegetation and topography. Visual amenity is considered in Section 6.2.2 and noise and vibration are considered in Section 6.2.3.
Waterways	Perrys Creek to the north and MacDonald River to the south are mapped as KFH. The Macdonald River is mapped as being a known Groundwater Dependent Ecosystem (GDE). Several waterways (Strahler ≤2) are mapped within the Project Site. The Project Site is not mapped as flood prone land. Hydrology, groundwater and water quality are considered in Section 6.2.10.
Aboriginal/Heritage significance	An extensive Aboriginal Heritage Information Management System (AHIMS) search did not identify any items within the Project Site. The closest site was identified 2km west of the Project Site. Further investigation is required to determine Aboriginal/Heritage significance on

Areas of constraint	Applicability to the Project
	the Project Site. Aboriginal heritage is considered in Section 6.2.7 and non-indigenous heritage is considered in Section 6.2.8.
Important agricultural land	No Biophysical Strategic Agricultural Land (BSAL) occurs within the Project Site. Land use compatibility is considered in Section 6.2.4.
Residential zones	Land zoning of the site is RU1 (Primary Production) and RU4 (Primary Production Small Lots) under the Tamworth LEP and considered compatible with solar development. RU5 (Village) is located approximately 1.2km west of the Project Site (Bendemeer Village). Land zoning is discussed in Section 6.2.4.
Resource developments	There are no mineral or petroleum exploration licences associated with the Project Site. Land use compatibility is discussed in Section 6.2.4
Crown Land	Crown land is present at the northern portion of the Project Site (refer to Appendix C).

3. The project

3.1 Project description

The Project would involve the construction, operation and decommissioning of a photovoltaic (PV) solar facility with a capacity of up to 210 $MW_{(AC)}$ that would supply electricity to the national electricity grid, and a BESS with an indicative capacity of 200 $MW_{(AC)}$. (approximately 300 MW HR). The Project Site covers approximately 550 ha with the area of solar arrays, BESS and associated infrastructure anticipated to occupy approximately 365 ha (Development Footprint). This would include an onsite substation.

The Project is likely to include the following infrastructure:

- 100 inverters
- 50,000 PV modules
- BESS
- Substation, control room, maintenance facility
- Internal access track and underground cabling
- Watercourse crossings for internal access tracks as required
- Intersection and road upgrades as required
- Landscape plantings, to soften and break up expansive views of infrastructure.

The Project Site boundary and indicative Development Footprint is provided in Figure 2-2. The final development footprint that will be assessed in the EIS, will be informed by community and stakeholder consultation, and detailed environmental investigations. The EIS will assess and seek consent for the broader development footprint to ensure the required design flexibility in detailed design.
The construction phase is expected to take approximately 12 – 18 months, with peak construction taking around 12 months. The timing of commencement is unknown and dependent on further detailed design and the assessment process. Anticipated timelines are updated on the Project website www.bendemeerenergyhub.com.au. It is anticipated that the Project would operate for 25 years, after which time the solar farm would be decommissioned. The decommissioning phase would involve removal of all above ground infrastructure and below ground infrastructure where possible and return of the site to its existing land capability.

The capital investment value (CIV) of the Bendemeer Solar Farm is approximately $450 million (including approximately $150 million for the battery storage component). A detailed CIV report would be prepared as part of the development application process, which would confirm the CIV.

3.2 Project design

3.2.1 Project history

The wider Bendemeer Renewable Energy Hub (BREH) concept has had a positive history that's been driven by the local community and landowners.

The Kentucky Landholder Group (KLG), established in 2016, consisted of over 30 landowners spanning from Kentucky to Bendemeer. The purpose of the KLG was to promote the establishment of renewable energy projects in the region and identify a suitable renewable energy developer that shared similar values. The KLG collaborated with another renewable energy developer until 2019, after which the relationship ceased due to disparity with the core values of the KLG. The key requirement of KLG was to maintain a constant relationship with a developer throughout the full lifecycle of any project ie throughout development, construction, operation and decommissioning.

A southern subset of the KLG, the Kentucky South Landowner Group (KSLG) approached Athena's local representative in Tamworth in 2019 to collaborate on the development of the BREH solar farm. Athena and the KSLG shared similar values and commenced investigations into the feasibility of the Project.

During 2020, Athena invested in the BREH by conducting feasibility studies on the presented farms, reviewing:

- Access to the transmission line for grid connection
- Biodiversity and environmental constraints
- Community and stakeholder acceptance
- Topography of land
- Land access and ownership
- Solar irradiance assessments.

The study site was found to contain several positive attributes for the development of a solar farm, including: smooth topography; previously cleared land; close proximity to the existing electricity grid, and reasonable distance from the majority of sensitive receptors in the Bendemeer village.

These studies revealed that property Lots 1/2/3/ DP1211502 (Freehold) were the most suitable for solar development and the remaining landowner properties were suitable for wind only. Due to the willingness of the landowner, the option deed and lease agreement was signed in December 2020 for the solar development, with the site acquisition history presented in Figure 3-1.

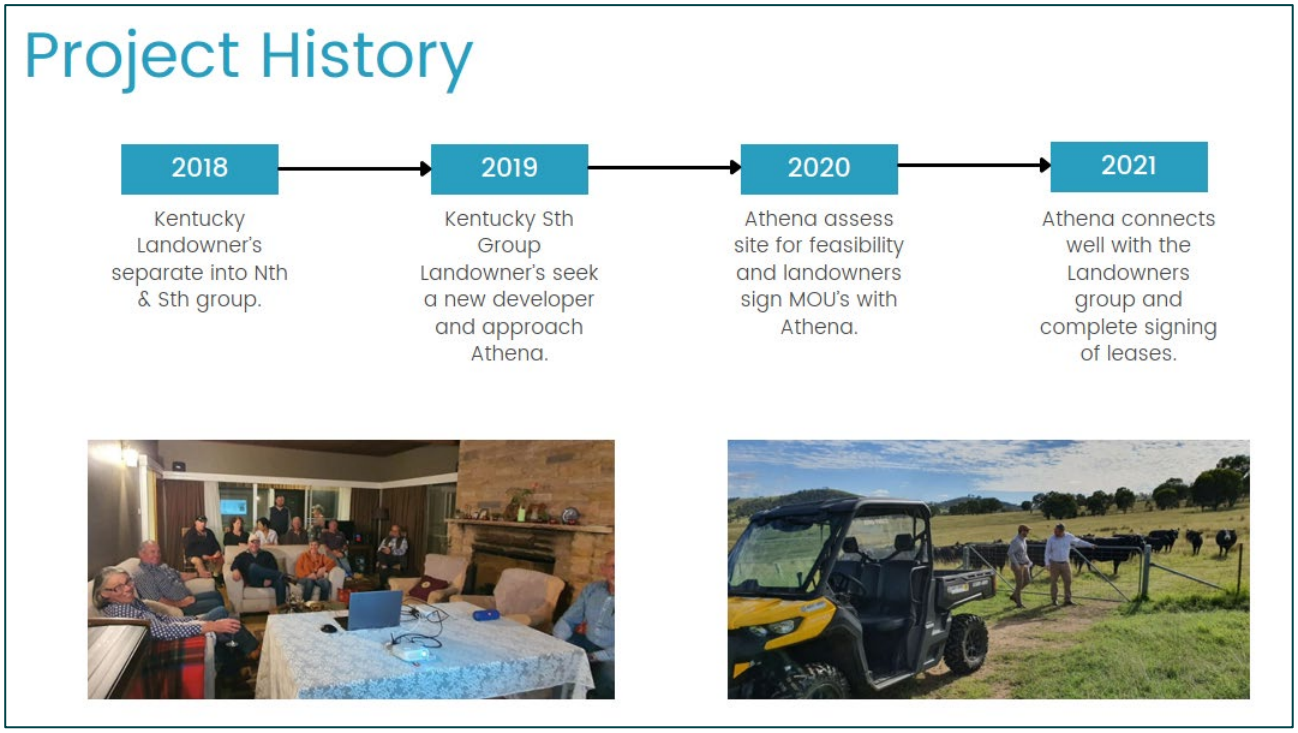

Figure 3-1 Project history

3.2.2 Defining the project site

Lots 1, 2, 3 of DP1211502, as shown in Figure 2-2 were identified by the proponent as the most feasible location to develop a solar farm. The entirety of the lots, refer blue boundary in Figure 3-2, was considered for the solar farm, and the following key drivers drove the revised footprint for the Project:

- Ensuring clear access to the transmission line for grid connection;
- Minimise biodiversity, environmental and hydrological impact;
- Ensuring community and stakeholder acceptance with regards to noise and visual impact;
- Practicality/constructability on the land topography for the solar panels & infrastructure;
- Angle and direction of the panels to ensure maximum Solar Irradiance of the panels.

As the results of these investigation came to light, the footprint of the Project Site was reduced to the orange line as per Figure 3-2.

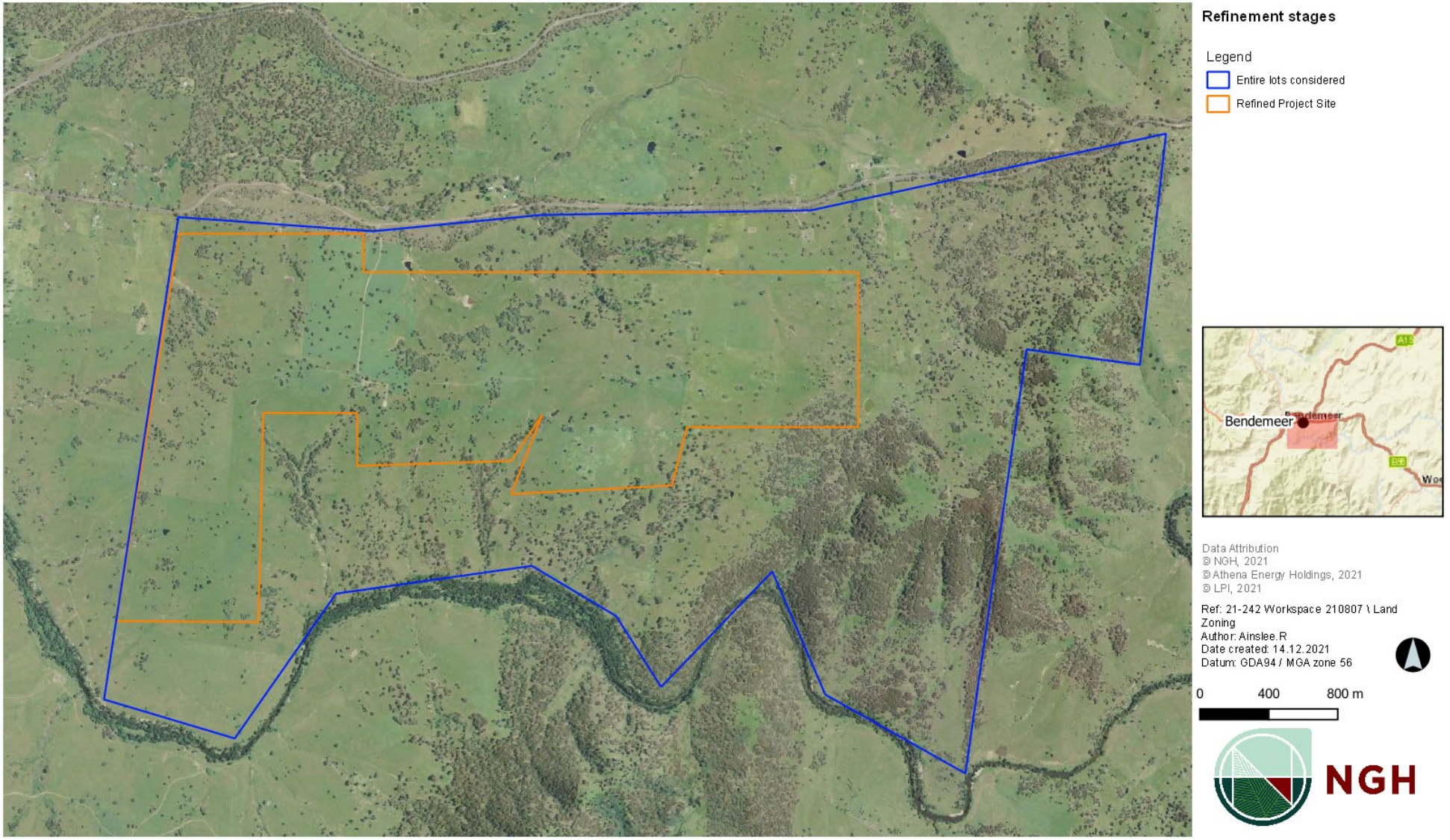

Figure 3-2 Refined Project Site

3.2.3 Initial design

Using the Project Site footprint and detailed topographic survey, Athena were able to understand the initial capacity of the Project and panel layout. The initial panel layout Figure 3-3 produced a capacity of 322MW$_{(AC)}$ whilst avoiding many of the constraints understood at the time.

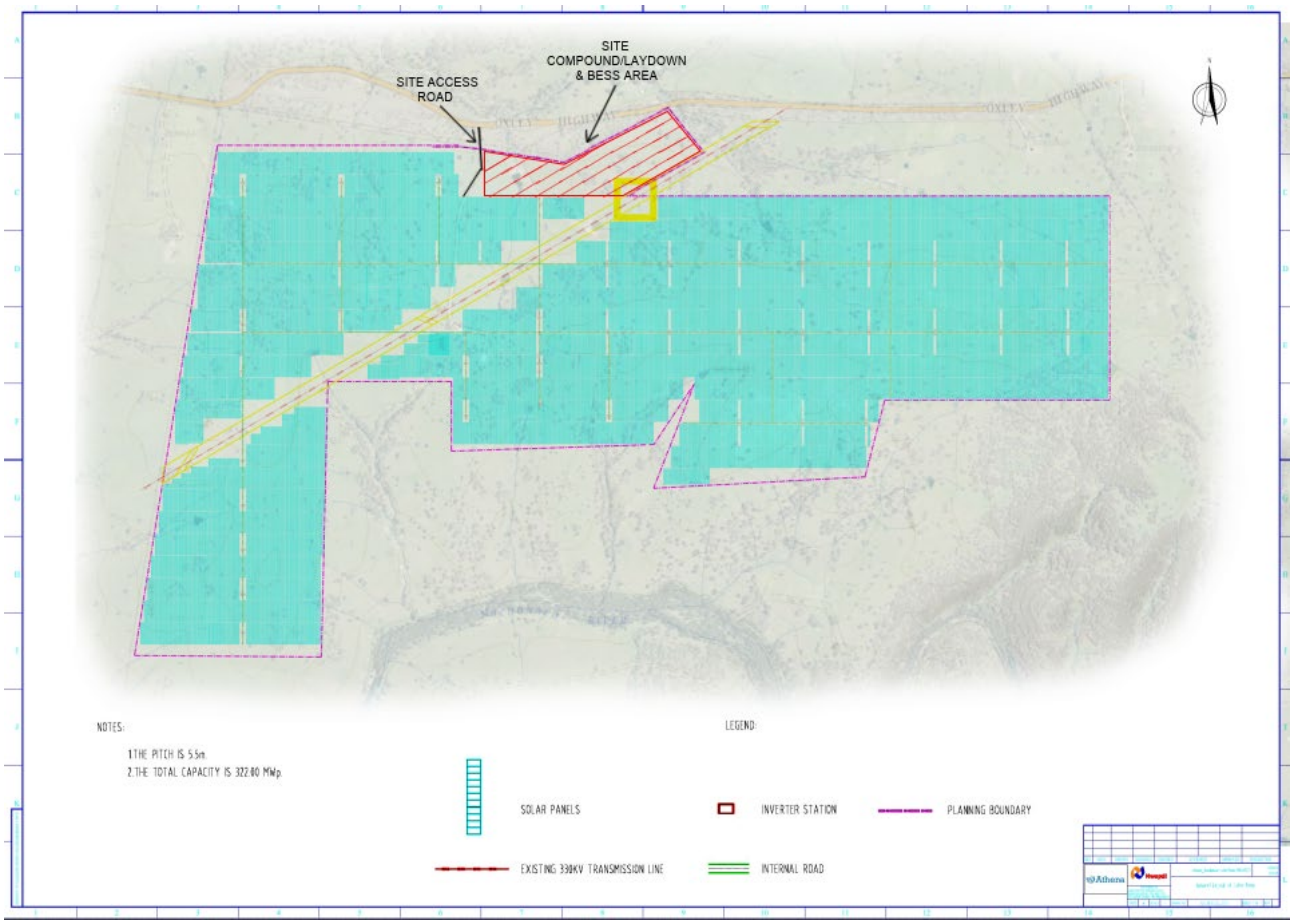

Figure 3-3 Original maximum development footprint utilising the Project Site

3.2.4 Revised development footprint

To develop a considered design, more detailed project constraint investigations were undertaken for the Project Site as detailed in Section 6.3. Biodiversity was identified as a key project constraint.

Vegetation mapping was developed (refer Section 6.2.1 and Section 6.3) based on existing available desktop mapping and field verification in accordance with the Biodiversity Assessment Method (BAM). Two Plant Community Types (PCTs) were identified on the Project Site that are associated with a Critically Endangered Ecological Community (CEEC) listed by both Commonwealth and NSW legislation. These PCTs and CEEC are also considered to extend throughout the remainder of the landholding in a less degraded state and were avoided in the original selection of the Project Site.

The areas of CEEC are a high constraint to the proposed development as impacts in these areas may also constitute a serious and irreversible impact (SAII) to the vegetation community. Consultation was undertaken with the Biodiversity and Conservation Services (BCS) directorate of the NSW Department of Planning, Industry and the Environment (DPIE) to discuss avoidance,

minimisation and offsetting as well as vegetation integrity thresholds likely to be applied in consideration of impacts to SAII candidate vegetation communities.

The original development footprint was then reduced to largely avoid the highest biodiversity value PCT (established in consideration of vegetation integrity scores and credit values in application of the BAM) whilst still producing a feasible design. The resulting proposed Project Development Footprint is shown in Figure 2-2. In avoiding high value biodiversity constraints the Project's solar array area was reduced from 1,370 ha to 352 ha with a corresponding reduction in capacity from 322 $MW_{(AC)}$ down to 210 $MW_{(AC)}$.

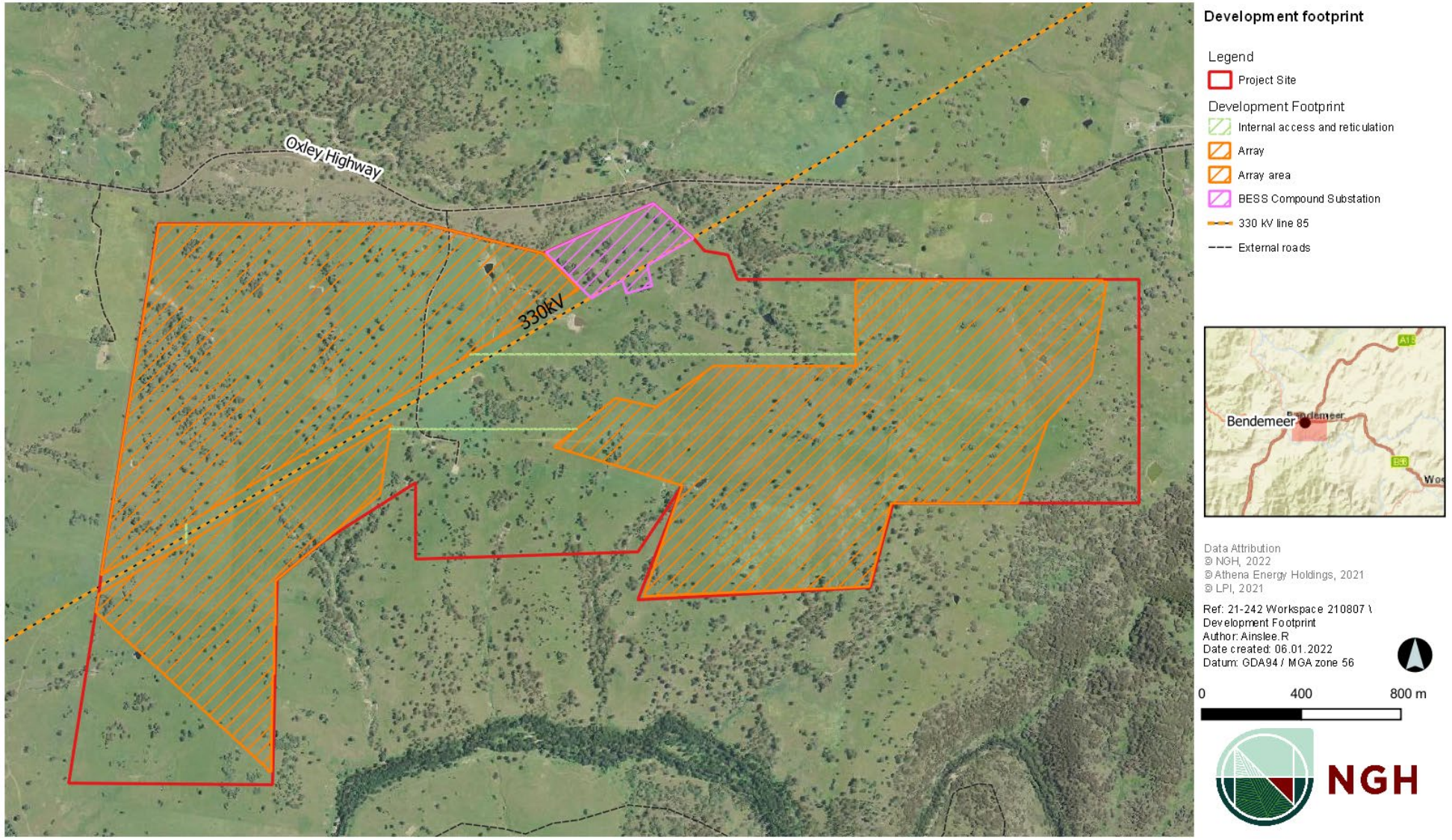

Figure 3-4 Proposed development footprint

4. Statutory Context

Relevant statutory considerations for the Project are presented in Table 4-1.

Table 4-1 Statutory requirements

Category	Statutory requirements	Relevance to Project
Power to grant consent	*State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD) Environmental *Planning and Assessment Act 1979* (EP&A Act).	Clause 20 of Schedule 1 of the SEPP SRD states that the following is considered a 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, or* *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance.'* The Project would have a capital investment cost estimate of more than $30 million ($400 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 DPIE (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 Planning Policy (Infrastructure) 2007* (ISEPP), *Tamworth Regional Local Environmental Plan 2010 (2011 EPI 27)* (Tamworth LEP).	The Project Site is subject to the provisions of the Tamworth LEP and are zoned RU1 (Primary Production) and RU4 (Primary Production Small Lots). Electricity generation is prohibited within these land zones, however clause 34(1b) of the ISEPP states development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone. Therefore, the Project is permissible with consent.
Other approvals	*Roads Act 1993* (Roads	**Consistent approvals**

Category	Statutory requirements	Relevance to Project
	Act), *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Crown Lands Management Act 2016* (CLM Act), *State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)* (SEPP 33), *Heritage Act 1977, Water Management Act 2000* (WM Act), *National Parks and Wildlife Act 1974* (NPW Act), *Fisheries Management Act 1994* (FM Act)	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 authorised by a development consent under this Division and is to be substantially consistent with the consent*": • Consent under section 138 of the Roads Act for road upgrades to the public road network. **EPBC Act approval** Six Threatened Ecological Communities (TEC) were identified from the Protected Matters Search Tool (PMST) with one confirmed present on from the site surveys undertaken - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. This vegetation is CEEC under EPBC Act. Given the presence of CEEC on site, a referral to DAWE will be lodged in order to obtain Supplementary SEARs. The assessment of Commonwealth matters can be efficiently 'streamlined' in accordance with the NSW EPBC Act Bilateral Agreement. **Other approvals** Approvals/licenses that may be required for the Project include: • An easement, licence or permit under division 5.6 of the CLM Act • A preliminary hazard analysis (PHA) under SEPP 33 for energy storage systems. Approvals that would be required were this not an SSD project include: • An approval under Part 4 or a permit under Section 139 of the *Heritage Act 1977* for excavation works (where required) • An Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act • Controlled activity approval (other than an aquifer interference approval) under Sections 89,90 and 91 of the WM Act • Applications for permits under Sections 201, 205 or 219 of the FM Act.
Pre-condition to exercising the power to grant	N/A	No pre-conditions to exercising the power to grant approval have been identified for the Project.

Category	Statutory requirements	Relevance to Project
consent		
Mandatory matters for consideration		The following key Commonwealth, State and Local legislative and policy instruments are applicable to the project: <u>Commonwealth</u> • EPBC Act • *Native Title Act 1993* <u>NSW</u> • EP&A Act • SEPP SRD • ISEPP • *Primary Production and Rural Development SEPP 2019* • *State Environmental Planning Policy (Koala Habitat Protection) 2020* • SEPP 33 • Roads Act • CLM Act • NPW Act • WM Act • *Heritage Act 1977* • *Biodiversity Conservation Act 2016* (BC Act). <u>Local instruments</u> • Tamworth LEP • Tamworth Regional Development Control Plan 2010

5. Engagement

5.1 Community and Stakeholder Engagement Strategy

NGH has prepared a Community and Stakeholder Engagement Strategy (NGH Pty Ltd, 2021), refer Appendix B1.2, utilising Athena's Community and Stakeholder Management Plan (Athena Energy Australia, 2021). Overall, the CSES aims to:

- Identify effective methods to inform the community which foster trust and build positive long-term relationships with community stakeholders.
- Identify ways to facilitate engagement, including input into the environmental assessment and Project development.
- Empower stakeholders to inform other community members with concerns about the Project.

This CSES identifies:

- Relevant local community and regulatory stakeholders.
- Possible concerns related to the engagement of each stakeholder group.
- A tailored consultation strategy for each stakeholder group.
- Ongoing consultation.

At the time of development, the CSES was prepared in consideration of the following guidelines and references:

- *Undertaking Engagement Guide, 2020, NSW Department of Industry, Planning and Environment.*
- *Community Guide to EIA 2019. NSW Department of Industry, Planning and Environment.*
- *Community Consultative Committee Guideline 2019, NSW Department of Industry, Planning and Environment.*
- *Beyond Public Meetings: Connecting community engagement with decision making, Twyford Consulting 2007*.

Containing a community profile and a socio-economic overview of the area, the CSES establishes detailed consultation strategies specific to the needs of each stakeholder group, as well as associated risk analyses and mitigation measures.

The CSES will be maintained and revised to ensure consultation during the development of the EIS remains consistent with the *State Significant Development Guidelines, 2021, NSW Department of Industry, Planning and Environment.*

5.2 Consultation to date

Landowner and community led

As per Section 3.2.1 t he Kentucky Landholder Group (KLG) was formed in 2016 to pursue renewable energy projects in the area between Kentucky and Bendemeer. This group met regularly to discuss opportunities amongst members and with potential development partners. Through these meetings a key principle was established that the KLG and community wanted to

partner with a developer that would maintain involvement in the project through development, construction, operation and through to decommissioning.

Throughout 2018 and 2019 Athena attended monthly KLG meetings that were open to and attended by the wider community. Throughout these meetings Athena, the KLG and the community shared concerns, thoughts and information on potential renewable energy projects. The monthly meetings often involved up to 50 community members that were eager to know more about renewable energy opportunities and better understand how it could impact and benefit them.

Based on outcomes of these discussions and considerations of renewable project opportunities for the community, in late 2019 the Kentucky South Landholders Group (KSLG) was formed and approached Athena to formally collaborate with them on developing the BREH concept.

Bendemeer Solar Farm

The consultation process for the development of the Bendemeer Solar Farm has been designed to ensure a high level of understanding and awareness amongst the local community and stakeholders of the solar farm.

Scoping involved an initial identification and preliminary assessment of the likely social impacts of the project, using engagement feedback to date, comparative studies, and existing knowledge about the project.

Consultation to date has been undertaken with KSLG (Project landowners) some of the neighbours to the Project and Tamworth Regional Council's General Manager and Mayor Cr Col Murray. A Project Newsletter was also sent to a number of stakeholders on the Project. A summary of the consultation and key issues raised during the consultation activities are outlined in Table 5-1. Further detail of engagement activities are provided in an engagement register in Appendix B1.2.

Due to restrictions arising from Covid-19, face-to-face meetings and neighbour visitation has not been possible during lockdowns periods, however prior to that, Athena have held face to face meetings with landholders and community groups.

Instead, remote consultation has been undertaken, whereby parties have been contacted by phone. Project information has also been provided by email through a Project newsletter which included a 66% open rate. Currently identified stakeholders have been made aware of the Project detail and timing, and avenues available to give feedback and raise concerns – including the Project email address, website and a phone number.

The Project website www.bendemeerenergyhub.com.au has been promoted in media and correspondence and will continue to be maintained throughout the preparation of the EIS.

As per the CSES Athena proposes to undertake ongoing engagement activities during the life of the Project, including the Project development and EIS preparation phase and into construction and operation phases. Athena propose to keep the community and special interest groups updated, including targeted consultation with potentially impacted receptors. It is intended that a public forum is held at a later date, when possible and appropriate in consideration of public health.

Table 5-1 Consultation undertaken to date

Key stakeholder	Date	Consultation undertaken (and responses where raised).
Tamworth Regional Council	23 September 2021	Meeting with Mayor and General Manager to discuss the Project. No objections were raised and Council was enthusiastic about the Solar development.
Tamworth Business Chamber	30 July 2021	State of the state lunch. Discussion with Tamworth Regional Council, Planning Director Gina Vereker and State Member Kevin Anderson MP. No objections and enthusiastic about the Solar development.
TransGrid	30 June 2021	Connection enquiry completed. Meeting to review and discuss the Pre-feasibility assessment supplied by TransGrid. TransGgrid is enthusiastic about the Hybrid nature of the Project (Solar/Wind/BESS).
Nearby landowners	20 September 2021	Newsletter sent to neighbouring landowners communicating the scope and status of the Project. Newsletter also included forums to communicate i.e. email, phone number and website. 66% open rate with no objections.
Nearby landowners & Community	22 and 23 September 2021	Media event and release with Channel 7, Channel 9 and the Northern Daily Leader to communicate the Project to the local community and Tamworth LGA.
Local environmental groups	22 October 2021	Contacted Southern New England Land Care to inform the group about the Project.
Other stakeholders / Local Businesses	22 October 2021	Discussion with potential suppliers of the Project (Wynergy).
Biodiversity Conservation Division	24 September 2021	Met with BCS to discuss the background of the Project, introduce the Project team, preliminary biodiversity results and assessment thresholds for SAII.
Landowner Group	November 2019 – Present	Ongoing Quarterly meetings between the Landowners Group and Athena Energy to reach alignment regarding the benefits of the Project. Several site tours to discuss with the landowner potential locations of infrastructure and access. Landowners have been encouraging the development.

Key stakeholder	Date	Consultation undertaken (and responses where raised).
Local Community	24 April 2021	Local Tamworth Newspaper (the North Daily Leader) article. Communication to the wider community as well as the Bendemeer community on the details of the Project and indicative timeline.

5.3 Community views

Since being invited to collaborate with the KLG and KSLG Athena has been proactive in building long-term relationships with the Bendemeer community, ensuring projects will be sustainable in the long term.

Ongoing community and landholder meetings and discussions have been undertaken since 2018. These meetings have included formal and informal discussions at the Project site as well as local establishments (e.g. Bendemeer Hotel). During these meetings, the community and landholders have been very willing to engage and discuss the wider BREH as well as the Bendemeer Solar Farm with the Athena project development team.

In this initial stage of the Project, significant emphasis has been placed on engaging with directly involved (Project) landholders from 11 different properties in the Bendemeer region. As a result of building these relationships there has been eight landowner Deed and Leases signed, with the remaining three in the final stages.

There has been increased landholder concern relating to the ownership of the Project once it is operational, however Athena Energy has made a commitment to landowners and the wider community that they expect to remain the owners of the Project for the foreseeable future.

The Project development and community engagement teams have held regular meetings with Tamworth Regional Council Mayor and General Manager, as well as NSW State Member for Tamworth, and NSW Minister for Better Regulation and Innovation, The Hon. Kevin Anderson, MP.

All engagement opportunities have been positive and allowed Athena to share details of the proposed wider BREH and specifically the Bendemeer Solar Farm project and opportunities for the local communities.

Meetings and print and tv media coverage has been overwhelmingly positive and supportive of the opportunities. No specific concerns have been raised through, face to face, newsletter or website feedback channels in recent stages of progressing engagement on the Bendemeer Solar Farm.

Common community concerns around solar farms are addressed in the environmental issue assessment chapters in Section 6. Further project specific community concerns will continue to be sought and addressed through ongoing implementation of the CSES and detailed assessment during the EIS development.

6. Environmental assessment

6.1 Methodology

A preliminary environmental assessment and further constraints assessment has been completed to assist in the identification of key environmental matters that would require further assessment within the EIS.

The assessment is based on the Proponent's experience in solar farm development, a desktop review, a preliminary site inspection (involving limited flora and fauna surveys and confirmation of general site characteristics), biodiversity surveys and vegetation mapping to identify potential high-level constraints and major risks to the Project. This will be used to guide further detailed investigations and the detailed design of the solar farm.

The following was included in the preliminary environmental constraints assessment:

1. Investigation of the planning pathway and relevant legislation that may impact the project.
2. Desktop review, including database searches relating to:
    - Threatened flora and fauna species and ecological communities
    - EPBC Act Protected Matters Reporting Tool
    - Aboriginal heritage
    - Land use / nearby receivers
    - Key fish habitat
    - Historic heritage
    - Soil and landscape capability mapping
    - Soil landscapes
3. Field inspection by a senior ecologist on 23 and 24 August 2020. The inspection was undertaken to validate the biodiversity desktop information and obtain general site characteristics and information on the level of site disturbance to inform other environmental assessments. Note: due to COVID restrictions an environmental planner/scientist did not attend site but directed the ecologist to capture relevant information.
4. Biodiversity Surveys were undertaken by a BAM accredited assessor to undertake plots to finalise vegetation mapping and data capture in accordance with the BAM. Surveys were undertaken between 11 and 15 October 2020.
5. Land Category Assessment was prepared by NGH Pty Ltd (NGH) to determine whether Category 1 – Exempt Land is located within the Subject Land. Category 1 – Exempt Land can be excluded from most aspects of the biodiversity assessment, under the BC Act Biodiversity Assessment Method (BAM).

From this analysis, some environmental matters were deemed to be key issues on the basis that they had the potential, without suitable mitigation, to have a significant impact on the environment.

Based on preliminary site assessment and desktop review, a summary of the key environmental issues of relevance to the site and its development is provided below. These include:

- Biodiversity
- Landscape and visual
- Noise and vibration

- Land use compatibility
- Access and traffic
- Social and economic impacts
- Aboriginal heritage
- Non-Indigenous heritage
- Hazards – bushfire, electric and magnetic fields and glint and glare
- Hydrology, groundwater and water use.

The scale of impact, nature of impact and sensitivity of the receiving environment for the environmental issues addressed in Section 6.2 and Section 6.3 have been assessed in the scoping summary table in Appendix A. The scoping summary table includes the level of assessment required for each matter for the EIS phase, if a cumulative impact assessment (CIA) is required, the type of engagement required, relevant government plans, policies and guidelines and a reference to where the matter is addressed in the scoping report.

6.2 Environmental issues

6.2.1 Biodiversity

Ecological values of the Project Site were investigated utilising the following information sources and data obtained during the site surveys conducted on 23 to 24 August 2021 and 11 to 15 October 2021:

- Existing threatened species listings under the BC Act and EPBC Act
- Existing records of threatened species sightings in the subject land, as recorded in the BioNet Database
- Department of Environment Protected Matters Search Tool (nationally threatened species and communities listed under the EPBC Act)
- Bureau of Meteorology Groundwater Dependent Ecosystems Atlas
- Areas of outstanding biodiversity value declared under the BC Act.

Existing environment

Threatened species

Desktop searches of the BC Act Bionet Database and EPBC Act PMST identified the following as being identified or likely to occur within 10 kilometres of the Project Site (the locality).

Table 6-1 Threatened entities with potential to be present on site

Listing Type	Bionet	PMST
Threatened Ecological Community	• *Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions* • *Carex Sedgeland of the New England Tableland, Nandewar, Brigalow Belt South and NSW North Coast Bioregions* • *Howell Shrublands in the New England Tableland and Nandewar Bioregions* • *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions* • *McKies Stringybark/Blackbutt Open Forest in the Nandewar and New England Tableland Bioregions* • *New England Peppermint (Eucalyptus nova-anglica) Woodland on Basalts and Sediments in the New England Tableland Bioregion* • *Ribbon Gum—Mountain Gum—Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion* • *Semi-evergreen Vine Thicket in the Brigalow Belt South and Nandewar Bioregions* • *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*	• *New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands* • *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*
Birds	• *Artamus cyanopterus cyanopterus* (Dusky Woodswallow) • *Climacteric picumnus victoriae* (Brown Treecreeper (eastern subspecies)) • *Hieraaetus morphnoides* (Little Eagle) • *Lophoictinia isura* (Square-tailed Kite) • *Stagonopleura guttata* (Diamond Firetail)	• *Anthochaera Phrygia* (Regent Honeyeater) • *Erythrotriorchis radiatus (*Red Goshawk) • *Hirundapus caudacutus (*White-throated Needletail) • *Lathamus discolor* (Swift Parrot) • *Polytelis swainsonii* (Superb Parrot) • *Calidris ferruginea* (Curlew Sandpiper) • *Falco hypoleucos* (Grey Falcon) • *Grantiells picta* (Painted Honeyeater)

Listing Type	Bionet	PMST
		• *Rostratula australis (*Australian Painted Snipe)
Fish	• None cited	• None cited
Amphibians	• None cited	• *Litoria booroolongensis* (Booroolong Frog)
Mammals	• *Dasyurus maculatus maculatus* (Spot-tailed Quoll) • *Falsistrellus tasmaniensis* (Eastern False Pipistrelle) • *Miniopterus orianae oceanensis* (Large Bent-winged Bat) • *Phascolarctos cinereus* (Koala) • *Pteropus poliocephalus* (Grey-headed Flying-fox) • *Saccolaimus flaviventris* (Yellow-bellied Sheathtail-bat) • *Scoteanax rueppellii* (Greater Broad-nosed Bat)	• *Nyctophilus corbeni* (Corben's Long-eared Bat) • *Phascolarctos cinereus* (Koala) • *Chalinolobus dwyeri* (Large-eared Pied Bat) • *Dasyurus maculatus maculatus* (Spot-tailed Quoll) • *Petauroides volans* (Greater Glider) • *Petrogale penicillate* (Brush-tailed Rock-wallaby) • *Pteropus poliocephalus* (Grey-headed Flying-fox)
Plants	• *Diuris pedunculata* (Small Snake Orchid) • *Eucalyptus nicholii* (Narrow-leaved Peppermint) • *Swainsona sericea* (Silky Swainson-pea)	• *Arthraxon hispidus* (Hairy-joint Grass) • *Callistemon pungens* • *Dicanthium setosum* (Bluegrass) • *Diuris pedunculata* (Small Snake Orchid) • *Eucalyptus mckieana* (McKie's Stringybark) • *Eucalyptus nicholii* (Narrow-leaved Peppermint) • *Euphrasia arguta* • *Homoranthus prolixus* • *Thesium austral* (Austral Toadflax) • *Tylophora linearis*
Reptiles	• *Uvidicolus sqhyrurus* (Border Thick-tailed Gecko) • *Wollumbinia belli* (Bell's Turtle)	• *Uvidicolus sqhyrurus* (Border Thick-tailed Gecko) • *Wollumbinia belli* (Bell's Turtle)
Migratory Species (Terrestrial)	• N/A	• *Hirundapus caudacutus* (White-throated Needletail) • *Motacilla flava* (Yellow Wagtail) • *Myiagra cyanoleuca* (Satin Flycatcher) • *Rhipidura rufifrons* (Rufous Fantail)

Full database results are provided in Appendix C.

Areas of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and

Riverina Bioregions (BC Act) and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (EPBC Act) collectively termed Box Gum Woodland as confirmed present by the site survey are shown in Figure 6-1. Five threatened species records are recorded from within a 1km buffer of the Project Site: Diamond Firetail, Yellow-bellied Sheathtail Bat, Bell's Turtle (3).

Key fish habitat and Biodiversity Values mapping

Perry's Creek to the north and MacDonald River to the south are mapped as KFH as per DPI's Fisheries NSW Spatial Data Portal (Appendix C). Biodiversity Values Mapping was also mapped for the site and corresponds to the riparian corridors along Perry's Creek and Macdonald River.

Groundwater Dependent ecosystems

A search of the GDE Atlas (Bureau of Meteorology, 2020) shows the Project Site has low to high potential for terrestrial groundwater dependent ecosystems across the majority of the site, and the Macdonald River is a known GDE (refer to Appendix C).

Vegetation Mapping

Using the State Vegetation Type Map: Border Rivers Gwydir/Namoi Region (Vis ID 4467) and field verification, vegetation in the Project Site was mapped to confirm Plant Community Types (PCTs) present as outlined Table 6-2 and shown in Figure 6-1.

Table 6-2 PCTs within Project Site

	PCT 510	PCT 538
PCT Name	Blakely's Red Gum - Yellow Box grassy woodland of the New England Tablelands Bioregion	Rough-barked Apple - Blakely's Red Gum open forest of the Nandewar Bioregion and western New England Tableland Bioregion
Vegetation Formation	Grassy Woodlands	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	New England Grassy Woodlands	Northern Tableland Dry Sclerophyll Forests

PCT 510 and PCT 538 are associated with the BC Act and EPBC Act listed critically endangered ecological community (CEEC) Box Gum Woodland.

It is likely that most areas of PCT 510 and PCT 538 meet the criteria necessary for the BC Act listed CEEC Box – Gum Grassy Woodland. The only areas that may not meet the criteria are single scattered trees under which the groundcover is sufficiently degraded that it is irretrievable.

The majority of PCT 510 and 538 also meet the condition criteria necessary for the EPBC Act listed CEEC Box Gum Woodland. However, some areas with a highly degraded groundcover underneath do not meet the criteria.

The areas of BC Act listed CEEC Box Gum Woodland may also constitute a serious and irreversible impact (SAII) to the vegetation community.

NGH undertook a Land Category Assessment (LCA) (NGH Pty Ltd, 2021), provided in Appendix D.1, for the Project Site to determine the categories of land present on site; Category 1 - Exempt

Land, Category 2 (regulated land, vulnerable regulated land, or sensitive regulated land), and excluded land.

Clearing of vegetation within Category 1 – Exempt Land does not require offsetting under the BAM. The Land Category Assessment concluded, there is evidence to suggest that large areas of the Project Site have been heavily modified from agricultural use that was in place in 1990 and remained in place in the same areas between 1990 and 2011. These agricultural practices (predominantly grazing using modified pastures) are still in use in 2021, and therefore these areas were mapped as Category 1 – Exempt Land.

Areas of woody vegetation and scattered trees present in 1986, 1993, 1997 and 2011 have been mapped as Category 2 – Regulated land (Figure 6-2).

The Biodiversity, Conservation and Science Directorate (BCS) of DPIE has agreed (refer Appendix D.2) with the categorisation of land to Category 1 and 2 land and confirmed the streamlined assessment module for scattered trees assessment can be applied. This confirmation of categorisation ensures appropriate and efficient preparation of a Biodiversity Development Assessment Report (BDAR) during the EIS stage.

Issues for consideration

To inform the early proposal planning process and investigation strategies, biodiversity features within the project site have been mapped to areas of High, Moderate, or Low constraints (Figure 6-13 Biodiversity constraints of the site are detailed in the constraints summary in Section 6.3.

In response to the constraints assessment and consultation with BCS, the development footprint for the solar farm has been refined to partly avoid the highest biodiversity value PCT (established in consideration of vegetation integrity scores and credit values in application of the BAM) and sensitive water features. Nevertheless, as part of the EIS, further detailed ecological surveys, investigation and assessment will be undertaken in the format of the BDAR in further consultation with BCS and in accordance with the BAM). An in perpetuity offset requirement is anticipated to be generated, which may be retired through various options including onsite offsets or purchase and retirement of requisite credits from the credit market.

The revised (if necessary) and confirmed LCA will also be included with the EIS and accompanying BDAR for the final infrastructure layout proposed.

Serious and Irreversible Impacts (SAII)

One Serious and Irreversible Impact (SAII) candidate is known to occur onsite: White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland. SAIIs are assessed under the NSW BC Act using the BAM. Assessment against the SAII criteria will be required in the BDAR as BCS cannot approve SAIIs. The approval authority (expected to be DPIE) can approve a Project likely to have SAII for SSDs, however SAII impacts must be taken into consideration and determined whether there are any additional and appropriate measures that would minimise those impacts if approval is granted.

It is anticipated that some impacts on this community will be allowed and a 'threshold' vegetation integrity score will be sought from BCS to guide further layout planning. Not all of this community will qualify as a SAII; areas in better condition will be avoided where possible, and commitment to actively manage retained remnants of the community onsite, or via additional offsetting, will be explored. Areas that are degraded / modified are unlikely to present the same degree of constraint for the Project. It is noted that the concept Development Footprint was refined to reduce the

potential impact on SAII candidate vegetation from approximately 157 to 61 ha. It is anticipated that detailed design will allow for micro siting and further avoidance of this fragmented vegetation.

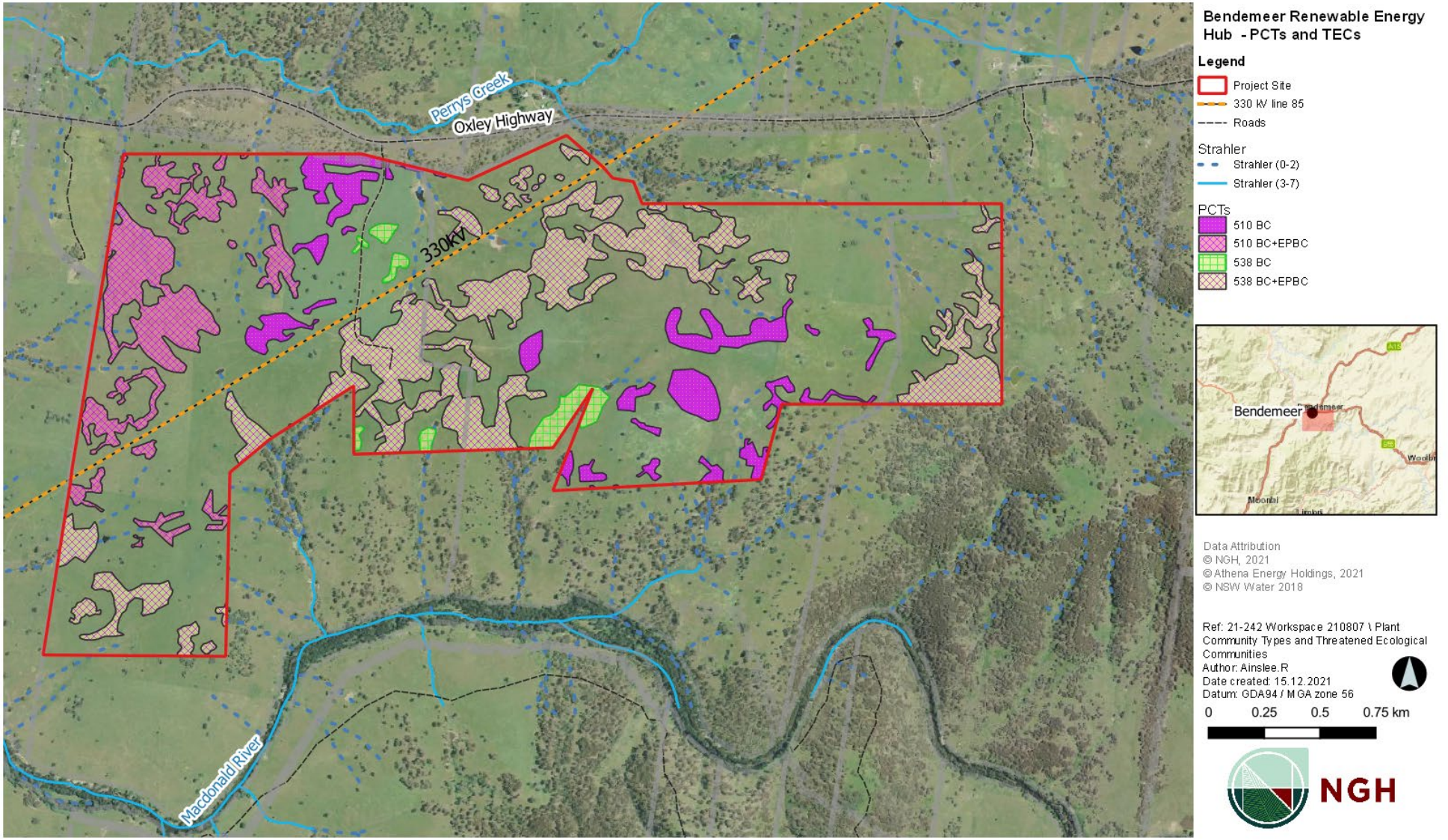

Figure 6-1 PCT's and Box Gum Woodland

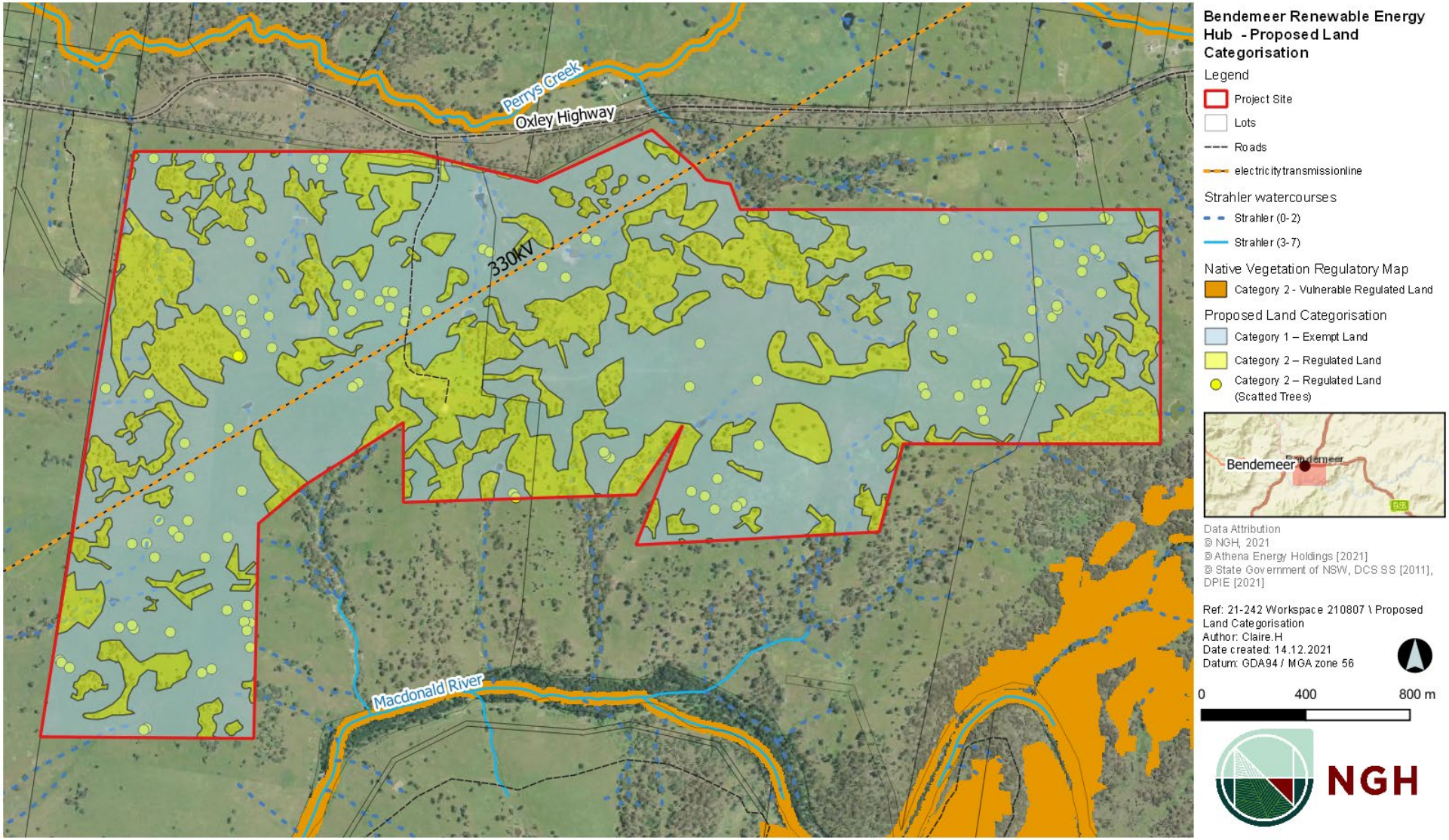

Figure 6-2 Proposed land categorisation

6.2.2 Landscape and visual

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.
- 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.

In our experience, for solar developments, the low-profile infrastructure is usually not perceivable beyond 500m-1 km, depending on terrain. Undulating sites that offer near residences elevated views however, are of increased significance.

Existing environment

The Project is located off the Oxley Highway, approximately 1.2 kilometres (km) east of Bendemeer, NSW and 30km north-east of Tamworth, NSW.

There are no National Parks or State Forests within 10km of the Project Site. The nearest National Park is the Watsons Creek Nature Reserve (14km north-west), and the nearest state forest is the Attunga State Forest (22km south-west).

One 330kV power line intersects the western side of the Project Site (Figure 6-3).

The predominant land-use within the Project Site is agricultural, namely grazing native vegetation/modified pastures and cropping. The Land Category Assessment (NGH Pty Ltd, 2021) identified "evidence of broad native vegetation modification resulting from agricultural land use within the subject land, and in some areas, used continuously for cropping and modified pasture grazing prior to and post 1990". As such the native vegetation remaining is low and sparse, offering little screening potential for infrastructure. The Project Site adjacent to the Oxley Highway is generally flat terrain, offering little topographic relief, meaning infrastructure will be highly visible to road users and sensitive receivers nearby to this area.

The distance of potential sensitive receivers (as identified from aerial imagery) to the Project site have been mapped in Table 6-3. R1, R2, and R3 are considered involved receivers due to their location on land/lots involved in the Project. Involved receivers are not assessed as sensitive receivers, and therefore not a visual constraint. 103 uninvolved receivers (R4 to R106) have been recorded within 2km of the Project Site boundary. Most of these receivers are located within the town of Bendemeer, on the western side of the New England Highway and the Project would not be visible due to the presence of other buildings, the highway, topography and vegetation obstructing its view. Uninvolved receivers are considered sensitive receivers and would be moderately sensitive to changes in the landscape character, given historical disturbances and

seasonal changes in the landscape. Utilising aerial imagery, it is estimated up to eight uninvolved receivers would have direct views to the Project Site and are therefore highly sensitive to changes in the view shed from their property.

No feedback, as a result of consultation as outlined in Section 5, has been received to date raising specific concerns with potential visual impacts.

No views of the Project Site would be visible from any National Park, Nature Reserve or State Forest.

The Project would be highly visible by commuters along the Oxley Highway. Generally, these views would be considered of limited duration for passing motorists and would not be considered a high impact.

Table 6-3 Residential receivers within 2km of the Project Site

Receiver number/ID	Distance from Project site (metres)
1 (involved)	0.00
2 (involved)	205
3 (involved)	238
4	238
5	463
6	477
7	482
8	519
9	599
10	605
11	615
12	869
13	927
14	994
15	1235
16	1314
17	1319
18	1349
19	1365
20	1381
21	1439
22	1442
23	1444

Receiver number/ID	Distance from Project site (metres)
24	1444
25, 26 (Bendemeer tourist park), 27 - 39	1500-1750
40 - 60 61 (Bendemeer hotel), 62 (Sports facility), 63 - 65 (General store) 66- 77 78 (Police station) 79 (Church) 80 - 85 86 (Service station) 87-101 102 (Bendemeer saw mill) 103 - 106	1751-2000

Issues for consideration

An assessment of the level of visual impact will be undertaken as part of the EIS process and would include viewshed analysis and consideration of the effectiveness of mitigation options. Impacts would be 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.

The EIS will consider the potential for the solar farm to affect local landscape character. Consultation will be undertaken broadly to understand the local values of the area, including visual characteristics valued by the community. Additional engagement with specific affected residences identified as likely to have a view of solar farm infrastructure would be undertaken to identify the nature and significance of impacts and the need for mitigation measures.

Mitigation of low-profile solar farm infrastructure in low relief landscapes is highly feasible. Visual impacts attenuate rapidly with distance in these cases. The focus of mitigation would be on close proximity residences.

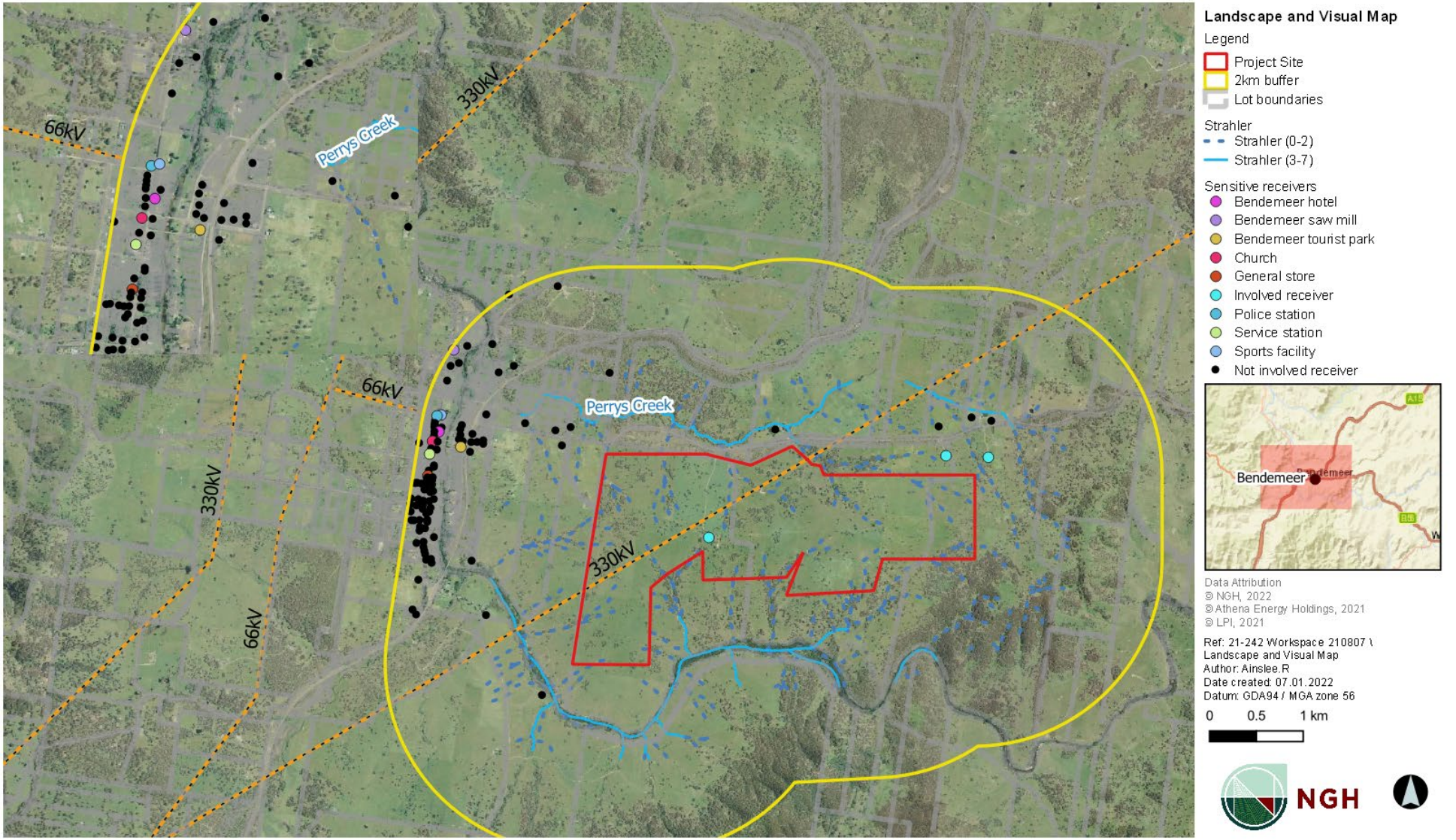

Figure 6-3 Sensitive receivers and visual and landscape features

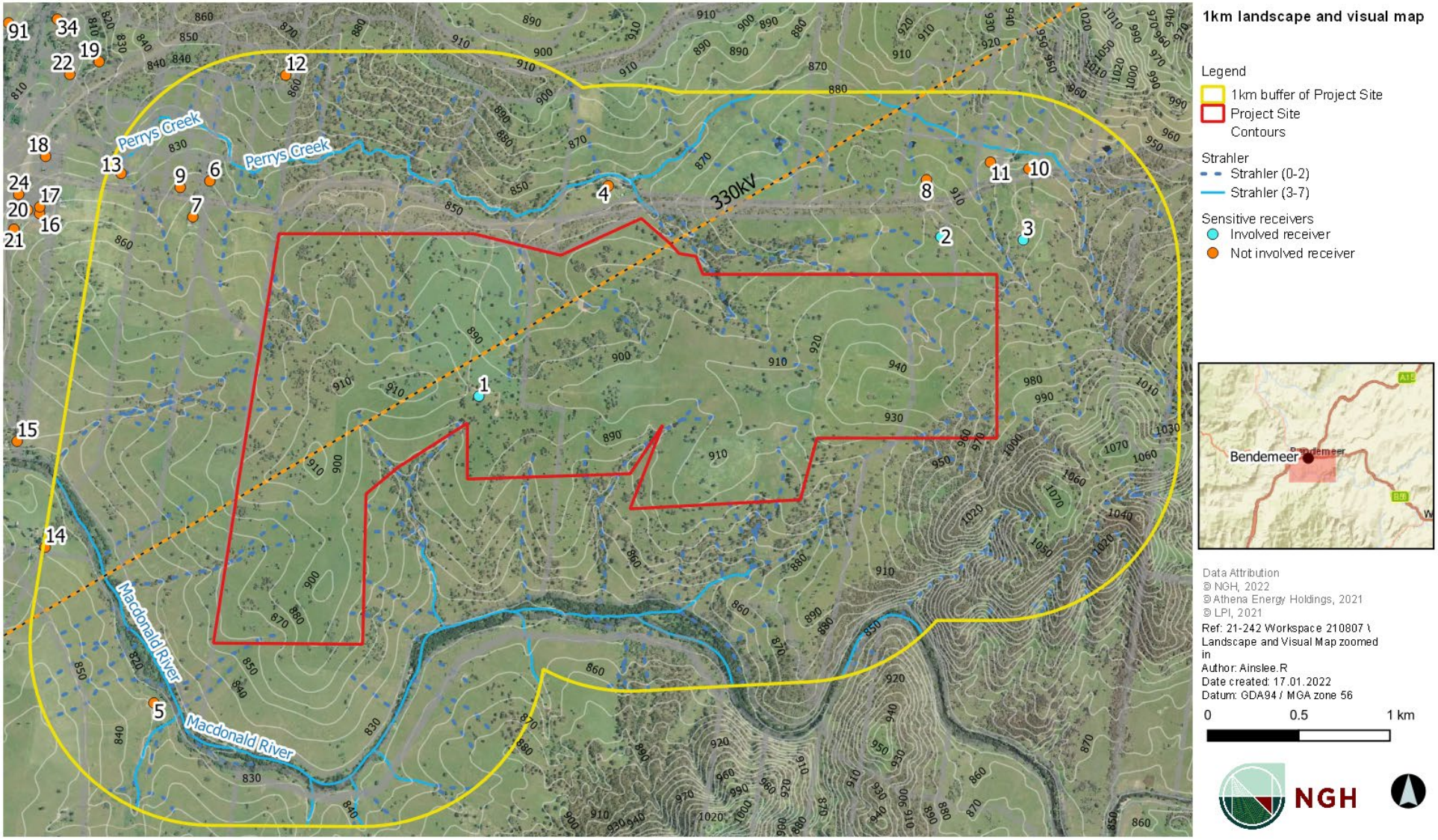

Figure 6-4 Zoomed landscape and visual map

6.2.3 Noise and vibration

Existing environment

The Project Site is located within a rural setting, subject to regular background noise impacts including farming equipment, and road traffic from the Oxley Highway adjacent to the Project Site. There are 14 sensitive receivers as shown in Figure 6-3, within 1km of the Project Site.

As described in Section 6.2.2, the Project Site and locality comprise a low relief landscape, therefore limited noise barriers in the form of topography and significant vegetation occur to mitigate noise impacts. Construction vehicles and machinery during the construction phase would be most relevant in contributing to noise and vibration impacts. During the operation of the solar farm, noise levels would likely be reduced, as agricultural machinery would largely cease. Noise would be generated from the solar tracking system (if a tracking system is decided upon) as well as the substation and switchgear and any maintenance works undertaken at the site.

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. The assessment would be undertaken in accordance with the Interim Construction Noise Guideline (Department of Environment & Climate Change, 2009), NSW Noise Policy for Industry (NSW Environment Protection Authority, 2017), Assessing Vibration: A Technical Guideline (Department of Environment and Conservation NSW, 2006) and NSW ‘Road Noise Policy’ (Department of Environment, Climat Change and Water, 2011)

6.2.4 Land use compatibility

Existing environment

Site selection for the Project has been examined in section 2.3.2.

Existing land uses in the Project Site (Figure 6-5) according to the NSW Land Use data layer (DPIE, 2017) include:

- 2.1.0 Grazing native vegetation
- 3.2.0 Grazing modified pastures
- 3.30 Cropping

Land uses can be seen to be largely comprised of agricultural activities. Cropping involves relatively high levels of disturbance, often impacting visual and natural and cultural values.

As detailed within Section 2.1.2, the Project Site is zoned as RU1 (Primary Production) under the Tamworth Regional Local LEP. Electricity generating works are not permitted within these zones, but the ISEPP takes precedence over the LEP and permits works within the prescribed RU1 zone. As detailed in section 2.3.2, Crown Land is present at the northern end of the Project Site.

The site is mapped within the Land and Soil Capability (LSC) Assessment Scheme state-wide mapping as 4 ‘Moderate capability land’ and 5 ‘Moderate – low capability land (refer Section 6.2.11 for details.

No known mineral occurrences occur within the Project Site.

The preferred project access is over Crown Reserve (Lot 7317/ DP1159220). This parcel is managed as a travelling stock reserve by Local Land Services. It is noted this parcel may be subject to an active Native Title Claim (NC2011/006).

Issues for consideration

The Project would involve earthworks and ground disturbance, as well as piling. This would be limited to the Project Site, access, and transmission lines. The impact of the Project on agricultural production in the region would be assessed in detail in the EIS and a Land Use Conflict Risk Assessment (LUCRA). It is anticipated that historical livestock grazing will continue throughout operation of the solar farm, as a key land management tool as well as to maintain agricultural production.

Approvals will be sought from Crown Lands during the EIS development and detailed design phases for upgrade and use of the preferred project access through the Crown Reserve (Lot 7317/ DP1159220). Should approvals be difficult, alternative direct access from the Oxley Highway will be pursued.

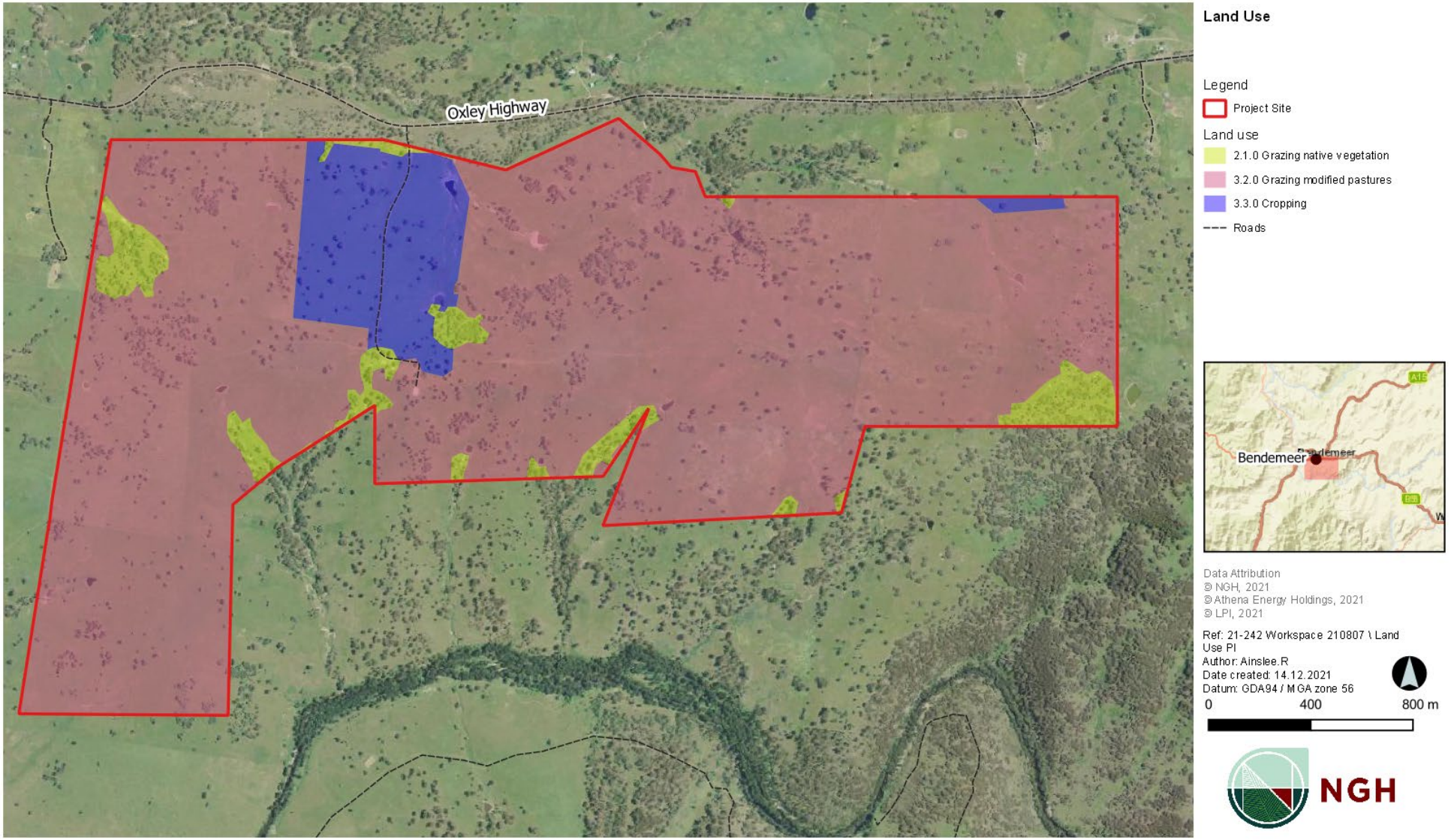

Figure 6-5 Land use

6.2.5 Access and traffic

Existing environment

The Project is approximately:

- 440 km from Sydney
- 530km from Brisbane.

The Oxley Highway which links the New England Highway to the Pacific Highway and east coast of Australia, passes by the Project Site.

According to the Transport for NSW 'Combined Higher Mass Limits (HML) and Restricted Access Vehicle (RAV) Ma (TfNSW, 2020), the Oxley Highway and New England Highway are approved for 19 metres, 23 metres and 25/26 metre B-double routes. They are also approved for 4.6-metre-high vehicles.

TfNSW's Traffic Volume Viewer (TfNSW, 2021) shows the New England Highway 180m south of Caroline Street, Bendemeer experienced an average of 3,816 vehicles daily in 2021. No traffic counters are present along the Oxley Highway between Bendemeer and Walcha with traffic data from the last five years (2016 – 2021). Traffic volumes during certain times of the year, such as harvest and sowing, would likely experience an increase.

Heavy vehicles would be required for transportation of solar farm infrastructure. Construction staff would be accessing the site via light vehicles and shuttle buses. There are approximately 250 staff expected to be working on the construction of the solar farm 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, up to five staff members travelling in light vehicles in the morning and night is anticipated.

A Construction site access point from Oxley Highway would be via the existing access to 'Riverside' property and would be retained for operation (Figure 6-6).

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. Indicative internal roads are shown in Figure 6-6. 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.

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.

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.

The mitigation measures would require the preparation of a Traffic Management Plan and the confirmation of haulage routes.

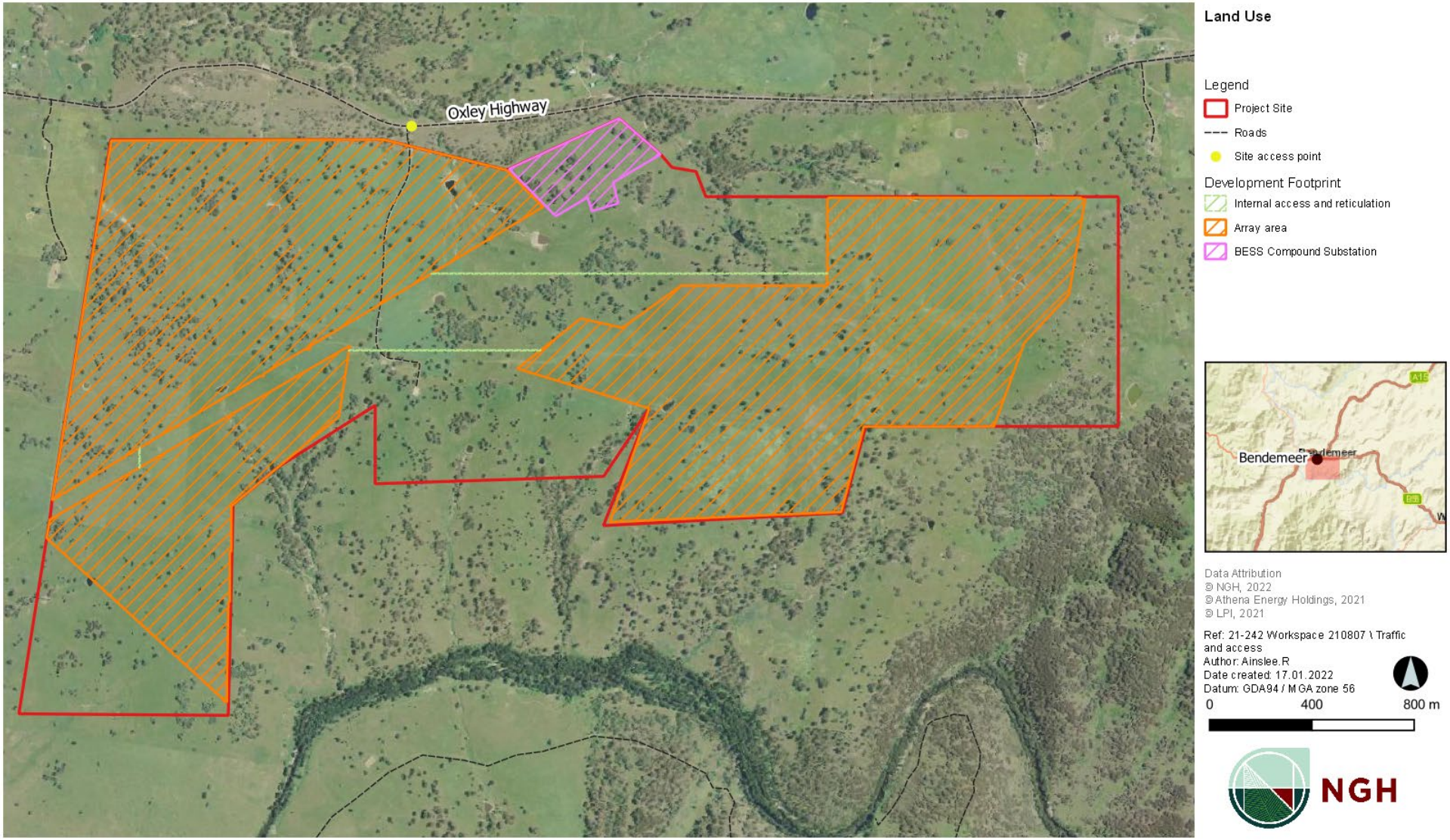

Figure 6-6 Traffic and access

6.2.6 Social and economic impacts

Existing environment

The Project is located within the Tamworth LGA, 1.2km east of the small town of Bendemeer within the recently declared New England Renewable Energy Zone. Renewable energy is an emerging sector within the region, and this Project is proposed amid much renewable energy development activity in the local and regional area.

Bendemeer is a small rural town, situated at the junction of the New England and Oxley Highways. It is midway between Tamworth to the south and Armidale to the north, and it is set on the banks of the Macdonald River.

The social locality for this Project is the town of Bendemeer and the Tamworth Regional Council area, with a secondary focus on the neighbouring LGAs of Uralla and Walcha. This is because of the large scale of this project, and so that a common baseline can be developed across this and Athena's upcoming Bendemeer Wind Farm Project.

At the 2016 Census, Bendemeer had 492 residents (Australian Bureau of Statistics, 2016). The town has an older population profile than its surrounding areas, with a median age of 49 years. Bendemeer and in particular the Tamworth LGA, also have higher proportions of Aboriginal and Torres Strait Islander residents than the LGAs of Uralla and Walcha. A more detailed demographic profile of the Study Area is presented in Table 6-4 below.

Bendemeer is principally a business hub for local sheep and cattle graziers, and this is reflected in its workforce profile. The most common occupation for Bendemeer residents is managers (21.2%), followed by labourers (19.8%), and top industries of employment are beef and sheep farming, as well as work in hospitals. The median weekly household incomes in Bendemeer and Tamworth LGA are $905 and $1,180 respectively, and the unemployment rate for the town is 6.0%, which roughly equates to that for Tamworth LGA (5.7%) and NSW (6.3%).

Median weekly rents in Bendemeer at the 2016 Census were markedly less than in the Tamworth LGA, being $150 and $260 respectively. However, the rental market in the broader New England region is becoming increasingly tight; the vacancy rate in October 2021 was 1%, after declining steadily throughout the previous year (REINSW, 2021).

The town of Bendemeer has an active community and a strong community spirit.

Issues for consideration

A brief social impact scoping exercise has been undertaken to gain initial insight into the likely social impacts and benefits of this project (see Appendix D). Scoping involved an initial identification and preliminary assessment of the likely social impacts of the project, using engagement feedback to date, comparative studies, and existing knowledge about the project. Impact scoping was guided by the Social Impact Assessment Guidelines and Technical Supplement (both DPIE, 2021).

As such, the key impacts and benefits that will be further assessed in the EIS are outlined in Table 6-5 below.

Table 6-4 Key demographic and industry data for Study Area and NSW (ABS, 2021)

Measure	Bendemeer (state suburb)	Tamworth LGA	Walcha LGA	Uralla LGA	NSW
Population (no.)	492	55,663	3,092	6,048	7,480,228
Median age (years)	49	40	48	46	38
Aboriginal and Torres Strait Islander (%)	7.9	10.1	5.9	6.9	2.9
Largest occupation of employment (%)	Managers (21.2) Labourers (19.8) Professionals (13.1)	Professionals (17.5) Tech / Trades (14.4) Labourers (14.1)	Managers (34.6) Professionals (14.9) Labourers (11.0)	Managers (19.0) Professionals (16.1) Trades (14.2)	Managers (13.5) Clerical / Admin (13.8) Tech / Trades (12.7)
Top 3 industries of employment (%)	Beef Cattle Farm (9.8) Hospitals (8.5) Sheep Farm (7.3)	Hospitals (5.3) Secondary Education (3.0) Supermarkets/ Grocery (2.5)	Beef Cattle Farm (20.7) Sheep/ Beef (7.4) Sheep Farm (6.0)	Beef Cattle Farm (20.7) Higher Education (5.0) Sheep/ Beef (7.4)	Prof Services (9.7) Retail (9.7) Construction (9.6)

Table 6-5 Potential social impacts and benefits to be further assessed in the EIS

Project activity	Potential social impacts	Intended level of assessment	Justification
Initial project engagement within the community	• Potential negative impacts on community cohesion	Minor	The community have been willing to engage with Athena. No negative feedback to date. Concerns were raised regarding ongoing ownership and operation of the Project post establishment. Athena have advised they would own/operate the Project for the foreseeable future.
	• Stress and anxiety in people who oppose the project and/or are directly impacted	Minor	As above
Construction - project demand for labour, goods and services	• Employment and labour impacts	Detailed	This has the potential to be a key benefit of the project
	• Increase in economic activity within the local and regional areas	Detailed	As above
Construction - influx of construction workers	• Constrained availability of accommodation for tourism	Standard	Cumulative impacts may apply
	• Constrained availability of rental housing for residents	Standard	Cumulative impacts may apply
	• Increased demand for local social and community infrastructure	Minor	Cumulative impacts may apply; however, Tamworth is a large regional centre that is likely to be capable of adaptively responding to small increases in demand
	• Change in the community feel of the town	Minor	No evidence of expressed concern about this in initial scan of available information, including engagement findings to date
Intensive construction activity at the project site	• Amenity impacts during construction (e.g., noise, traffic, dust)	Minor	These impacts will be fully explored in other technical documents for the EIS

Project activity	Potential social impacts	Intended level of assessment	Justification
during construction			
Change of land use - from rural land to land being used for the siting of electricity infrastructure	• Potential negative impacts to property values	Standard	No evidence of concern about this in initial scan of available information, including engagement findings to date however there may be sensitivity around this potential impact
	• Change to the visual and landscape character and sense of place	Minor	No evidence of expressed concern about this in initial scan of available information, including engagement findings to date
	• Loss of agricultural land	Standard	No evidence of concern about this in initial scan of available information, including engagement findings to date, however there may be sensitivity around this potential impact
	• Improve the condition of the local road network for road users	Minor	This will be fully explored in the Traffic Impact Assessment
An operational solar farm and BESS at the site	• Visual impacts relating to glare and reflectivity	Minor	No evidence of expressed concern about this in initial scan of available information, however given the scale of this project, there may be sensitivity around this potential impact
	• Improvements to the reliability and security of the electricity network	Minor	Some stakeholders have expressed interest in this benefit
	• Potential to create a unique eco-tourism opportunity	Standard	This could be a key ongoing benefit of the project

To gain a more comprehensive understanding of these potential social impacts and benefits a Social Impact Assessment will be prepared as part of the EIS, as per the Social Impact Assessment Guideline for State Significant Projects (DPIE, 2021).

This will include examining issues perceived by the community to be of concern, and cumulative impacts of other proposed developments in the region. Where significant impacts are found, mitigation and enhancement measures will be applied, and expected residual impacts will be described.

6.2.7 Aboriginal heritage

Existing environment

The project site exists on the traditional lands of the Kamilaroi people.

A search of relevant heritage registers for Aboriginal sites and places provides an indication of the presence of previously recorded sites. A register search only reflects past survey effort however, as a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area. An extensive search of the AHIMS shows no known registered Aboriginal heritage sites/places are present within 1km of the Project Site. The closest known site (an Artefact) is located approximately 2km west of the Project Site.

There is a range of landscape features 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 include:

- Areas within 200 m of water
- Areas located within a sand dune system
- Areas located on a ridge top, ridge line or headland
- Areas located within 200 m below or above a cliff face or
- Areas within 20 m of a cave, rock shelter or cave mouth.

Some of these features, waterway and ridge line, are relevant to the site. Therefore, presenting a landform with elevated potential for Aboriginal archaeological material to exist within the Project Site.

Where native title does exist in relation to the Project Site, Athena would comply with the provisions of the Native Title Act 1993. A search of the Register of Native Title Claims identified one Active claim across the Project Site (NC2011/006) that may apply to the Crown Reserve. However, no determination has been made for this application (as at 15/10/2021).

Issues for consideration

Given the presence of Aboriginal objects within proximity to the Project Site, further field inspection of the proposed development area will be undertaken to accurately characterise the Aboriginal heritage potential of the Project Site. Risk in relation to Aboriginal heritage will be confirmed based on the results of such an assessment. An Aboriginal Cultural Heritage Assessment (ACHA) and Aboriginal community consultation with registered stakeholders will be undertaken in conjunction with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010) and the *Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage, 2011)

An ACHA and associated stakeholder consultation process will be completed as part of the EIS. This would include consultation with the Tamworth LALC.

As per Section 6.2.4 Crown Lands will be consulted to establish any requirements, including matters relating to Native Title Claims, potentially applicable to the option of upgrading and utilising the access through the Crown Reserve. Should requirements be difficult, alternative direct access from the Oxley Highway will be pursued.

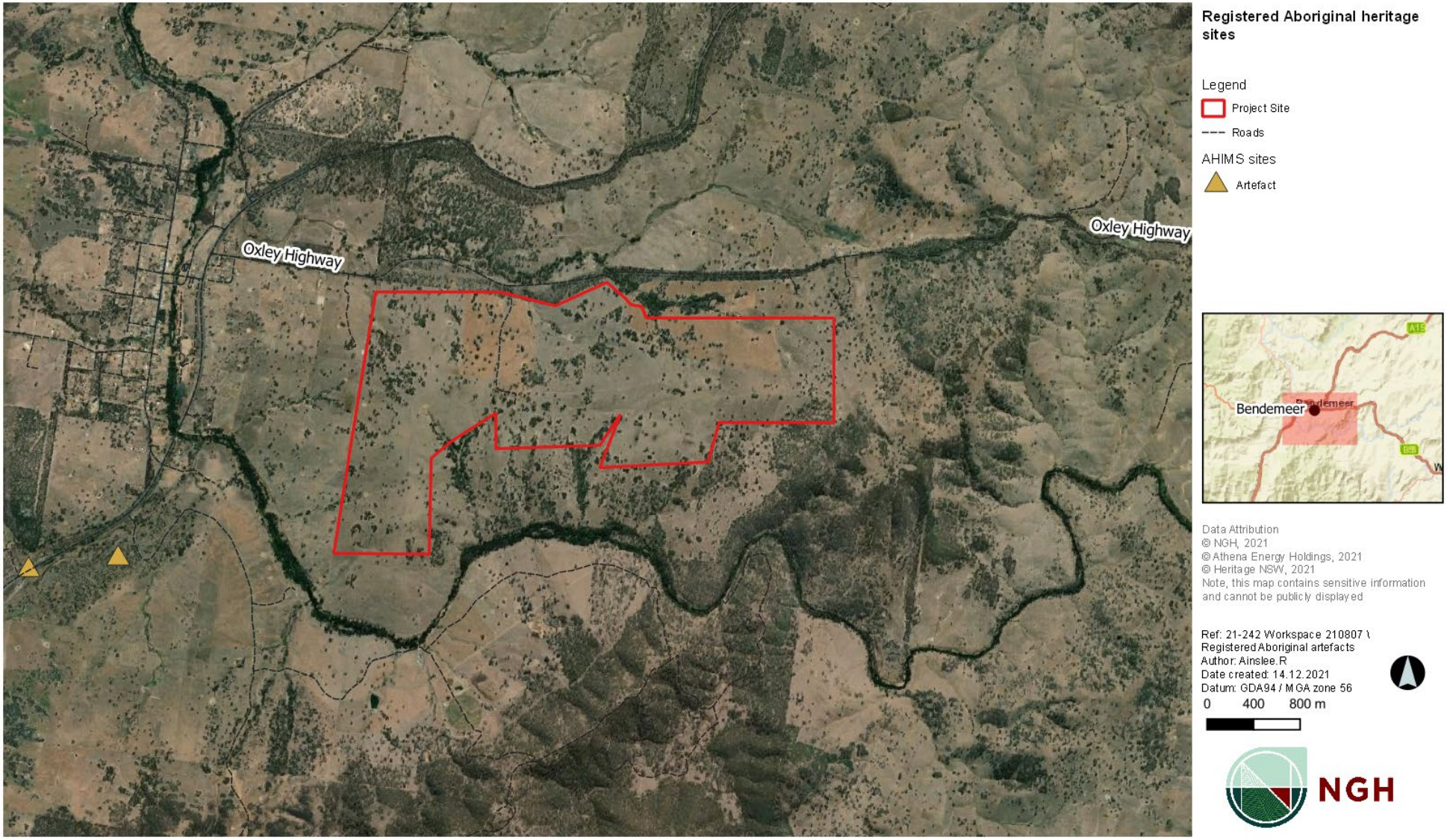

Figure 6-7 Mapped Aboriginal heritage sites (*Note, this map contains sensitive information that may not be put on public display)*

6.2.8 Non-Indigenous heritage

Existing environment

Desktop searches of the relevant historic heritage registers including the Australian Heritage Database, State Heritage Inventory and Section 170 registers, as well as LEP maps, identified nineteen historical heritage sites within the locality. One of these sites 'Bendemeer Station' is located within 1km of the Project Site.

Issues for consideration

A Statement of Heritage Impact (SoHI) would be required to confirm the Project would not impact on 'Bendemeer Station', and any other non-listed heritage items in the locality including visual and vibration impacts.

6.2.9 Hazards – bushfire, electric and magnetic fields (EMF) and glint and glare

Existing environment

The current environment of the Project Site is primarily rural property intersected by waterways.

No airstrips are located within 10kms of the Project Site, with the closest located 25km west of the Project Site. Tamworth Regional Airport is located 36km south-west of the Project Site.

Some areas of the Project are mapped as being bushfire prone land (vegetation category 2 and vegetation buffer) as shown in Figure 6-8.

The Project Site is not subject to a mine subsidence district or mapped as a flood prone area or containing acid sulfate soils. No operating mines are located in the locality (NSW Government, 2019).

Issues for consideration

PV panels are designed to absorb as much sunlight as possible. 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 solar Projects, and whilst this is a perceived issue, any potential for glare and reflections from solar farm infrastructure would be assessed in the EIS.

The potential to increase risk of bushfire would be assessed in the EIS in accordance with the *Planning for Bushfire Protection Guideline 2019* (RFS, 2019). Emergency protocols would reflect advice from relevant agencies.

A PHA would be carried out in consideration with DPIE's *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'* and *Multi-level Risk Assessment*.

Electric and magnetic fields (EMFs) are produced within the vicinity of existing powerlines. Additional infrastructure within the Project Site such as inverters, connecting powerlines produce additional EMF within their vicinity.

The EMF levels associated with infrastructure are well below the guideline for public exposure and would not be expected to have any adverse impact on human health. There can, however, be perceived impacts for nearby residents.

EMF levels of the Project would be considered against safe exposure levels as part of the EIS. Standard design provisions are expected to ensure impacts comply with relevant guidelines together with communication of the issue as required

6.2.10 Hydrology, groundwater and water use

Existing environment

Water

Desktop searches do not indicate that the land is flood prone.

Perry's Creek to the north and MacDonald River to the south are mapped as KFH. The Macdonald River is mapped as being a known GDE (Appendix A). Several waterways intersect the Project Site as shown in Figure 6-9. The Project Site sits within the Namoi River catchment. Several water sharing plans are applicable to this catchment including the Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2016.

One borehole (GW965744.1.1) is present within the Project Site (Figure 6-9). The status of this borehole is unknown.

Several waterways (Strahler ≤2) are mapped as being within the Project Site.

Issues for consideration

As discussed in Section 5.2.12, SSD developments do not require a controlled activity approval (except an aquifer interference approval) per Section 91 of the WM Act. However, best practice measures are being used to inform site development in accordance with this Act. This Act defines waterfront land as the bed of any river, lake or estuary and any land within 10, 20, 30 and 40 metres of the river banks, lake shore or estuary mean high water mark, in accordance with best practice guidelines. In these areas, permanent infrastructure would be avoided or minimised, as informed by further hydrological studies. In overland flow areas, which do not meet the definition of waterfront land under the WM Act, permanent infrastructure may be considered.

Water quantities and sources required for construction and operation will be detailed in the EIS as part of the Project description.

The EIS would assess the impacts to waterways and include appropriate mitigation measures, such as buffering these areas for avoidance, where possible, and adherence to best practice guidelines (Guidelines for Controlled Activities on Waterfront Land; (DPI, 2012)) where avoidance is not possible.

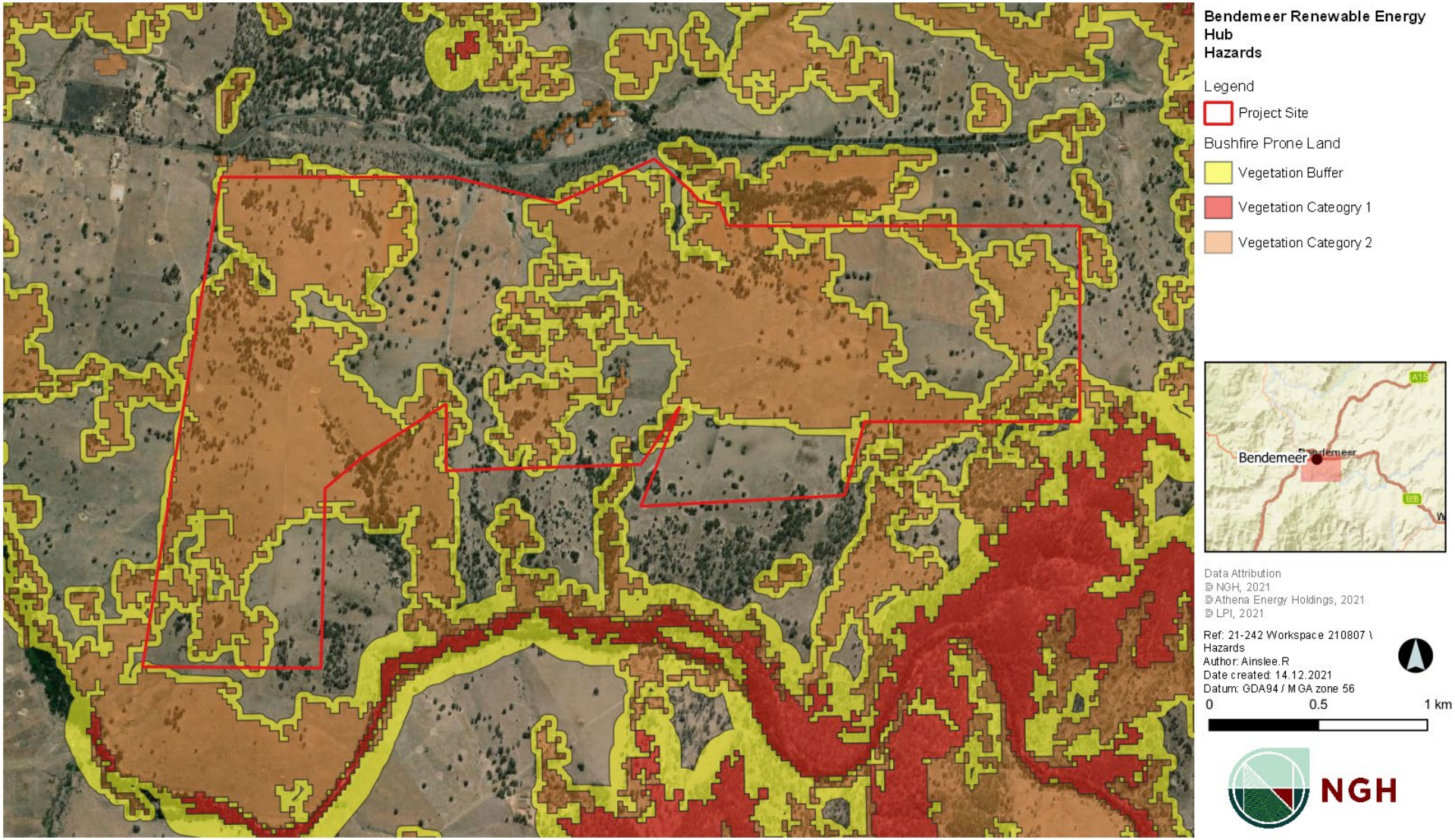

Figure 6-8 Bushfire prone land

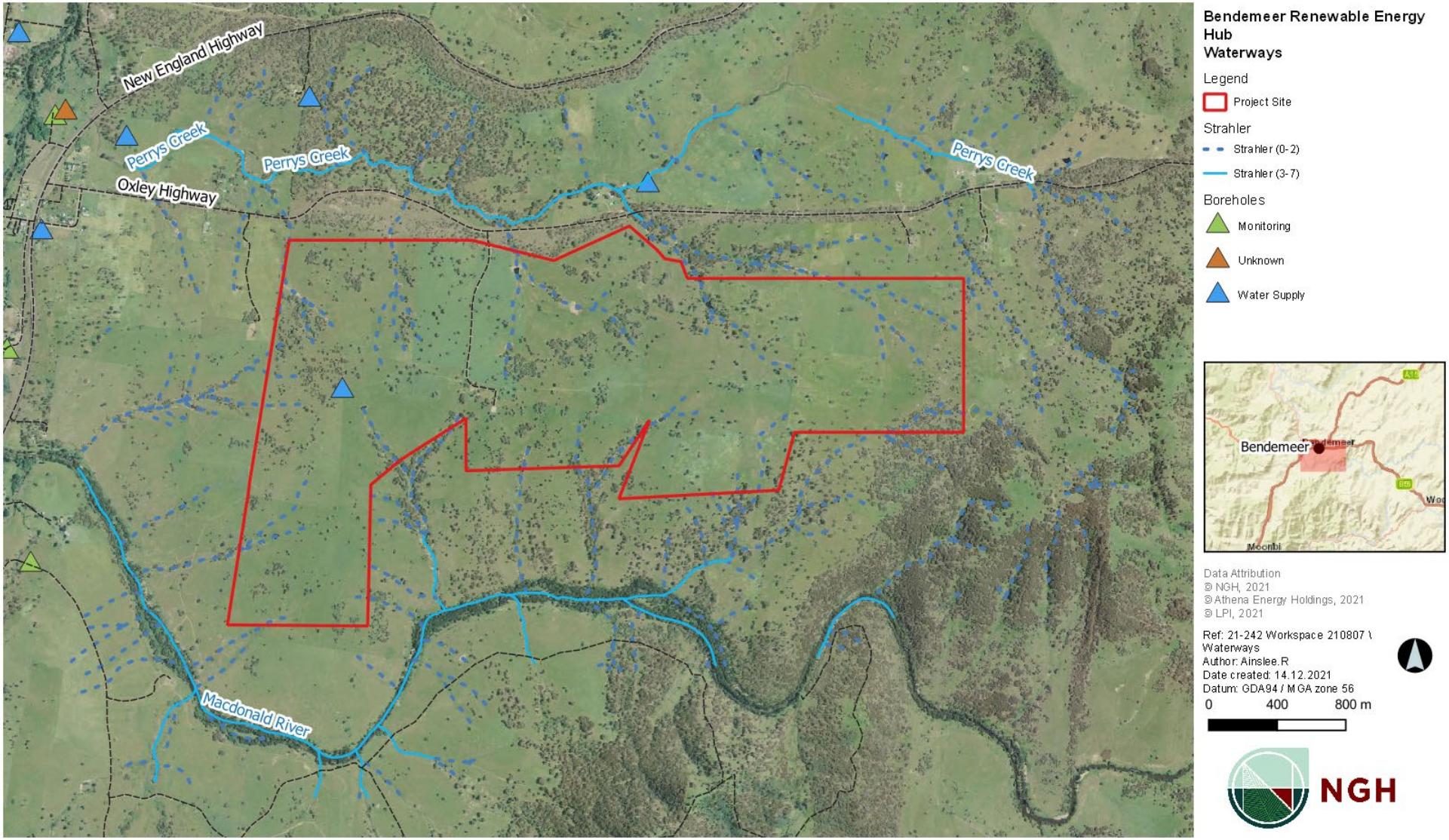

Figure 6-9 Waterways

6.2.11 Soils and landforms

Soils

The Project Site sits within the Tenosol Australian Soil classification (DPIE, 2021). Shepparton Formation (DPIE, 2020) with earthy sands, high coherence and high sediment delivery, low soil fertility and moderate to severe limitations (DPIE, 2021).

Soil Landscape and soil profile information was not available on the eSpade database for the Project Site.

The Project Site is not mapped as Biophysical Strategic Agricultural Land (BSAL), which is land identified to have high quality soil and water resources capable of sustaining high levels of productivity.

The Project Site is mapped within the Land and Soil Capability (LSC) Assessment Scheme state-wide mapping as 4 'Moderate capability land' and 5 'Moderate – low capability land':

- The areas mapped as 4, moderate capability land covers most of the Project Site. LSC class 4 land has moderate to high limitations for high-impact land uses. It restricts land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. Limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology.
- Areas mapped as 5, moderate – low capability land cover small portions to the north and east of the Project Site. LSC class 5 land has high limitations for high-impact land uses and largely restricts land use to grazing, some horticulture (orchards), forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation.

Land use capability classes are shown in Figure 6-10.

A search of the Section 58 of the *Contaminated Land Management Act 1997* (CLM Act) indicated that the Project Site has not been registered on the Record of Notices, or on the list of notified sites under section 60 of the CLM Act with regards to the Duty to Report Contamination. Likewise, no listings exist within Bendemeer.

Issues for consideration

Consideration of soil and erosion impacts, and proposed mitigation measures for the construction, operation and decommissioning of the solar farm would be included within the EIS.

Agricultural properties can contain buried contaminants and farming chemicals may have been applied on the land in the past. This can be investigated during the EIS stage. Management plans can be developed to address this risk if confirmed, though the presence of substantive contamination within the Project Site is unlikely.

As solar farm infrastructure is typically located on land with a slope of less than 10%, erosion and sedimentation would be highly manageable. Management of ground cover during operation and restoration of the land capability of the Project Site would be recommended in the EIS and is considered highly feasible. Rehabilitation would be with reference to base line soil testing to guide any remedial management actions that may affect maintaining groundcover during operation or rehabilitation disturbed areas during decommissioning.

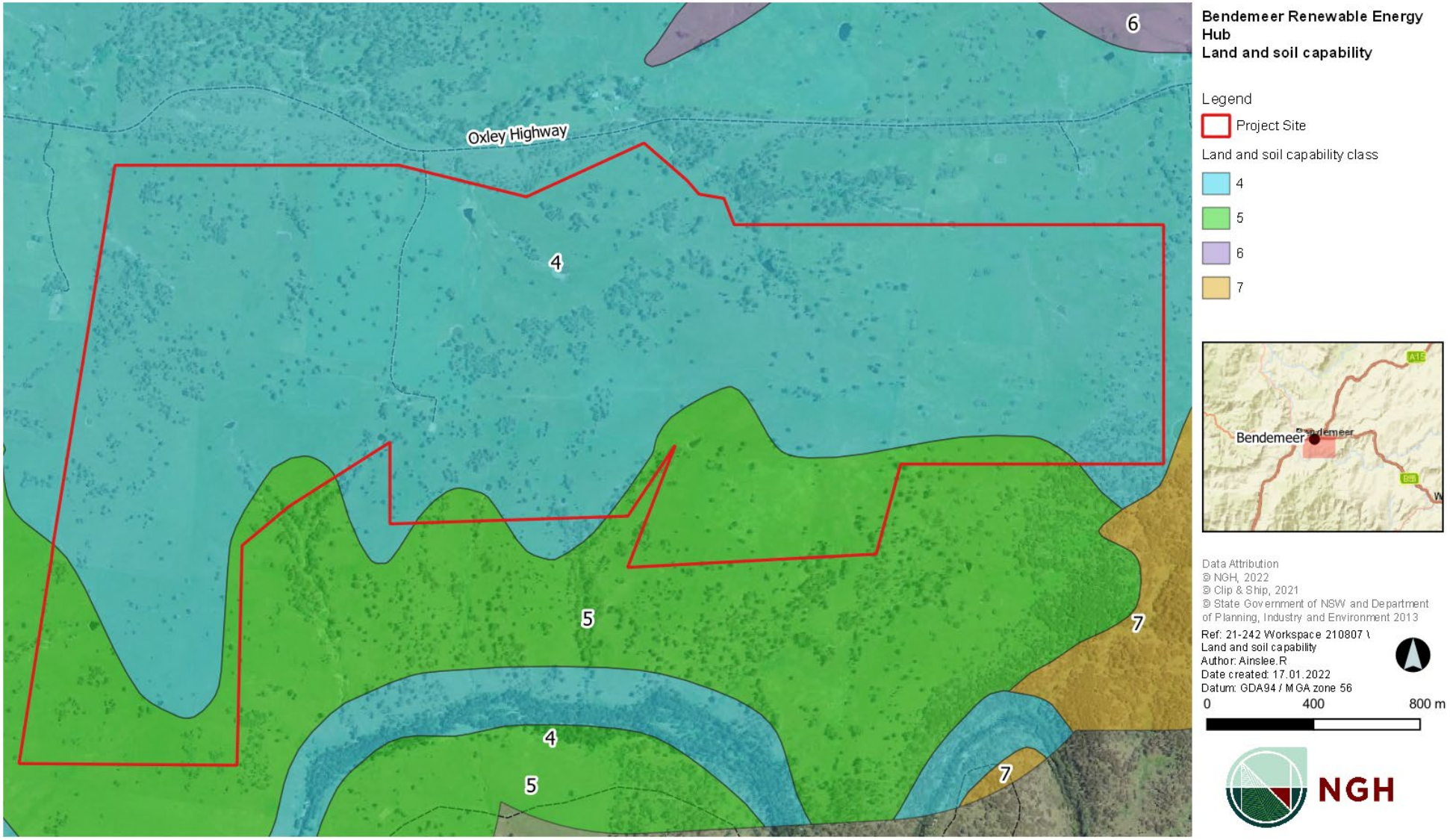

Figure 6-10 Land and soil capability class

6.2.12 Other environmental factors

Air quality

Air quality data sourced from DPIEs Air Quality Data Services is presented in Table 6-6 for the last 6 months (April 2021 – September 2021) at the Tamworth Monitoring Station. Only data for particles less than 10 micrometres diameter (PM10) and particles less than 2.5 micrometres diameter (PM12.5 is available for this time period.

Table 6-6 Air Quality data for Tamworth

Month	Particles PM10	Particles PM2.5
Measurement	µg/m³	µg/m³
April	15.6	5.3
May	13.7	7.1
June	11.2	7.3
July	12.6	7.9
August	14.1	7.7
September	13.5	5.0

Pm_{10} Particles <50 are considered good, whilst $Pm_{2.5}$ Particles <25 are considered good.

A search of the wider Bendemeer area did not identify any operational quarries, open cut mines or operations that would severely alter the air quality within the locality.

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 solar panels and other infrastructure.
- Vegetation.

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 trees would be recycled as fauna habitat where possible.

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 area. 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.

Major Projects undergoing assessment or determined since 1 January 2020 are listed on the Major Projects Register within the Tamworth LGA (and their current status as of 12 October 2021) are:

Table 6-7 Major Projects within the Tamworth LGA

Project	Stage	Status
Baiada Integrated Poultry Processing Facility		Determination – 18/12/2020
Tamworth Solar Farm		Determination – 30/11/2020
Rushes Ck Poultry - Correction to Cond B53(a) - Vegetation Screen		Determination – 02/09/2021
Rushes Creek Poultry Farm - Revised RAP	Modification	Determination – 15/06/2021
Rushes Creek Poultry Production Farm	Modification	Determination – 14/04/2020
Hills of Gold Wind Farm		Response to Submission
Rushes Creek	Modification	Prepare modification report
Tamworth Battery Energy Storage System		Prepare EIS
Thunderbolt Energy Hub – Wind Farm		Prepare EIS
Middlebrook Solar Farm		Prepare EIS
Dungowan Dam		Prepare EIS

Distances between the Project and renewable projects identified in Table 6-7 and mapped in Figure 6-11 are listed below:

- Tamworth Solar Farm – 52km south-west of the Project
- Hills of Gold Wind Farm – 75km south of the Project
- Tamworth Battery Energy Storage System – 36km south-west of the Project
- Thunderbolt Energy Hub – Wind Farm – 6.7km north-east of the Project
- Middlebrook Solar Farm – 47km south-west of the Project.

Potential cumulative impacts of overlapping construction periods are primarily associated with traffic impacts, pressures on local facilities, goods and services and vegetation clearing.

The New England Highway would be used as the major haulage routes for major Projects in the New England region including Tamworth and Armidale. 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 search indicated that no major Projects are located within 5 km of the Project, with the Thunderbolt Energy Hub – Wind Farm being the closest (approximately16km north-east of the Project). Based on this large minimum offset distance, it is unlikely that there would be cumulative impacts between the Project and these major Projects.

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

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 Bendemeer and Tamworth.

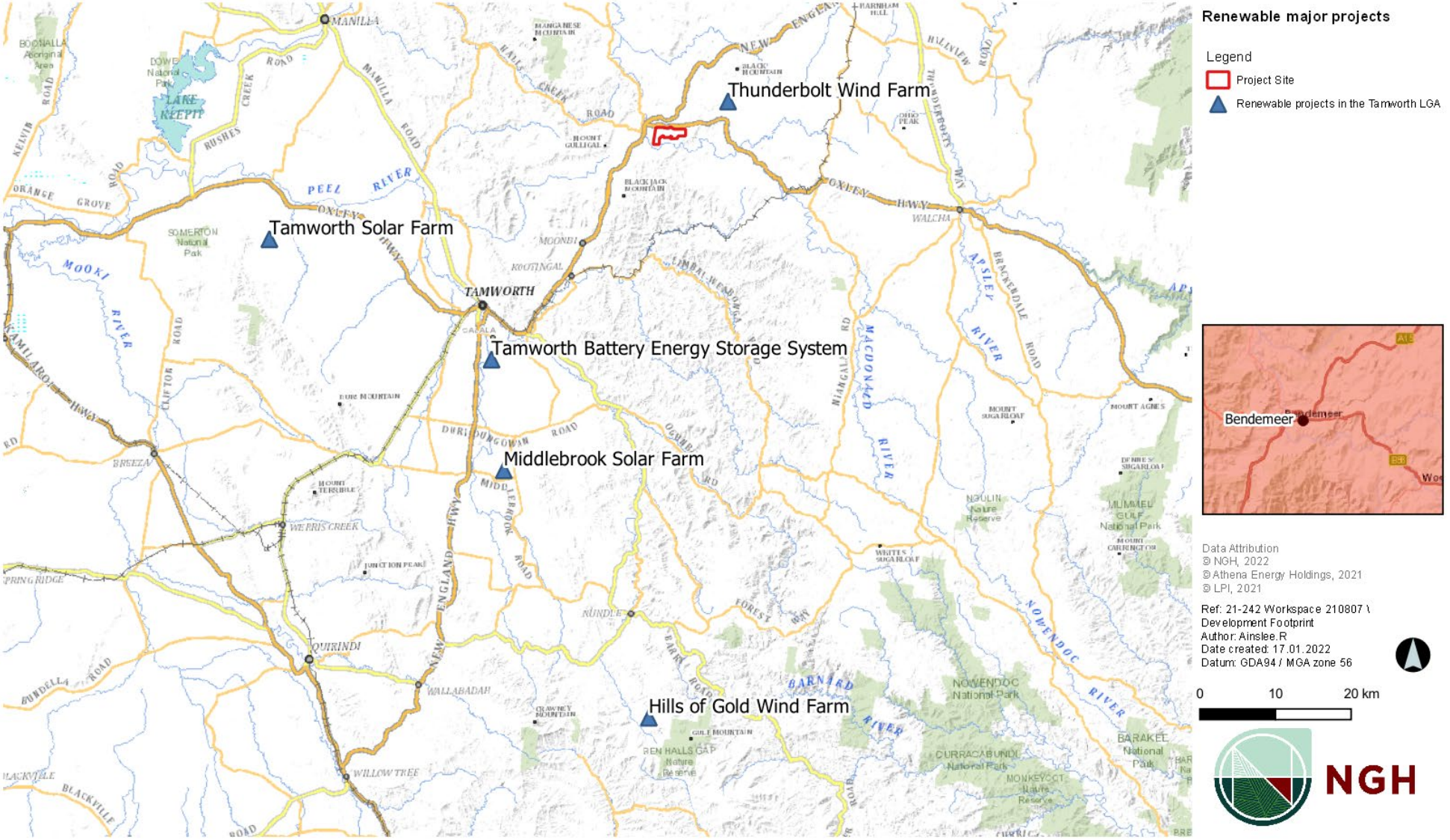

Figure 6-11 Indicative locations of renewable major projects in the Tamworth LGA

6.3 Summary of constraints

A constraints assessment has been carried out for the Project Site, using the existing environment data as documented in Section 6.2.

Low, moderate and high environmental constraints are defined in Table 6-8 with the rating assessment provided in Table 6-9 in reference to the 'developability' of the Project Site. Where uncertainty exists, a higher constraint rating has been applied. Further investigation may reduce the constraint level. Mapping of the identified environmental constraints was undertaken for the Project Site and is provided in Figure 6-12 and Figure 6-13.

Table 6-8 Environmental constraint rankings

Constraint	Definition
Low	Minimal impacts anticipated. Most suitable for development. Standard management protocols would be sufficient to manage any impacts.
Moderate	Impacts should be minimised, where possible. These areas may require specific management protocols and may add some cost and time to the assessment and approval process.
High	Priority for further investigation. These areas may be difficult, expensive or may not be possible to obtain approval to develop. They may require costly additional surveys to understand and manage or offset impacts.

Table 6-9 Constraints summary by issue.

Constraint	Description
Biodiversity	Areas of State and Federally listed Box Gum Woodland (BC Act SAII), treed areas including hollow bearing trees (HBT's)and threatened species habitat.
	All other areas of native PCTs.
	Areas considered Category 1 Exempt Lands from completion of the LCA and areas of native vegetation in very degraded condition.
Landscape and Visual	There are 11 residents within 1km of the Project Site (three of these residents are considered 'involved'. The Project would impact these residents during construction, and operation and consultation would be required. Landscape screening may provide visual relief to surrounding receivers.
Noise and Vibration	A construction and operational noise assessment would be required, as there are 11 uninvolved sensitive receivers within 1km of the Project Site.

Constraint	Description
Compatibility with Existing Land Use	Diversifying land use to include electricity generation is considered a low constraint at this stage. Approvals will be obtained from Crown Lands for the upgrade and use of the preferred access through the Crown Reserve. Alternative options for direct access from the Oxley Highway will be pursued should Crown Land approvals not be readily received. The impact of the Project on agricultural production in the region would be assessed in detail in the EIS and a Land Use Conflict Risk Assessment (LUCRA).
Traffic and Transport	An assessment of site access would be required to confirm if intersection or road upgrades are required to meet Council or TfNSW guidelines. Post approval, a traffic management plan and road dilapidation survey will be required.
Social and economic impacts	The Project would provide an economic benefit to the New England Region through employment opportunities, and increased expenditure at local businesses by the construction teams. Any issues perceived from the community and cumulative impacts of other proposed developments would be assessed in the EIS and Community and Stakeholder Engagement Strategy.
Heritage (Aboriginal)	No recorded sites identified within 1km of the Project Site, however the AHIMS search identified 2 registered sites with a 3km buffer. Additional high constraint sites may be determined during further site surveys.
Heritage (Non-Aboriginal)	Nineteen historical heritage sites are recorded within the locality with one site 'Bendemeer Station' being located within 1km of the Project Site. A SoHI would be required to address any potential impacts.
Hydrology, groundwater and soils	No permanent watercourses run through the Project Site, and it is not within a flood planning area.
Contamination	As there are no known contamination issues within or adjacent to the Project Site, it is unlikely there would be any significant concerns for the Project.
Air quality	Construction of the Project may generate dust during excavation and transport; however, these impacts would be managed through mitigation measures in the EIS. Operation of the Project is unlikely to affect the air quality, as solar panels do not generate any emissions.

Constraint	Description
Waste management	The Project would not generate a large amount of waste, and a waste management plan would be incorporated into the CEMP to manage any waste that is generated.
Hazards	The following hazards require consideration: • Battery storage: PHA assessment. • A minimum 10 metre asset protection zone for structures and associated buildings/infrastructure associated with the Project • Bushfire protocols during construction and operation.

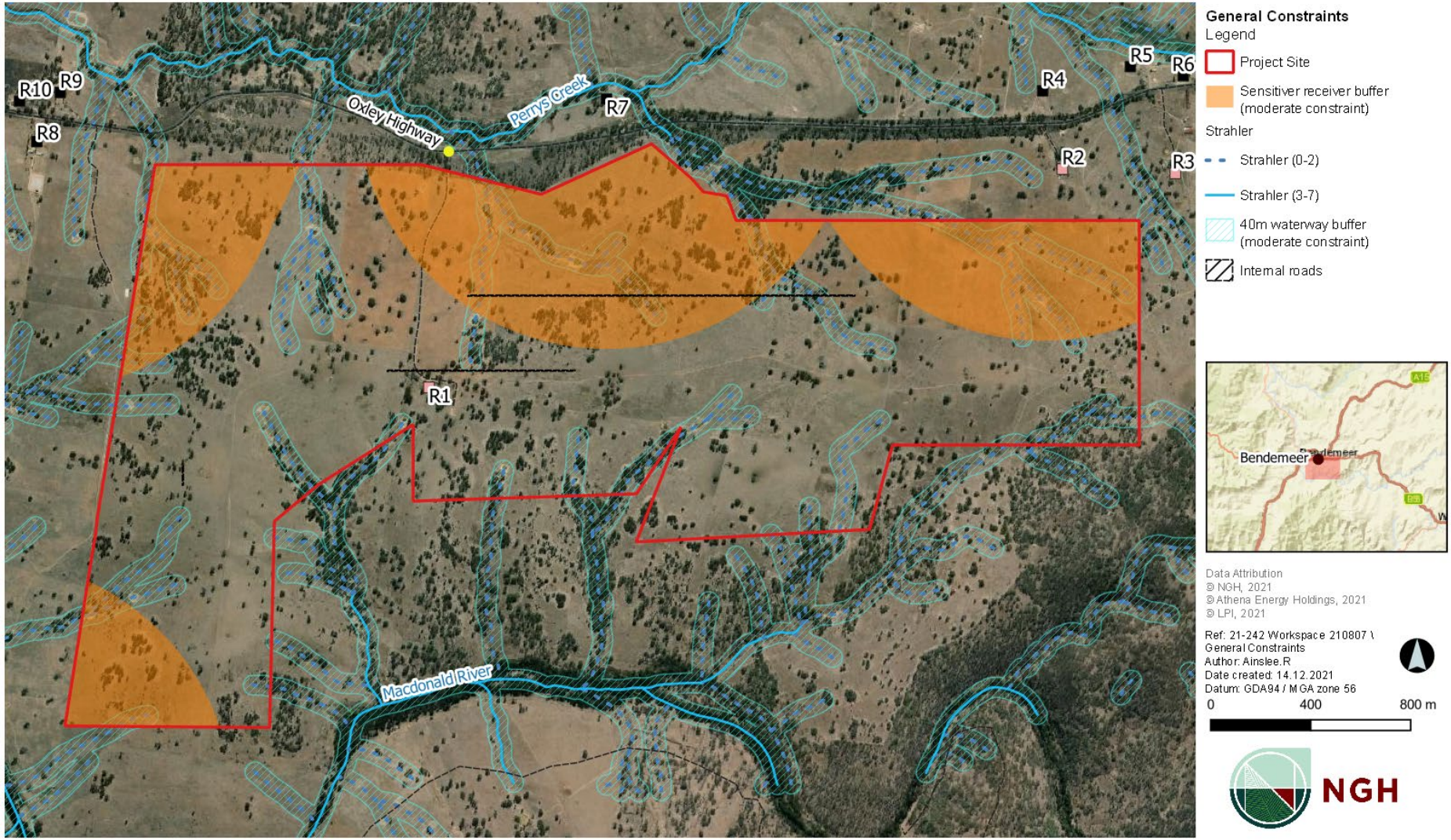

Figure 6-12 General constraints of the site

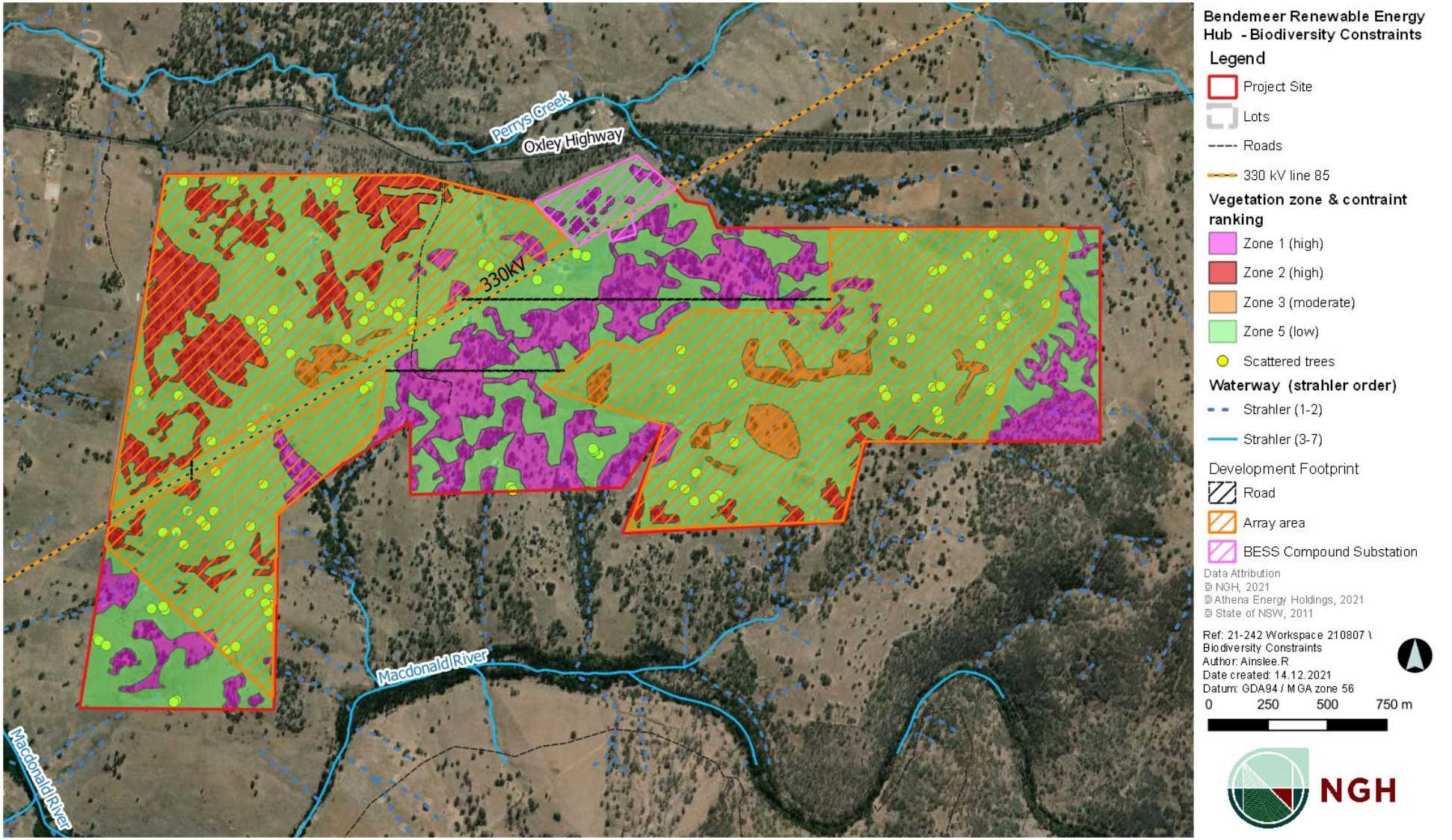

Figure 6-13 Biodiversity constraints of the site

7. Conclusion and recommendations

This Scoping Report has outlined and established the planning and general environmental context of the Project. The Project would be assessed under Part 4 of the EP&A Act and classed as SSD under the State and Regional SEPP.

The Scoping Report has categorised the potential environmental impacts of the Project as key issues or other issues. Based on this Scoping Report, an indicative scope for the EIS has been developed, focusing on the key issues:

- **Biodiversity**, in particular high constraint vegetation zones
- **Landscape and visual amenity**, particularly residential receivers within 1 km of the Project Site
- **Noise and vibration**, particularly residential receivers within 1 km of the Project Site
- **Land use compatibility**, particularly economic impacts to the region and rehabilitation of the site to its pre-development use
- **Access and traffic**, particularly potential requirement for road upgrades and intersection treatments
- **Social and economic impacts** particularly potential impacts to surrounding localities in relation to cumulative construction impacts
- **Aboriginal heritage,** particularly the potential for significant sites and objects
- **Non-indigenous heritage**, particularly the potential for impact on adjacent listed heritage sites
- **Hazards – bushfire and battery storage**, particularly bushfire risk and hazard risk
- **Hydrology, groundwater and soils**, particularly impacts on natural drainage lines.

Secondary issues would also be investigated, commensurate with risk, through desktop investigation.

The EIS would be prepared in accordance with the Project-specific SEARs. Mitigation measures will be developed for inclusion in the EIS and will address the management of key issues and other issues identified in the assessment and community and stakeholder engagement process.

8. References

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Appendix A Scoping Summary Table

Level of assessment	**Matter**	**CIA**	**Engagement**	**Scoping report reference** (where description of potential impact is included)	**Relevant government plans, policies and guidelines**
Detailed	Biodiversity	Yes	General	Section 6.2.1	• NSW Biosecurity Strategy 2013-2021 • Biodiversity Assessment Method (BAM) (NSW Government, 2020).
Detailed	Amenity – landscape and visual	Yes	Specific	Section 6.2.2	• Refer to scoping report.
Detailed	Amenity - noise and vibration	Yes	General	Section 6.2.3	• Construction Noise Strategy (Transport for NSW, 2012) • Interim Construction Noise Guideline (Department of Environment, Climate Change and Water, 2009) • NSW Industrial Noise Policy (Environment Protection Authority, 2000) • NSW Road Noise Policy (Environment Protection Authority, 2011) • Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006) • German Standard DIN 4150-3: Structural Vibration – Effects of Vibration on Structures • Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).

Level of assessment	**Matter**	**CIA**	**Engagement**	**Scoping report reference** (where description of potential impact is included)	**Relevant government plans, policies and guidelines**
Standard	Land – land use	No	General	Section 6.2.4	• Agricultural Land Use Mapping Resources in NSW • The Land and Soil Capability Scheme (Office of Environment and Heritage, 2012).
Detailed	Access – traffic	Yes	Specific	Section 6.2.5	• Austroads Guidelines for Road Design (Austroads) • Austroads Guidelines for Traffic Management (Austroads) • Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2013).
Detailed	Socio-economic impacts	Yes	Specific	Section 6.2.6	• Social Impact Assessment Guidelines for State Significant Projects (Department of Planning Industry and Environment, 2021) • Undertaking Engagement Guideline for State Significant Projects (Department of Planning Industry and Environment, 2021).
Detailed	Heritage - Aboriginal	No	Specific	Section 6.2.7	• Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011 • Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 • Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010.

Level of assessment	**Matter**	**CIA**	**Engagement**	**Scoping report reference** (where description of potential impact is included)	**Relevant government plans, policies and guidelines**
Detailed	Heritage – non-indigenous	No	Specific	Section 6.2.8	• Commonwealth EPBC 1.1 Significant Impact Guidelines – Matters of National Environmental Significance (Commonwealth of Australia, 2013) • Commonwealth EPBC 1.2 Significant Impact Guidelines – Actions on, or impacting upon, Commonwealth Land and Actions by Commonwealth Agencies (Commonwealth of Australia, 2013) • NSW Skeletal Remains: Guidelines for Management of Human Remains (Heritage Office, 1998) • Criteria for the Assessment of Excavation Directors (NSW Heritage Council, 2011).
Standard	Hazards and risks - bushfire	No	General	Section 6.2.9	• Planning for Bushfire Protection (NSW Rural Fire Service, 2019).
Standard	Hazards and risks - EMF	No	General	Section 6.2.9	• NSW Large-scale solar energy guideline for State Significant Development (Department of Planning and Environment, 2018).
Detailed	Hazards and risks – glint and glare	No	General	Section 6.2.9	• FAA, “Technical Guidance for Evaluating Selected Solar Technologies on Airports”, Federal Aviation Administration, Washington, D.C., November 2010. • FAA, “Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports”, Federal Register, Oct. 23, 2013.

Level of assessment	**Matter**	**CIA**	**Engagement**	**Scoping report reference** (where description of potential impact is included)	**Relevant government plans, policies and guidelines**
					• FAA, "Technical Guidance for Evaluating Selected Solar Technologies on Airports", Federal Aviation Administration, Washington, D.C., Version 1.1, April 2018. • AS/NZS 4282:2019, AS 4282-2019, AS 1158-2005 • Clean Energy Council nuisance glare guidelines https://www.cleanenergycouncil.org.au/industry/products/modules.
Detailed	Water – hydrology and groundwaters	No	General	Section 6.2.10	• Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018) • NSW Water and River Flow Objectives (NSW Government, 2006) • Floodplain Risk Management Guidelines (Department of Environment and Climate Change, 2016) • Floodplain Development Manual: The management of flood liable land (NSW Government, 2005) • Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) • Managing Urban Stormwater: Soils and Construction Volume 2 (Department of Environment and Climate Change, 2008) • NSW State groundwater dependent ecosystem policy (Department of Land, Water and Climate, 2002). • NSW Government's Floodplain Development Manual (2005).

Level of assessment	**Matter**	**CIA**	**Engagement**	**Scoping report reference** (where description of potential impact is included)	**Relevant government plans, policies and guidelines**
Standard	Land – soils and contamination	No	General	Section 6.2.11	• Acid Sulphate Soils Assessment Guidelines (Department of Planning, 2008) • The Land and Soil Capability Scheme (Office of Environment and Heritage, 2012) • Soil and Land Survey Handbooks • Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) • Managing Urban Stormwater: Soils and Construction Volume 2 (Department of Environment and Climate Change, 2008) • Agricultural Land Use Mapping Resources in NSW.
Standard	Air - air quality and climate	No	General	Section 6.2.12	• NSW Climate Change Policy Framework (Office of Environment and Heritage, 2016) • National Greenhouse Accounts Factors (Australian Government, 2021)
Standard	Waste Management	No	General	Section 6.2.12	• Waste Classification Guidelines (DECCW, 2009)
Standard	Cumulative impacts	N/A	General	Section 6.2.12	• Cumulative Impact Assessment Guidelines for State Significant Projects (Department of Planning Industry and Environment, 2021)

Appendix B Community and Stakeholder Engagement

B.1 Community and Stakeholder Engagement Strategy

ENGAGEMENT STRATEGY

Bendemeer Renewable Energy Hub

January 2022

Project Number: 21-242

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DOCUMENT VERIFICATION

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TABLE OF CONTENTS

Figures

Table

ACRONYMS AND ABBREVIATIONS

CBS	Community Benefit Scheme
DPIE	Department of Planning, Industry and Environment (NSW)
EIS	Environmental Impact Statement
km	kilometres
LEP	Local Environment Plan
LGA	Local Government Area
MW	Megawatt
NSW	New South Wales
SSD	State Significant Development

1. PURPOSE

This Engagement Strategy (ES) was developed to support the development of the Bendemeer Renewable Energy Hub Proposal (the Proposal). This strategy encompasses community and stakeholder engagement, communications, liaison and consultation activities. In the interests of simplicity, and to avoid using unnecessary acronyms, all of these activities are rolled under the broad banner of engagement.

On a similar note, the Proposal is used consistently throughout this strategy in place of 'project'. This reflects the status of the proposal as a concept as it moves through the planning steps. While it is largely interchangeable with the word project, we have used Proposal (as a noun) for consistency.

The ES identifies the engagement approach and targeted objectives for the development of the Proposal through the Scoping and EIS phases. It aligns with relevant NSW Government requirements for State Significant Developments, and it utilises best practice tools and techniques in line with industry and community expectations.

Once developed, the ES is a live document which will be updated progressively during the Proposal development.

2. ENGAGEMENT APPROACH

2.1. NGH Engagement Principals and Priorities

NGH prides itself on delivering well considered, objective and meaningful communications and engagement to support major projects and the communities and regions they occur in.

2.1.1. Principles

Our work in this field is built on the following NGH Communications and Engagement Principles.

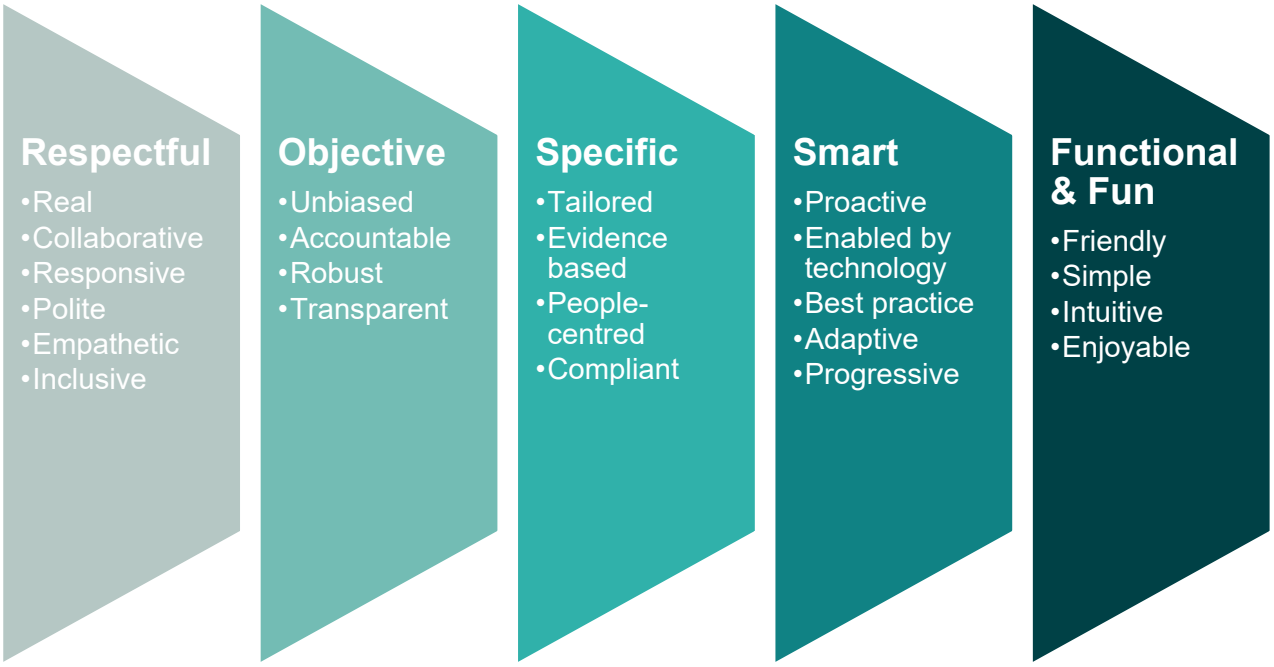


Figure 2-1: NGH Communications and Engagement Principals

2.1.2. Priorities

With this in mid, we help our clients to achieve these priorities:

- provide clear and concise information about the Proposal and its impacts
- deliver activities that encourage participation
- work in partnership with stakeholders to understand and address issues
- facilitate informed decision making
- deliver projects that improve the resilience of the regions they are delivered in.

2.2. IAP2 Core Values

We subscribe to the International Association for Public Participation (IAP2) Core Values, which state that public participation:

- is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process
- includes the promise that the public's contribution will influence the decision

- promotes sustainable decisions by recognising and communicating the needs and interests of all participants, including decision makers
- seeks out and facilitates the involvement of those potentially affected by or interested in a decision
- seeks input from participants in designing how they participate
- provides participants with the information they need to participate in a meaningful way
- communicates to participants how their input affected the decision.

2.3. Relevant Guidelines and their requirements

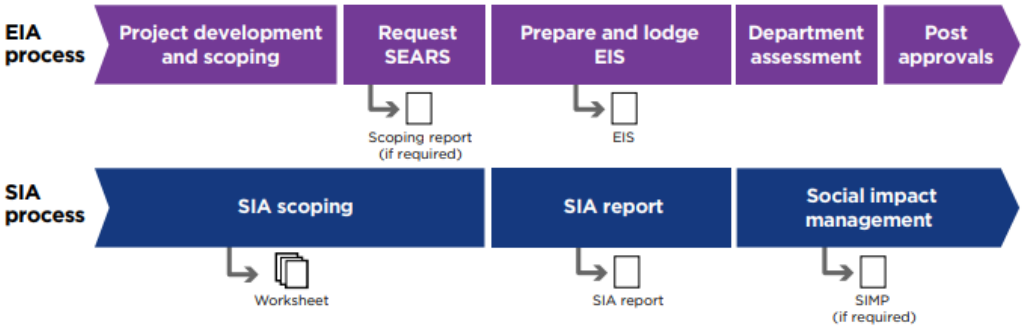
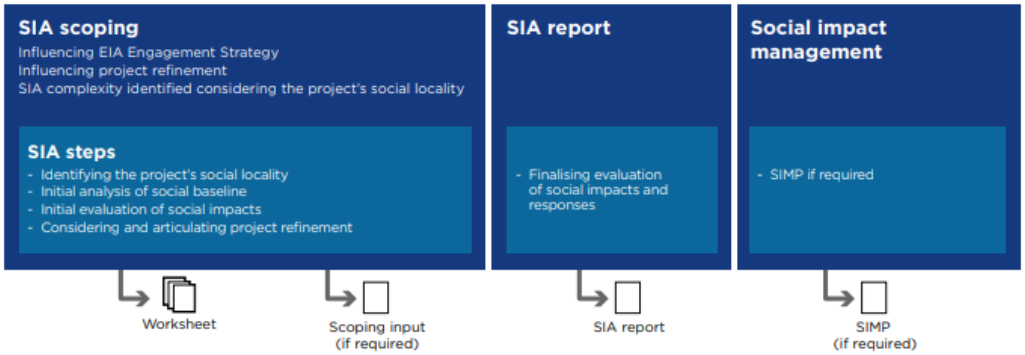
2.3.1. DPIE SSD guidelines

The NSW Department of Planning, Industry and Environment has developed a range of guidelines to inform engagement around and assessment of State Significant Developments. These guidelines for State Significant Development (SSD) provide insight into the engagement and social impact considerations that the NSW Department of DPIE will use to review this Proposal and therefore, the requirements that we need to keep in mind in building this strategy.

Table 2-1: DPIE SSD Guidelines

Guidelines	Requirements
2021 SSD Engagement Guidelines	Launched in July 2021, the DPIE SSD Engagement Guidelines set a standard for consulting activities for infrastructure projects. Effective engagement underpins a transparent and fair environmental assessment. Careful consideration of diverse viewpoints can help achieve good planning outcomes and avoid unintended negative impacts on communities, the environment, the economy or Government. The proponent is required to engage with the community, councils and government agencies on State Significant Development Engagement that is: • Open and inclusive • Easy to access • Relevant • Timely, and • Meaningful. To facilitate effective engagement, proponents will be expected to: • Provide clear and concise information about the Proposal and its impacts • Implement activities that encourage and facilitate participation • Report back on what was heard, what has or hasn't changed, and why.
Large Scale Solar Energy Guideline	Applicants are encouraged to engage with relevant stakeholders at all stages of the environmental impact assessment of State significant solar energy development, from scoping through to post-approval. Proposal specific "Secretary's Environmental Assessment Requirements (SEARs) and consent

Guidelines	Requirements
	conditions may also include consultation requirements that must be complied with. Within the Assessment issues section of this guide, the following relevant items are included: • **Visual impacts**: The impacts on landscape character and values and the visual amenity of landholders and communities. • **Land use conflicts:** While this is typically informed by Zoning, it may be considered through the lens of community concerns regarding conflicts with lifestyle blocks in addition to concerns regarding impacts on 'prime agricultural land'. • **Social and economic impacts:** Impacts, both positive and negative (including how they are distributed), of the proposed development on potentially affected people and groups. This includes workforce accommodation, job creation opportunities, and flow-on economic impacts to local communities. • **Public interest**: including the public interest in renewable energy, the objects of the EP&A Act and the principles of ecologically sustainable development. • **Cumulative impacts:** Any cumulative impacts from any other developments (proposed, approved and operating), especially biodiversity, visual impacts, socio-economic and construction traffic impacts. This needs to be considered in light of the multiple solar proposals in the area.
Social Impact Assessment Guideline for SSD Projects	The new guideline (July 2021) provides a rigorous framework to identify, evaluate and respond to social impacts. Taking effect in October 2021, it focuses on predicting impacts; refining the Proposal to avoid negative impacts and enhance benefits; minimising then mitigating negative impacts and maximising benefits; and finally managing impacts. Importantly, it notes the need to engage early to identify issues that can inform the social impact assessment and work to identify reasonable and achievable mitigations for these (which may include Proposal modifications) prior to submitting the Scoping Report (Figure 2-2). In our experience, DPIE prefers to see issues that are identified early in the process (such as visual impacts) resolved (in terms of identifying practical mitigations) to the extent possible ahead of submitting the scoping report. This allows the detailed social impact analysis to consider mitigated impacts of the Proposal.

Guidelines	Requirements
	 **Figure 3: SIA aligned with EIA**  Figure 2-2: DPIE SIA process

2.3.2. Other industry guidelines

The following guidelines were developed by industry and advocacy bodies to help guide the planning and delivery of community benefits and establishment of trust for large scale renewable energy projects, including transmission corridors. A snapshot of their recommendations is included below.

Table 2-2: Industry and advocacy group guidelines for renewable energy infrastructure

Publication	Relevant inclusions
A Guide to Benefit Sharing Options for Renewable Energy Projects – Clean Energy Council (2019)	Includes methods for developing a benefit sharing strategy and working in partnership with local communities. It outlines ways to: • calculate a benefit sharing budget • develop a theory of change to deliver the desired impact • undertake social feasibility to refine and test the strategy in the community • implement, monitor and evaluate the project in the community.

Publication	Relevant inclusions
Re-Alliance *Community Benefits Handbook, September 2021*	The purpose of this handbook is to equip local community leaders with information and ideas to get started thinking big about how to leverage the renewables boom into local opportunities that address local needs and desires. It covers what kinds of benefits regional communities are already seeing in different parts of the country from large-scale renewables and begins to picture what these might look like on a bigger scale with industry investment concentrated across a region.
Re-Alliance *Building Trust for Transmission – Earning the social licence needed to plug in Australia's Renewable Energy Zones, July 2021*	RE-Alliance recommends that consideration of the social and environmental impacts of new transmission infrastructure be included within the planning process. They propose that there should be early engagement with stakeholders: • landholders and asset owners along potential transmission line routes • local community members and groups • local Councils and State Planning Departments • First Nations, environment, and other special interest groups. This early engagement may reveal the level of challenge associated with this project and the possible strategies to mitigate community concerns, such as alternative route selection or technical solutions such as undergrounding. While this Proposal does not include development of transmission lines, the industry and community expectations in this related area are worth noting.

2.4. Engagement Objectives for this Proposal

The strategy aims to achieve the following objectives to support the Proposal and the communities surrounding it:

Objectives	Measures
• Produce clear information on the Proposal, potential impact and benefits	• Delivery of high-quality communications across all targeted channels
• Deliver a highly accessible engagement process	• % of locals that participate in the process
• Develop a sense of local ownership in the Proposal	• Number of local advocates
• Proactively identify and address issues and concerns	• Identification of issues and likely mitigations prior to EIS phase

Objectives	Measures
• Demonstrate compliance	• SSD assessment process
• Demonstrate sharing of Proposal benefits	• Creation of a successful community led Community Benefit Scheme
• Deliver best practice engagement	• Evaluation against industry benchmarks
• Maintain a positive corporate image for Athena and the renewable energy industry	• Development of social licence to operate • Management of social and reputational risks

3. PROPOSAL OUTLINE

3.1. The Proponent

Athena Energy Australia (Athena) is a renewable energy company, involved in the development, construction, and operation of renewable energy projects within Australia.

Specifically, Athena's principal activities for the Bendemeer Proposal include project development approvals, construction, operation, and asset management.

With a commitment to sustainability, Athena's mission is to develop and support sustainable green projects by supplying clean renewable energy into the grid. Athena has a pipeline of more than 1 Giga Watts (GW) of renewable energy in Asia-Pacific and the executive team of Athena has developed, constructed, commissioned, and operated more than 10 GW of power projects.

3.2. Proposal overview

Athena is in the initial stages of developing a proposed Renewable Energy Hub inclusive of a solar farm and battery storage, the Proposal, near Bendemeer, ~42 km north-west of Tamworth in NSW (Figure 3-1). The 1,225-hectare Proposal site is located south of the Oxley Highway approximately 1.5 km east of the Bendemeer township in the Tamworth Regional Council Local Government Area (LGA). The site is zoned RU1 – Primary Production under the Tamworth Local Environmental Plan 2010.

The development would encompass a Solar Generation and MWh Battery Energy Storage System. The final capacity of solar generation and energy storage is subject to detail design and project development but is currently anticipated to be:

- 210MW AC generation
- 200 MWh storage

It is understood that a wind component of the site may be investigated in the future but is not part of the current works package.

The solar and wind farm will be treated as two separate State Significant Developments, as the two activities are vastly different in construction and operation, require different studies, and are being developed independently. The solar Proposal studies will be completed first, to meet the needs of the National Electricity Market.

Note: This strategy is focused on the solar and battery energy storage Proposal studies initially but will provide a strategic direction and approach for the wind components of the Proposal.

A lease has already been secured for the solar farm development, with 520 ha of usable flat land identified. The development will include the construction of Solar Panels, switchyard, access roads (upgrading of existing roads and creating new roads), and operations and maintenance facilities.

Key components of this stage of the Proposal include:

- 210MW Solar generation inclusive of:
    - Solar panels and associated infrastructure
    - Connection to existing transmission line
    - Switching station
    - Access tracks

- Buildings, including operations and maintenance
- Amenities, including site office and car park.

- 200 MWh Energy Storage System
  - Battery components
  - Power managements system.

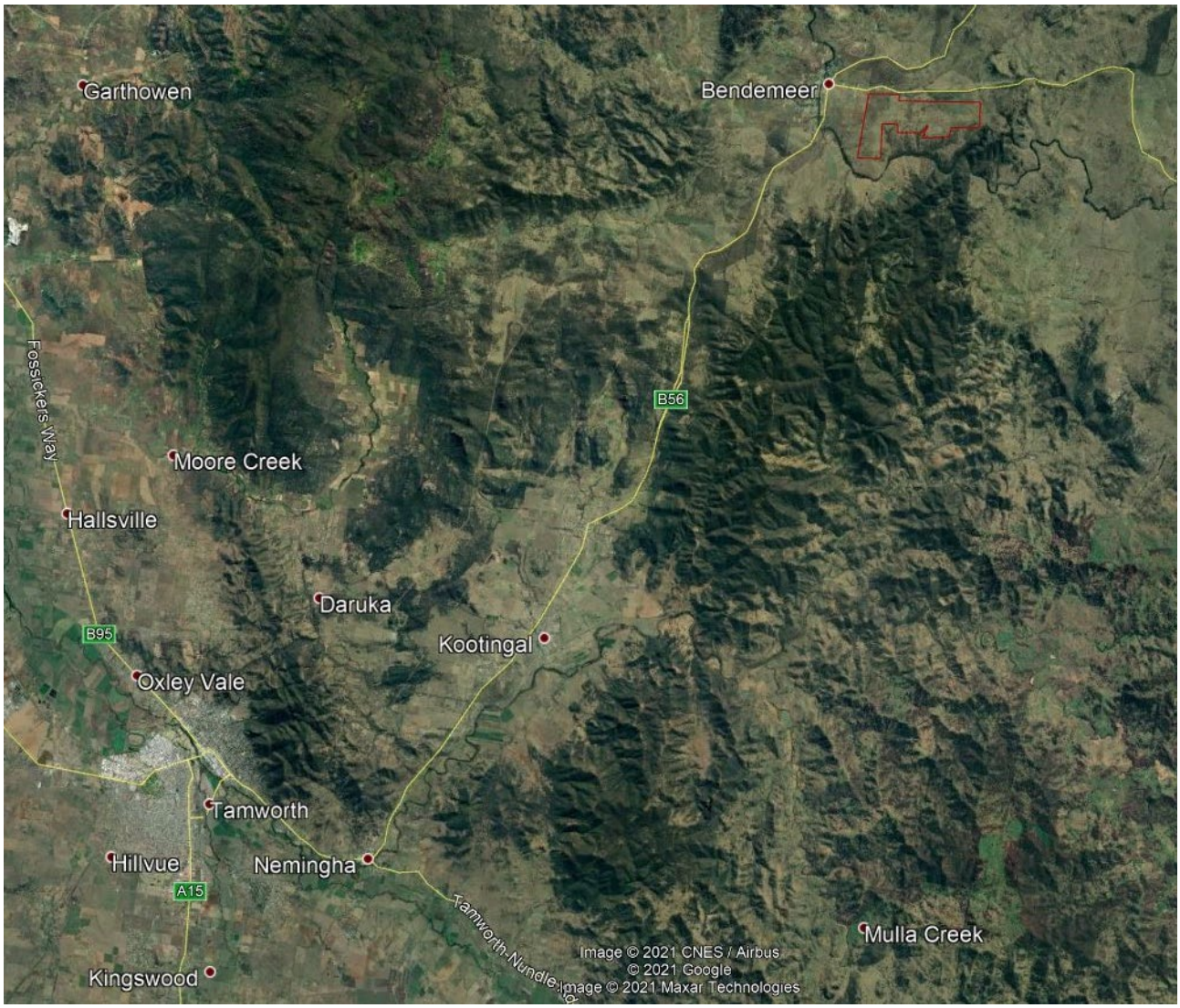


Figure 3-1: Renewable Energy Hub location

3.2.1. Proposal drivers

- The Proposal will significantly contribute towards the NSW Government's aim of reaching net-zero emissions by 2050, by supplying clean renewable energy into the grid.
- This clean energy is critical to replace the fossil energy from nearby coal-fired power plants, which will be decommissioned progressively from 2023 onwards.
- The Proposal will leverage the momentum created by and contribute to the outputs of the New England Renewable Energy Zone (REZ). By connecting multiple generators and storage in the

same location, REZs capitalise on economies of scale to deliver cheap, reliable, and clean electricity for homes and businesses in NSW[1].

- The aim of the Bendemeer Renewable Energy Hub is to invest in the first moving grid connection solar Proposal in the area and deliver sustainable long term energy solutions that benefit the community and the environment.

[1] Sourced from https://www.energy.nsw.gov.au/renewables/renewable-energy-zones

3.3. Strategic context

3.3.1. Tamworth Regional Council Community Strategic Plan (Keychange 2017-2027)

Keychange 2017-2027 is the major strategic document developed by Tamworth Regional Council (TRC) to guide the delivery of services and facilities during this period. The CSP identified priorities and actions around community spirit, property, accessibility, sound asset management, sustainability and progressive leadership (Figure 3-2). The Proposal aligns through supporting the concept of a prosperous region and sustainable living.

Figure 3-2: Keychange 2017-2027 snapshot

3.3.2. Tamworth Blueprint 100

In 2019 TRC embarked on a process to take a coordinated approach for future action, which it termed the Blueprint 100. It would encompass the Local Strategic Planning Statement and the Growth Management Strategy and other council initiatives.

Blueprint 100 is to be broad enough to speak to the community, business and development sectors, Federal and State Agencies and TRC staff simultaneously.

The Blueprint 100 is an overarching strategy that provides a roadmap to take the Tamworth Region towards its vision of a prosperous economy and high living standards with a population of 100,000 people.

The Blueprint 100 has a responsibility to improve regional economic opportunities through smart, effective and targeted integrated investment strategies that accelerate regional growth. This Proposal aligns with these strategies:

- Providing infrastructure as part of an integrated regional approach with investment in social infrastructure, physical capital (including transport), communications and other economic infrastructure
- Focusing on innovation and research and development.
- Increasing the size of the work force through population growth and increases in the participation rate.

3.3.3. Tamworth tomorrow strategy 2017-2021 (economic development)

Tamworth Tomorrow is a strategy focussed on driving the economic growth of the region through increasing the region's population base, which fuels the economy, driving innovation, investment, cultural activity and entrepreneurial spirit. The Strategy has a strong people and place focus and harnesses knowledge, research and innovation as key drivers of Tamworth's economic future.

The strategy prioritises actions and efforts to advance the economic prosperity of the region through key industry pillar and strategic drivers. Notably, this strategy puts emphasis on uptake of technology and investment attraction. Equally, it seeks to help develop local capability to support industry trends. The increasing development of renewable energy proposals in the region can support these imperatives.

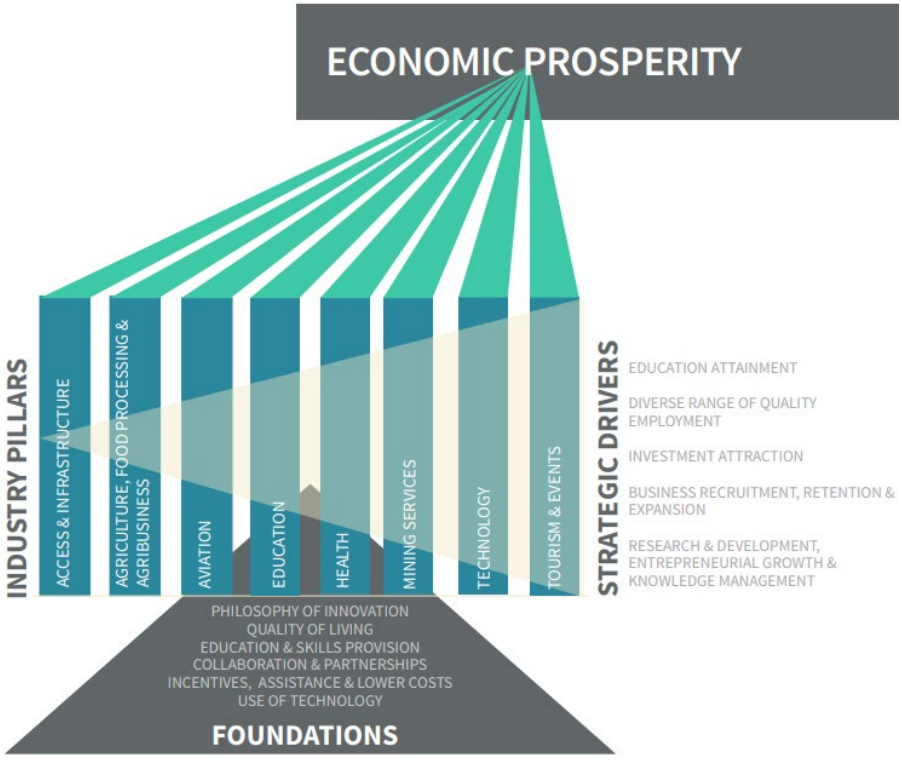


Figure 3-3: Tamworth Tomorrow Strategy snapshot

3.3.4. TRC Sustainability Strategy 2017-2021

TRC's Sustainability Strategy 2017-21 provides an integrated and coordinated approach to advancing sustainability in the region. This strategy responds to community sentiment that Council should be a leader in renewable energy through more sustainable planning and creating a sustainable energy future by phasing out fossil fuels. The strategy notes that the most significant action that TRC can take is to implement energy efficiency measures to reduce energy consumption and to utilise renewable energy sources. The strategy also notes the alignment with the Sustainable Development Goal 7.2: *By 2030, increase substantially the share of renewable energy in the global energy mix*.

4. COMMUNITY AND STAKEHOLDER ANALYSIS

4.1. Community analysis

Understanding the makeup and values of a community is essential to finding effective ways to engage with and assess Proposal impacts on the communities surrounding the Proposal area. The community analysis provides context for the engagement approach, while also informing and connecting to the assessment of potential social impacts through the planning process.

4.1.1. Tamworth Regional Council LGA

The original inhabitants of the Tamworth area were the Kamilaroi Aboriginal people.

Tamworth is a vibrant and growing destination. It is the largest inland NSW city west of the Great Diving Range, located 400km from Sydney and 600km from Brisbane on the inland corridor route[2].

It is a major service centre with a diverse economy, including agriculture, retail, manufacturing, health services, education, transport and aviation industries. Tourism is also an economic driver throughout the region with attractions including festivals, sporting events, restaurants, museums, and galleries within the city and rural destinations.

Tamworth City is an important commercial centre, servicing a large population that extends beyond the Local Government Area boundary and is well serviced by road, rail and air networks, linking the region to the coast and the Australian eastern seaboard, including major capital cities.

The TRC area is bounded by Gwydir Shire in the north, Uralla Shire and the Walcha Council area in the east, Upper Hunter Shire in the south, and Liverpool Plains, Gunnedah and Narrabri Shires in the west.

The Census usual resident population of Tamworth Regional Council in 2016 was 59,663, living in 26,135 dwellings with an average household size of 2.44[3] (TRC community profile provided by .idcommunity).

Regional economic profile

TRC's Gross Regional Product is estimated at $3.65 billion, which represents 0.58% of the state's GSP (Gross State Product). Health Care and Social Assistance is the largest employer, generating 4,612 local jobs and generating $341 million in 2019/20.

[2] Sourced from https://www.destinationtamworth.com.au/Work/economic-development on 9 September 2021
[3] Sourced from https://profile.id.com.au/tamworth/population on 08 September 2021

Tamworth Regional Council	2019/20			2014/15			Change
Industry	Number	%	New South Wales	Number	%	New South Wales	2014/15 - 2019/20
Agriculture, Forestry and Fishing	2,085	8.5	2.6	1,951	8.6	2.9	+133
Mining	71	0.3	1.1	64	0.3	1.3	+8
Manufacturing	2,963	12.1	7.2	2,186	9.6	8.2	+777
Electricity, Gas, Water and Waste Services	239	1.0	1.2	353	1.6	1.2	-114
Construction	2,112	8.6	10.6	2,657	11.7	9.7	-546
Wholesale Trade	1,022	4.2	3.6	752	3.3	4.1	+270
Retail Trade	2,422	9.9	8.6	2,232	9.8	8.8	+190
Accommodation and Food Services	1,141	4.6	5.5	1,266	5.6	5.9	-125
Transport, Postal and Warehousing	1,567	6.4	5.7	1,267	5.6	5.9	+300
Information Media and Telecommunications	413	1.7	2.2	233	1.0	2.5	+180
Financial and Insurance Services	494	2.0	5.6	423	1.9	5.3	+71
Rental, Hiring and Real Estate Services	276	1.1	1.8	351	1.5	2.0	-75
Professional, Scientific and Technical Services	880	3.6	10.8	863	3.8	9.5	+18
Administrative and Support Services	604	2.5	3.0	661	2.9	3.0	-57
Public Administration and Safety	1,745	7.1	5.9	1,445	6.4	5.6	+299
Education and Training	1,959	8.0	7.5	1,719	7.6	7.5	+240
Health Care and Social Assistance	3,454	14.1	12.1	3,012	13.3	10.9	+442
Arts and Recreation Services	179	0.7	1.4	201	0.9	1.4	-21
Other Services	955	3.9	3.7	1,062	4.7	4.2	-107
Total industries	24,583	100.0	100.0	22,698	100.0	100.0	+1,884

Figure 4-1: LGA value added by industry sector

The area plays a crucial role contributing to Australia's economy in terms of food transportation and distribution industries and through the exports of processed meats and agricultural products. The region is founded on the core agricultural pursuits in beef, sheep, grain, dairy, poultry and lucerne production, the region boasts rich agricultural land (Tamworth Tomorrow Strategy, p.20).

The region is supported by a strong food processing sector. Food product manufacturing generated over $440m in output in 2013 and employing approximately 1,400 people accounts for 5.4% of total employment. The key infrastructure that supports the industry outputs is the Tamworth Region Livestock Exchange (TRLX), a state-of-the-art saleyard ($17m) that currently handles over 760,000 cattle and 2,400,000 sheep annually (ibid, 2017).

The region is also a major service centre to the mining sector which contributes $22.65 million directly to Gross Regional Product and $14.4 million in value added through purchases of goods and services.

As a regional centre Tamworth provides education services to a catchment of some 200,000 residents in the New England and Northwest of NSW. The education facilities in the region are diverse with 29 primary schools and 10 highs schools including independent and selective schools.

The region is supported by the major campus of TAFE New England, University of Newcastle's Department of Rural Health, University of New England campus, Tamworth Community College, Regional Conservatorium of Music, Northern Inland Academy of Sport, College of Country Music and numerous flight training and aeronautical schools with associated facilities.

Tamworth receives over 1.1m visitors per year with tourism generating over $239m towards the local economy bolstered by Tamworth's globally recognised Country Music Festival which receives 50,000 visitors pa, generating over $100m in economic benefits.

COVID-19 economic impacts

In keeping with the trend across NSW, COVID-19 pandemic had a significant impact on the LGA economy in FY2019/20 and the cumulative impacts are most evident in the last quarter of the financial year (Figure 4-2: Quarterly change in Gross Regional Product (%) .

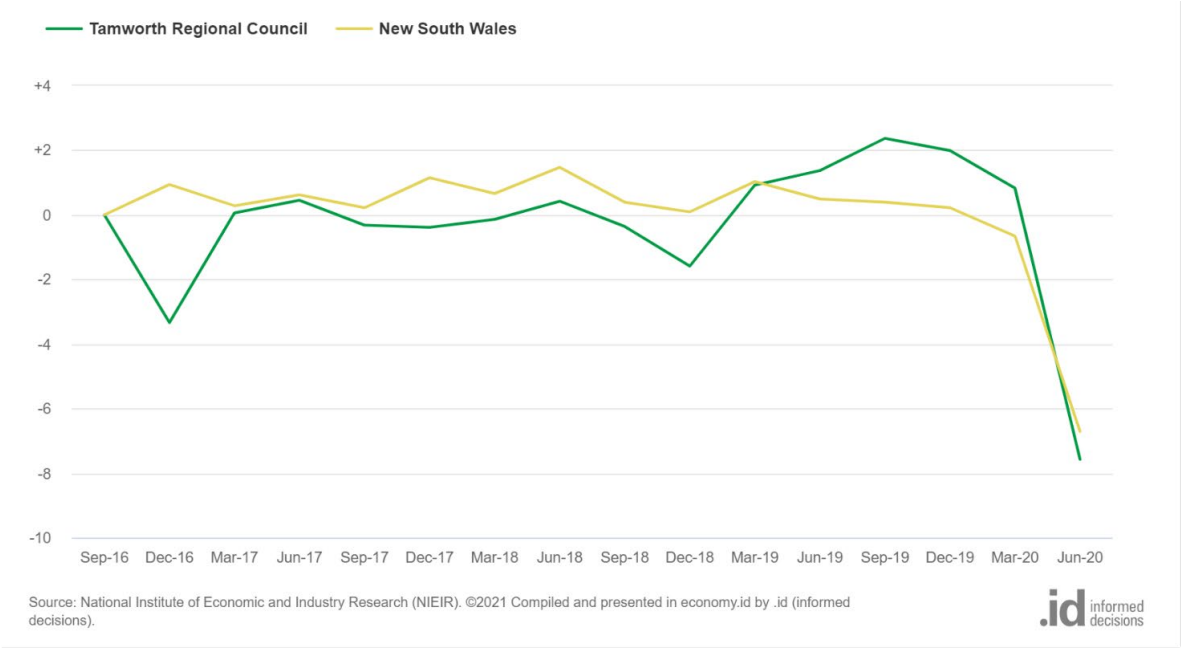


Figure 4-2: Quarterly change in Gross Regional Product (%)

4.1.2. Bendemeer locality

The Bendemeer locality is in the eastern side of the LGA (Figure 4-3) and had a total population of 495 and 233 dwellings in 2016.

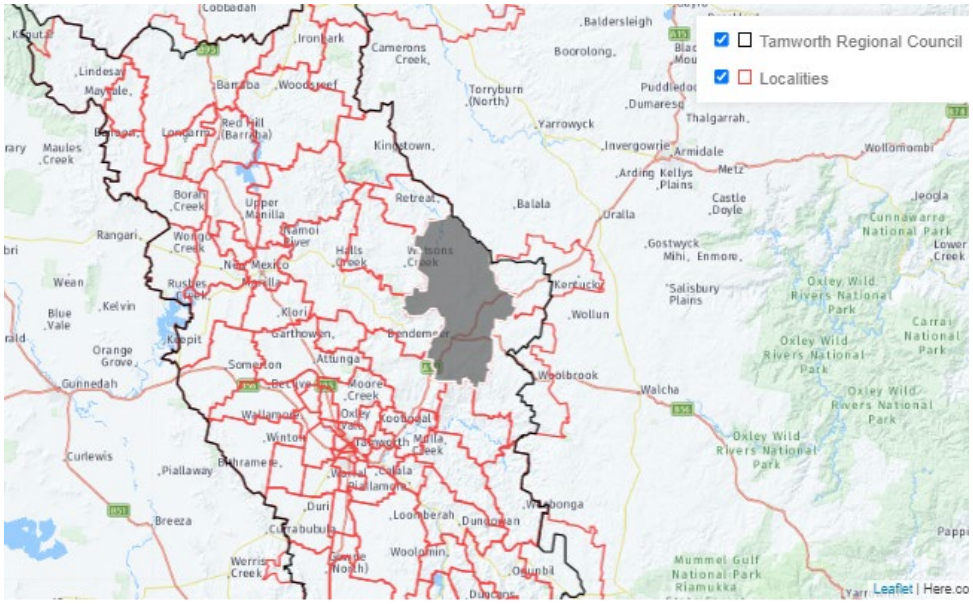


Figure 4-3: Bendemeer locality area

A demographic profile for the Bendemeer locality is included in Table 4-1.

Table 4-1: Bendemeer summary profile, 2016

Place of usual residence	Number	%	Regional NSW %
Population Summary			
Total population	495	100.0	100.0
Males	250	50.5	49.2
Females	243	49.1	50.8
Total dwellings	233	100.0	100.0
Indigenous population	39	7.9	5.5
Australian citizens	429	86.7	88.7
Eligible voters (citizens 18+)	346	69.9	68.3
Australian-born	394	79.6	80.9
Speaks language other than English at home	9	1.8	5.7
Overseas-born	34	6.9	11.2
Needs assistance due to age or disability	20	4.0	6.3
Age Structure			
Babies and pre-schoolers (0 to 4)	15	3.0	5.8
Primary schoolers (5 to 11)	41	8.3	8.9
Secondary schoolers (12 to 17)	32	6.5	7.3
Tertiary education/independence (18 to 24)	41	8.3	7.9
Young workforce (25 to 34)	39	7.9	11.0
Parents and homebuilders (35 to 49)	85	17.2	18.0
Older workers & pre-retirees (50 to 59)	89	18.0	13.8
Empty nesters and retirees (60 to 69)	75	15.2	13.1
Seniors (70 to 84)	67	13.5	11.4
Frail aged (85 and over)	9	1.8	2.7

Place of usual residence	Number	%	Regional NSW %
Household Types			
Couples with children	38	18.1	25.4
Couples without children	60	28.6	27.0
One parent families	17	8.1	11.0
Lone person households	64	30.5	25.5
Group households	3	1.4	3.1
Education			
Attending pre-school or primary school	51	10.3	10.0
Attending secondary school	18	3.6	6.2
Attending university or TAFE institution	26	5.3	5.0
Labour Force			
Employed	221	94.0	93.4
Unemployed	14	6.0	6.6
Total labour force	235	56.4	54.8
Not in the labour force	135	32.4	37.9
Dwelling Summary			
Separate houses	225	96.2	80.2
Medium and high density	0		16.8
Other dwellings (inc. Caravans, houseboats)	6	2.6	2.3
Occupied private dwellings	210	90.1	87.3
Unoccupied dwellings	23	9.9	12.3
Non private dwellings	0		0.4
Housing Tenure			
Owned	85	40.5	35.5
Purchasing	60	28.6	28.6

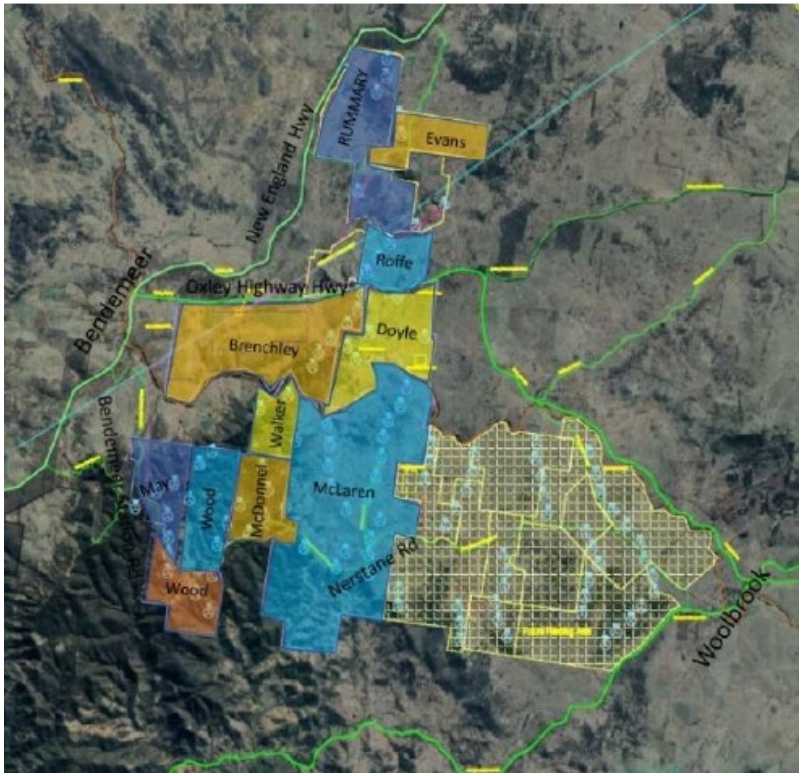
Place of usual residence	Number	%	Regional NSW %
Renting	38	18.1	26.5
Household Income			
Less than $650 (low)	62	30.5	22.0
$650 to $1,449 (lower middle)	67	33.0	33.0
$1,449 to $2,499 (upper middle)	35	17.2	19.6
$2,500 or more (high)	19	9.4	14.6
Incomes not stated	20	9.9	10.7
Internet Connection			
Internet connection	135	64.3	73.1
No internet connection	53	25.2	18.6
Not stated	25	11.9	8.3

Source: Australian Bureau of Statistics, Census of Population and Housing 2016. Compiled and presented in profile.id by .id (informed decisions).

4.2. Stakeholder analysis

It is critical to understand the stakeholder setting surrounding the Proposal and its host region. This analysis can inform the engagement approach, enable development of long-term relationships and facilitate the social impact assessment.

4.2.1. Host landowners



STAKEHOLDER	INTEREST/INFLUENCE	LEVEL OF ENGAGEMENT
Land Owners		
Tony May	High/High	Collaborate - Empower
Niven James	High/High	Collaborate - Empower
Neil Wood	High/High	Collaborate - Empower
Mick McDonnel	High/High	Collaborate - Empower
Brad & Gail Walker	High/High	Collaborate - Empower
Hamish, John & Jock McLaren	High/High	Collaborate - Empower
Clarrie Doyle	High/High	Collaborate - Empower
Paul Brenchley	High/High	Collaborate - Empower
Peter & Chris Roffe	High/High	Collaborate - Empower
Tom, Rachel & Matt Rummery	High/High	Collaborate - Empower
Jeff & Therese Evans	High/High	Collaborate - Empower

Figure 4-4: Host landowner map and list

Athena has been working with 11 separate host landowners to develop the Renewable Energy Hub concept and lease arrangements are now in place. This group will play a key role in facilitating the Proposal's planning and development and their knowledge should be well utilised to inform the engagement activities.

4.2.2. Broader stakeholder setting

NGH has built on the stakeholder analysis completed by Athena to identify a broad range of interests and opportunities to be considered in the communications and engagement activities. The engagement approach recommended for each stakeholder refers to the IAP2 Engagement Spectrum, as shown in Figure 4-5.

Table 4-2: Broader stakeholder analysis

Stakeholder Group	Inclusions/details	Objectives and opportunities	Influence (H/M/L)	Impact (H/M/L	Engagement approach
Host Landowners	Landowners hosting the Proposal on their land or providing access through their land.	• Develop a strong ongoing relationship. • Contribution to engagement planning and delivery. • Contribution to the Proposal's progress, ability to provide local knowledge, advice and input. • Involvement in development and of Community Benefit-sharing Scheme.	H	H	Consult Involve Collaborate
Near neighbours within 2km	This group may be affected by the visual impact of the Proposal, the noise and heavy vehicle traffic associated with the construction phase (TBC).	• Create and maintain a close connection with neighbours that live within a 2km radius. • Keep neighbours informed a and provide opportunities to raise issues and provide feedback. • Work through issues and communicate the relevant mitigations. • Identify opportunities to share in the benefits of the Proposal.	H	H	Consult Involve Collaborate
Bendemeer locality	Residents within the Bendemeer locality	• Develop a strong partnership with the community. • Keep neighbours informed about the Proposal from early in the Proposal planning phase • Provide opportunities to raise issues and provide feedback	H	M	Consult Involve Collaborate

Stakeholder Group	Inclusions/details	Objectives and opportunities	Influence (H/M/L)	Impact (H/M/L	Engagement approach
Tamworth Regional Council	• Director Growth & Prosperity • Kate Baker • Coordinator Economic Development	• Develop a positive relationship • Share their knowledge on • Identify opportunities to support the local economy • Identify and Leverage council communication channels	H	M	Consult Involve Collaborate
State MP	Kevin Anderson (Nationals) Minister for better regulation and Innovation Minister for responsible racing	• Keep the local member is kept updated about the Proposal and its progress • Identify the members policies, concerns, and opportunities in relation to the Proposal.	M	M	Inform Consult
Federal MP	Barnaby Joyce Deputy Prime Minister and Minister for Infrastructure, Transport and Regional Development	• Keep the member's office updated on the Proposal as required. • Understand and address any known issues or concerns the member may have.	M	M	Inform Consult
Traditional Owners – Indigenous community	• The Kamilaroi/Gomeroi peoples of the Kamilaroi Nation • The Tamworth Local Aboriginal Land Council (LALC)	• Ensure engagement with these groups is well coordinated with formal heritage assessments. • Engaging with local Aboriginal groups beyond planning requirements, such as Cultural Heritage Management Plans. • Look for opportunities to contribute to the local story of country and contribute to the local Aboriginal Community.	H	H	Consult Involve Collaborate

Stakeholder Group	Inclusions/details	Objectives and opportunities	Influence (H/M/L)	Impact (H/M/L	Engagement approach
RFS	• Bendemeer/ Eastern Highlands RFS • Zone RFS	• Liaise to ensure truck access is considered in the design and ensure Proposal activities abide by safety and regulatory requirements	M	L	Consult Involve
Schools, TAFEs and Universities	Local schools, UNE, Uni of Newcastle, Tamworth Community College	• Identify aligned educational opportunities. • Ensure organisations are updated on education and vocational opportunities associated with the Proposal. • Identify community benefit scheme opportunities.	L	L	Consult Involve
Business groups / industry stakeholders	Tamworth Chamber of Commerce	• Work with the chamber to identify any local businesses that may be impacted by the Proposal (positive or negative) • Identify opportunities to develop or utilise local capability • Identify community benefit scheme opportunities • To ensure Athena is creating of local renewable energy Proposals.	M	M	Consult Involve
Groups of solar farm objectors	TBC – may be an action group to be considered	• Identify and address concerns proactively • Manage issues constructively and efficiently • Ensure equity in the engagement	M/L	L	Consult Involve
Advocacy groups	TBC - Sustainability groups Community energy groups (not located yet)	• Consider opportunities for partnerships and community events • Consider advocacy opportunities	M	M	Consult Involve

Stakeholder Group	Inclusions/details	Objectives and opportunities	Influence (H/M/L)	Impact (H/M/L	Engagement approach
		• Potential for partnerships			
Community organisations	Apex, Rotary, Lions, Animal shelters, environmental groups, CWA	• Identify interests and opportunities to partner and contribute • Look for opportunities to dispel concerns in the CWA regarding impacts on productive land	M	M	Consult Involve

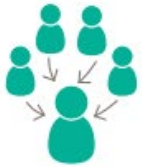
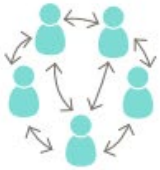
	Inform	Consult	Involve	Collaborate	Empower
					
Public Participation Goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise To The Public	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Techniques	• Fact sheets • Web sites • Open houses	• Public comment • Focus groups • Surveys • Public meetings	• Workshops • Deliberative polling	• Citizen advisory committees • Consensus-building • Participatory decision-making	• Citizen juries • Ballots • Delegated decision

Figure 4-5: IAP2 Spectrum of Public Participation

5. ENGAGEMENT OVERVIEW

5.1. Applying a mix of engagement tools

It is always important to apply a mix of engagement tools and techniques to allow for a range of inputs and participation opportunities.

Given the impacts of COVID-19, there is a growing emphasis and uptake of digital tools. At the same time, digital engagement platforms are providing improved sophistication in terms of providing integrated tools to capture conversations, analyse sentiment and issues and generate reports in a very efficient way. This Proposal is already featured well in a new website, but given it's not appearing in a google search, some SEO/meta tagging adjustments may be required.

For this Proposal, it is recommended that a mix of traditional face to face methods and innovative digital tools are used to support the solar, energy storage and the wind component planning. See examples in Appendix A.

NGH uses Engagement Hub software to quickly setup project website and mobilise information and feedback tools to support meaningful engagements, efficient stakeholder records management, event management and targeted marketing. A selection of the tools available on this platform are shown below.

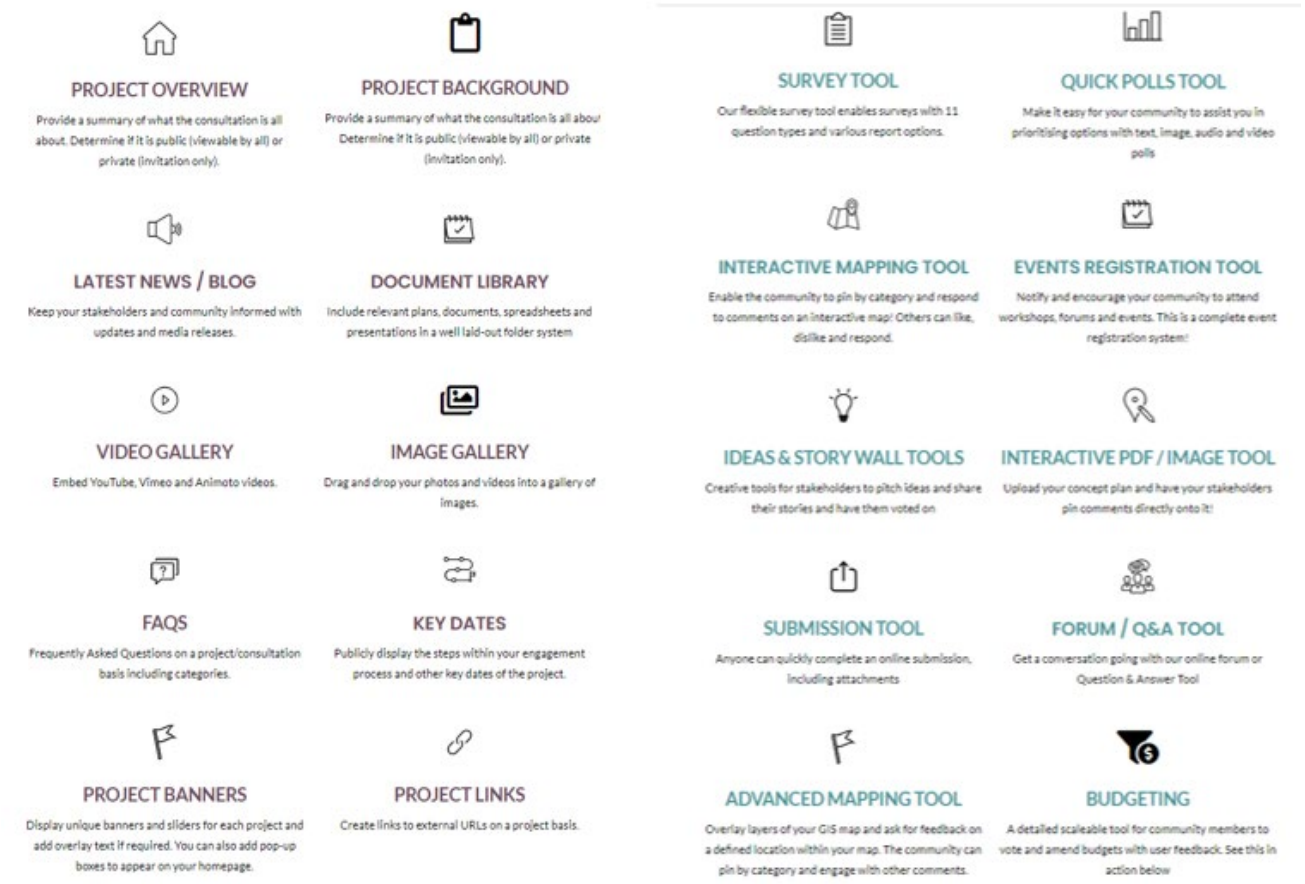


Figure 5-1: Engagement hub information and feedback tools available for this Proposal

5.2. Scoping Phase Engagement approach

5.2.1. Preparation

It makes sense to prepare communications and engagement tools ahead of the Scoping Phase to support the engagement activities. Given COVID restrictions, this should include development of digital tools to ensure you can keep engaging through restricted periods. This includes development of:

- a Proposal summary handout and targeted letters (as well as adding any specific updates to the current website)
- adjust the website settings to ensure its discoverable through a google search (currently not showing up in the first page of results)
- simple desktop videos introducing the Proposal, the site, the team and the planning process and how they can get involved
- the stakeholder record management system – preferably a web-based system that allows for entering data in the field, in addition to sentiment analysis, segmentation and streamlined reporting
- an interactive mapping tool to allow for capturing of site/area-based issues, queries and opportunities
- an online survey tool aimed at capturing queries, concerns and opportunities related to the Proposal that can be used to inform content development and social impact analysis
- a draft framework for a Community Benefit Fund for refinement through the early engagement and refinement through the EIS phase. Note that the social impact assessment will help to identify where the local impacts and opportunities are and how this fund can invest in high value opportunities.

5.2.2. Advocates and influencers

During this stage it is also useful to determine who the best advocates and influencers for the Proposal are and to establish a relationship with them. An ideal advocate has aligned interests, a useful network and carries influence in the community. In some cases, a Council staff member with aligned interests and networks may be a great advocate.

Based on other Proposals that NGH has worked with, the Economic Development Team within TRC may be a good starting point. Economic Development Officers often tick many of the relevant boxes and they can help leverage the Council communications tools and databases where relevant for the Proposal.

5.2.3. Scoping engagement activities

Engagement during the scoping phase needs to seek to introduce the Proposal, develop relationships and gather community thoughts to inform the EIS phase. It would typically include these steps:

- Launch the Proposal website, including the communications materials and videos.
- Hold online meetings with agreed stakeholders (such as the local Council, DPIE, RFS and relevant utilities).
- Work with Proposal advocates to identify and address issues.
- Ensure traditional owners are engaged through the formal processes.
- Meet with nearby neighbours, starting with the closest receivers (within 2km of the site).
- Where contact details (addresses and phone numbers) are not available, use door knocking and letterbox drops to complete the initial engagements and build a stakeholder list using these interactions. This should be coordinated with the Visual Impact Assessment (VIA) specialist (Green Bean Design) engaged by Athena.
- Summarise the discussions and update the strategy.
- Distribute a letter introducing the Proposal and inviting people to attend an initial information session (in coordination with the VIA specialist).
- Send information on the Proposal to the elected representatives and other strategic stakeholders, such as the Chamber of Commerce and targeted community groups.
- Create short videos to introduce the assessments that are occurring and to invite people to the information sessions.
- Hold the community information sessions in a suitable venue near the site, such as the Bendemeer Community Hall (COVID restrictions permitting). This session will provide an overview of the Proposal, while focusing on the community's view on issues and opportunities that can be investigated during the scoping and EIS. Ensure these sessions can be held online if required.
- Identify opportunities to attend community events to discuss the Proposal – such as Chamber of Commerce meetings, CWA meetings and other community gatherings.
- Take calls, answer questions, and arrange any required follow up meetings that can help proactively address issues.
- Work with local media to proactively build their knowledge and highlight benefit sharing.
- Share Proposal photos and videos associated with milestones and to celebrate the people of the project through Facebook, Instagram and on LinkedIn.
- Establish a committee to review and refine the Community Benefit Fund. Ideally this would be agreed in the EIS phase using the learnings from the Social Impact Assessment.
- It may make sense to establish a Community Consultative Committee (required for wind farms), that can provide guidance for the solar, BESS and wind components of the Proposal. This would allow you to work with a consistent group that can help to use the combined scale and lead time to make the most of local opportunities.
- Summarise interactions, survey findings and feedback in a summary report.

Note that the Communications and Engagement activities and findings would inform and integrate with the Social and Impact Assessment process.

5.3. EIS Phase engagement approach

The EIS phase activities will be influenced by the stipulations of the SEARs and learnings during the Scoping phase.

In accordance with the guideline requirements, the community and stakeholder engagement in this phase should focus on working through issues, sharing the results of the various assessments, and confirming the design, construction and operational details. Importantly, during this time, arrangements to share benefits of the Proposal with the community should be agreed, formalised and scheduled for delivery during construction and operations.

In this phase, the following steps are recommended*:*

- Complete updates to Proposal content as required, including learnings from the scoping phase and adjustments based on community inputs.
- Create short videos to discuss the Proposal status, the community benefit scheme, the next steps for assessments and the key issues that are being worked through
- Distribute Proposal Updates via email or letterbox delivery.
- Continue presentations at existing community group meetings.
- Continue to work with Proposal advocates to identify and address issues.
- Update the Proposal website and activate agreed digital interaction tools, such as a follow up survey, discussion forum and feedback form.
- Hold targeted landholder and stakeholder meetings to discuss key issue mitigation and to discuss the findings of key assessments, such as visual, social and economic impacts (depending on the SEARs inclusions).
- Continue working through the Community Benefit Scheme and management of key issues with the CCC.
- Continue working with local media on proactive media coverage.
- Share Proposal photos and videos associated with milestones and to celebrate the people of the project through Facebook, Instagram and on LinkedIn.
- Create short videos to discuss the outcome of the assessments and Proposal status leading into the exhibition phase.
- During the exhibition period, hold a follow up information session to discuss findings of the EIS, mitigations for issues and next steps for the Proposal.
- Summarise interactions, actions, and recommendations for engagement during delivery and operations in a report format.

6. ENGAGEMENT ACTION PLAN

A draft action plan is outlined below. Note that the timing for delivery is contingent on the overall Proposal schedule.

Table 6-1 Community and Stakeholder Engagement Action Plan

Engagement phase	Activity	Timing	Delivered by
Preparation			
	Draft core materials for the Proposal, including: • Website content • Proposal Overview Fact Sheet • FAQ • Key maps • Letters to residents within 2km and key stakeholders	September	Engagement Team
	Build the Proposal website, activate email and phone contacts, and activate the stakeholder record management system (including sentiment tracking).	September	Engagement Team
	Establish an interactive mapping tool to allow for capturing of site/area-based issues, queries, and opportunities.	September	Engagement Team
	Build and activate online survey tool aimed at capturing queries, concerns and opportunities related to the Proposal that can be used to inform content development and social impact analysis.	September	Engagement Team

Engagement phase	Activity	Timing	Delivered by
	Develop a draft framework for a Community Benefit Fund for refinement through the early engagement and refinement through the EIS phase	September	Engagement Team
	Confirm targets for local advocates and commence conversations	September	Engagement Team
	Develop a list of targeted community events to attend, such as Chamber and CWA meetings to introduce the Proposal.	September	Engagement Team
Scoping			
	Launch the Proposal website, including the agreed communications/feedback tools (Proposal overview, survey, interactive map).	October (Proposal overall timing TBC)	Engagement Team
	Meet with nearby neighbours, starting with the closest receivers (within 2km of the site). Where contact details (addresses and phone numbers) are not available, use door knocking and letterbox drops to complete the initial engagements and build a stakeholder list using these interactions. This should be coordinated with the Visual Impact Assessment (VIA) specialist (Green Bean Design) engaged by Athena. Summarise the discussions and update the strategy/stakeholder register.	October	Engagement Team with Development PM/Director
	Hold initial meetings with agreed stakeholders (such as the local Council, DPIE, RFS and relevant utilities). Ensure traditional owners are engaged through the formal processes.	October	Engagement Team with Development PM/Director
	Distribute a letter introducing the Proposal and inviting people to attend an initial information session (in coordination with the VIA specialist).	October	Engagement Team with Development PM/Director

Engagement phase	Activity	Timing	Delivered by
	Send information on the Proposal to the elected representatives and other strategic stakeholders, such as the Chamber of Commerce and targeted community groups. Follow up with briefings where required.	October	Engagement Team
	Share Proposal photos and videos associated with milestones and to celebrate the people of the project through Facebook, Instagram and on LinkedIn.	September onwards (already occurring)	Engagement Team
	Organise and hold the community information sessions in a suitable venue near the site, such as the Bendemeer Community Hall (COVID restrictions permitting). This session will provide an overview of the Proposal, while focusing on the community's view on issues and opportunities that can be investigated during the scoping and EIS. Ensure these sessions can be held online if required.	November	Whole Proposal Team
	Attend community gatherings to introduce the Proposal – such as Chamber of Commerce meetings, CWA meetings and other community gatherings.	November	Engagement Team with Development PM/Director and relevant technical specialists
	Establish a list of key issues/risks and opportunities and identify how they will be managed and mitigated through the following planning and delivery phases. This should form the foundation for the Social Impact Assessment and ideally your SIA specialist would be establishing a social baseline and identifying potential impacts at this stage to help scope the assessment and inform the SEARs.	November	Engagement Team with Development PM/Director and SIA specialist

Engagement phase	Activity	Timing	Delivered by
	Establish a Community Consultative Committee to support and guide the Proposal (including wind). Part of their duties would be to review and refine the Community Benefit Fund concept and to discuss the key issues and opportunities and proposed mitigations. Once approved, set out the timing to activate it. This will require a Terms of Reference to guide its scope and operations.	November	Engagement Team with Development PM/Director
	Take calls, answer questions, and arrange any required follow up meetings that can help proactively address issues.	November	Engagement Team
	Summarise interactions, feedback, and strategies/mitigations to manage issues and opportunities in the Scoping Report.	December	Engagement Team
EIS			
	Complete updates to Proposal content (including short videos) and this strategy as required, including learnings from the scoping phase and adjustments based on community inputs.	TBC	Engagement Team
	Update the Proposal website and activate agreed digital interaction tools, such as a follow up survey, discussion forum and feedback form.	TBC	Engagement Team
	Share Proposal photos and videos associated with milestones and to celebrate the people of the project through Facebook, Instagram and on LinkedIn.	September onwards (already occurring)	Engagement Team
	Distribute Proposal Updates via email or letterbox delivery.	TBC	Engagement Team

Engagement phase	Activity	Timing	Delivered by
	Continue presentations at existing community group meetings and working with local media.	TBC	Engagement Team with Development PM/Director
	Continue to work with Proposal advocates to identify and address issues.	TBC	Engagement Team with Development PM/Director
	Hold targeted landholder and stakeholder meetings to discuss key issue mitigation and to discuss the findings of key assessments, such as visual, social and economic impacts (depending on the SEARs inclusions).	TBC	Proposal Team
	Finalise the Community Benefit Scheme and management of key issues with the CCC.	TBC	Engagement Team with Development PM/Director
	Create short videos to discuss the outcome of the assessments and Proposal status leading into the exhibition phase.		Engagement Team with Development PM/Director
	During the exhibition period, hold a follow up information session to discuss findings of the EIS, mitigations for issues and next steps for the Proposal.	TBC	Proposal Team
	Summarise interactions, actions, and recommendations for engagement during delivery and operations in a report format.	TBC	Engagement Team

7. COMMUNITY BENEFIT SHARING OPTIONS

A Community Benefit Scheme (CBS) can ensure benefits are shared with the community in a way that enhances its resilience. From an industry best practice standpoint, several principles are seen as being helpful guides in developing or assessing a benefit sharing strategy, as outlined below[4]:

Table 7-1: Benefit sharing principles

Principle	Description
Appropriate	– Benefit sharing is tailored to local circumstances, culture and need, helping to address (not create or reinforce) patterns of conflict or inequality. It makes sense and is appropriate in the local context. – The local community provides guidance on how benefit sharing can create a positive, lasting and meaningful impact for their local community. We work with the local community to develop specific benefit sharing strategies that respond to their unique local context and need.
Flexible	– Benefit sharing is an aspect of Proposal development that will greatly benefit from being open to community involvement, influence, and negotiation. Having the flexibility to respond to local context will ensure benefit sharing has the best and biggest local impact. – The lifecycle of renewable energy developments is significant (25 years or more), a lot can change in a community during that period. Therefore, it is important to build in flexibility so that benefit sharing can evolve as the community needs do.
Transparent	– The benefit sharing strategy is transparently available to the community and provides a clear and understandable rationale for the various programs and who is eligible to participate. – Benefits are freely given for the sake of sharing the proceeds of the Proposal and building relationships. Benefit sharing must not come with conditions of silence or consent.
Integrated	– Benefit sharing seeks to integrate the Proposal owner/operators as valuable community members by building links and relationships into the community.
Mutually Beneficial	– The approach is designed to bring mutual benefit to local communities and the Proposal.

[4] Lane, T & Hicks, J, (forthcoming) Benefit Sharing Options for Renewable Energy, 2019, Clean Energy Council

Principle	Description
Proportionate	– The benefits are perceived as being proportionate to the scale of the Proposal and the level of change or disturbance experienced by local people. Given community members living closest to Proposals experience greater impacts, they should receive a proportionate benefit.
Strategic	– Create a positive legacy in the local community. Look to bring ongoing and lasting value to the local area. Integrate benefit sharing opportunities with broader strategies by building local partnerships.
Accountable	– Systems and processes are deployed to ensure the credibility and reputation of the benefit sharing program. – Benefit sharing is managed in a transparent and accountable way that involves local stakeholders.

7.1. Typical CBSP scope

In general terms, it is important to note that a CBSP does not include:

- required activities under our permit conditions such as for visual screening
- annual council rates payments or fire levies (where applicable)
- host landowner payments
- the value of local jobs and investment.

A successful CBSP is typically a mix of benefit-sharing mechanisms including:

- Near Neighbour payments or similar
- Community Benefit Fund
- Energy deals or discounts through solar and/or storage subsidies or a partnership with an energy retailer
- Community co-investment
- Investment to address specific local issue

Table 7-2: Options for benefit sharing

Option	Pros	Cons	Requirements	Constraints
Near Neighbour payments	• Provides benefit-sharing option for near neighbours who may be most affected by the Proposal, particularly during construction.	• Can be difficult to ascertain an appropriate radius. • Can be perceived by some as 'buying out' neighbours.	• Needs to be tailored to the local context. • Must be offered without conditions in relation to complaints, avoidance of compliance activities etc. • Must be equally applied and transparent.	• Population, topography, visual impact, scale. • Not applicable to involved landholders.
Community Benefit Fund	• Can create strong regional economic development outcomes. • Can create a strong legacy in community.	• Local government can negotiate to 'own' the fund – which may result in a higher cost of administration and potential politicisation of the program. • There can be a lack of sophisticated local programs or Proposals to apply to fund– may need to co-develop.	• Strong governance with community representation. • Strong evaluation and acquittal. • Flexible funding streams to enable longer term Proposals to access the fund. • Consider other existing regional funding bodies and look to enhance or offer point of difference.	• Not applicable to committed activities funded by any level of government. • A goal of the fund to be allocated to Proposals within Bendemeer local community.
Lower energy bills through solar and/or storage subsidies	• One off deployment of offer.	• Onerous to organise a defendable procurement contract.	• Delivered by local CEC accredited installers. • Easiest model is to select an installer – perform due diligence and deploy initiative at a fixed price (bulk buy approach).	• May be competing subsidies – such as state government that need to be taken into consideration – how to complement?

Option	Pros	Cons	Requirements	Constraints
Lower energy bills through retail offer or peer to peer electricity	• Possibility to 'skin' a retailer offers, and brand it per Proposal. • Offer that is equitable across the community – anyone can access it. • Connection to the renewable energy Proposal.	• Long term issues must be accounted for in the design – new arrivals, transition to solar and battery, competitive retail offers in the future. • Locals need to transfer to new energy supplier • Customer churn.	• Needs the right scale – minimum participation levels. • Needs the 'right' discount – i.e. minimum of 25-30%. •	• Retailer desire to partner. • Marketing and customer acquisition needs to be resourced locally. • Currently being done through Localvolts Pty Ltd
Community co-investment	• Enhancing regional economic benefits. • Sharing the profits with community retail investors. • Enabling participation in the development and deepening the connection and interaction with the Proposal. • The economies of scale of large-scale Proposals can deliver significant returns.	• Can be challenging to integrate the investment in the back end of the Proposal finance structure. • May not be a supported concept in all communities – may be dependent on social economic factors. • Can be onerous to administrate – ensure the impact/costs/ delegations are well modelled.	• Can be delivered through fractional investment platforms. • Need to determine investment structure, debt vs equity, length of term, rate of return etc, and what is negotiable for community feedback.	• Considerations around equity or debt structures. • Consider timing of offer to reduce community investor exposure to issues such as connection delays. • Consider budget for marketing and development and impacts on other benefit sharing initiatives.

Option	Pros	Cons	Requirements	Constraints
Investment to address specific local issue	• Can enable direct solutions to broader community needs/issues.	• Longevity of solution and appropriateness of solution can be difficult to establish.	• Community needs assessment to harvest ideas and then validate a chosen approach.	• Consider the budget allocation and how this may impact on other benefit sharing items.

8. KEY MESSAGES

8.1. Proposal key messages

The following massages are proposed to be used to discuss the Proposal overall.

8.1.1. The Proposal

- Athena is in the initial stages of a proposed solar and wind farm renewable energy hub near Bendemeer, around 42 km north-west of Tamworth in NSW.
- The Proposal site is located on a land holding of 1,225-hectares east of the New England Highway, near the intersection of the Oxley Highway in the Tamworth Regional Council Local Government Area (LGA).
- A maximum 520-hectare site is proposed to be used for Solar farm and BESS. The final development footprint is anticipated to be less due to dependency on biodiversity constraints guiding detailed design and approvals.
- The current development design being progressed encompasses a 210 MW Solar Generation and 200 MWh Energy Storage System.
- Athena estimates to use up to 490,000 solar panels for the Bendemeer Solar Farm. Each row of solar panels is typically 30, 60 or 90 meters long, depending on the terrain, each separated by a 5-7 meters corridor. However, we will study the terrain and soil condition carefully to optimize the final design, so that we minimize any shadowing effect on the panels and ensure we leave enough land in between the rows of solar panels for sheep grazing.
- A wind farm is being considered nearby in the future but is not part of the current Proposal seeking planning approval.
- Athena Energy Australia (Athena) is a renewable energy company, involved in the development, construction and operation of renewable energy projects within Australia.

8.1.2. Proposal benefits

As a whole the Renewable Energy Hub is anticipated to provide the following benefits:

- The Proposal will support approximately 250 jobs during the construction phase and 10 full-time equivalent position during operation and maintenance over a 30-year lifetime.
- The Proposal will provide with an economic boost for the regional economy, particularly in the local accommodation and service sectors.
- The Proposal will significantly contribute towards the NSW Government's aim of reaching net-zero emissions by 2050, by supplying clean renewable energy into the grid.
- This clean energy is critical to replace the fossil energy from nearby coal-fired power plants, which will be decommissioned progressively from 2023 onwards.
- This Proposal would provide enough clean energy to power 315,000 homes and have the same emissions reducing effect as taking 435,000 cars off the road.
- The Proposal will provide the same benefit as planting 13.11 million trees and is estimated to help avoid nearly 1.3 million tonnes of CO2.

- The aim of the Renewable Energy Hub is to invest in the first moving grid connection solar Proposal in the area and deliver sustainable long term energy solutions that benefit the community and the environment.
- The power generation would help improve local grid network capacity, potentially optimise electricity pricing in the long-term and assist local business activities.
- It would also reduce greenhouse gas emissions, contribute to meeting international climate change commitments and aid transition towards cleaner electricity generation.
- 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 (DIS, 2015). Nine coal-fired power stations have closed since 2011-2012, representing around 3,600 MW of installed capacity (Commonwealth of Australia, 2016). The reduction in energy supply from coal-fired power stations requires the development of reliable and sustainable energy supply.
- The Proposal is also consistent with the current goals and targets for renewable energy generation in NSW. These include:
    - Contributing to the national renewable energy target [i.e., 20% renewable energy supply] by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources.
    - Contributing to achieving the NSW target of zero net emissions by 2050.

8.1.3. Messaging around issues

I addition to the FAQ already developed, the content provided in Table 8-1 would be used as FAQs in the Proposal information and visual tools need to be developed to support discussion of these items in face-to-face meetings. This list will grow as the Proposal is developed.

Table 8-1 Anticipated questions and proposed answers

Question	Response
Why is this Proposal needed? Isn't there enough solar energy being produced in the area?	NSW has roadmap to increase NSW's renewable energy penetration to over 60% by 2030. This statewide initiative will create 6300 construction and 2800 ongoing jobs in regional Australia and will reduce electricity price in the state by $130 per year for households, $430 for small business and reduce NSW's carbon emissions by approx. 90million tons. Currently the renewable energy penetration in NSW is 16%. This Proposal in NSW will contribute to fill this target, create new jobs and will contribute to electricity price reducing and carbon emissions reducing.
Why was this site selected?	The Development Site was chosen through analysis of grid connection capabilities, sunlight levels, and alignment with regional policies and land use management strategies.

Question	Response
Who approves the Proposal?	Given the Proposal is expected to cost more than $30 million, it will be considered for approval by the NSW Department of Planning, Industry and Environment as a State Significant Development.
Will the Proposal change the way the area looks?	Inevitably, the installation of solar panels will have some effect on the aesthetics of the landscape. Athena is committed to working closely with the local community to address these concerns. We encourage members of the community to approach us with any concerns relating to this issue. Ultimately, Athena believes that the long-term benefits of Bendemeer Solar Farm will more than off-set any effects on visual aesthetics. During the scoping and assessment of the Proposal we will complete detailed visual impact assessments to understand and address these impacts. We will work closely with the Proposal neighbours to understand their views towards the Proposal area and how screening may be applied on the Proposal site or on their land to reduce visual impacts.
How will construction traffic and road impacts be managed?	• Construction of the solar farm is dependent on planning approvals. • The solar farm construction period is estimated to run for approximately 12 months. • Traffic generation from construction and operation will be established during detailed design. • With direct access from the Oxley Highway construction traffic is not anticipated to impact Bendemeer locals or users of the Oxley Highway. • A Construction Traffic Management Plan (CTMP) will be prepared and will outline details pertaining to construction activities at the site, and the traffic control measures and protocols to be implemented to manage impacts associated with the works. It will also include details for any oversize vehicles required as part of construction.
What is happening with the residual land?	The intention is to support sheep grazing within the solar farm footprint. The draft designs for the solar farm include the required space to support this.
Will the Proposal devalue my land?	There are many factors that influence the value of a property and there is no evidence base available to reference on this subject. We do not expect this development to devalue land in the area. Athena aims to deliver a Proposal that provides shared benefits to the community, while working with the site neighbours to reduce visual

Question	Response
	impacts and invest in meaningful opportunities to support the resilience of the Bendemeer community.

8.2. Media liaison

Given the scale of the Proposal (particularly when the wind component is added), it will be worth applying a proactive media strategy, where local media are proactively briefed to help provide balanced coverage. Such a strategy would help to build awareness of the Proposal, proactively explain management of issues and promote benefit sharing activities.

This liaison should focus on the proactive management of issues, the benefits the Proposal would bring to the area (including the CBS) and the everyday people stories – the people planning, building, supporting, and supplying the Proposal. The relevant media outlets are listed in Table 8-2.

Table 8-2 Media types and outlets

Media type	Outlets
Local media	• Local newspaper (The Northern Daily Leader, The Armidale Express) • Local radio (88.9FM, 2TM, 92.9FM, ABC New England North West) • Local television news (NBN Television, Prime 7) • Social media (Facebook, Instagram)
Digital / owned media	• Facebook • Instagram • Website • LinkedIn

Athena would need to develop story ideas and suitable content and image opportunities to support local media in developing the story. The spokesperson may vary, starting with the Proposal Director. Potential stories could be cultivated around these topics:

- Start of scoping investigations and initial engagements (outside of Proposal landholders).
- Engagement of local suppliers.
- Partnerships with local community-based organisations.
- Creation and launch of the Community Benefit Scheme.

9. EVALUATION AND NEXT STEPS

The strategy will be evaluated once the summary is completed in the context of the engagement objectives.

9.1. Next steps

- Review and revise the draft strategy.
- Confirm the resourcing to deliver the agreed strategy.
- Develop agreed supporting materials.
- Continue adjusting the strategy as the Proposal develops.

10. REFERENCES

Australian Wind Alliance (2018). Building Stronger Communities. Hicks, J., Lane, T., Wood, E., and Hall, N. (2018). Enhancing Positive Social Outcomes from Wind Farm Development: Evaluating community engagement and benefit-sharing in Australia. Clean Energy Council, Melbourne.

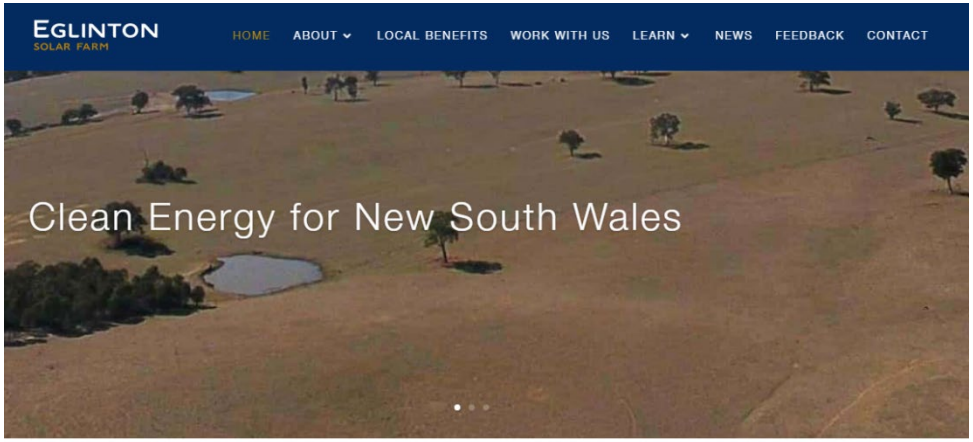
Clean Energy Council (2019). Hicks, J., Lane, T. A Guide to benefit sharing options for renewable energy projects. Clean Energy Council, Melbourne.

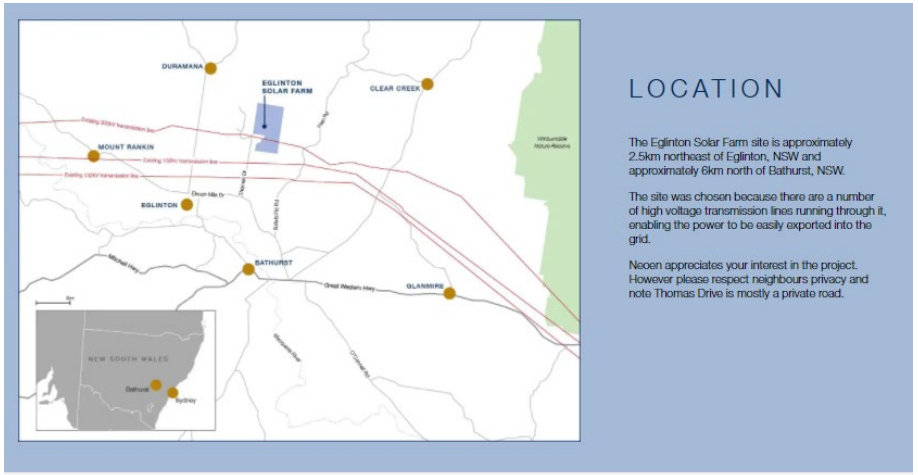
NSW Government (2021). Undertaking Engagement Guidelines for State Significant Projects. Sourced from https://www.planning.nsw.gov.au/ on 20 August 2021.

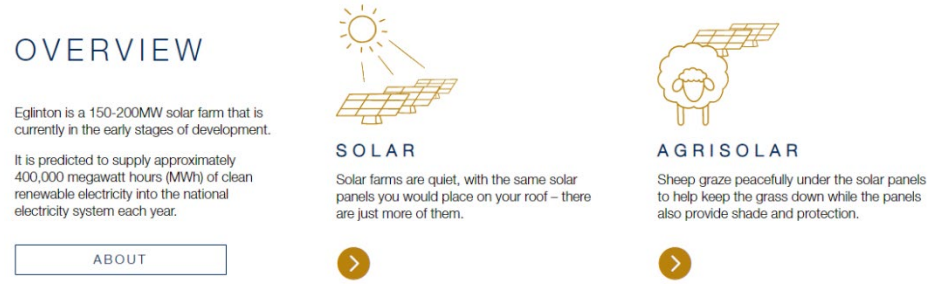
NSW Government (2018). Large-Scale Solar Energy Guideline for State Significant Projects. Sourced from https://www.planning.nsw.gov.au/ on 20 August 2021.

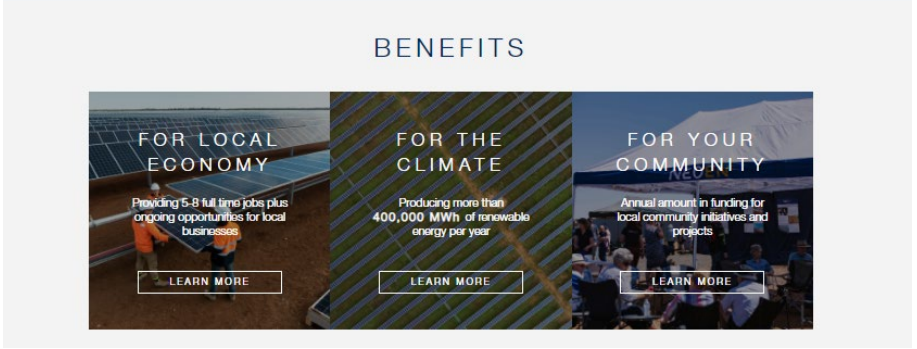
NSW Government (2016). Wind Energy Guideline for State Significant Projects. Sourced from https://www.planning.nsw.gov.au/ on 20 August 2021.

APPENDIX A – ENGAGEMENT EXAMPLES









Help shape Australia's first offshore wind project

Proposed to be located off the south coast of Gippsland, Star of the South would bring a new and reliable form of energy generation to Australia while creating jobs and investment.

We're in the feasibility and early planning stage. Our current focus is on site investigations, studies and assessments to understand what's involved in bringing offshore wind to Gippsland.

This is our online consultation hub, where you can give us feedback about project activities and planning. We believe that community involvement will make a better project. Whether you're a Gippsland local or someone with an interest in Australia's energy future, we look forward to your contributions.

Register to Get Involved!

Share your feedback

Provide input to our 25 technical studies

What do you want us to know or consider in our environmental assessments?

More

Share your favourite views

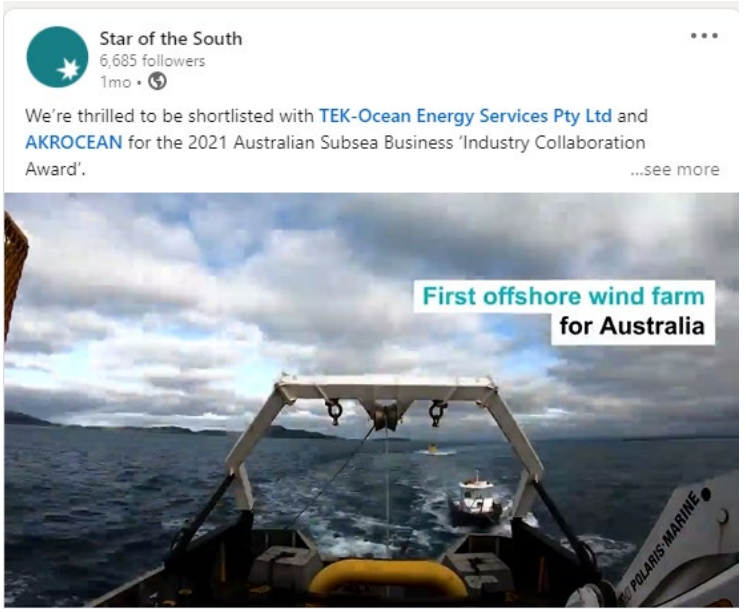
Your advice will help shape our seascape, landscape and visual assessment.

More

Talk with us

Webinar Q&A
5pm-6pm
Register
September 2, 2021

Community consultation sessions POSTPONED
Our planned community consultation sessions are being rescheduled due to COVID-19 restrictions. We hope to be able to run these events in October 2021. We'll post new dates here when available.



B.2 Consultation and Engagement Register

Activity Date	Stakeholder	Comm Type	Project Relevance	Topic	Stakeholder Feedback
Apr/2021	Bendemeer Landowner Group	Email sent	Community Engagement	Introduction of community engagement officer	None received
Apr/2021	Bendemeer Landowner Group	Email sent	Solar project questions	Athena's response to landowner and community questions: Will Athena sell project? Have they built a solar farm before? Landowner restrictions? Compensation?	None received
Apr/2021	Sensitive Receiver #1, #2 & #3	Email received	Solar project questions	Paul thanked Athena team for providing answers to landowners and neighbours	None received
Apr/2021	Sensitive Receiver #10	Phone call	Renewables	Introductions. Brief chat about renewables.	"This is like a marriage, not easy to get divorced."
Apr/2021	Sensitive Receiver #1, #2 & #3	Phone call		Chat about how he needs to organise the landowner meetings	None received
May/2021	Bendemeer Landowner Group	Email sent	Landowner and neighbour meet	Email to send landowners and neighbours presentation from meeting	None received
May/2021	Bendemeer Landowner Group	Email sent	Landowner and neighbour questions	Email to landowners and neighbours addressing questions raised in previous landowner and neighbour meet	None received
Jun/2021	Sensitive Receiver #10	Email sent	Map and Decommissioning	Email to Peter re map and decommissioning plan	None received
Jun/2021	Sensitive Receiver #10		Decomissioning	Decommissioning - discussed. A lot map.	None received
Jun/2021	Sensitive Receiver #10	Phone call	Decommisioning	Decomission discussion, Hugh Piper discussion	"We want it to happen."
Jun/2021	Sensitive Receiver #1, #2 & #3	Email received	solar neighbour	email from Paul with details about neighbour to solar project	None received

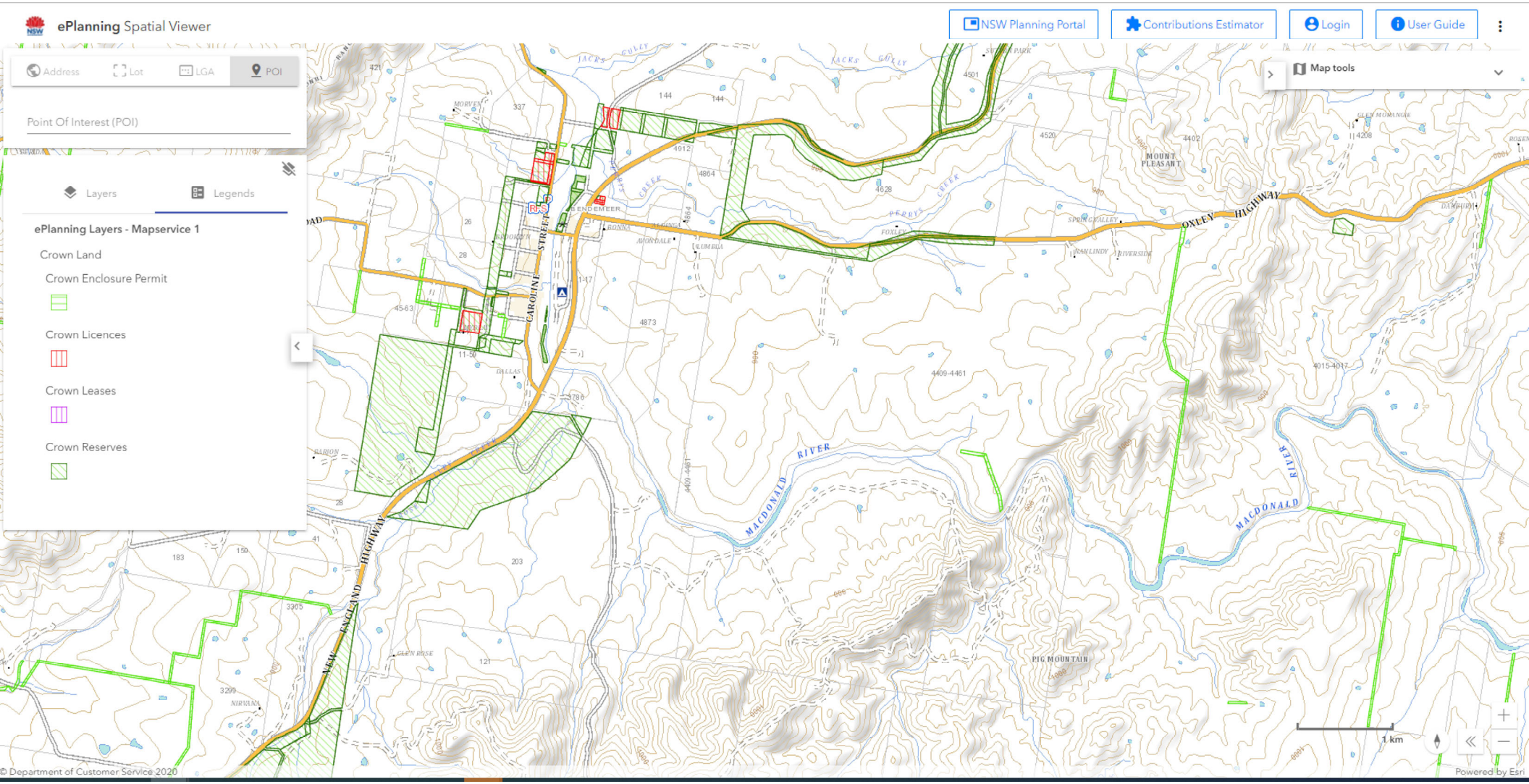
Activity Date	Stakeholder	Comm Type	Project Relevance	Topic	Stakeholder Feedback
Jun/2021	Sensitive Receiver #10	Phone call	Maintenance	Maintenance, service accounts, money aside to minimise debt.	"I have not seen in my career, it just becomes a distressed asset e.g Donner - all taken over unless extremely bad engineering."
Jul/2021	Bendemeer Landowner Group	Meeting	Decommisioning, Substation	Decommissioning - 30-40 developments, documentation is getting there, NSW has very good maps. The government will hopefully organise a bond, Landowners need more assurance roughly $200k to remove. Substation - deleted clause for erorsolr - seperate agreement. Copper, precious metals still generating revenue, lessons have been learnt in past. If the project is not a commercially visible it is a lose-lose.	Hamish - "We are happy to comply with all reguarlatory requests. "Peter thank you for not pressuring us." "Alan this is a partnership as long as both parties are committed to making this a success, we will advice it."
Jul/2021	Sensitive Receiver #10	Phone call		Touching base. Adjustment - if they need to move stock off property - unliely this will hapen - eversols group. Discussion of Hugh.	"I believe a few things have happened re decommissioning internally."
Jul/2021	Sensitive Receiver #1, #2 & #3	Phone call (left message)	Meeting and decommisioning	Regarding zoom meeting about decommisioning	None received
Jul/2021	Sensitive Receiver #10	Phone call, no answer			None received
Jul/2021	State Government Representative	In person discussion	Solar project discussion	A discussion was had at the Tamworth Business Chamber's State of the State Lunch. Key points discussed include project size, location, renewable energy	Kevin Anderson was interested in learning more about the project and wanted to be kept informed about project developments and updates.

Activity Date	Stakeholder	Comm Type	Project Relevance	Topic	Stakeholder Feedback
				zone, projected electricity generation, timelines and benefits to region.	
Jul/2021	Tamworth Regional Councilor & Representatives	In person discussion	Solar project discussion	A discussion was had at the Tamworth Business Chamber's State of the State Lunch. Key points discussed include project size, location, timelines and benefits to region.	Gina Vereker was interested in learning more about the project and wanted to be kept informed about project developments and updates.
Aug/2021	Sensitive Receiver #10	Phone call			"I'm happy with the maps that reflect the designs." "I spoke to Hugh this morning. Hugh has said his legal costs are $10k." "I'm nearly there, I hope to get it done by the end of this week."
Aug/2021	Sensitive Receiver #5	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #14	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #15	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #7	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #9	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #6	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #12	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in

Activity Date	Stakeholder	Comm Type	Project Relevance	Topic	Stakeholder Feedback
Aug/2021	Sensitive Receiver #4	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #11	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #8	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #10	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Aug/2021	Sensitive Receiver #7	Email sent	solar newsletter opt in	Neighbours sent an email asking to 'opt-in' to solar project newsletter	None opted in
Sep/2021	Tamworth Regional Councilor & Representatives	In person meeting	Solar project discussion	Met with Mayor and General Manager to present overview of proposed project, discussed things like project size, location, renewable energy zone, projected electricity generation, timelines. It was noted there are no active solar developments in Tamworth LGA.	Mayor and General Manager were both receptive to the presentation and were very interested to learn more about the project. They are to be kept informed about project developments and updates.
Sep/2021	Bendemeer Landowner Group	Email sent	Project photos	Image release form to use in marketing and comms for project	Landowner and neighbours sent forms back
Nov/2021	Bendemeer Landowner Group	Email sent	Spring Survey	Notification of bird and bat survey delay	
Nov/2021	Bendemeer Landowner Group	Email sent	Spring Survey delay	Notification of bird and bat survey delay	
Nov/2021	Bendemeer Landowner Group	Email sent	Spring Survey	Notification of bird and bat survey delay	

Activity Date	Stakeholder	Comm Type	Project Relevance	Topic	Stakeholder Feedback
Nov/2021	Bendemeer Landowner Group	Email sent	Staff update notification	Notifying of new Athena staff member	

Appendix C Database searches


ePlanning Spatial Viewer
NSW Planning Portal
Contributions Estimator
Login
User Guide
Address
Lot
LGA
POI
Point Of Interest (POI)
Layers
Legends
ePlanning Layers - Mapservice 1
Crown Land
Crown Enclosure Permit
Crown Licences
Crown Leases
Crown Reserves
Map tools
OXLEY HIGHWAY
NEW ENGLAND HIGHWAY
MACDONALD RIVER
CAROLINE STREET
BENDEMEER
MOUNT PLEASANT
PIG MOUNTAIN
1 km
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Row Labels	Count of SightingKey
Aves	**10**
Artamus cyanopterus cyanopterus	**3**
Dusky Woodswallow	3
(blank)	**3**
V,P	3
Climacteris picumnus victoriae	**2**
Brown Treecreeper (eastern subspecies)	2
(blank)	**2**
V,P	2
Hieraaetus morphnoides	**1**
Little Eagle	1
(blank)	**1**
V,P	1
Lophoictinia isura	**1**
Square-tailed Kite	1
(blank)	**1**
V,P,3	1
Stagonopleura guttata	**3**
Diamond Firetail	3
(blank)	**3**
V,P	3
Flora	**6**
Diuris pedunculata	**1**
Small Snake Orchid	1
E	**1**
E1,P,2	1
Eucalyptus nicholii	**1**
Narrow-leaved Black Peppermint	1
V	**1**
V	1
Swainsona sericea	**4**
Silky Swainson-pea	4
(blank)	**4**
V	4
Mammalia	**12**
Dasyurus maculatus	**1**
Spotted-tailed Quoll	1
E	**1**
V,P	1
Falsistrellus tasmaniensis	**1**
Eastern False Pipistrelle	1
(blank)	**1**
V,P	1
Miniopterus orianae oceanensis	**3**
Large Bent-winged Bat	3
(blank)	**3**
V,P	3
Phascolarctos cinereus	**1**
Koala	1
V	**1**
V,P	1
Pteropus poliocephalus	**3**
Grey-headed Flying-fox	3
V	**3**
V,P	3
Saccolaimus flaviventris	**2**
Yellow-bellied Sheathtail-bat	2
(blank)	**2**
V,P	2
Scoteanax rueppellii	**1**
Greater Broad-nosed Bat	1
(blank)	**1**
V,P	1
Reptilia	**98**
Myuchelys bellii	**97**
Western Sawshelled Turtle, Bell's Turtle	97
V	**97**
E1,P	97
Uvidicolus sphyrurus	**1**
Border Thick-tailed Gecko	1
V	**1**
V,P	1
Grand Total	**126**

Australian Government

Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

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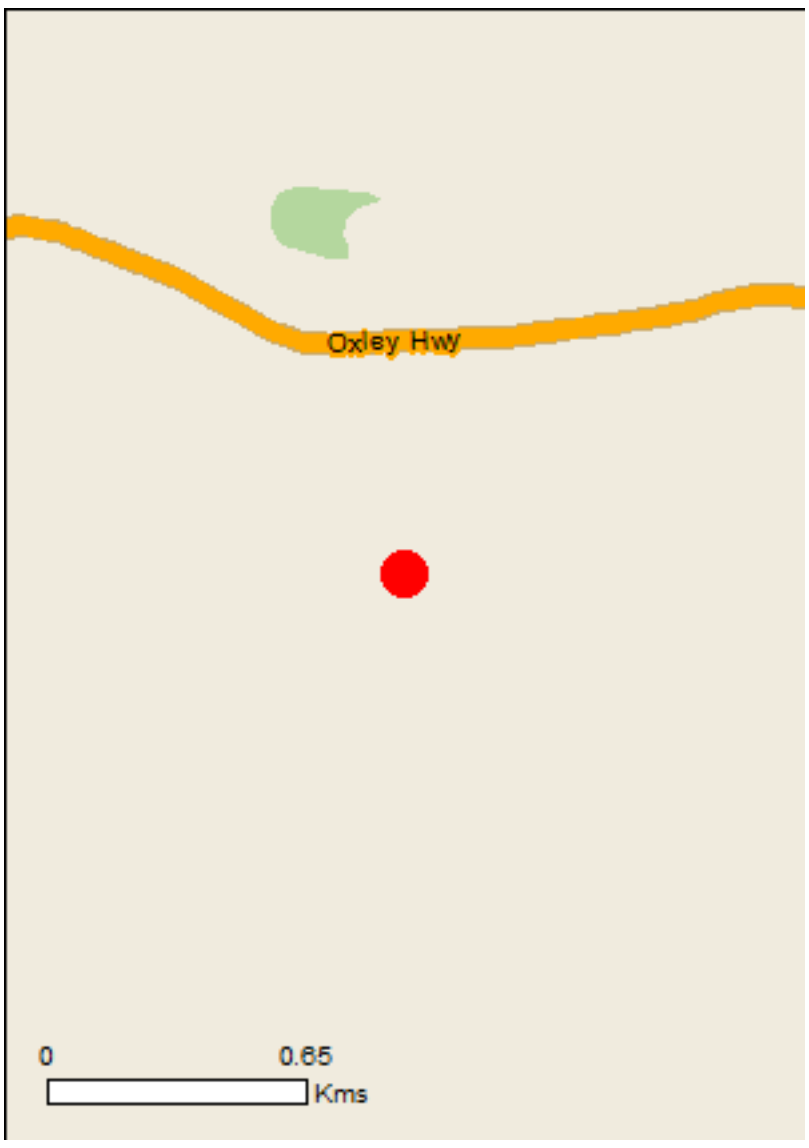

Coordinates

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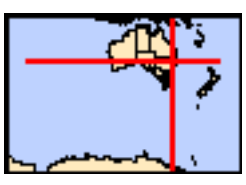

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	29
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	25
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Banrock station wetland complex	1000 - 1100km
Riverland	1000 - 1100km
The coorong, and lakes alexandrina and albert wetland	1200 - 1300km

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands	Critically Endangered	Community may occur within area
New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands	Critically Endangered	Community may occur within area
New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands	Critically Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
[Polytelis swainsonii](#) Superb Parrot [738]	Vulnerable	Species or species habitat may occur within area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Frogs		
[Litoria booroolongensis](#) Booroolong Frog [1844]	Endangered	Species or species habitat likely to occur within area
Mammals		
[Chalinolobus dwyeri](#) Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
[Dasyurus maculatus maculatus (SE mainland population)](#) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
[Nyctophilus corbeni](#) Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
[Petauroides volans](#) Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
[Petrogale penicillata](#) Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area
[Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)](#) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat likely to occur within area
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
[Arthraxon hispidus](#) Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
[Callistemon pungens](#) [55581]	Vulnerable	Species or species habitat likely to occur within area
[Dichanthium setosum](#) bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
[Diuris pedunculata](#) Small Snake Orchid, Two-leaved Golden Moths, Golden Moths, Cowslip Orchid, Snake Orchid [18325]	Endangered	Species or species habitat likely to occur within area
[Eucalyptus mckieana](#) McKie's Stringybark [20199]	Vulnerable	Species or species habitat may occur within area
[Eucalyptus nicholii](#) Narrow-leaved Peppermint, Narrow-leaved Black Peppermint [20992]	Vulnerable	Species or species habitat likely to occur within area
[Euphrasia arguta](#) [4325]	Critically Endangered	Species or species habitat likely to occur within area
[Homoranthus prolixus](#) [55198]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area
Tylophora linearis [55231]	Endangered	Species or species habitat may occur within area
Reptiles		
Uvidicolus sphyrurus Border Thick-tailed Gecko, Granite Belt Thick-tailed Gecko [84578]	Vulnerable	Species or species habitat likely to occur within area
Wollumbinia belli Bell's Turtle, Western Sawshelled Turtle, Namoi River Turtle, Bell's Saw-shelled Turtle [86071]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur

Name	Threatened	Type of Presence within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat may occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Nassella neesiana Chilean Needle grass [67699]		Species or species habitat likely to occur within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-30.88587 151.18852

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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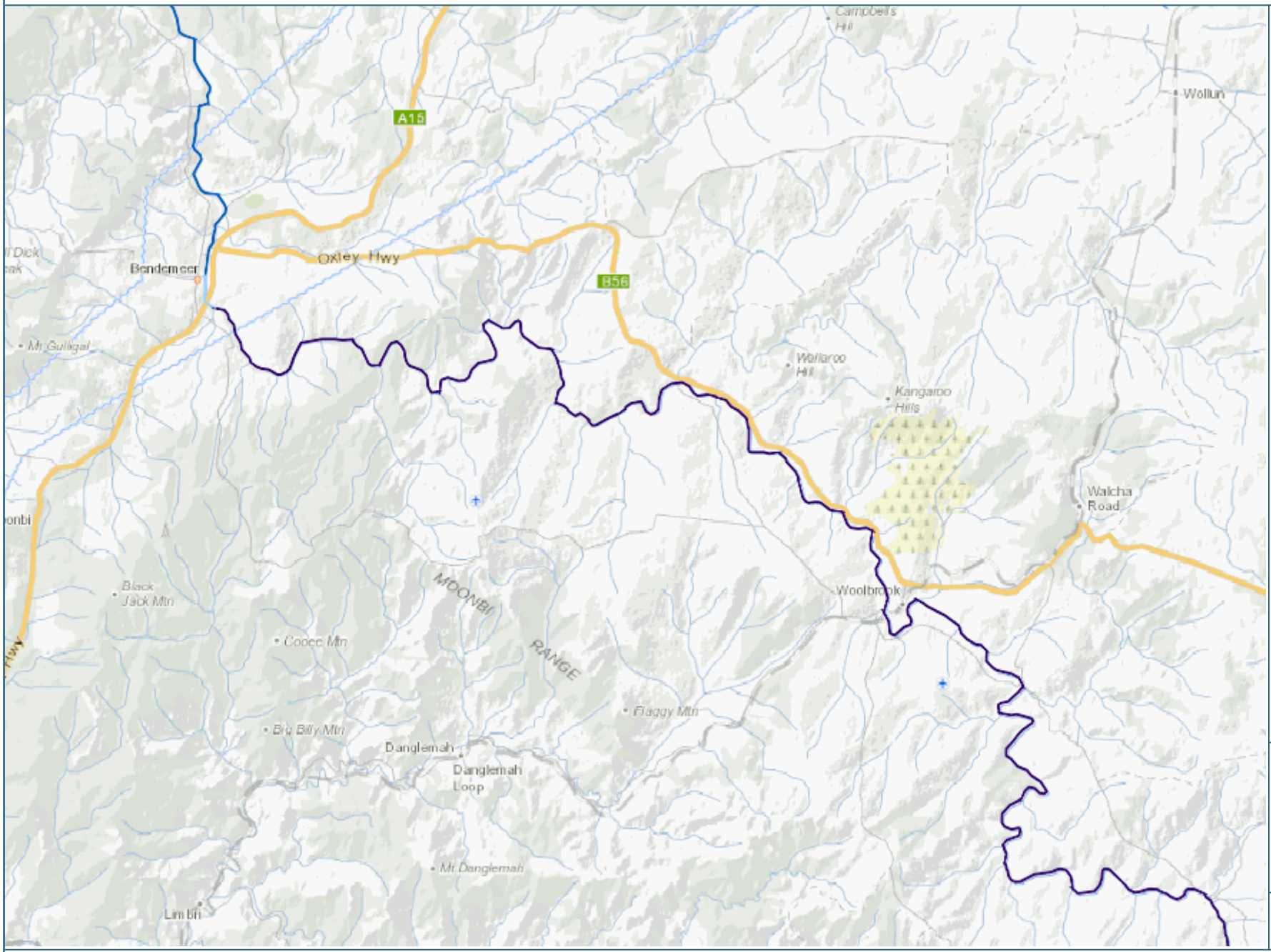
Australian Government
Bureau of Meteorology

Groundwater Dependent Ecosystems Atlas

Bendemeer Aquatic GDE



Aquatic GDE

- Known GDE (regional study)
- High potential GDE (regional study)
- Moderate potential GDE (regional study)
- Low potential GDE (regional study)
- Unclassified potential GI (regional study)
- High potential GDE (national assessment)
- Moderate potential GDE (national assessment)
- Low potential GDE (national assessment)
- Unclassified potential GI (national assessment)

N

1:169,341

Kilometres 3 5

Data Source: Bureau of Meteorology, Geoscience Australia and State/Territory lead water agencies. Refer to metadata for further information: Click here

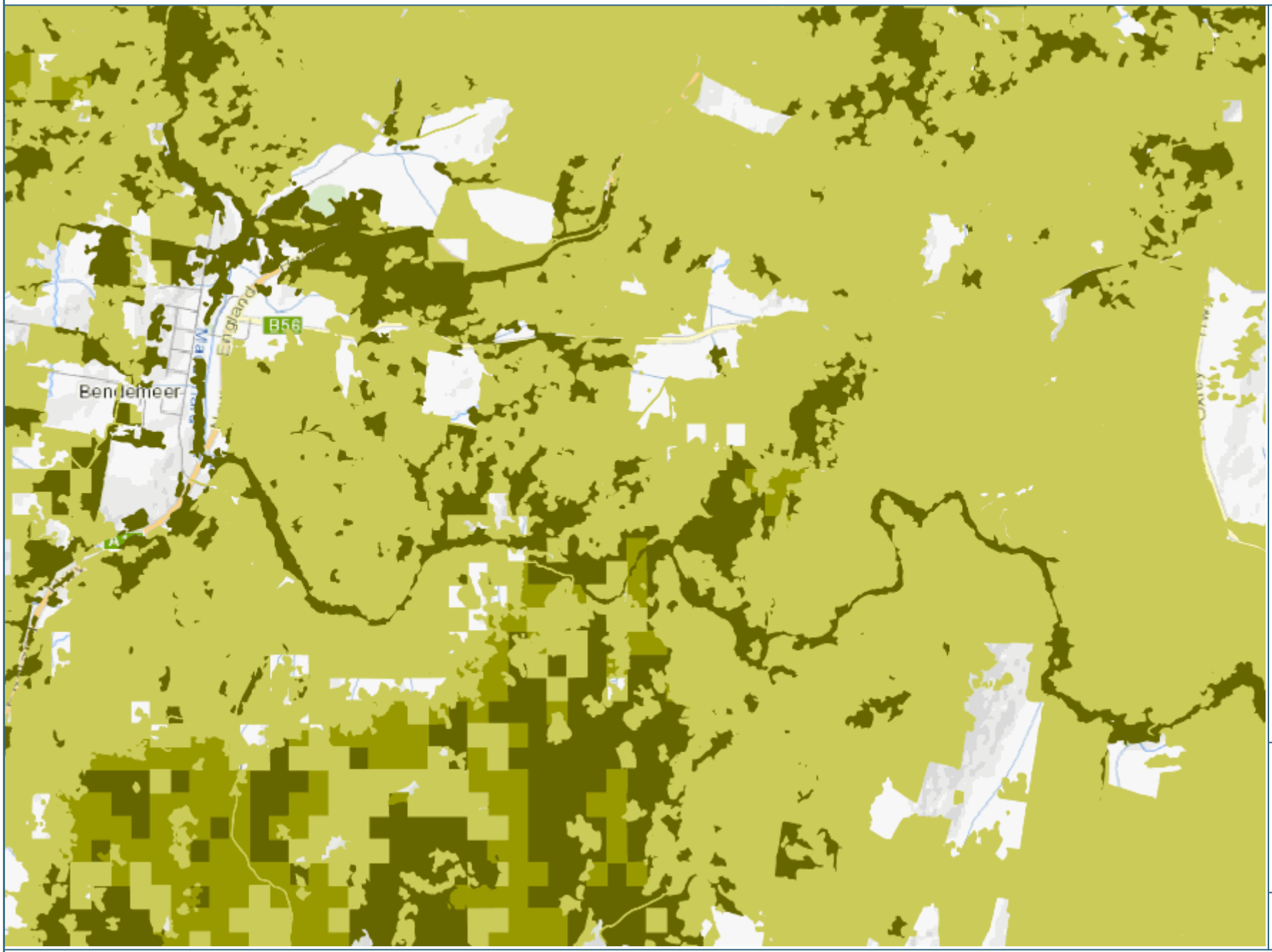
Australian Albers GDA94

Date: 28 June, 2021

Australian Government
Bureau of Meteorology

Groundwater Dependent Ecosystems Atlas

Bendemeer Terrestrial GDE



Terrestrial GDE (no data)

No ecosystems analysed

Terrestrial GDE

- Known GDE (regional study)
- High potential GDE (regional study)
- Moderate potential GDE (regional study)
- Low potential GDE (regional study)
- Unclassified potential GDE (regional study)
- High potential GDE (national assessment)
- Moderate potential GDE (national assessment)
- Low potential GDE (national assessment)
- Unclassified potential GDE (national assessment)

N

1:69,728

Kilometres 1 2 3

Data Source: Bureau of Meteorology, Geoscience Australia and State/Territory lead water agencies. Refer to metadata for further information: Click here

Australian Albers GDA94

Date: 28 June, 2021

Biodiversity Values Map and Threshold Tool

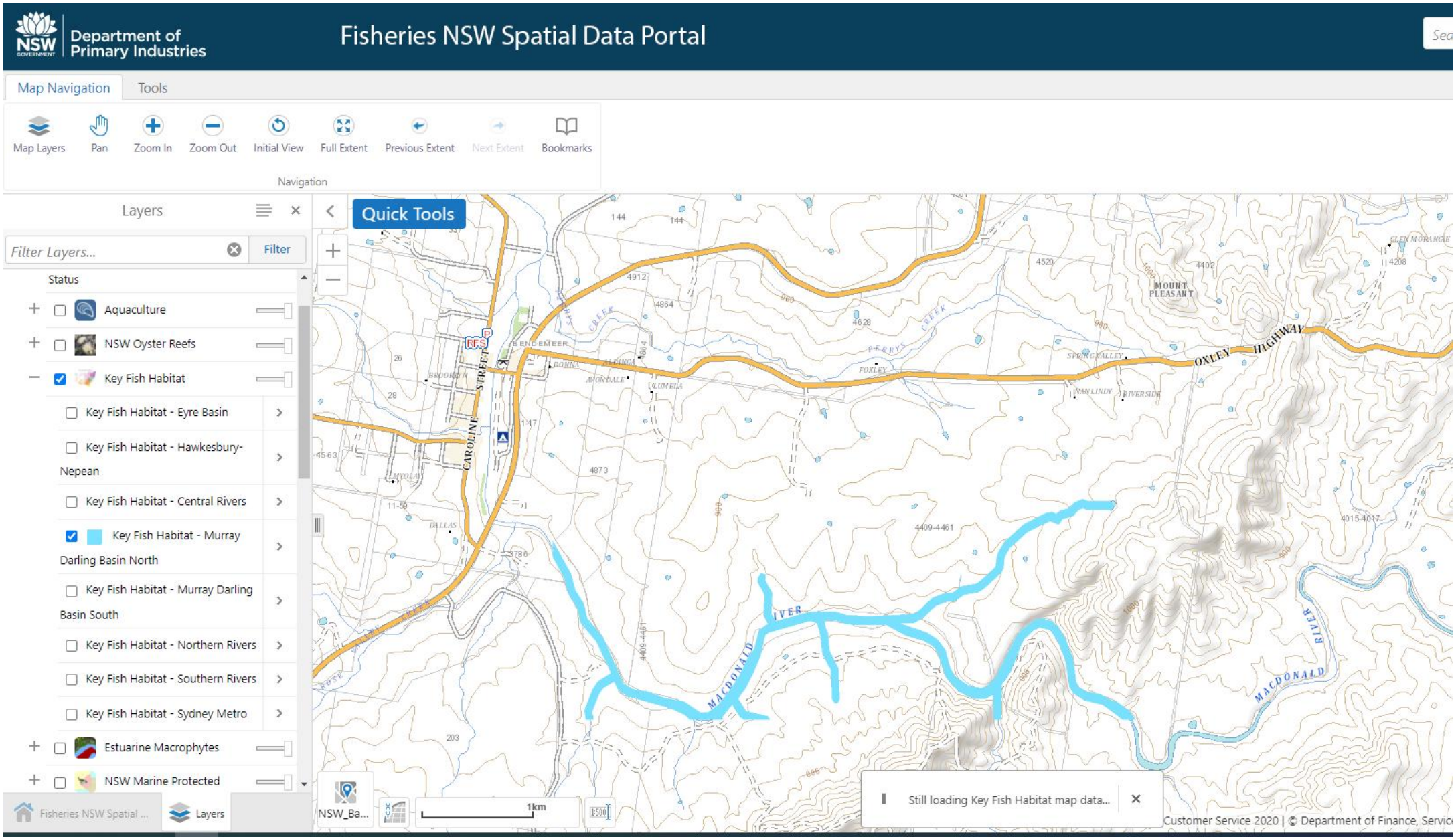
Search...

Layers

Filter Layers... Filter

- Lot
- Biodiversity Values
  - Biodiversity Values
  - Biodiversity Values (added in the last 90 days)
- Minimum Lot Size
- Local Government Area
- DPEBasemap
- NSW_Base_Map
- NSW_Imagery

Home Layers


Department of Primary Industries
Fisheries NSW Spatial Data Portal
Map Navigation
Tools
Map Layers
Pan
Zoom In
Zoom Out
Initial View
Full Extent
Previous Extent
Next Extent
Bookmarks
Navigation
Layers
Filter Layers...
Filter
Status
Aquaculture
NSW Oyster Reefs
Key Fish Habitat
Key Fish Habitat - Eyre Basin
Key Fish Habitat - Hawkesbury-Nepean
Key Fish Habitat - Central Rivers
Key Fish Habitat - Murray Darling Basin North
Key Fish Habitat - Murray Darling Basin South
Key Fish Habitat - Northern Rivers
Key Fish Habitat - Southern Rivers
Key Fish Habitat - Sydney Metro
Estuarine Macrophytes
NSW Marine Protected
Quick Tools
OXLEY HIGHWAY
CAROLINE STREET
MACDONALD RIVER
Still loading Key Fish Habitat map data...
1km
Fisheries NSW Spatial ...
Layers
NSW_Ba...
Customer Service 2020 | © Department of Finance, Servic

Appendix D Land Category Assessment

D.1 Land Category Assessment Report

Land Category Assessment

Bendemeer Renewable Energy Hub

December 2021

Project Number: 21-242

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Document verification

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Project Number:	21-242
Project File Name:	21-242 Bendemeer Renewable Energy Hub - Land Category Assessment - 20211210.docx

Revision	Date	Prepared by	Reviewed by	Approved by
Draft V1	16/07/2021	Sarah Downey	Brendon True (BAAS18155)	Brendon True (BAAS18155)
Draft V2	09/12/2021	Claire Hewitt (BAAS20009)	Brendon True (BAAS18155)	Brendon True (BAAS18155)

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Table of contents

Tables

Figures

Appendices

Acronyms and abbreviations

BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
DCS SS	Spatial Services, a business unit of the NSW Department of Customer Service (NSW)
DP	Deposited Plan
DPIE	Department of Planning, Industry and Environment (NSW)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
FPC	Foliage Projective Cover
ha	hectare(s)
km	kilometre(s)
LCA	Land Category Assessment
LGA	Local Government Area
LLS Act	*Local Land Services Act 2013*
LLS Regulation	Local Land Services Regulation 2014
m	metre(s)
NV Act	*Native Vegetation Act 2003* (NSW)
NVR Map	Native Vegetation Regulatory Map
OEH	(Former) Office of Environment and Heritage (NSW) (now EES)
PVP	Property Vegetation Plan
The Code	Land Management (Native Vegetation) Code 2018 (NSW)
Vegetation SEPP	State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

1. Introduction

NGH has been engaged by Athena Energy Holdings to prepare a Land Category Assessment (LCA) for the proposed Bendemeer Renewable Energy Hub Solar and Battery Energy Storage System (BESS), located at Bendemeer NSW, 42km north-east of Tamworth. The site is directly accessible from the Oxley Highway and will be referred to as the subject land in this Land Category Assessment. The project will be subject to an EIS assessed under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and satisfy the requirements of the NSW *Biodiversity Conservation Act 2016* (BC Act).

The development of the proposed Bendemeer Renewable Energy Hub Solar and BESS requires assessment under the Biodiversity Assessment Method (BAM). Section 6.8(3) of the BC Act determines that the BAM is to exclude the assessment of the impacts of clearing of native vegetation within areas categorised as Category 1 - Exempt land.

1.1 Subject Land

The subject land is located within the Tamworth Regional Council Local Government Area (LGA). and occurs within the following Lots and Deposited Plans (DP):

- Lot 1 DP1211502
- Lot 2 DP1211502
- Lot 3 DP1211502

Please refer to Appendix A for a map of the subject land. The land is zoned RU1 – Primary Production, with a small strip of RU4 – Primary Production Small Lots on Lot 158 DP753831. Please refer to Appendix B for land zoning.

1.2 Overview of land categorisation

Rural land in NSW is categorised under the *Local Land Services Act 2013* (LLS Act) into three main categories:

- Category 1 - Exempt Land
- Category 2 (regulated land, vulnerable regulated land, or sensitive regulated land), and
- Excluded land.

The main purpose of land categorisation under the LLS Act is to govern clearing of vegetation associated with agricultural activities in rural areas. Clearing of vegetation within Category 1 - Exempt Land does not require assessment or offsetting under the BAM. In practice, this means that native vegetation within Category 1 - Exempt Land is not included in any area clearing calculations when determining whether the Biodiversity Offset Scheme (BOS) applies to a proposal.

A Native Vegetation Regulatory (NVR) Map of existing land categorisations is maintained by the Department of Planning, Industry and Environment (DPIE). The NVR Map is currently in a transitional stage, and only Category 2 - Vulnerable Regulated Land, Category 2 - Sensitive Regulated Land and Excluded Land are publicly viewable (see NVR Map viewer www.lmbc.nsw.gov.au/Maps/index.html?viewer=NVRMap).

During the transitional period, BAM accredited assessors may establish the categorisation of land for the Environment Agency Head to consider, following the method utilised to develop the Native Vegetation Regulatory Map. This methodology is used in section 2 to establish areas of Category 1 – Exempt Land and Category 2 – Regulated Land.

No areas of Category 2 – Vulnerable Regulated Land, Category 2 – Sensitive Regulated Land or Excluded land are present on the property. Please refer to Appendix A for publicly available land categorisation layers surrounding the subject land, including an area of Excluded land to the west of the site (Bendemeer) and areas of Category 2 - Vulnerable Regulated Land (Perry's Creek, Macdonald River and steep land to the north east and south east).

2. Methodology

2.1 Land categorisation criteria

The following Table 2-1 outlines the various criteria that allow for the categorisation of areas of land according to the LLS Act.

Table 2-1 Land categories and criteria that applies to each category.

Land category	Criteria
Category 1 **Exempt Land**	• Land cleared of native vegetation as at 1 January 1990, or lawfully cleared after 1 January 1990 • Low conservation grasslands • Land containing only low conservation groundcover (not being grasslands) • Native vegetation identified as regrowth in a Property Vegetation Plan (PVP) under the repealed NSW *Native Vegetation Act 2003* (NV Act), only where the PVP specifies a regrowth date. • Land bio-certified under the BC Act.
Category 2 **Regulated Land**	• Land not cleared as at 1 January 1990 or unlawfully cleared after 1 January 1990 • Native vegetation grown with the assistance of public funds (clearing under the NSW Land Management (Native Vegetation) Code 2018 (the Code) is not permitted on such land while the agreement providing the funds is in force) • Land that was subject to a Private Native Forestry PVP or Plan that is no longer in force • Grasslands that are neither low nor high conservation grasslands • Travelling Stock Reserves, apart from Travelling Stock Reserves in the Western Division.
Category 2 **Vulnerable Regulated Land**	• Steep or highly erodible land • Protected riparian areas • Land susceptible to erosion, or land that is otherwise environmentally sensitive.
Category 2 **Sensitive Regulated Land**	• Land subject to a private land conservation agreement as set aside under the Code. • Land subject to a biocertification conservation measure • Land comprising an offset under a PVP or set aside under a code under the NV Act • Coastal wetlands and littoral rainforests (*Coastal Management Act 2016*) • High conservation grasslands • Core Koala habitat identified in a plan of management (Koala Habitat Protection State Environmental Planning Policy) • Critically endangered plants and critically endangered ecological communities • Ramsar wetlands listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Land category	Criteria
	• Land subject to remedial action or conservation measures under the BC Act • Land subject to a property, trust or conservation agreement • Land recommended for listing as an Area of Outstanding Biodiversity Value • Land subject to a Private Native Forestry Plan or Private Native Forestry PVP that is in force • Conservation Areas under the Southern Mallee Land Use Agreement • Native vegetation that must be retained under the *Plantation and Reafforestation Act 1999* • Land subject to a condition of development consent requiring the land to be set aside for conservation purposes under the *Environmental Planning and Assessment Act 1979* • Rainforest and old-growth forest
Excluded land	• Land that is not subject to the LLS Act, such as National Parks, State Forests and urban areas (subject to the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 (Vegetation SEPP)).

2.2 Legislative framework

2.2.1 Biodiversity Conservation Act 2016

Section 6.8(3) of the BC Act determines that the BAM is to exclude the assessment of the impacts (except for prescribed impacts) of clearing of native vegetation on Category 1 - Exempt Land (within the meaning of Part 5A of the LLS Act).

- **BC Act s6.8(3):** The biodiversity assessment method is to exclude the assessment of the impacts of any clearing of native vegetation and loss of habitat on Category 1 - Exempt Land (within the meaning of Part 5A of the LLS Act), other than any impacts prescribed by the regulations under section 6.3.
- **BAM 2020, s1.5:** The BAM does not assess biodiversity values for:

  d. native vegetation and loss of habitat on Category 1 - Exempt Land (within the meaning of Part 5A of the LLS Act), other than the additional biodiversity impacts under clause 6.1 of the BC Regulation (referred to as prescribed impacts in the BAM).

2.2.2 Section 60J of the Local Land Services Act 2013

Under section 60J of the *Local Land Services Act 2013* (LLS Act), matters relating to the determination of mapped Category 1 - Exempt Land or Category 2 - Regulated Land include:

60J (2) Native vegetation that comprises grasslands or other non-woody vegetation is taken to have been cleared if the native vegetation was significantly disturbed or modified. The regulations may make provision for the purposes of determining whether native vegetation has been significantly disturbed or modified for the purposes of this Division.

The clearing of native vegetation after 1990 must have been done legally, and the vegetation must have been cleared as of 1st January 1990 or between 1st January 1990 and 25th August 2017. Satellite imagery may be used to determine the native vegetation clearing.

2.2.3 Section 114 of the *Local Land Services Regulation*

Section 114 of the *Local Land Services Regulation 2014* (LLS Regulation) outlines how to determine whether native vegetation has been significantly disturbed or modified.

(1) Native vegetation that comprises grasslands or other non-woody vegetation is taken to have been significantly disturbed or modified (and therefore cleared) only if—

> *(a) there has been a detectable variation (from information obtained from aerial or satellite imagery) in the structure or composition, or both, of non-woody vegetation, and*
>
> *(b) that variation is consistent with management of pasture or crops for agricultural purposes, and*
>
> *(c) that variation has been sustained for at least 12 months on more than one occasion before the commencement of Part 5A of the Act, and*
>
> *(d) that variation has not been caused only by grazing on the land, and*
>
> *(e) that variation occurred (from information obtained from aerial or satellite imagery) between 1 January 1990 and the date of commencement of Part 5A of the Act.*

2.3 NGH assessment methodology

An initial desktop assessment and literature review of previous studies was undertaken over the subject land to determine the ecological constraints and land categories on site. A precautionary approach was used when identifying Category 2 – Regulated Land. Where data were conflicting, or the categorisation of land was unclear, land was mapped as Category 2 – Regulated Land.

2.3.1 Site assessment

Field assessment was undertaken by a BAM accredited NGH Senior Ecologist on 23rd and 24th August 2021. The site assessment included rapid assessment and classification of Plant Community Types (PCTs), groundcover assessment, identification of scattered trees and ground-truthing of NSW vegetation mapping.

Additional field survey to undertake BAM vegetation integrity plots was undertaken by a BAM accredited NGH Senior Ecologist from 11 – 15th October 2021. Twenty-one plots, using the method recommended by BAM 2020, were completed covering the delineated vegetation zones across the entire subject land.

Vegetation mapping following site assessment is shown in Appendix C.

2.3.2 Desktop assessment

NGH undertook a mapping analysis of the site, using historic and current aerial imagery and several spatial datasets, outlined in Table 2-2 below. Maps are also presented in the Appendices. Please note that aerial imagery is not available for 1990 for this area and therefore aerial imagery from 1986 and 1993 have been used. The 1986 aerial imagery provides a reasonable indication of what was occurring in 1990, and the 1993 aerial imagery demonstrates that the land continued to be managed in the same way between 1986 and 1993.

Table 2-2 Datasets used in desktop analysis

Dataset	Purpose
Historical aerial imagery – 1986, 1993 and 1997	Used to show historic evidence of land use, disturbance, vegetation clearing and maintenance of land management practices.
Transitional NVR Map v3.0 (updated 26/03/2021)	The transitional Native Vegetation Regulatory (NVR) Map is a tool that landholders can use to display publicly visible land categorisation at a property scale during the transitional period. As this map is updated regularly, published spatial layers used in this assessment were cross checked against the online web portal map to ensure the NVR mapping was the most up to date available for the site.
NSW Land use 2017 v1.2 (updated 24/06/2020) © State Government of NSW and Department of Planning, Industry and Environment 2020	This dataset captures how the landscape in NSW is being used for food production, forestry, nature conservation, infrastructure and urban development. It can be used to monitor changes in the landscape and identify impacts on biodiversity values and individual ecosystems.
NSW Environmental Planning Instrument - Land Zoning (data updated on a weekly basis) © State Government of NSW and Department of Planning, Industry and Environment 2008	This spatial dataset identifies land use zones and the type of land uses that are permitted (with or without consent) or prohibited in each zone on any given land as designated by the relevant NSW environmental planning instrument (EPI) under the Environmental Planning and Assessment Act 1979.
NSW Woody Vegetation Extent & FPC 2011 (updated 02/04/2015) © State Government of NSW and Department of Planning, Industry and Environment 2015	This dataset shows the location, extent, and foliage cover for stands of woody vegetation in NSW for the year 2011.
NSW State Vegetation Mapping Border Rivers Gwydir/Namoi region Vegetation Mapping Version 2.0 (VIS_ID 4467) © State Government of NSW and Department of Planning, Industry and Environment 2015	Datasets show vegetation mapping. Map quality can be variable - vegetation and PCT mapping requires ground-truthing.

Dataset	Purpose
NGH Site Assessment Vegetation Mapping	Ground-truthed PCT and vegetation mapping, based on field assessment.

3. Results

3.1 Interpretation of datasets

The site assessment described in section 2.3.1 and the analysis of the data sources described in section 2.3.2, particularly the historical aerial imagery, demonstrates evidence of extensive vegetation modification resulting from agricultural land use within the study area in 1986, 1993, 1997 and 2011.

Table 3-1 below outlines how the datasets in Table 2-2 informed the proposed Category 1 – Exempt Land and the Category 2 – Regulated Land for the subject land.

Table 3-1 Summary of data sources and interpretation within the subject land

Dataset	Category 1 - Exempt Land	Category 2 - Regulated Land
Transitional NVR Map v3.0 (Appendix A)	• N/A	• No areas of Category 2 - Vulnerable Regulated Land or Category 2 - Sensitive Regulated Land exist within the subject land • No areas of Excluded land exist within the subject land.
NSW Environmental Planning Instrument - Land Zoning (Appendix B)	• The land is zoned rural (RU1 and RU4) therefore Part 5A of the LLS Act applies and land categorisation can be determined.	
NGH Site Assessment Vegetation Mapping (Appendix C)	• Areas free of woody vegetation are dominated by planted, exotic pasture species and / or the exotic African Lovegrass (*Eragrostis curvula).* The composition of the groundcover is less than 50% native vegetation.	• Scattered, native trees • Areas of woodland (PCT 510 and PCT 538).
Historical aerial imagery – 1986, 1993 and 1997 (Appendix D)	• Evidence of groundcover modification and disturbance in areas between and surrounding patches of woody vegetation, demonstrated by faint machinery lines and groundcover colour / shade.	• Woody vegetation extent predominantly the same in 1986, 1993 and 1997. This woody vegetation corresponds to that in 2011 as demonstrated in the Woody Vegetation Extent & FPC layer (Appendix F) and 2011 aerial imagery (Appendix A).
NSW Land use 2017 v1.2 (Appendix E)	Land use within subject land identified as: • Grazing modified pastures (where no woody vegetation is present) • Cropping.	Land use within subject land identified as: • Grazing native vegetation • Grazing modified pastures (where woody vegetation is present).

Dataset	Category 1 - Exempt Land	Category 2 - Regulated Land
NSW Woody Vegetation Extent & FPC 2011 (Appendix F)	• Areas where woody vegetation is absent. • Areas of woody vegetation regrowth that has occurred post 1990 following previous clearing events	• Areas where woody vegetation is present, which correlates to 1986, 1993, 1997 and 2011 aerial imagery, inclusive of scattered trees.
NSW State Vegetation Mapping, 2015 (Appendix G)	• Areas of PCT 1 – Candidate Native Grasslands. These areas are dominated by exotic groundcovers, such as African Lovegrass. • Areas without native vegetation mapping. These areas are dominated by sown, exotic pasture species.	• Areas mapped as PCT 501, 510, 538 and 552 • Scattered trees and clumps of trees.

3.2 Proposed Land Categorisation

NGH's desktop analyses identified Category 1 – Exempt Land and Category 2 – Regulated Land areas within the subject land, as described in section 3.2.1 and section 3.2.2. The final proposed land categorisation based on desktop searches and site assessment is shown in Appendix H.

3.2.1 Category 1 – Exempt Land

A significant portion of the subject land shows evidence of groundcover modification and disturbance in 1986 which intensified between 1986 and 1993 and then continued to 1997. The disturbance was in place in 1990, was due to agricultural activities and was maintained over a period greater than 12 months, therefore these areas have been mapped as Category 1 - Exempt Land.

The areas proposed for Category 1 – Exempt Land have also been subject to site assessment, including the recommended number of BAM plots for the area, by a BAM accredited assessor who confirmed that the groundcover vegetation is composed of more than 50% exotic vegetation (low conservation value grasslands or groundcover). BAM plot 4 (refer to Appendix C) consisted of less than 50% exotic vegetation but this is an anomaly in an area of the subject land that has been cleared since before 1990 and has been highly modified since then.

This is supported by the 2017 Land Use Dataset mapping which indicates that areas proposed as Category 1 – Exempt Land are grazing land modified by the addition of exotic pasture species or areas used for cropping.

The proposed Category 1 – Exempt Land mapping is also supported by the NSW Woody Vegetation Extent and FPC data (2011) which indicates that areas that were cleared of woody vegetation remain consistently cleared of woody vegetation, and vice versa.

The land category assessment resulted in an area of 395.76 hectares (ha) of proposed Category 1 – Exempt Land.

Please note that some of the proposed Category – 1 Exempt Land will need to be assessed under the BAM, if the scattered trees surrounding the proposed Category 1 – Exempt Land do not meet the definition of a scattered tree in Appendix B of BAM 2020.

3.2.2 Category 2 – Regulated Land

Historic imagery shows areas of woody vegetation and scattered trees present in 1986, 1993, 1997 and 2011. These areas have been proposed for Category 2 – Regulated Land.

State Vegetation Mapping - Border Rivers Gwydir/Namoi Region Vegetation Mapping (DPIE 2015) shows areas of the following PCTs:

- PCT 1 - Candidate Native Grasslands
- PCT 501 - Bendemeer White Gum - Silvertop Stringybark - Rough-barked Apple +/- Moonbi Apple Box grassy open forest of the southern New England Tablelands Bioregion (mapped as Bendemeer White Gum, Silvertop Stringybark, Rough-barked Apple and Moonbi Apple Box grassy forest)
- PCT 510 - Blakely's Red Gum - Yellow Box grassy woodland of the New England Tablelands Bioregion 9mapped as Blakely's Red Gum - Yellow Box grassy woodland)
- PCT 538 - Rough-barked Apple - Blakely's Red Gum open forest of the Nandewar Bioregion and western New England Tableland Bioregion (mapped as Rough-barked Apple - Blakely's Red Gum open forest)
- PCT 552 - Silvertop Stringybark - Rough-barked Apple - Eucalyptus quinniorum shrubby open forest of southern Nandewar Bioregion and New England Tableland Bioregion (mapped as Silvertop Stringybark - Rough-barked Apple - Eucalyptus quinniorum shrubby open forest)

Site assessment confirmed that PCT 510 and PCT 538 are more extensive on site than indicated in the State Vegetation Mapping, but the extent of woodland and forest plant communities remained roughly the same. These woody vegetation areas are consistent with the historical imagery and the Woody Vegetation Extent and FPC 2011 mapping and have been proposed for Category 2 – Regulated Land.

Site assessment determined that the areas of PCT 1 – Candidate Native Grasslands are dominated by non-native species and do not meet the definition for Category 2 – Regulated Land.

Historic and current aerial imagery and Woody Vegetation Extent spatial data identified scattered paddock trees present in the subject land in 1990. These areas have been mapped as Category 2 - Regulated Land.

The Native Vegetation Regulatory Map identifies areas of Category 2 – Vulnerable Regulated Land, Category 2 - Sensitive Regulated Land and Excluded land; none of which is present within the subject land.

The land category assessment resulted in an area of 156.6 ha of proposed Category 2 – regulated land.

3.3 Conclusion

Based on the above data sources, there is evidence to suggest that large areas of the subject land have been heavily modified from agricultural use that was in place in 1990 and remained in place in the same areas between 1990 and 2011. These agricultural practices (predominantly grazing using modified pastures) are still in use in 2021.

These areas have been mapped as Category 1 - Exempt Land.

Areas of woody vegetation and scattered trees present in 1986, 1993, 1997 and 2011 have been mapped as Category 2 – Regulated land.

3.4 Site Photographs

The photographs provide an indication of the disturbed areas and woody areas respectively within the study area.

Figure 3-1 Example of disturbed ground within the subject land (proposed Category 1 – Exempt Land)

Figure 3-2 Example of native woodland within the subject land (proposed Category 2 – Regulated Land)

3.5 References

State Government of New South Wales and Department of Planning, Industry and Environment, 2021. *Native Vegetation Regulatory Map* www.lmbc.nsw.gov.au/Maps/index.html?viewer=NVRMap (accessed September 2021)

State Government of New South Wales and Department of Planning, Industry and Environment, 2021. *ePlanning Spatial Viewer* www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address (accessed September 2021)

State Government of New South Wales and Department of Planning, Industry and Environment, 2020. *NSW Land Use 2017 v1.2 Land Use Dataset (Australian Land Use and Management (ALUM) Classification version 8* https://datasets.seed.nsw.gov.au/dataset/nsw-landuse-2017-v1p2-f0ed (accessed September 2021)

State Government of New South Wales and Department of Planning, Industry and Environment, 2015. *NSW Woody Vegetation extent and Foliage Projective Cover 2011* https://datasets.seed.nsw.gov.au/dataset/nsw-woody-vegetation-extent-fpc-20119bb42 (accessed September 2021)

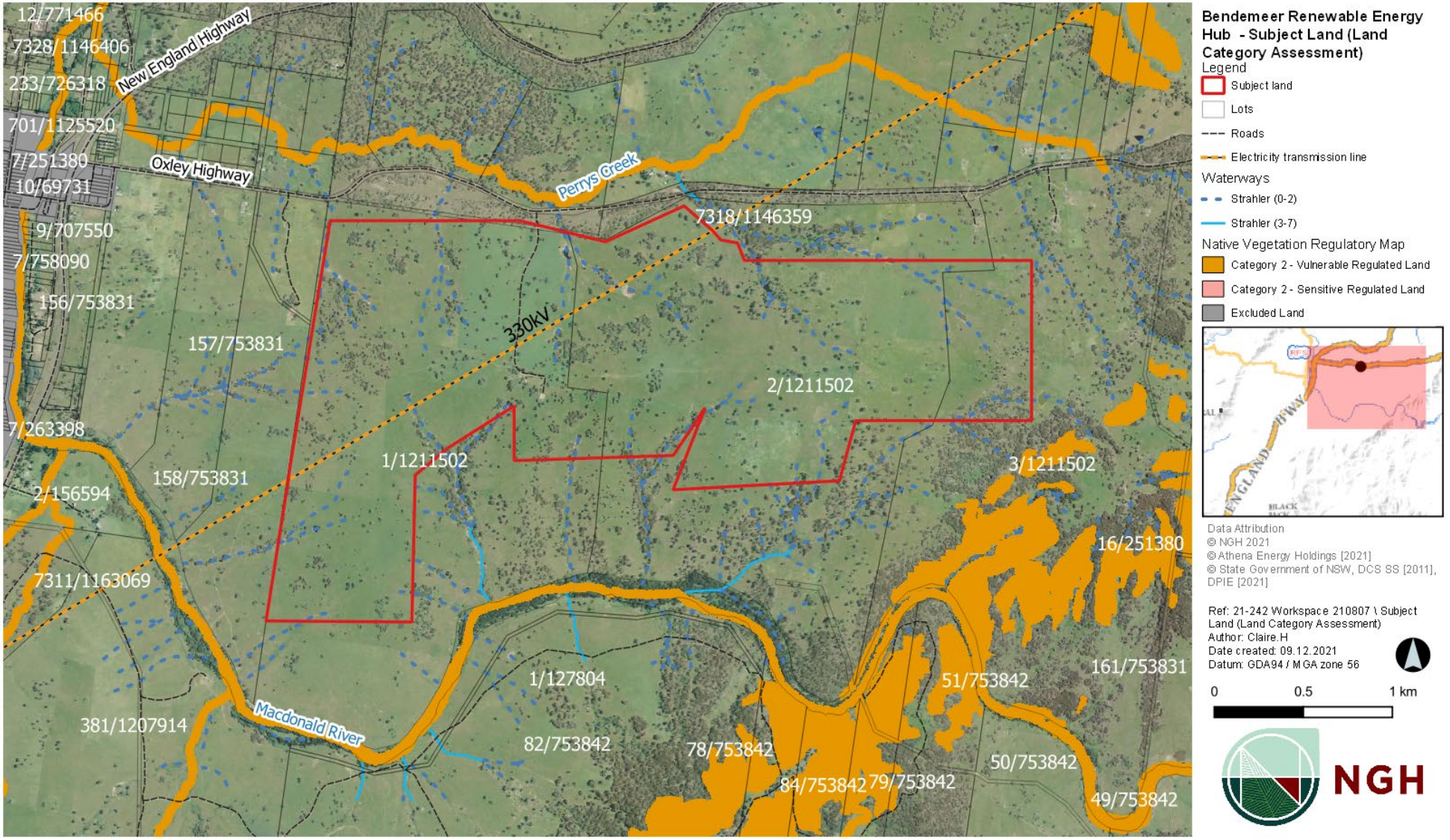
State of Government NSW and Department of Planning, Industry and Environment, 2015. *Border Rivers Gwydir/Namoi region Vegetation Mapping Version 2.0 (VIS_ID 4467)* https://datasets.seed.nsw.gov.au/dataset/border-rivers-gwydir-namoi-regional-native-vegetation-map-version-2-0-vis_id-420443dc7 (accessed September 2021)

State of New South Wales (Spatial Services, a business unit of the Department of Customer Service) NSW, 2021. *Historical Imagery Viewer*

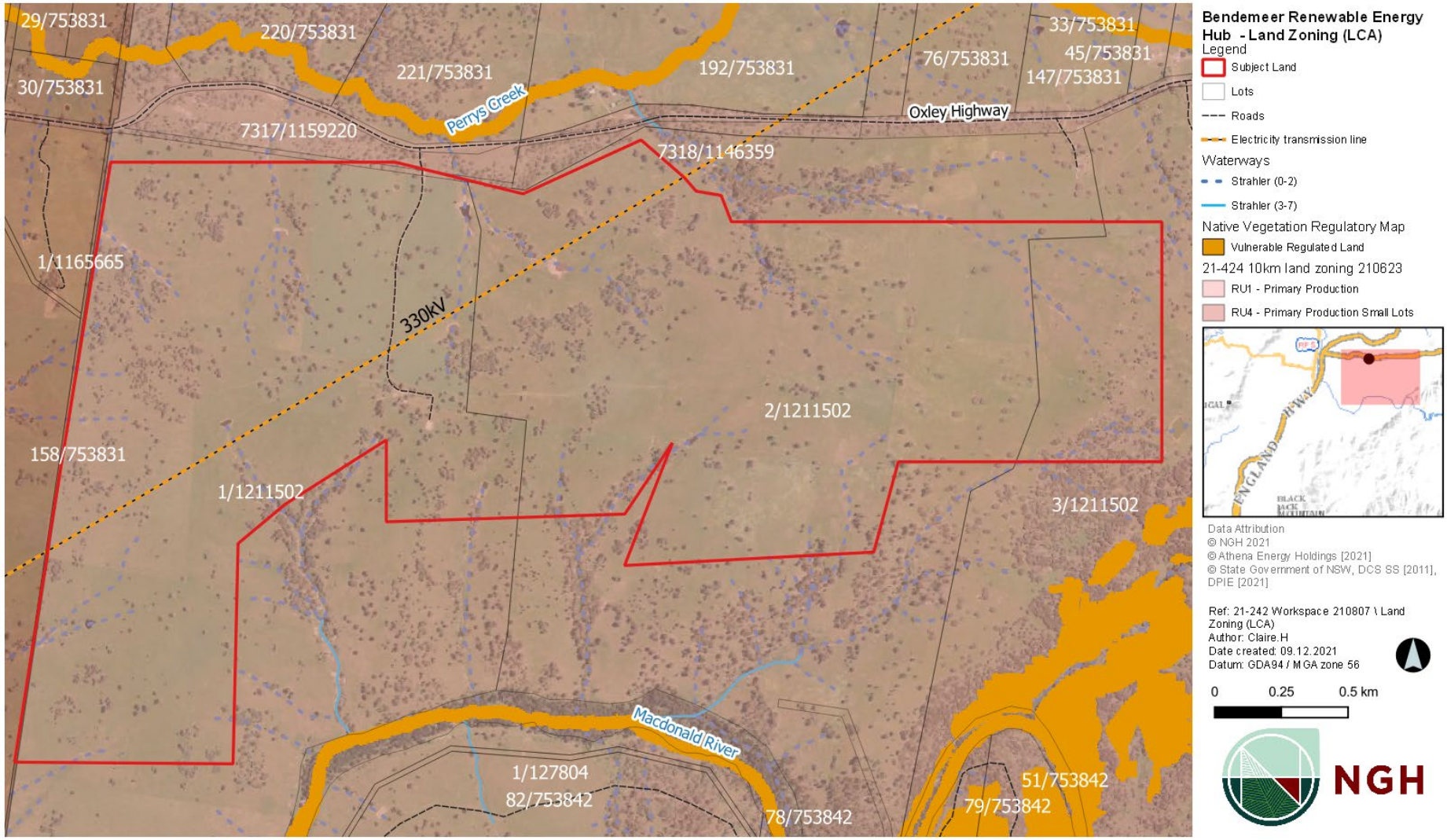
https://portal.spatial.nsw.gov.au/portal/apps/webappviewer/index.html?id=f7c215b873864d44bccddda8075238cb (accessed September 2021)

State of New South Wales (Spatial Services, a business unit of the Department of Customer Service) NSW, 2021. *SixMaps* https://maps.six.nsw.gov.au/ (accessed September 2021)

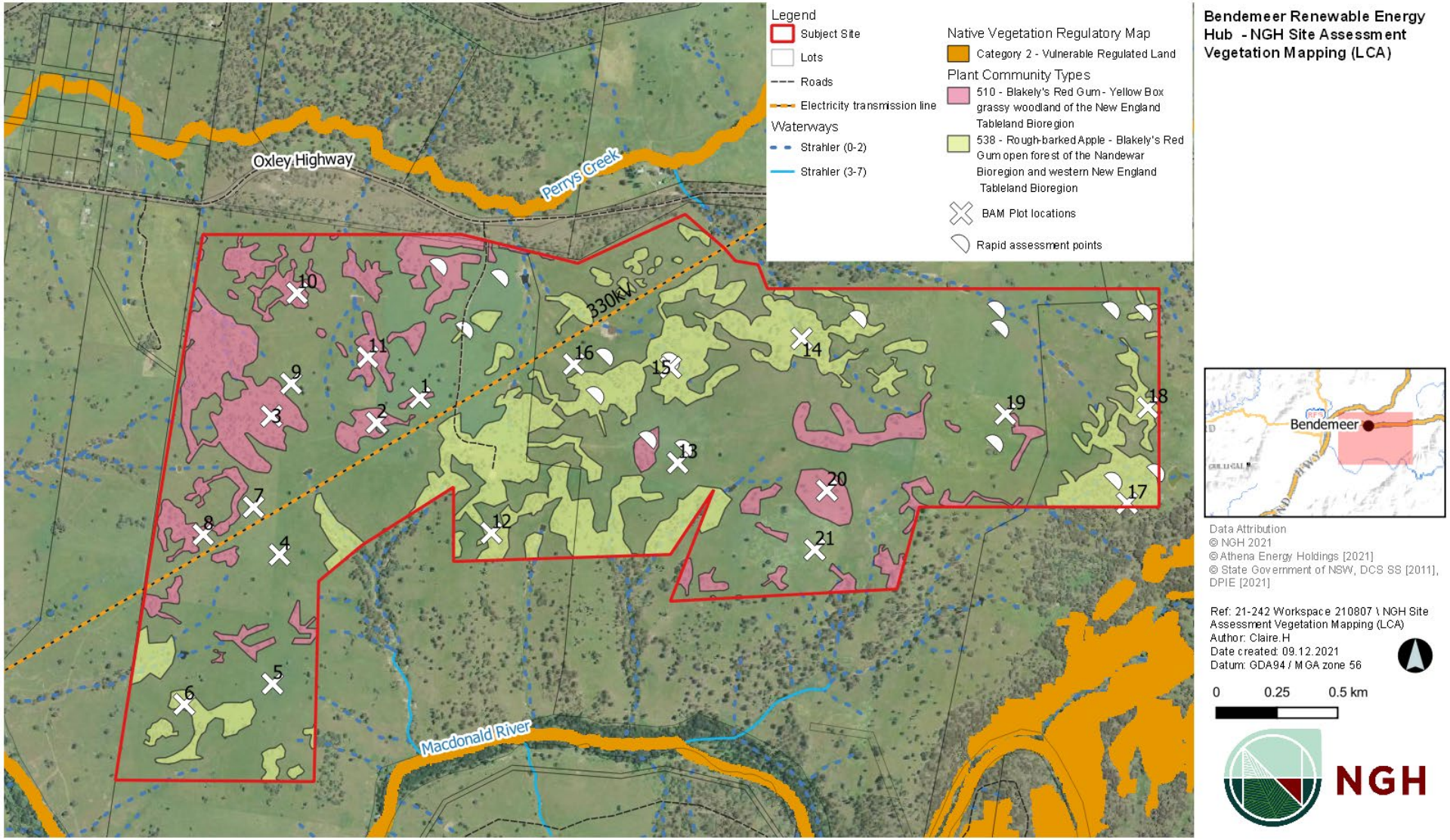
Appendix A Subject Land



Appendix B Land Zoning

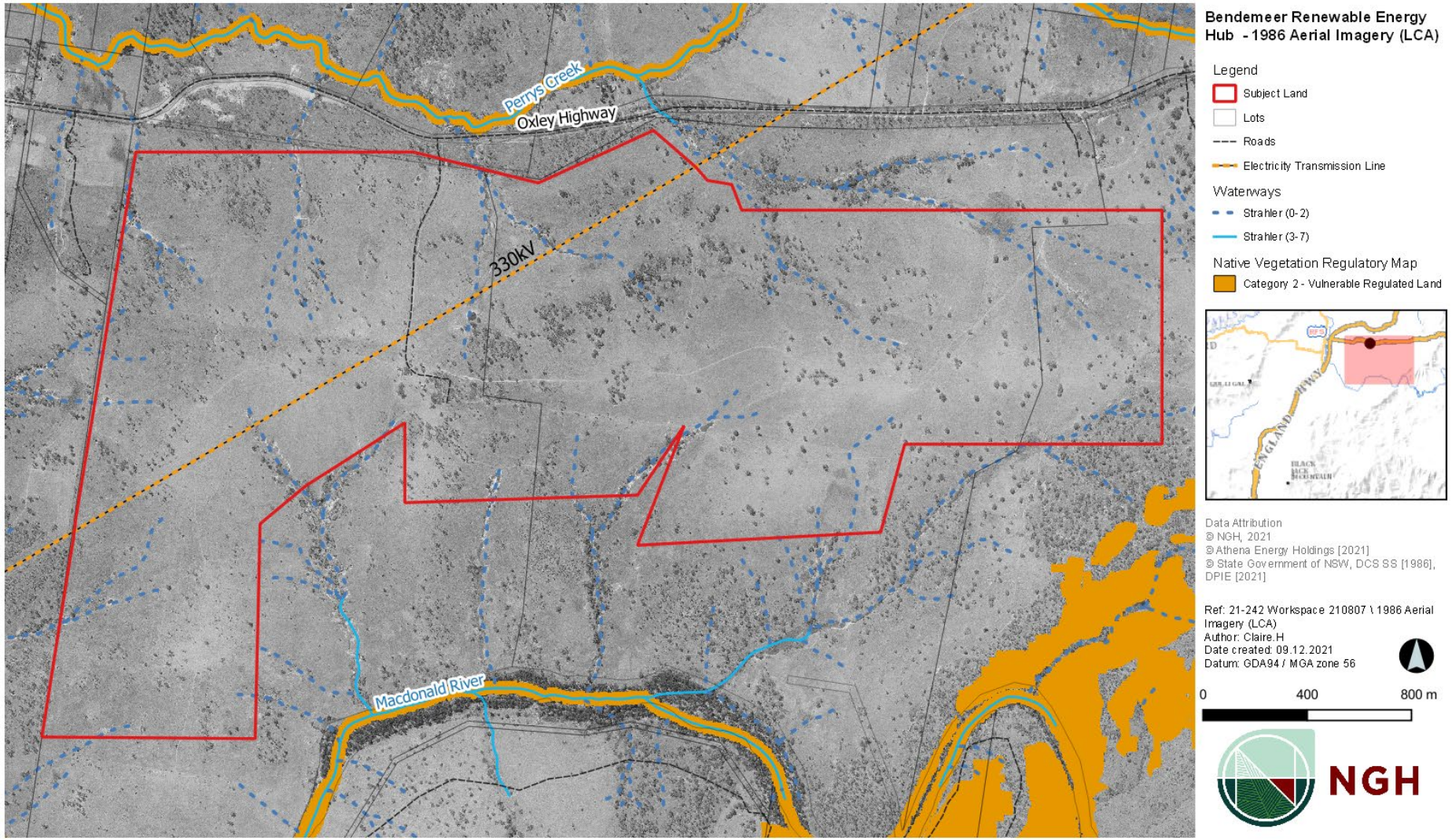


Appendix C NGH Site Assessment Vegetation Mapping



Appendix D Historical Aerial Imagery

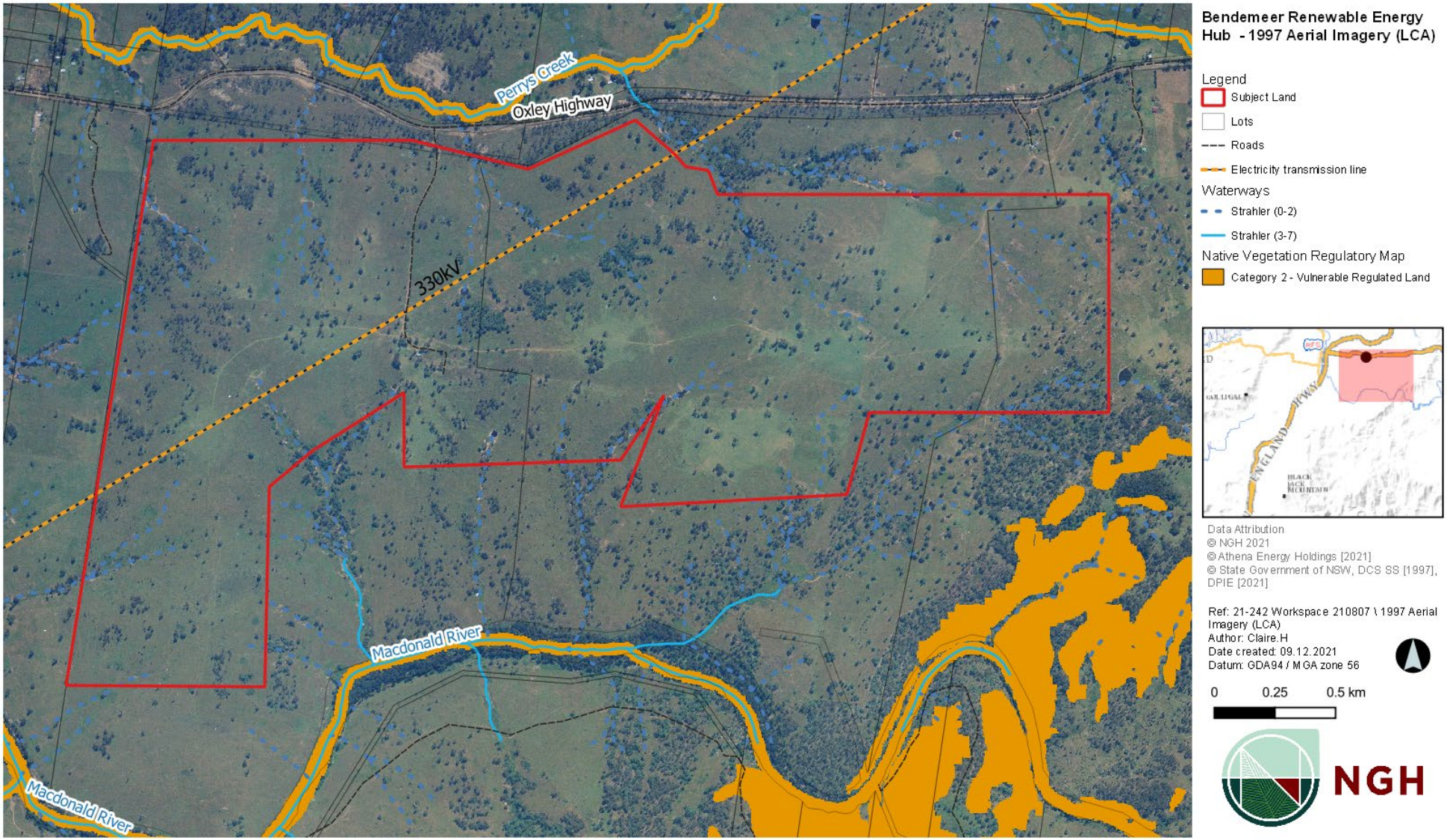
D.1 1986



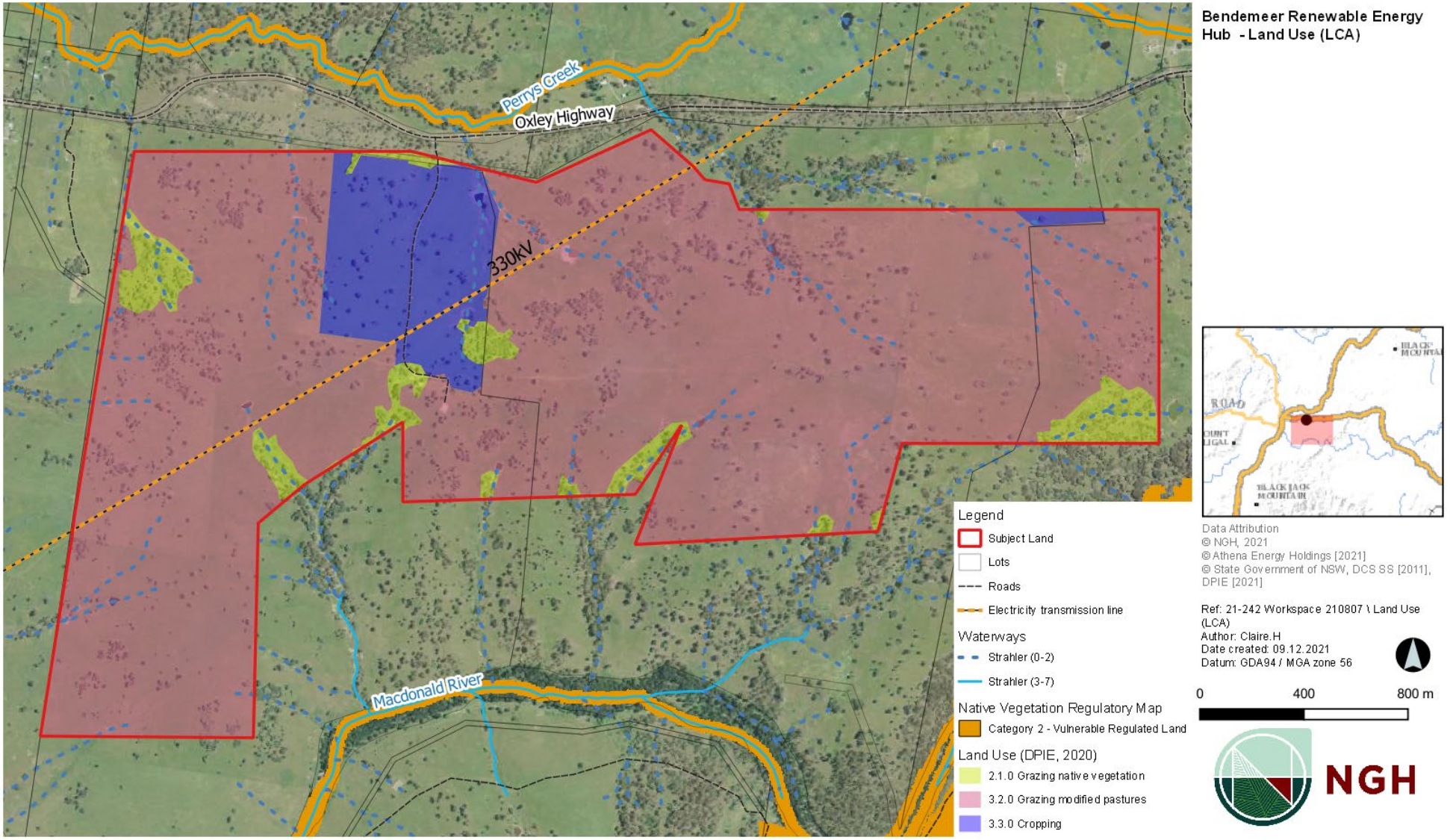
D.2 1993


Bendemeer Renewable Energy Hub - 1993 Aerial Imagery (LCA)
Pernys Creek
Oxley Highway
330kV
Macdonald River
Legend
Subject Land
Lots
Roads
Electricity Transmission Line
Waterways
Strahler (0-2)
Strahler (3-7)
Native Vegetation Regulatory Map
Category 2 - Vulnerable Regulated Land
Data Attribution
© NGH, 2021
© Athena Energy Holdings [2021]
© State Government of NSW, DCS SS [1993], DPIE [2021]
Ref: 21-242 Workspace 210807 \ 1993 Aerial Imagery (LCA)
Author: Claire.H
Date created: 09.12.2021
Datum: GDA94 / MGA zone 56
0
400
800 m
NGH

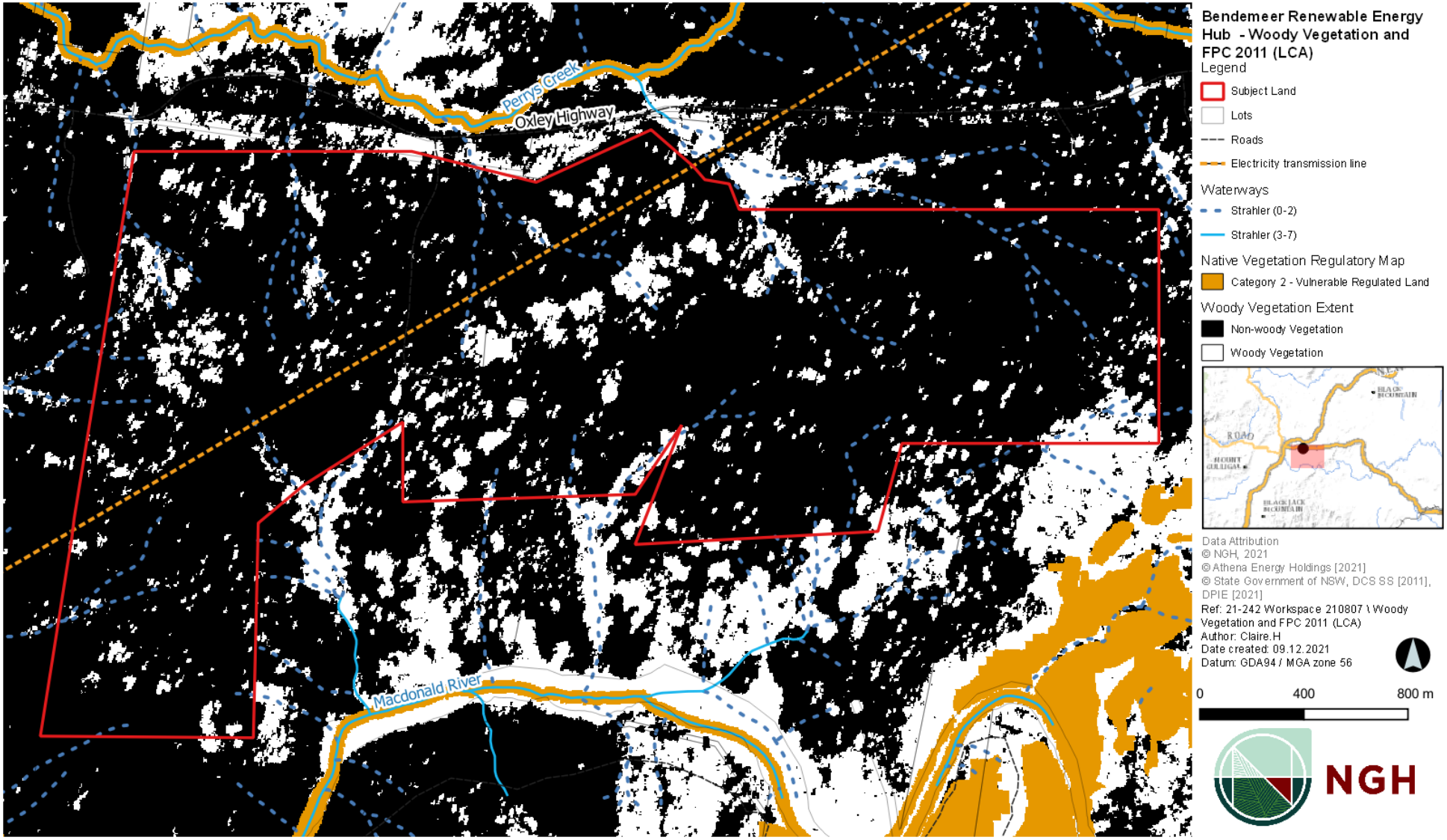
D.3 1997


Perrys Creek
Oxley Highway
330kV
Macdonald River
Macdonald River
Bendemeer Renewable Energy Hub - 1997 Aerial Imagery (LCA)
Legend
Subject Land
Lots
Roads
Electricity transmission line
Waterways
Strahler (0-2)
Strahler (3-7)
Native Vegetation Regulatory Map
Category 2 - Vulnerable Regulated Land
Data Attribution
© NGH 2021
© Athena Energy Holdings [2021]
© State Government of NSW, DCS SS [1997], DPIE [2021]
Ref: 21-242 Workspace 210807 \ 1997 Aerial Imagery (LCA)
Author: Claire.H
Date created: 09.12.2021
Datum: GDA94 / MGA zone 56
0
0.25
0.5 km
NGH

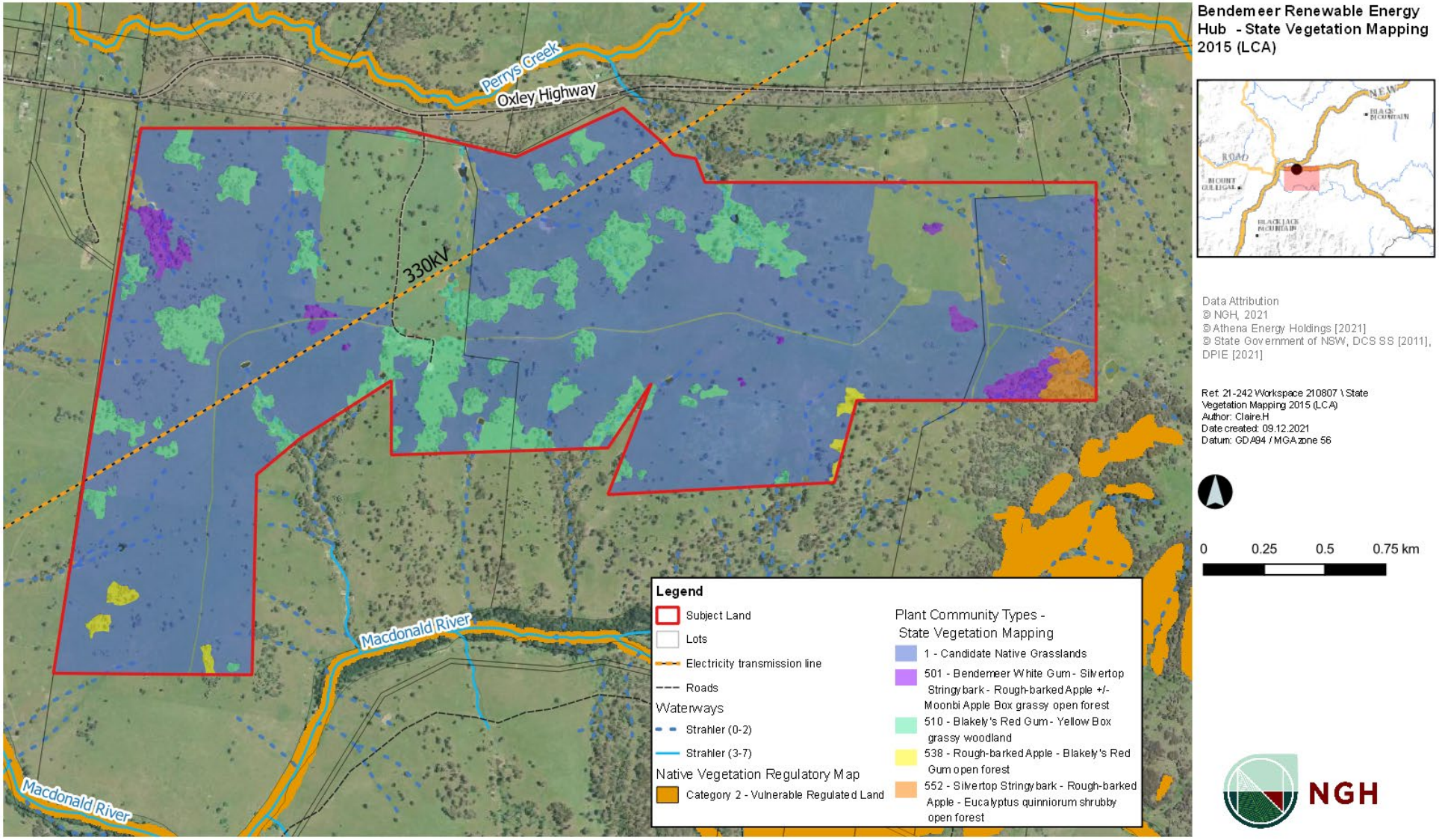
Appendix E NSW Land Use 2017 Mapping



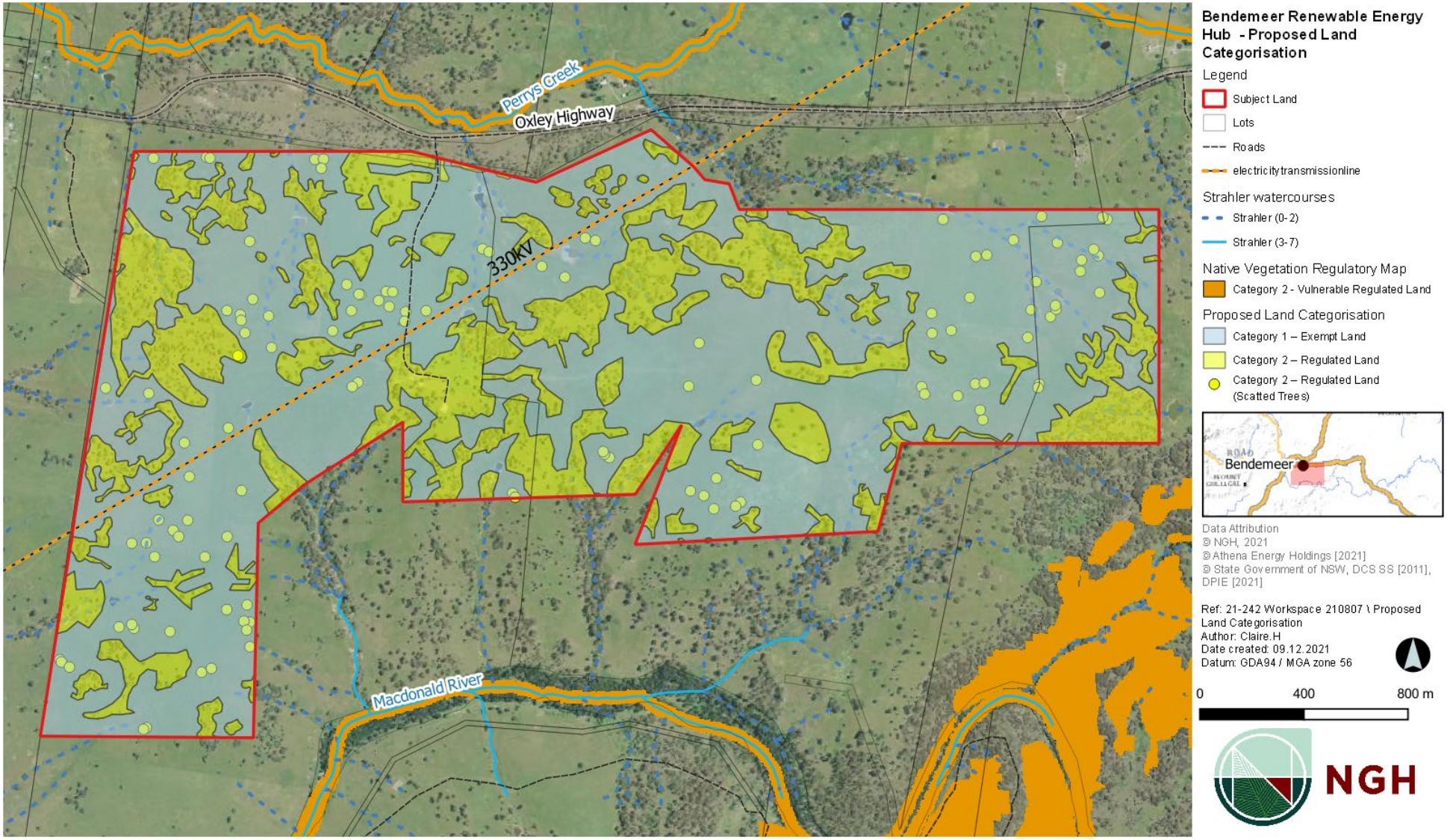
Appendix F NSW Woody Vegetation Extent & FPC 2011



Appendix G NSW State Vegetation Mapping



Appendix H Proposed Land Category Assessment



D.2 Biodiversity Conservation Services LCA endorsement

Our ref: DOC22/14180
Your ref: 21-242

Les Seddon
Principal Environmental Planner
NGH
les.s@nghconsulting.com.au

Dear Mr Seddon

Bendemeer renewable energy hub – Land categorisation

Thank you for your e-mail dated 14 December 2021 to the Biodiversity, Conservation and Science Directorate (BCS) of the Department of Planning and Environment inviting comments on the land category assessment for Bendemeer renewable energy hub (December 2021).

BCS agrees with the allocation of land to Category 1 – exempt and Category 2 – regulated shown in Appendix H of the land category assessment. We note that there is no excluded land in the project area.

BCS notes that paddock trees have been mapped as Category 2 – regulated land. This categorisation is correct, and the streamlined assessment module – scattered trees assessment (Biodiversity Assessment Method 2020, Appendix B) can be used for these trees.

The standard Biodiversity Assessment Method will be used to assess impacts on the remaining Category 2 – regulated areas.

BCS endorses the land category assessment for the Bendemeer renewable energy hub project.

If you require any further information regarding this matter, please contact Liz Mazzer, Conservation Planning Officer, via liz.mazzer@environment.nsw.gov.au or (02) 6883 5325.

Yours sincerely

Samantha Wynn

Samantha Wynn
Senior Team Leader Planning North West
Biodiversity, Conservation and Science Directorate

13 January 2022

Appendix E Social baseline and initial evaluation of social impacts

ssessment (SIA) Worksheet — Project name: Bendemeer Solar and BESS Social Impact Scoping — Date: 13/12/2021

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS		ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT				PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics					Level of assessment for each social impact	What methods and data sources will be used to investigate this impact?			Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
							extent i.e. number of people potentially affected?	**duration** of expected impacts? **(i.e.** construction vs operational phase)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity or** vulnerability of people potentially affected?	**level of concern/interest** of people potentially affected?		Secondary data	Primary Data - Consultation	Primary Data - Research		
community	Proposed development projects can be grounds for contestation within local communities which can **negatively impact on community cohesion**. From an initial brief scan of available information, this does not appear to be the case.	Negative	Unknown	NA	Unknown	NA	Unknown	Unknown	Unknown	Unknown	Unknown	Minor	Government and stakeholder data and reports; Newspaper articles; social media; comparative studies.	Targeted interviews	Online survey	No	To be determined
health and wellbeing	Development projects can **create stress and anxiety** in people who oppose the project and/or are directly impacted. From an initial brief scan of available information, this does not appear to be the case.	Negative	Unknown	NA	Unknown	NA	Unknown	Unknown	Unknown	Unknown	Unknown	Minor	Government and stakeholder data and reports; newspaper articles; social media; comparative studies	Targeted interviews	Online survey	Yes	To be determined
livelihoods	**Employment and labour impacts** - During construction, which is expected to take approximately 12-18 months, the project will directly generate employment, with a peak construction workforce of 250 people. Construction of this $900-million project will lean on the local and regional trades and services sectors. The main contractor during construction will be looking to a number of different skills and suppliers including: earthworks and plant operators, labourers, mechanical and electrical engineers, building contractors, heavy vehicle operators, welding and fitting, accomodation, mechanics and maintenance, equipment hire, freight, fencing, and waste management. This may include specific opportunities for local residents, Aboriginal people, young people, apprentices, trainees, including the potential for scholarships. During construction, the project will also create employment and labour opportunities across its supply chains. The proponent has carried out initial discussions with local high schools, TAFE New England, and other tertiary education providers, e.g. the University of New England in Tamworth. During the construction and operational phases, contractors will work with the Tamworth Aboriginal Lands Council and local indigenous organisations to provide increased opportunities for local indigenous populations. During operations, the project is expected to employ 15 FTE worker.	Positive	Yes - other projec	Other local and regional renewable energy projects that are in pre-development stage, e.g., Thunderbolt Energy Hub, Tara Springs Wind Farm etc	Yes	Other local and regional renewable energy projects that are in pre-development stage, e.g., Thunderbolt Energy Hub, Tara Springs Wind Farm etc	Yes	Yes	Yes	Unknown	Yes	Detailed	Government and stakeholder economic development data and reports. Comparative studies	Targeted interviews	Online survey	No	Recommend to develop a **Local Industry Participation Plan**, which will focus on maximising the involvement of local people and businesses in the project. It will include specific focus on people and businesses within Bendemeer and Tamworth Regional Council, and also the wider regional area. It will also consider opportunities for Aboriginal people and businesses, and young people. This will be developed through consultation with the local community and the key local economic development stakeholders.
livelihoods	An **increase in economic activity within the local and regional areas** is expected. The project will directly and indirectly (through its supply chains) create demand for goods and services such as accomodation, construction materials, freight and local labour. The increased income and spending of the construction workers and others across the supply chains, will also add to the stimulation of the local economies more broadly.	Positive	Yes - other projec	Other local and regional renewable energy projects that are in pre-development stage, e.g., Thunderbolt Energy Hub, Tara Springs Wind Farm etc	Yes	Other local and regional renewable energy projects that are in pre-development stage, e.g., Thunderbolt Energy Hub, Tara Springs Wind Farm etc	Yes	No	Yes	Unknown	Yes	Detailed	Government and stakeholder economic development data and reports. Comparative studies	Targeted interviews	Online survey	No	Recommend to develop a **Local Industry Participation Plan**, which will focus on maximising the involvement of local people and businesses in the project. It will include specific focus on people and businesses within Bendemeer and Tamworth Regional Council, and also the wider regional area. It will also consider opportunities for Aboriginal people and businesses, and young people. This will be developed through consultation with the local community and the key local economic development stakeholders. The **Local Procurement Policy** will outline the proponent's commitment to providing local and regional businesses the opportunity to supply goods and services to meet project needs during all phases of the project. This will be developed through consultation with the local community and with key local economic development stakeholders. As a part of this, it is recommended to create and promote a **Register of Interested Suppliers**, so that local businesses can register their interest in working with the project. It will include the following: •Providing a Regional Price Preference •Providing a Local Content Price Preference •Conducting Local Impact Analysis for Procurements •Including a Buy Local Qualitative Selection Criteria and Weightings in procurement documentation. •Conducting local impact auditing and reporting.
livelihoods	Even with the development of a Local Industry Participation Plan, it is expected that workers will come in from other areas to work on the construction of this project. These workers will be housed in temporary accomodation and possibly in rental houses in Bendemeer and in the surrounding towns and centres, particularly Tamworth. This may **constrain the availability of accommodation for tourism**.	Negative	Unknown	NA	Unknown	NA	Unknown	No	Unknown	Unknown	Unknown	Standard	Government and stakeholder data and reports. Comparative studies	Targeted interviews	Online survey	No	To be determined
livelihoods	Even with the development of a Local Industry Participation Plan, it is expected that workers will come in from other areas to work on the construction of this project. These workers will be housed in temporary accomodation and likely also in rental houses in Bendemeer, and in the surrounding towns and centres, particularly Tamworth. The rental housing market in Tamworth is very tight, and so this may further **constrain the availability of rental housing for local residents.**	Negative	Unknown	NA	Unknown	NA	Unknown	No	Unknown	Unknown	Unknown	Standard	Government and stakeholder data and reports. Comparative studies	Targeted interviews	Online survey	No	To be determined
access	An influx of construction workers staying in the Tamworth and Bendemeer areas may **increase demand for local social and community infrastructure** (e.g. health and community services).	Negative	Unknown	NA	Unknown	NA	Unknown	No	Unknown	Unknown	Unknown	Minor	Government and stakeholder data and reports. Comparative studies	Targeted interviews	Online survey	No	To be determined
community	An influx of construction workers into the areas of Bendemeer and Tamworth may **change the composition of the local community**, and so change the local and community feel of the towns, during construction.	Negative	Unknown	NA	Unknown	NA	Unknown	No	Unknown	Unknown	Unknown	Minor	Government and stakeholder data and reports. Comparative studies	Targeted interviews	Online survey	No	To be determined
way of life	There are likely to be **impacts to amenity during construction (.e.g noise, traffic, dust)** for nearby residents. These impacts will be explored in separate EIS technical reports.	Negative	Unknown	NA	Unknown	NA	Unknown	No	Unknown	Unknown	Unknown	Minor	Government and stakeholder data and reports. Comparative studies	Targeted interviews	Online survey	No	To be determined
livelihoods	Some nearby and neighbouring residents may be concerned about **potential negative impacts to property values**.	Negative	Unknown	NA	Unknown	NA	Unknown	Yes	Unknown	Unknown	Unknown	Standard	Government and stakeholder data and reports. Comparative studies	Targeted interviews	Online survey	No	To be determined
surroundings	The project will involve a change of use of the land from rural, to land being used for the siting of energy infrastructure. This will create a **change to the visual and landscape character and sense of place** within this local area.	Negative	Unknown	NA	Unknown	NA	Unknown	Yes	Unknown	Unknown	Unknown	Minor	Comparative studies, Visual Impact Assessment	Targeted interviews	Online survey	Yes	To be determined
livelihoods	This project will result in the **loss of agricultural land**. The project will see a diversion of land use away from agricultural production, with an area of 365ha of the subject land being used for the siting of the solar farm and BESS. It is worth noting that the potential for co-existence of solar with continued grazing will be explored. This land will be returned to agricultural use following decommissioning.	Negative	Unknown	NA	Yes	Other renewable energy projects that are being developed in the region e.g. Thurderbolt Energy Hub, Tara Springs Wind	Unknown	Yes	Unknown	Unknown	Unknown	Standard	Government and stakeholder data and reports. Comparative studies.	Targeted interviews	Online survey	No	To be determined
access	The project will involve the upgrade of intersections and roads to enable haulage for project construction, which has the potential to **improve the condition of the local road network for road users**.	Positive	No	NA	No	NA	Yes	Yes	Unknown	Unknown	Unknown	Minor	Comparative studies. Traffic Impact Assessment	Targeted interviews	Online survey	Yes	Upgrade of roads
surroundings	Solar farms can potentially create **visual impacts relating to glare and reflectivity** for neighbouring and nearby residents. A Visual Impact Assessment will be undertaken.	Negative	No	NA	Unknown	NA	Unknown	Yes	Unknown	Unknown	Unknown	Minor	Comparative studies. Visual Impact Assessment	Targeted interviews	Online survey	No	To be determined
access	The Proposal would provide an opportunity for optimising the management and security of energy for use in peak periods, particularly in a time of change when Australia begins to experience shortages due to population growth and coal fired power station closures. The BESS aims to **improve reliability and security of the electricity network** by storing energy during periods of low demand and dispatching energy during periods of peak demand and emergency events. The Proposal would be a key piece of infrastructure in supporting Energy Storage Development in regional Australia.	Positive	Unknown	NA	Yes	Other renewable energy projects that are being developed in the region e.g. Thurderbolt Energy Hub, Tara Springs Wind Farm	Yes	Yes	Unknown	Unknown	Unknown	Minor	Government and stakeholder data and reports. Comparative studies.	Targeted interviews	Online survey	No	To be determined