WESTERN RANGE SOLAR FARM

Scoping Report

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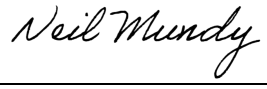
Neil Mundy		8 March 2022

Prepared by:	**Reviewed by:**	**Prepared for:**
Base International	**RPS**	**Base International**
Neil Mundy Director	Michelle Moodley Senior Consultant - Environment	Neil Mundy Director
4/3 Achievement Crescent Acacia-Ridge, QLD 4011	Level 13, 255 Pitt Street Sydney NSW 2000	4/3 Achievement Crescent Acacia-Ridge, QLD 4011
T: 0414 583375 E: neil@beealarmed.com.au	T: 02 8099 3200 E: michelle.moodley@rpsgroup.com.au	T: 0414 583375 E: neil@beealarmed.com.au

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TERMS AND DEFINITIONS

Term	Definition
AC	Alternating current
ACHA	Aboriginal Cultural Heritage Assessment
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method
BAR	Bushfire Assessment Report
BC Act	*Biodiversity Conservation Act 2016*
BCD	NSW Department of Planning, Industry and Environment Biodiversity and Conservation Division
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BIAR	Biodiversity Impact Analysis Report
BNT	Australian Bicentennial National Trail
BSAL	Biophysical Strategic Agricultural Land
CIV	capital investment value
CoC	Conditions of Consent
CO_2	Carbon dioxide
Crown Land Act	*Crown Land Management Act 2016*
CLM Act	*Contaminated Land Management Act 1997*
DAWE	Department of Agriculture, Water and the Environment
DC	Direct current
DECCW	Department of Environment, Climate Change and Water NSW
DPI	NSW Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMF	Electromagnetic Field
EPA	NSW Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment Protection Licence
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
FM Act	*Fisheries Management Act 1994*
Heritage Act	*Heritage Act 1977*
HIPAP 6	*NSW Department of Planning, Industry and Environment's Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis*
HV	High Voltage
Infrastructure SEPP	*State Environmental Planning Policy (Infrastructure) 2007*
km	kilometre
kV	kilovolt
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area

Term	Definition
LLS Act	*NSW Local Land Services Act 2013*
MLRA	Multi-Level Risk Assessment
MNES	Matter of National Environmental Significance
MW	megawatt
MWh	megawatt hours
NIA	Noise Impact Assessment
NMLs	Noise Management Levels
NPI	*NSW Noise Policy for Industry 2017*
NPW Act	*National Parks and Wildlife Act 1974*
OEH	NSW Office of Environment and Heritage
PBP	*Planning for Bush Fire Protection 2019*
PCT	Plant Community Types
PHA	Preliminary Hazard Analysis
PNTL	Project Noise Trigger Levels
POEO Act	Protection of the Environment Operations Act 1997
Project	This is in reference to the proposed development, including the solar farm, BESS and all associated infrastructure, as described in Section 3.2.
Project area	the location and layout of the Project within the Study area covering an area of approximately 200ha as identified on Appendix A.2.
PV	Photovoltaic
RAPs	Registered Aboriginal Parties
REAP	*NSW Renewable Energy Action Plan* (NSW Trade and Investment, September 2013)
RFS	NSW Rural Fire Service
RMU	Ring Main Units
SCADA	Supervisory control and data acquisition
SEARs	Secretary's Environmental Assessment Requirements
SEPP 33	*State Environmental Planning Policy No 33 (Hazardous and Offensive Development)*
SEPP 55	*State Environmental Planning Policy No. 55 (Remediation of Land)*
SRD SEPP	*State Environmental Planning Policy (State and Regional Development) 2011*
SSD	State Significant Development
Study area	Located over two freehold properties identified as Lot 2 DP1104989 and Lot 4 DP807391 and a number of Crown roads covering an area of approximately 450ha as identified on Appendix A.1
TEC	Threatened ecological community
TfNSW	Transport for NSW
TIS	Traffic Impact Statement
TMP	Traffic Management Plan
WM Act	Water Management Act 2000

1 INTRODUCTION

This scoping report provides an introduction to the Project which includes background to and a brief overview of the Project, the applicants details and the purpose of the Scoping Report.

1.1 Background and Project overview

Base International is proposing to develop a solar farm in the Southern Tablelands region of New South Wales (NSW), approximately 8 kilometres (km) south east of Gunning, within the Upper Lachlan Shire Local Government Area (LGA).

The proposed Western Range Solar Farm (the Project) may include up to 175 megawatts (MW) of solar electricity generation with an ancillary Battery Energy Storage System (BESS) of approximately 50MW / 150 megawatt-hours (MWh).

The capital value of the Project is currently valued at $120 million. The Project is therefore considered a State Significant Development (SSD) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

The Project would include the construction, operation and decommissioning of the proposed solar farm and BESS as well as associated infrastructure, including the operations and maintenance building, civil works, and electrical infrastructure required to connect to the electricity transmission network. The Project would have access off the Hume Highway.

The Study area comprises two freehold properties identified as Lot 2 DP1104989 and Lot 4 DP807391, and Crown roads covering an area of approximately 450 hectares (ha) (Appendix A.1). These properties are primarily utilised for wool and lamb farming activities. Two 330 kilovolt (kv) transmission lines traverse the southern end of the Study area. The Project would connect to the existing transmission line to the south east via a proposed substation for the solar farm.

The layout and site access requirements would be subject to further review and refinement as the environmental impact assessments and stakeholder engagement progress.

1.2 Purpose of this Scoping Report

This Scoping Report has been prepared to support Base International's request to the Department of Planning, Industry and Environment (DPIE) for the Secretary's Environmental Assessment Requirements (SEARs) for the Project. The SEARs provide the requirements and guidance for the following stage in the SSD process, the Environmental Impact Statement (EIS). This report has been prepared generally in accordance with the *State Significant Development Guidelines – Preparing a Scoping Report* (DPIE, July 2021).

This report is intended to assist DPIE's development of the SEARs by providing:

- strategic issues that are likely to be relevant to the justification and evaluation of the Project and would be investigated in more detail in the EIS (Chapter 2)
- an overview of the Project (Section 1.1 and Section 3.2)
- an overview of the key statutory requirements for the Project (Section 4.4)
- a description of consultation undertaken to date and proposed further engagement (Chapter 0)
- matters requiring further assessment in the EIS and the proposed approach to assessing each of these matters (Section 6.1).

The Scoping Report uses the following terminology:

- Study area - located over two freehold properties identified as Lot 2 DP1104989 and Lot 4 DP807391 and a number of Crown roads covering an area of approximately 450ha as identified on Appendix A.1.
- Project – this is in reference to the proposed development, including the solar farm, BESS and all associated infrastructure, as described in Section 3.2.
- Project area – the location and layout of the Project within the Study area covering an area of approximately 200ha as identified on Appendix A.2.

1.3 The Applicant

The applicant for the development application is Base International (ABN 77 583 761 825). Base International was founded in October 2019 and is an Australian owned renewable energy developer. Whilst the company is new, all Base International company directors and employees have extensive experience in a wide range of construction and energy projects.

2 STRATEGIC CONTEXT

This section identifies at a high level the key strategic issues that are likely to be relevant to the justification and evaluation of the project and would be investigated in more detail in the EIS.

2.1 Justification

Over the coming decades, a number of major energy generators in NSW will reach the end of their lifespan and are likely to be retired, starting with the Liddell coal-fired power station which is to be closed in 2022 and then followed by Vales Point, Eraring and other major plants. This has the potential to lead to interruptions in energy supply, particularly when the current network is already strained at peak demand times.

The development of the Project aligns with the NSW and Federal Government's objectives for energy security and reliability, renewable energy targets (see Section 2.2 and 2.3).

In addition, it would provide various regional, environmental, economic and social benefits such as:

- the project would create up to approximately 100 jobs during peak construction phase in regional NSW during the construction period; boosting the regional economy
- the project would create a range of permanent jobs (up to approximately 8 full time employees) during the operation and maintenance of the solar farm; boosting the local economy
- help drive lower electricity retail prices in the long term, due to the declining price of renewable energy, which can be passed on to all energy customers through the National Electricity Market.

2.2 NSW 2021 Plan and Renewable Energy Action Plan

The *NSW 2021 Plan* (Department of Premier and Cabinet, September 2011) sets state-wide priorities for action and also guides resource allocation. Goal 22 of this Plan seeks to protect the natural environment and includes a specific target to increase renewable energy. The plan states:

We would contribute to the national renewable energy target by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources. Specific initiatives include:

- *Building the Moree solar power plant in partnership with the Commonwealth Government under the Solar Flagship Program*
- *Establishing a Joint Industry Government Taskforce to develop a Renewable Energy Action Plan for NSW to identify opportunities for investment in renewable energy sources.*

Since release of the Plan, the NSW Government has overseen the development of *the NSW Renewable Energy Action Plan* (REAP) (NSW Trade and Investment, September 2013). The vision of the REAP is a '*secure, affordable and clean future for NSW'. Goal 1 of the REAP is to attract renewable energy investment, including to 'support mid-scale solar PV to enable an uptake of solar technologies where they are most cost effective'*.

The proposed Western Range Solar Farm aligns with this state led objective and is consistent with the goal and intent of the REAP.

2.3 NSW Net Zero Plan Stage 1: 2020-2030

DPIE's *Net Zero Plan Stage 1: 2020– 2030* (State of NSW, 2020) is a commitment to taking decisive and responsible action on climate change. The NSW Government has set a goal of net zero emissions by 2050 and has released these policies to fast-track emissions reduction over the next decade and prepare the State to take further action in the decades to follow.

The Western Range Solar Farm is in accordance with Priority one; Drive uptake of proven emissions reduction technologies that grow the economy, create new jobs or reduce the cost of living. This project would create new jobs and would increase the uptake of emissions reduction technologies that grow the economy. (refer to Section 2.1).

2.4 South East and Tablelands Regional Plan 2036

The *South East and Tablelands Regional Plan 2036* (NSW Department of Planning and Environment, July 2017) is the NSW Government's strategy for guiding land use planning decisions for the South East and Tablelands Region for the next 20 years. At its heart is a core vision for the region supported by four supporting goals:

Vision: A borderless region in Australia's most geographically diverse natural environment with the nation's capital at its heart.

Goals:

- *a connected and prosperous economy*
- *a diverse environment interconnected by biodiversity corridors*
- *healthy and connected communities*
- *environmentally sustainable housing choices.*

These goals are in turn supported by a range of local directions that provide context and detail to the overarching goals.

2.5 The Tablelands Regional Community Strategic Plan 2016-2036

The *Tablelands Regional Community Strategic Plan 2016-2036* (Yass Valley Council, in conjunction with Goulburn Mulwaree and Upper Lachlan councils, 2016) identifies the community's main priorities and aspirations for the future. It contains the vision for The Tablelands region (Yass Valley, Upper Lachlan, Goulburn Mulwaree and Canberra regions) being:

To build and maintain sustainable communities while retaining the region's natural beauty.

The vision is supported by a range of strategic priorities and pillars, being:

- *Our Environment: We appreciate our range of rural landscapes and habitats, and act as custodians of the natural environment for future generations.*
- *Our Economy: We have a strong regional economy experiencing sustainable growth, which provides for a diverse range of employment opportunities.*
- *Our Community: We are a network of vibrant, inclusive and diverse communities that value our cooperative spirit, self-sufficiency, and rural lifestyle.*
- *Our Infrastructure: Our community is well serviced and connected to built, social and communications infrastructure.*
- *Our Civil Leadership: Our leaders operate ethically and implement good governance. We empower our residents with the tools to participate actively in the development of our communities.*

The proposed Western Range Solar Farm would assist in achieving the key strategic priorities and pillars highlighted above by diversifying the region's economic base and infrastructure by providing a new industry, and investment in renewable energy to reduce climate change.

3 PROJECT

This section provides an overview of the Project including details of key aspects of the Project such as the Project area, layout and design, timing and the main activities of the Project. This section also includes a high-level analysis of feasible alternatives considered.

3.1 The Project area

As described in Chapter 1, the Study area is located over two freehold properties covering an area of approximately 450ha. The Project area is located on the western portion of the Study area and covers an area of approximately 200ha as identified on Appendix A.2. The Project area is currently used for wool and lamb farming. The layout and location of the Project would be subject to further technical review and may be revised as the environmental impact assessments and stakeholder consultation progress through the EIS.

The solar farm would be accessed directly off the Hume Highway. Further detail regarding the proposed access and transport route is provided in Section 6.1.1. The proposed access and transport route would be subject to further technical review and may be revised as the environmental impact assessments and stakeholder consultation progress through the EIS.

3.2 The Project

The Project would include the construction, operation and decommissioning of a photovoltaic (PV) solar farm with a capacity of up to 175MW alternating current (AC) that would supply electricity to the national electricity grid. The solar farm and associated infrastructure would be located across an area of up to 200ha. The Project would include a BESS with a proposed capacity of up to 50MW / 150MWh.

Subject to further design development, the key components of the Project (shown on Appendix A.2) include:

- solar PV modules in an east-west single-axis tracking arrangement with a maximum height of 4.2 metres (m) above ground level
- approximately 150MWh of battery storage units, AC-coupled and located near the substation
- inverters and step-up transformers
- underground and above ground electrical conduits and cabling to connect the arrays to the inverters and transformers
- solar farm substation to connect to the existing transmission line. The substation would be operated by Transgrid with no land subdivision proposed
- operations and maintenance building with parking for the operations team
- water tank and storage shed
- solar farm site access point from the Hume Highway
- internal access tracks to allow for site maintenance
- vegetation screening if and where required following further consultation with surrounding landholders and completion of the visual impact assessment as part of the EIS
- drainage line crossings if and where required to manage any existing surface water flows (to be determined during further design development)
- perimeter security fencing
- temporary construction site offices, construction vehicle parking areas, material laydown area for construction. Some material laydown areas would remain in place during operation. This would be determined in the final layout design.

The preliminary layout (shown on Appendix A.2), including the site access requirements, would be refined as the environmental impact assessments and stakeholder consultation progress.

The capital value of the Project is currently valued at $120 million. A capital investment value (CIV) would be calculated and presented in the EIS to support the development application.

Construction staging, and duration

The construction phase is expected to be undertaken over approximately 18 months from the commencement of site establishment works.

Prior to construction site establishment activities would include but not be limited to civil works, construction of an access point from the Hume Highway; establishment of internal access tracks; installation of temporary construction fencing; establishment of temporary site compounds and laydown areas; installation of environmental controls.

The construction phase of the Project would generally include construction of in-ground services and structures, and construction of above ground structures and installation of equipment associated with the PV area, substation, BESS and operation and maintenance buildings; It is expected that some of these tasks would occur concurrently.

The Project is expected to operate for 30 years. After the initial 30 year operating period, the solar farm would either be decommissioned, removing all above ground infrastructure and returning the site to its existing land capability, or repurposed with new PV equipment subject to technical feasibility, landowner discussions and planning consents.

Alternatives and consequences of not carrying out the Project

Over a period of 12 months, the Applicant has considered a number of alternative locations for the Project, with the aim of minimising environmental and social impacts while maximising the potential for electricity generation. Alternative site locations were based on:

- proximity to the high voltage transmission network
- low environmental constraints
- predominantly flat terrain
- high solar irradiance
- good road access.

The design of the Project would be developed as more information is obtained through the proposed environmental studies and ongoing feedback from consultation processes.

The consequence of not carrying out the Project would represent a missed opportunity for a number of benefits of the Project as described in Chapter 2, including:

- a new renewable energy project that would contribute to the energy security and emission reduction goals of the Australian and NSW Governments
- a clean energy solution resulting in lower greenhouse gas emissions
- further electricity generation and supply to the grid in a critical location, at a time where older generation projects are retiring, and
- additional local and regional economic growth and social benefits.

4 STATUTORY CONTEXT

This section provides an overview of the key statutory requirements for the project having regard to the EP&A Act and *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), other state and federal legislation, relevant planning instruments and relevant approvals. The section concludes with a summary of statutory requirements for the Project.

4.1 Environmental Planning and Assessment Act 1979

The Project would require development consent under Part 4 of the EP&A Act. The Project is SSD under the provisions of the SRD SEPP (see Section 4.3.2) and is subject to the provisions of Division 4.7 of the EP&A Act. The development application would be lodged with the Planning Secretary of the DPIE. This report accompanies the request for the SEARs for the EIS.

Section 4.15 of the EP&A Act describes the matters for consideration in assessing SSD, including provisions of relevant environmental planning instruments, proposed instruments that have been the subject of public consultation, development control plans, planning agreements, and statutory regulations. The assessment of SSD must also consider the likely impacts of the development, suitability of the Project area, any submissions received, and the public interest.

Section 4.41 of the EP&A Act clarifies that development consent for SSD includes approvals, permits and licences under the following statutory provisions, meaning that separate approval processes do not apply:

- a permit under Section 201, 205 or 219 of the *Fisheries Management Act 1994* (FM Act)
- an approval under Part 4, or an excavation permit under Section 139, of the *Heritage Act 1977* (Heritage Act)
- an Aboriginal heritage impact permit under Section 90 of the *National Parks and Wildlife Act 1974* (NPW Act)
- a bushfire safety authority under Section 100B of the *Rural Fires Act 1997*
- a water use approval under Section 89, a water management work approval under Section 90 or an activity approval (other than an aquifer interference approval) under Section 91 of the *Water Management Act 2000*.

It is unlikely that such approvals would have been required if the Project was not an SSD.

Section 4.42 of the EP&A Act lists the approvals that must be applied consistently, regardless of the SSD declaration. The Project would require a consent under section 138 of the *Roads Act 1993*. Under section 4.42 authorisation for this approval cannot be refused.

4.2 Other legislation

4.2.1 Environment Protection and Biodiversity Conservation Act 1999

Under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), approval from the Australian Minister for the Environment would be required for an action that:

- has, would have, or is likely to have a significant impact on a matter of national environmental significance (MNES)
- is undertaken on Commonwealth land and has, would have, or is likely to have a significant impact on the environment
- is undertaken outside Commonwealth land and has, would have or is likely to have a significant impact on the environment of Commonwealth land
- is undertaken by the Commonwealth and has, would have or is likely to have a significant impact on the environment.

MNES comprise:

- World Heritage properties
- National Heritage places

- wetlands of international importance
- Commonwealth-listed threatened species and ecological communities
- Commonwealth-listed migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mines)
- a water resource, in relation to coal seam gas development and large coal mining development.

The Project area is not within a world heritage property or national heritage place, is not in proximity to wetlands of international importance, is not within either a Commonwealth marine area or the Great Barrier Reef Marine Park, and does not relate to a nuclear action, coal seam gas or coal mining development.

Preliminary ecological investigations have identified that the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland threatened ecological community (TEC) may be present in the Project area (refer to Section 6.1.4). Further field surveys are needed to determine whether the vegetation communities identified in the Project area conform with the TEC. No Commonwealth listed threatened species have been identified.

A referral would be submitted to the Commonwealth Department of Agriculture, Water and the Environment (DAWE) to confirm whether the Project requires assessment and approval under the EPBC Act. If the Project is determined to be a controlled action, it would be assessed under the Assessment Bilateral Agreement currently in place between the NSW and Commonwealth Governments, which allows DPIE to undertake assessments of MNES on behalf of DAWE for certain developments, including SSD.

4.2.2 NSW Legislation

Other NSW legislation applicable to the Project is outlined in Table 3.2.

Table 4-1: Other NSW legislation applicable to the Project

Applicable legislation	Application
Biodiversity Conservation Act 2016 **(BC Act)**	Under the BC Act, biodiversity assessment in accordance with the Biodiversity Assessment Method (BAM) is required for any SSD project. The Project (as SSD) would trigger the need to prepare a Biodiversity Development Assessment Report (BDAR) in accordance with the BAM. The EIS would include a BDAR.
NPW Act	Part 6 of the NPW Act refers to Aboriginal objects and places and prevents persons from impacting on an Aboriginal place or relic, without consent or a permit. An Aboriginal Cultural Heritage Assessment (ACHA) would be undertaken as part of the EIS for the Project and would ensure compliance with the NPW Act.
Heritage Act	A property is a heritage item if it is listed in the heritage schedule of the local Council's LEP or on the State Heritage Register, a register of places and items of particular importance to the people of NSW. Under Section 4.41 of the EP&A Act, an approval under Part 4 or a permit under Section 139 of the Heritage Act would not be required for a SSD.
Protection of the Environment Operations Act 1997 **(POEO Act)**	The POEO Act regulates pollution to the environment and requires licences for environmental protection including waste, air, water and noise pollution control. Solar farms are not a scheduled activity under the POEO Act, thus the Project does not require an Environment Protection Licence (EPL).
WM Act	Any water extractions from water sources (surface and groundwater) regulated by a Water Sharing Plan required for construction purposes would require licensing under the WM Act. The potential water requirements during construction would be assessed as part of the EIS. Any necessary licences would be obtained for the Project.
Roads Act	A consent is required under Section 138 of the Roads Act to work on or above a road or to connect a road to a classified road. Consents under Section 138 may be required for the proposed road upgrades if they are required for classified roads. This would be examined during the preparation of the Traffic and Transport Impact Assessment (TTIA) for the EIS.
Crown Land Management Act 2016 **(Crown Land Act)**	Crown land may not be occupied, used, sold, leased, licensed, dedicated, reserved or otherwise dealt with unless authorised by the Crown Land Act.

Applicable legislation	Application
	There are some parcels of Crown land within the Project area. Consent from the Minister for Water, Property and Housing would be required should any infrastructure or construction be proposed on these Crown roads. Consultation with Crown lands has commenced, (see Section 0).
Contaminated Land Management Act 1997 **(CLM Act)**	The CLM Act establishes the process for investigating and if required, remediating land that the NSW Environment Protection Authority (EPA) considers to be sufficiently contaminated so as to require regulation under Part 3, Division 2. The Project area does not contain land listed on the Contaminated Lands Register. Relevant mitigation and management measures would be incorporated into the EIS to address any potential contamination issues.

4.3 Environmental planning instruments

4.3.1 State Environmental Planning Policy (Infrastructure) 2007

Clause 34(7) of the *State Environmental Planning Policy (Infrastructure) 2007* (SEPP Infrastructure) states that development for the purpose of a solar energy system may be carried out by any person with consent on any land. A solar energy system includes a PV electricity generating system.

The Project, being located on land zoned as RU2 Rural Landscape, is therefore permissible with consent.

4.3.2 State Environmental Planning Policy (State and Regional Development) 2011

Clause 20(a) of Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) provides that development for the purpose of electricity generating works, using any energy source, including solar, that has a capital investment value of more than $30 million is considered a SSD:

The proposed Project has a capital investment value of greater than $30 million. Therefore, the Project is declared as SSD under Part 4 of the EP&A Act.

4.3.3 State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33)

SEPP 33 requires the consent authority to consider whether a project is a potentially hazardous development or a potentially offensive development. Clause 12 provides that development for the purposes of a potentially hazardous industry must prepare a preliminary hazard analysis in accordance with the current circulars or guidelines published by the Department of Planning and submit the analysis with the development application.

Clause 13 provides matters for consideration by consent authorities in determining an application to carry out a potentially hazardous development or a potentially offensive development. A summary of these matters is provided in Section 4.4.

A preliminary hazard assessment would be completed for proposed Project as part of the EIS (refer to Section 5.10).

4.3.4 Upper Lachlan Local Environmental Plan 2010

The Project is located within the Upper Lachlan Shire LGA and is zoned RU2 Rural Landscape under the *Upper Lachlan Local Environmental Plan* (LEP) 2010 (Figure 4-1). Electricity generating works are permitted with consent in this zone. It is noted that under Clause 8(1) of SEPP Infrastructure, the provisions of SEPP Infrastructure prevail where there are inconsistencies with any other environmental planning instruments, including LEPs. Therefore, as discussed in Section 4.3.1 the Project is permissible with consent.

Relevant provisions of the Upper Lachlan LEP 2010 would be considered in the EIS. For example, pre-conditions to granting consent relating to biodiversity and earthworks (see Section 4.4).

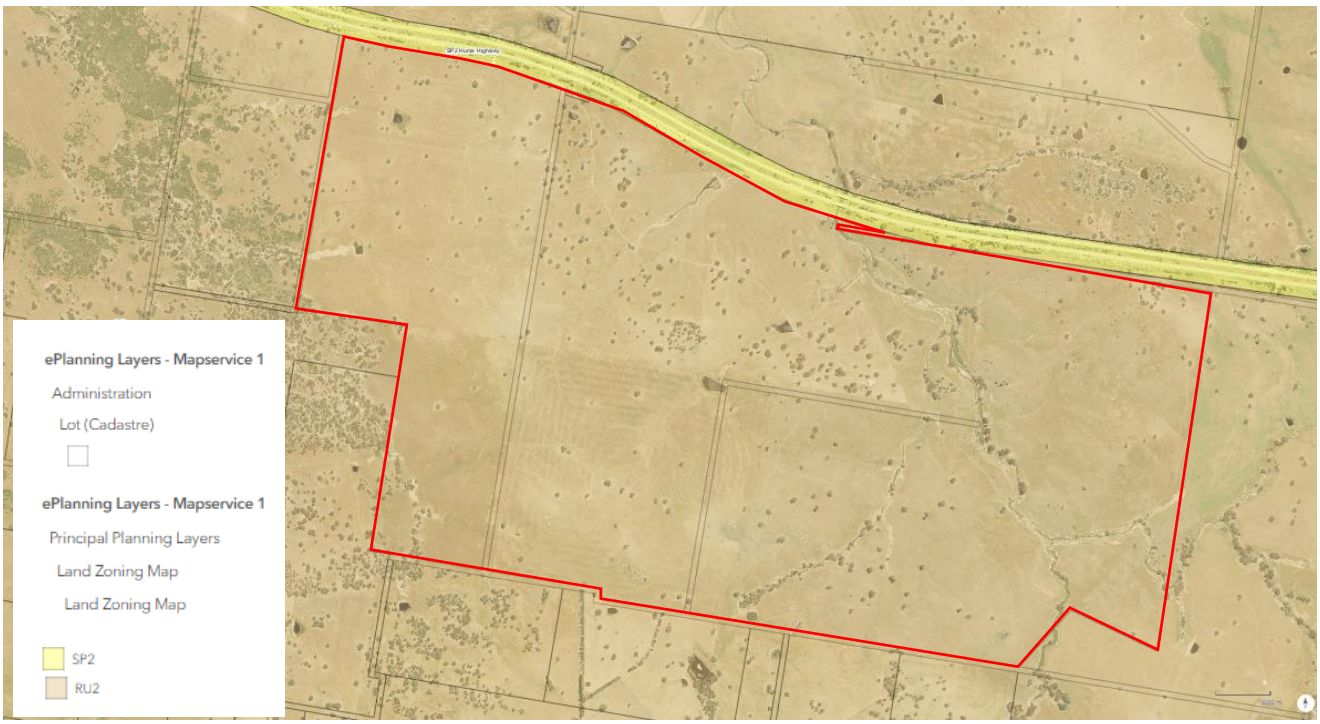

Figure 4-1: Land zoning map (ePlanning Spatial Viewer, accessed February 2022)

4.3.5 Upper Lachlan Development Control Plan 2010

The *Upper Lachlan Development Control Plan* (DCP) 2010 does not apply to SSD. As such, the EIS would not require an assessment against Section 4.15(1)(a)(iii)of the EP&A Act. Notwithstanding this exemption, the relevant sections of the DCP would be considered, where relevant, to review the consistency of the Project with the Upper Lachlan Shire Council's expectations for the area.

4.4 Summary of statutory requirements

Category	Summary
Power to grant approval	The consent authority for the Project is the Minister for Planning and Public Spaces (although the Minister has delegated this function to DPIE).
Permissibility	The Project is permissible with consent under Clause 34(7) of the SEPP Infrastructure.
Other approvals	**Consistent approval** • Consents under section 138 of the Roads Act would be required for the proposed road works associated with access into the solar farm from the Hume Highway.
	EPBC Approval • Under Part 3 of the EPBC Act, approval from the Australian Minister for the Environment would be required for an action that is a significant impact on the environment. If the Project is determined to be a controlled action, it would be assessed under the Assessment Bilateral Agreement currently in place between the NSW and Commonwealth Governments, which allows DPIE to undertake assessments of MNES on behalf of DAWE for certain developments, including SSD.
	Licence from Crown lands • Under Section 2.2 of the Crown Land Act for works on Crown land.
Pre-conditions to exercising the power to grant approval	**SEPP 33 – Hazardous and Offensive Development** Prepare a preliminary hazard analysis in accordance with the current circulars or guidelines published by the Department of Planning and submit the analysis with the development application.

Category	Summary	
	State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55) If the Project area is contaminated DPIE must be satisfied that that the land is suitable in its contaminated state (or would be suitable, after remediation) for the Project. If the land requires remediation to be made suitable for the Project, DPIE must be satisfied that the land would be remediated before the land is used for that purpose.	
	Upper Lachlan LEP 2010 - Biodiversity The Project is designed, sited and would be managed to avoid any adverse environmental impact, or if that impact cannot be avoided—the Project is designed, sited and would be managed to minimise that impact, or if that impact cannot be minimised—the Project would be managed to mitigate that impact.	
Mandatory matters for consideration	**EP&A Act - Section 4.15**	
	Relevant Planning instruments	
	SEPP 33 – Hazardous and Offensive Development	Consideration of • current circulars or guidelines relating to hazardous or offensive development • consultation with public authorities concerning environmental and land use safety requirements for the Project • a preliminary hazard analysis • alternatives to the Project (including location) and the reasons for choosing the Project (including location) • likely future use of land surrounding the Project
	SEPP 55 - Remediation of Land	Consider whether the land is contaminated.
	Upper Lachlan LEP 2010	Biodiversity Consider any adverse impact from the Project on— • a native ecological community, and • the habitat of any threatened species, populations or ecological community, and • a regionally significant species of fauna and flora or habitat, and • a habitat element providing connectivity.
		Earthworks Consider the following matters— • impacts to existing drainage patterns and soil stability in the locality, • effect of the Project on the likely future use or redevelopment of the Project area, • quality of the fill or the soil to be excavated, or both, • effect of the Project on existing and likely amenity of adjoining properties, • source of any fill material and the destination of excavated material, • likelihood of disturbing relics, • proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area.
	Proposed instruments	There are no proposed instruments applicable to the Project at the time of preparation of the Scoping Report. The EIS would investigate further.
	Planning agreements	There are no planning agreements applicable to the Project at the Scoping phase. The EIS would investigate further.

Category	Summary	
	Statutory Regulations	
	EP&A Regulation	Schedule 2, Part 3 details how an EIS must be prepared. In particular, clause 7 of Schedule 2 lists requirements for the content of an EIS.
	Other legislation	
	BC Act – section 7.14	The likely impact of the proposed development on biodiversity values as assessed in the biodiversity development assessment report. The Minister for Planning may (but is not required to) further consider under that Act the likely impact of the proposed development on biodiversity values.

5 ENGAGEMENT

This section describes what engagement has already been carried out for the Project, provide an indication of community views on the Project, and describes what community engagement would be carried out during the preparation of the EIS.

5.1 Engagement carried out

Consultation has occurred with government agencies and stakeholders throughout the scoping phase of the Project. Consultation undertaken with government agencies and stakeholders is summarised below. Written responses received from government agencies is provided in Appendix C.

The outcome of these discussions is that there was general support for the project and recommendations on the technical expertise that should be sought in relation to the assessment and delivery of the project. These technical reports are typically required by the SEARs and will be sourced as part of the preparation of the EIS. A summary of the outcome of these discussions is provided in Section 5.2 below.

5.1.1 Department of Planning Industry and Environment

During the course of 2021 – 2022 Base international has consulted with DPIE to confirm the report requirements for the Scoping Report. The most recent notable details of the consultation to date include the following.

- A virtual meeting held with DPIE in February 2022 to discuss progress on the Scoping Report.
- Email correspondence from DPIE in June 2021 confirming further report requirements for the Scoping Report. A summary of the requirements and where these have been addressed in the Scoping Report are provided in Section 5.2.1.
- Further email and telephonic correspondence during September 2020 - December 2021 to advise the expected submission date for the Scoping Report and submission process.

5.1.2 Government and other agencies

There has been consultation with government departments and agencies, focussed on gaining support for the Project and determining preliminary requirements for preparation of the EIS.

- On 7 October 2021 DPIE Crown lands were contacted telephonically.
- As part of consultation, on 2 November 2021 the following government and other agencies were provided with written notification of the Project an opportunity to provide comments:
  - Upper Lachlan Shire Council
  - NSW Rural Fire Services (RFS)
  - TransGrid
  - DPIE Water
  - Transport for NSW
  - DPIE Crown land
  - Heritage NSW
  - DPIE Biodiversity and Conservation Division (BCD)
- A virtual meeting was held with Transport for NSW on 15 November 2021.
- On 23 November follow-up phone calls were made to the following agencies:
  - Upper Lachlan Shire Council
  - NSW RFS
  - TransGrid
  - DPIE Water
  - DPIE Crown land

- Heritage NSW
- DPIE Biodiversity and Conservation.

A summary of the outcomes of consultation with government departments and agencies is provided in Section 5.2.1.

5.1.3 Neighbours

Consultation and engagement with the local community has involved two main workstreams to date: firstly, engagement with the landowner during the Study area identification and selection stage, and secondly, engagement with other neighbouring landowners who live in proximity to the Study area but are not directly involved.

There are a number of dwellings within proximity of the Study area, six of which are located within 2km of the Study area, none of which are associated with the project (Appendix A.1 and Figure 6-2). Starting in October 2020 and into January 2021 phone-calls were held with the six neighbouring landowners (refer Figure 5-1) to inform them of the Project and provide an opportunity for comment. A summary of the outcomes of consultation with neighbouring landowners is provided in Section 5.2.2.

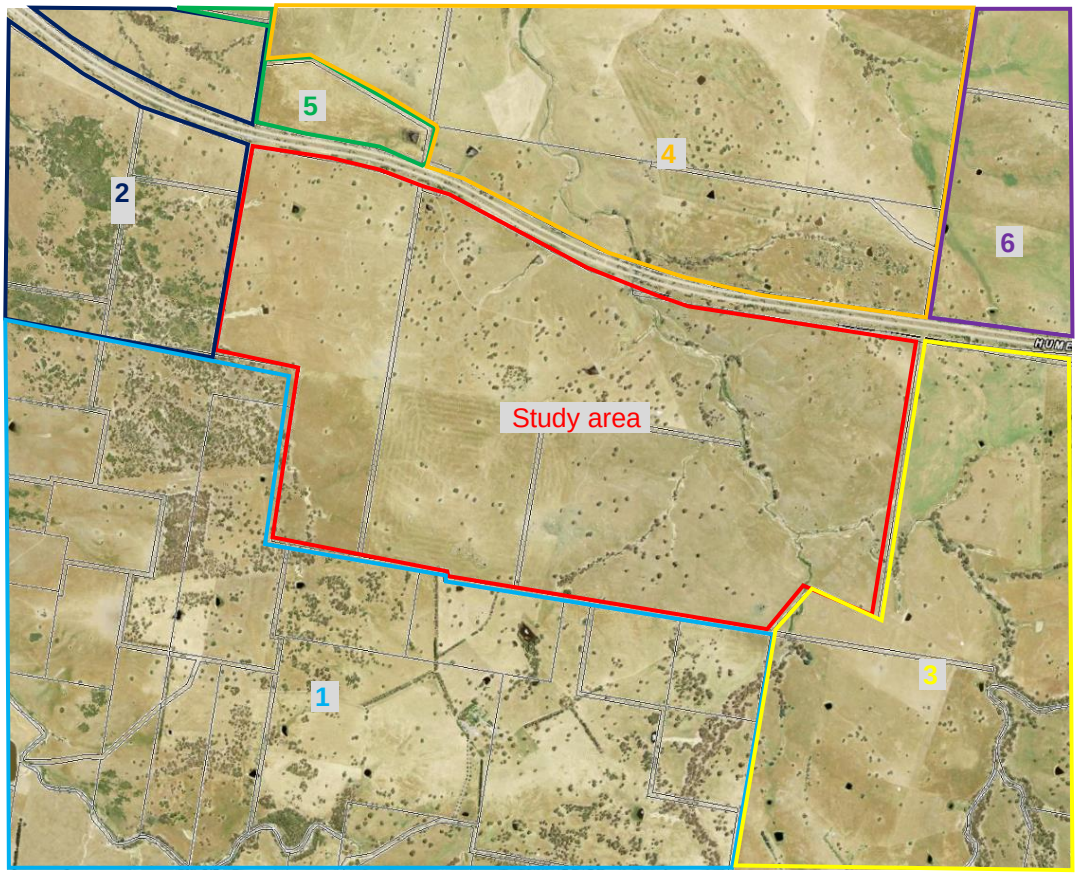

Figure 5-1: Landowners engaged with (SixMaps, accessed February 2022)

5.2 Outcomes of engagement

5.2.1 Department of Planning Industry and Environment

A summary of the report requirements received from engagement with DPIE and where these requirements have been addressed in the Scoping Report is provided in Table 5-1.

Table 5-1: DPIE reporting requirements

Reporting requirement	Where addressed in the

	Scoping Report
Details on current land use, the land and soil capability of the site, and whether the site is mapped Biophysical Strategic Agricultural Land (BSAL)	Section 6.1.7
Detail on the proposed construction traffic transport route and access points, and whether roads used are State, Regional or Local roads	Section 6.1.1
Assessment of key issues including but not limited to: Biodiversity, Traffic and Transport, Heritage (extend AHIMS search to a minimum 5-10km around the site), Noise, Hazards and safety (battery, bushfire etc)	Section 6.1
Confirm number and distance of all non-associated residences within 1km and 2km of site, including a figure that clearly numbers and identifies the residences	Appendix A.1, Figure 6-2
Confirm the stream order of waterways within the site	Section 6.1.9
Detail on the outcome of preliminary consultation undertaken to date, including consultation with Council, TransGrid, Transport for NSW and surrounding landowners)	Chapter 0
Battery storage stated as 50MW capacity, confirm whether this is output or storage capacity, i.e., MW or MWh	Section 1.1
Document Status / Version control of the Scoping Report: update to include all revisions of the document with correct dates etc	Page i
Project Figure: • provide a figure at a closer zoom to show the site more clearly, including a scale bar and north arrow • identify all residences within the figure, ensure they are numbered and indicate whether they are associated or non-associated • Provide higher resolution figure with clear layers identifying project components	Appendix A, Figure 6-2
Other Figures: • provide a figure that identifies the site constraints including vegetation mapping, streams and other relevant constraints • considering using other mapping tools other than the LEP Legislation Maps, such as ePlanning Spatial Viewer or GIS.	Section 6.1

5.2.1 Government and other agencies

Of the government departments and agencies contacted, DPIE Crown land, DPIE BCD, TransGrid Connections, Transport for NSW and NSW RFS responded either in writing or through telephonic discussion.

Engagement with TransGrid's connections team is progressing with Base International proposing lodgement of a formal connection enquiry.

A summary of the key issues raised from engagement with DPIE Crown land, Transport for NSW and NSW RFS is provided in Table 5-3.

Table 5-2: Outcomes of government and agency engagement

Department / Agency	Date	Type of response	Key issues	Where incorporated in the Scoping Report
DPIE Crown land	7.10.2021 and 25.01.2022	Telephonic and written	Further consultation and licence approval will be required for works on Crown land and closure of Crown roads.	Section 6.1.1
DPIE BCD	23.11.2021 and 15.12.2021	Telephonic and written	Noting the following: • Franfield Creek, which dissects the study area, is mapped on the Biodiversity Values Map • there are numerous records of threatened birds including superb parrot and gang-gang cockatoos in the immediate vicinity of the study area • the site may also provide habitat for the critically endangered Golden Sun moth along with other grassland fauna	Section 6.1.4

Department / Agency	Date	Type of response	Key issues	Where incorporated in the Scoping Report
			• numerous overstorey species that are likely to be native eucalypt species are present. Threatened ecological communities including box-gum woodland are known to occur in the surrounding region in preparing a biodiversity assessment report it is important to consider all direct, indirect and prescribed impacts of the proposed development consistent with the Biodiversity Assessment Method 2020	
Transport for NSW	26.11.2021	Written	The impact of additional road traffic as a result of the Project is to be considered and mitigated in the EIS	Section 6.1.1
			Pre-development advise with regards to the proposed access arrangements off the Hume Highway: • There is an existing truck stop located towards the western end of the property. This facility includes a short acceleration within the Hume Highway road reserve. • it is preferable to restrict the number of accesses to the Hume Highway, as such the use of the ingress and egress of the existing truck stop for the project should be investigated. Any formal application would need to demonstrate that the use of this ingress/egress by vehicles associated with the project would not impact upon the operation of the truck stop i.e., trucks entering and exiting. • *A Research Report AP-R591-19 Guidelines for the Provision of Heavy Vehicle Rest Area Facilities* (Austroads, 2019) should be considered to assess whether consolidation of the project accesses with the existing truck stop is feasible.	Section 6.1.1
			The following matters are to be included in the SEARS: • A Traffic Impact Study (TIS) needs to be prepared and needs to consider: – *Guide to Traffic Generating Developments* (Roads and Traffic Authority, 2001), specifically Table 2.1 – current movements along the Hume Highway in the vicinity of the site, including into and out of the site, if any. This should include raw data from current traffic surveys conducted during peak hours, preferably across multiple days, with movements divided into heavy and light vehicles;	Section 6.1.1

Department / Agency	Date	Type of response	Key issues	Where incorporated in the Scoping Report
			– The additional movements (particularly heavy vehicles) which are expected to be generated by the project. This should include details on the types of vehicles and road transport routes that are proposed to be used to provide access to and from the site during the construction, operation and decommissioning phase. Transport for NSW generally does not support developments which increase right-turning truck movements on the Hume Highway on road safety grounds; – Measures proposed to offset the increase in additional movements must be adequately described using detailed plans and an assessment of their positive impact on road safety. The justification of these measures will be used to determine whether TfNSW will give its support to the proposed development; – A swept path analysis in accordance with Austroads turning templates to demonstrate that the largest vehicle likely to utilise the access can enter and exit the site in a forward direction, and that any turning movements onto the classified road network can be achieved; and – If required, an assessment of the predicted impacts of this additional traffic and offset measures on road safety and the capacity of the road network using SIDRA or a similar traffic model. Any modelling undertaken must ensure the base model has been calibrated with current on-site observations. – Discussions should be had with the local council in relation to the information they may require to be included in the TIS concerning local road impacts. • Strategic designs – Strategic designs for any proposed road upgrades or offset measures on the Hume Highway need to be provided. – The scope of works must be clarified, and it must be demonstrated that the works can be constructed within the road reserve. – The strategic designs will also allow the consent authority to consider any environmental impacts of the works as part of their Part 4 assessment,	

Department / Agency	Date	Type of response	Key issues	Where incorporated in the Scoping Report
			including traffic and road safety impacts as well as other impacts such noise, flora and fauna, heritage and impact to community. – Reference should be made to the appropriate Transport for NSW standards and Austroads guidelines when preparing the designs. These include, but are not limited to *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (Austroads, 2021)	
NSW RFS	30.11.2021	Written	An accredited bush fire consultant should undertake an assessment of the Project against *Planning for Bush Fire Protection 2019* (NSW RFS, 2019) – clause 8.3.5 Wind and Solar Farms	Section 6.1.5

5.2.2 Neighbours

A summary of the outcomes from engagement with neighbours is provided in Table 5-3.

Table 5-3: Outcomes of neighbour engagement

Landowner	Outcome
1	The landowner does not live on the property but visits every now and then. The manager of the property lives on the property. The landowner provided no negative feedback and expressed interest in finding out more about the Project as it progresses.
2	The landowners does not live on the property. There is a dwelling on the property which the landowner leases out. The landowner had no objections at the time and expressed interest in finding out more about the Project as it progresses.
3	At the time of engagement, the landowner was in the process of building a dwelling on the property and expressed an interest in understanding the Project and any potential implications . The location of the Project was explained, and the landowner had no objections to the project at the time.
4, 5, 6	The landowners expressed no objection to the Project.

5.3 Engagement to be carried out by the applicant

Base International is establishing a community engagement program for the purposes of the EIS. Consultation would be undertaken in accordance with the following guidelines.

- *Undertaking Engagement Guidelines for State Significant Projects* (DPIE, July 2021).
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (Department of Environment, Climate Change and Water, 2020).

6 PROPOSED ASSESSMENT OF IMPACTS

This section provides a preliminary environmental assessment of key matters to the Project. It identifies the matters requiring further assessment in the EIS and the proposed approach to assessing each of these matters. A scoping summary table for the Project, which groups the matters requiring further assessment in the EIS by the level of assessment required is provided in Appendix B.

6.1 Matters requiring further assessment in the EIS

6.1.1 Access: property, traffic and road facilities

Receiving environment

The Project would have direct access of the Hume Highway via a proposed access point along the north west corner of Lot 2 DP1104989 as shown on Appendix A.2. Access from the Hume Highway to the solar farm is proposed via two separated one-way driveways, with movements restricted to left in and left out only. The proposed access point would be assessed during the preparation of the EIS.

The Hume Highway is a state managed highway which falls within the responsibility of Transport for NSW. Specific engagement with Transport for NSW has been undertaken as part of the Scoping phase for the Project (refer to Section 5.2.1). Further engagement with Transport for NSW would be carried out in relation to the proposed access point during the preparation of the EIS.

There are parcels of Crown land including a Crown road within the Project area (Figure 6-1). Engagement with DPIE Crown lands has been undertaken (refer to Section 5.2.1).

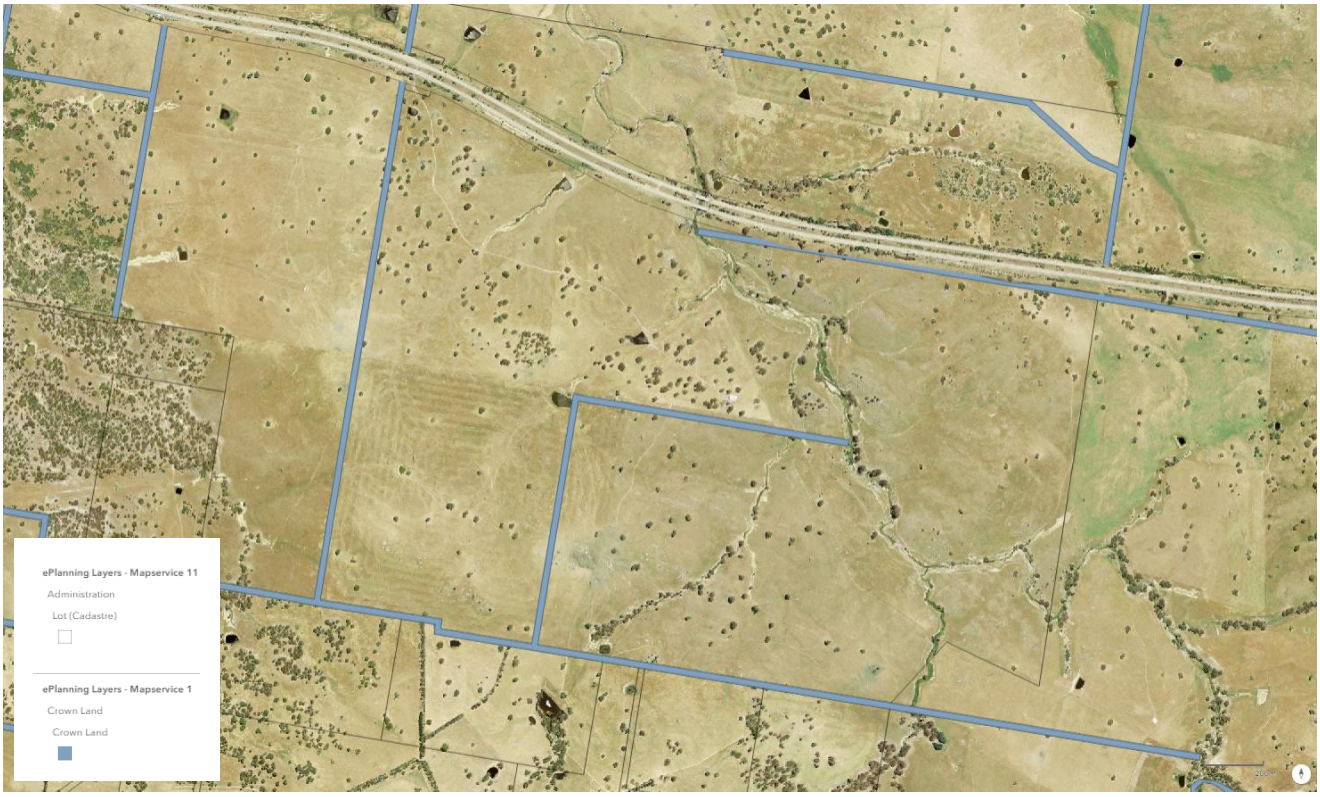

Figure 6-1: Crown land within the Study area (ePlanning Spatial Viewer, accessed February 2022)

Likely impacts

The construction and decommissioning phases of the Project would result in increased traffic movements by both lightweight vehicles transporting construction personnel and light construction materials, and heavy vehicles transporting the solar farm and BESS infrastructure equipment. Construction traffic is anticipated to travel to the site from the east via the Hume Highway from Port Kembla, dependant on the final route(s) determined for the Project. The final transport route would be determined during the EIS phase.

Traffic increases associated with the operational phase of the Project would be minimal and would generally only involve the movement of light vehicles transporting operational staff around the Project area intermittently.

Subject to consultation with Crown lands access through Crown roads would be either altered or maintained.

Assessment level and approach

A consent is required under Section 138 of the Roads Act to work on or above a road, or to connect a road to a classified road. Consents under Section 138 would be required for the proposed works on the Hume Highway. This would be examined during the preparation of the TTIA for the EIS.

A detailed TTIA would be undertaken as part of the EIS to assess the potential transport routes required for the construction of the Project and any potential impact to the road network. Noting that Transport for NSW generally does not support developments which increase right-turning truck movements on the Hume Highway on road safety grounds the TTIA would include:

- a description of current movements along the Hume Highway in the vicinity of the site, including into and out of the site, if any. This would include raw data from current traffic surveys conducted during peak hours, preferably across multiple days, with movements divided into heavy and light vehicles
- the additional movements (particularly heavy vehicles) which are expected to be generated by the Project. This would include details on the types of vehicles and road transport routes that are proposed to be used to provide access to and from the site during the construction, operation and decommissioning phase
- measures proposed to offset the increase in additional movements must be adequately described using detailed plans and an assessment of their positive impact on road safety
- a swept path analysis in accordance with Austroads turning templates to demonstrate that the largest vehicle likely to utilise the access can enter and exit the site in a forward direction, and that any turning movements onto the classified road network can be achieved
- if required, an assessment of the predicted impacts of this additional traffic and offset measures on road safety and the capacity of the road network using SIDRA or a similar traffic model. Any modelling undertaken would ensure the base model has been calibrated with current on-site observations
- any requirements Upper Lachlan Council may have in relation local road impacts.

In addition, strategic designs for any proposed road upgrades or offset measures on the Hume Highway need would be provided. The scope of works would be clarified with Transport for NSW.

The TTIA would be undertaken in accordance with relevant government plans, policies and guidelines including but not limited to:

- *Guide to Traffic Management* (Austroads, 2020) and relevant supplements
- Research Report AP-R591-19 *Guidelines for the Provision of Heavy Vehicle Rest Area Facilities* (Austroads, 2019)
- *Guide to Traffic Generating Developments* (Roads and Traffic Authority, 2001), specifically Table 2.1.

Strategic Designs would be prepared with reference to:

- *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (Austroads, 2021): Section 3.2.2 Safe Intersection Sight Distance; Section 4.8 Turn Treatments; Section 5.2 Deceleration Lanes; and Section 5.3 Acceleration Lanes.

In addition, as part of the licence approval for works on Crown roads and alternative access would need to be investigated in the EIS.

6.1.2 Air: atmospheric emissions

Receiving environment

The Project area is in a rural setting approximately 8km south east of Gunning within the Upper Lachlan Shire LGA. The Upper Lachlan Shire LGA is sparsely populated with a population density of approximately 1.16 persons/km^2, which is significantly lower than the NSW average (Australian Bureau of Statistics, 2016).

Land use within the site and surrounds is primarily agricultural which is likely to influence local and regional air quality. Existing sources of air pollution within a local setting are limited and consist primarily of dust and vehicle and machinery exhaust emissions associated with agricultural production and vehicle emissions from traffic movements on the Hume Highway.

There are no associated residences in close proximity to the Project area boundaries. The nearest non-associated residential properties are approximately 650m away from the Study area boundary.

Likely impacts

The Project is not anticipated to generate significant air quality impacts during construction or operations. Project related traffic on unsealed roads within the Project area may contribute to localised dust generation primarily during the construction phase of the Project.

Assessment level and approach

A standard assessment of air quality impacts would be undertaken as part of the EIS. Mitigation measures would be identified to ensure that the Project would not generate significant air quality impacts during construction and operation.

6.1.3 Amenity

Noise and Vibration

Receiving environment

As the surrounding environment is rural, background noise levels in the local area would be low especially at night. Day time noise is limited to normal agricultural / farming activities. Background noise levels would be influenced by traffic movements along the Hume Highway.

Likely impacts

Potential noise impacts associated with the Project would be primarily associated with construction activities and would have the potential to affect rural properties located within the vicinity of the Project area.

Assessment level and approach

A detailed Noise and Vibration Impact Assessment (NVIA) would be prepared as part of the EIS in accordance with relevant NSW guidelines including:

- *Construction Noise Strategy (Transport for NSW, 2012)*
- *NSW Industrial Noise Policy* (EPA, 2020)
- *Interim Construction Noise Guideline* (Department of Environment, Climate Change and Water (DECCW), 2009)
- *NSW Road Noise Policy* (DECCW, 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).

The NVIA would include the following components of work:

- establishing the relevant levels of background noise using minimum noise levels
- undertaking predictive noise modelling of the Project's construction and operation activities
- assessing the road traffic noise during construction activities
- assessing any vibration impacts at sensitive receivers
- identifying any reasonable and feasible mitigation and management measures to reduce noise impacts.

Visual Amenity

Receiving environment

The Project area is located within a gently rolling landscape between 650m AHD and 690m AHD. The landscape character of the Project area, and surrounding area, is distinguished by the following key factors.

- The Project area itself is open rolling agricultural grasslands with little remnant vegetation. These grassland vary in height and colour with the season. During dry period the grassland is yellow/brown; following period of rain the grassland tends to green. This landscape whilst non-remnant is noted in the planning instruments as valued landscape to be considered in the visual amenity process.
- Stands of remnant vegetation are generally found on higher elevations within the landscape. Cullerin Range and the Belmont Nature Reserve are more densely vegetated with remnant vegetation.
- Ephemeral creek and drainage lines snake the landscape – some vegetated, others are denuded. The creek and drainage line serve as a feature that is breaking up the large grassland within the landscape.
- Roadside vegetation on the Hume Highway and throughout the district provides filtered views from roadside location and work to inhibit some long stretching views in the landscape.
- The Hume Highway is a 4 line divided carriageway that is profiled into the rolling landscape with roadside embankments.
- Cullerin Range Wind Farm east of the Project area sits amongst vegetation.

Likely impacts

The Project area would be visible to both static and non-static receptors within proximity of the Project area. A desktop review of the Project area and surrounds found static receptors as mapped in Figure 6-2. Non-static receptors would be associated with the Hume Highway and other throughfares that the Project area might be exposed to. Receptors located within 2km of the Study area include Receptors 01, 03, 04, 05, 12 and 14.

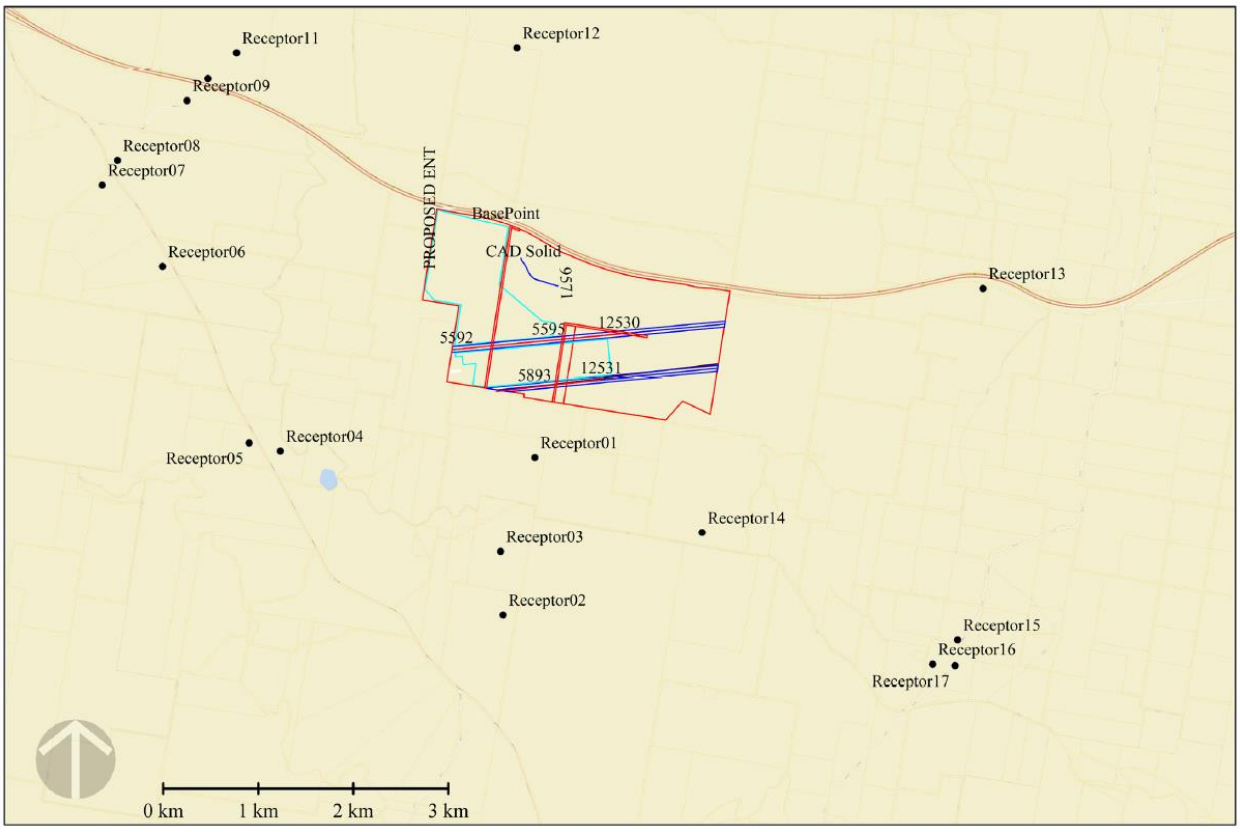

Figure 6-2: Visual Receptors within proximity of the Project area

Assessment level and approach

A detailed Landscape and Visual Impact Assessment (LVIA) would be prepared as part of the EIS. The landscape character assessment would identify the various landscape character types around the Project area and assess the capacity of each landscape character type to accommodate change without losing valued attributes.

The visual impact assessment would review and assess the following factors.

- Receptors would be reviewed through both a desktop assessment and by undertaking a site inspection of the area.
- A visual impact assessment would be undertaken using a grading matrix, considering visual sensitivity (of the visual amenity or viewpoints) and the magnitude of the visual change, to arrive at an overall level of visual impact.
- A standard methodology of sensitivity relating to proximity - the greater the distance between the visual receptor and the Project, the lesser the visual sensitivity of that visual receptor.
- Potential visual impact on each of the static residential receptors nearby the Project would be assessed individually. The undulating landscape and stands of remnant tees within the landscape may provide visual relief dependent on the aspect and distance to the Project.
- Impacts to the journey along the Hume Highway would be explored. Cumulative impacts with the adjacent Cullerin Range Wind Farm would be reviewed and analysed.
- A full visual amenity assessment report would consider impacts during construction, operation and decommissioning of the project.

A high-level assessment of potential non-exhaustive mitigation strategies for the Project have been identified and are provided below.

- Project development footprint within the Study area. Review viewsheds from adjacent receptors and establish if changes to the development footprint would provide mitigation to any visual impact identified at the EIS stage.
- Vegetation buffer screening on site. Review viewsheds from adjacent receptors and establish if vegetation buffers would provide mitigation to any visual impact identified at the EIS stage.
- Earthworks buffers with vegetation screening on the Project area. Review viewsheds from adjacent receptors and establish if earthworks buffers would provide mitigation to any visual impact identified at the EIS stage.
- Site fencing (temporary construction and final construction); Review viewsheds from adjacent receptors and establish if site fencing solutions would provide mitigation to any visual impact identified at the EIS stage.
- Offsite vegetation buffer screening surrounding receptors. Review viewsheds from adjacent receptors and establish if vegetation buffers at source receptors would provide mitigation to any visual impact identified at the EIS stage. Such screening would need to be agreed by those landowners but in line with the planning instrument of Upper Lachlan Shire Council.

The proposed methodology to be adopted for the LVIA adopted is process-driven, consistent, and based on professional, value judgement of commonly accepted and adopted criteria in the industry.

The LVIA would consider the relevant local planning objectives as provided in the Upper Lachlan LEP 2010 and the Upper Lachlan DCP 2010 and be informed by the following guidelines.

- *Guidance Note for Landscape and Visual Assessment* (Australian Institute of Landscape Architects, 2018).
- *Guideline for Landscape character and visual impact Environmental Impact Assessment Practice Note assessment EIA-N04* (Transport for NSW, 2020).

6.1.4 Biodiversity: terrestrial flora and fauna

Receiving environment

As part of a desktop assessment, the following database searches were undertaken.

- A search of matters protected by the EPBC Act was undertaken on the 11 February 2022 using the EPBC Act Protected Matters Search Tool (PMST) (Department of Environment and Energy, 2021). A search radius of 10km was applied. Refer to Appendix D for further details.
- A search of the Atlas of NSW Wildlife (NSW Bionet database administered by NSW OEH) was undertaken on the 11 February 2022. The minimum search extent of 10km X 10km was used. The NSW Bionet databases include species and communities listed under the EPBC Act as well as the *Biodiversity Conservation Act 2016* (BC Act).

The PMST identified that the following threatened ecological communities are likely to occur in the 10km search area.

- Natural Temperate Grassland of the South Eastern Highlands.
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

The PMST identified 36 threatened species as potentially occurring in the 10km search area. NSW Bionet returned 79 records of threatened species within the 10km x 10km search area. The threatened species identified through the PMST are listed in Table 6-1 below.

Table 6-1: PMST Threatened Species

Name	Status
Fauna	
Anthochaera Phrygia (Regent Honeyeater)	Critically Endangered
Botaurus poiciloptilus (Australasian Bittern)	Endangered
Calidris ferruginea (Curlew Sandpiper)	Critically Endangered
*Falco hypoleucos (*Grey Falcon)	Vulnerable
Grantiella picta (Painted Honeyeater)	Vulnerable
Hirundapus caudacutus (White-throated Needletail)	Vulnerable
*Lathamus discolor (*Swift Parrot)	Critically Endangered
*Numenius madagascariensis (*Eastern Curlew)	Critically Endangered
*Polytelis swainsonii (*Superb Parrot)	Vulnerable
*Rostratula australis (*Australian Painted Snipe)	Endangered
Maccullochella macquariensis (Trout Cod)	Endangered
*Maccullochella peelii (*Murray Cod)	Vulnerable
*Macquaria australasica (*Macquarie Perch	Endangered
*Litoria aurea (*Green and Golden Bell Frog)	Vulnerable
*Litoria castanea (*Yellow-spotted Tree Frog)	Critically Endangered
*Litoria raniformis (*Growling Grass Frog)	Vulnerable
*Synemon plana (*Golden Sun Moth)	Critically Endangered
*Chalinolobus dwyeri (*Large-eared Pied Bat)	Vulnerable
Dasyurus maculatusmaculatus Spot-tailed Quoll	Endangered
*Petauroides volans (*Greater Glider)	Vulnerable
*Phascolarctos cinereus (*Koala)	Vulnerable
*Pteropus poliocephalus (*Grey-headed Flying Fox)	Vulnerable
*Aprasia parapulchella (*Pink-tailed Worm-lizard)	Vulnerable
*Delma impar (*Striped Legless Lizard)	Vulnerable
Flora	
*Ammobium craspedioides (*Yass Daisy)	Vulnerable
*Amphibromus fluitans (*River Swamp Wallaby-grass)	Vulnerable
Dodonaea procumbens (Trailing Hop-bush)	Vulnerable
*Eucalyptus aggregata (*Black Gum)	Vulnerable
Lepidium aschersonii (Spiny Pepper-cress)	Vulnerable
*Lepidium hyssopifolium (*Basalt Peppercress)	Endangered
Leucochrysum albicans var. *tricolor (*Hoary Sunray)	Endangered

Name	Status
*Prasophyllum petilum (*Tarengo Leek Orchid)	Endangered
*Rutidosis Leptorrhynchoides (*Button Wrinklewort)	Endangered
Senecio macrocarpus (Large-fruit Fireweed, Large-fruit Groundsel)	Vulnerable
*Swainsona recta (*Small Purple-pea)	Endangered
Thesium australe (Austral Toadflax)	Vulnerable

Franfield Creek, which dissects the Study area, is mapped on the Biodiversity Values Map (Figure 6-3).

Furthermore, the Project area is identified as containing terrestrial biodiversity under the Upper Lachlan LEP (Figure 6-3).

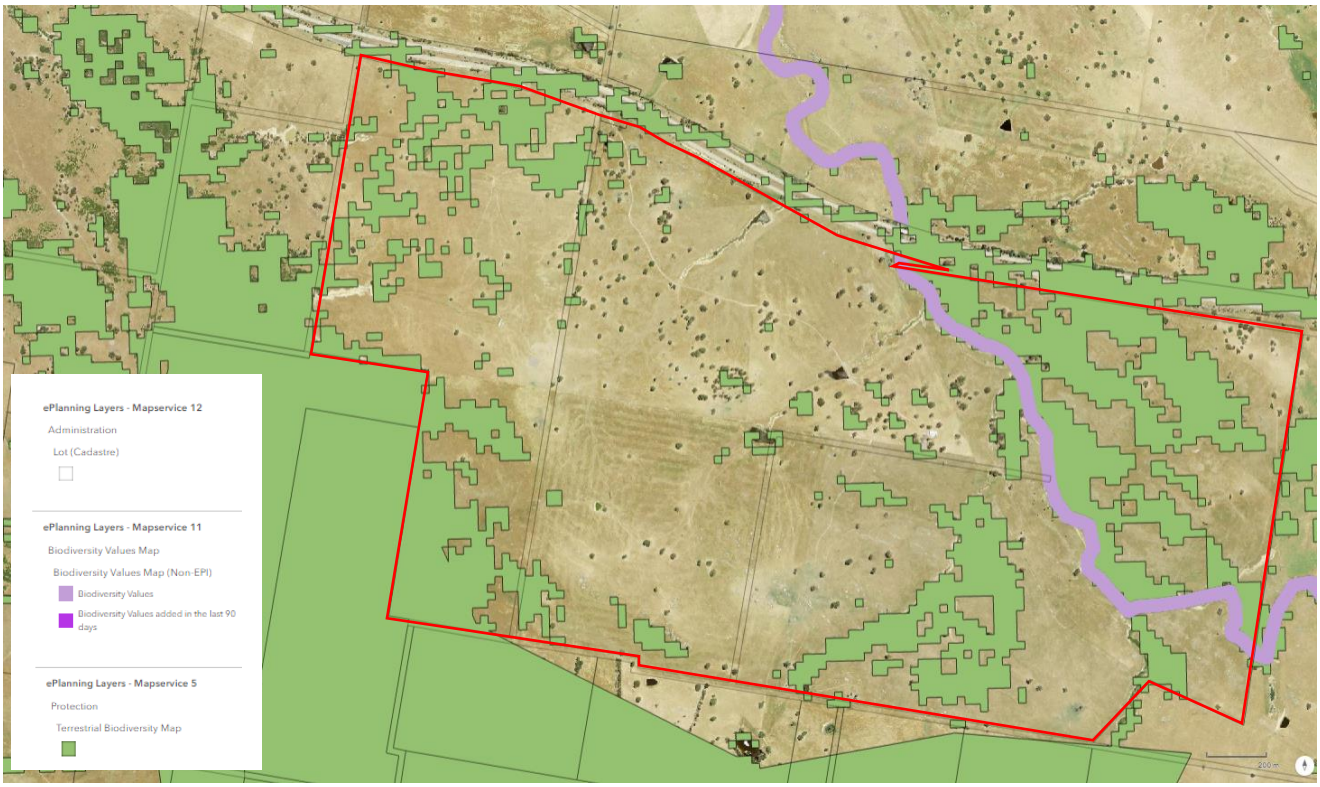

Figure 6-3: Upper Lachlan LEP Biodiversity sensitivity and values areas (ePlanning Spatial Viewer, accessed February 2022)

Preliminary investigations

Preliminary investigations undertaken by Capital Ecology confirms that the vegetation within the Project area is highly modified and consists of scattered mature remnant trees over sown exotic pasture which is currently characterised by a very dense cover of *Clovers Trifolium* spp. and scattered plants of highly disturbance tolerant grasses and forbs (e.g. Corkscrew (*Austrostipa scabra var. falcata*), Bluebells (*Wahlenbergia* sp.), and Swamp Dock (*Rumex brownii*) (refer Plate 1).

A remnant tree assessment undertaken in November and December of 2020 by Capital Ecology's Robert Speirs (Principal Ecologist) and Dr Sam Reid (Senior Ecological), both Accredited BAM Assessors has identified that Yellow Box (*Eucalyptus melliodora*), Blakely's Red Gum (*E. blakelyi*), Apple Box (*E. bridgesiana*), Red Stringybark (*E. macrorhyncha)* and Candlebark (*E. rubida*) occur as scattered paddock trees throughout much of the Project area.

Plate 1: Scattered mature remnant Yellow Box and Blakely's Red Gum trees over sown pasture

No threatened fauna species were observed during the preliminary investigations. The few rocky outcrops present in the Project area are characterised by deeply embedded granite boulders which are unlikely to provide suitable habitat for the threatened herpetofauna which occur in the region (refer Plate 2). Many of the scattered mature remnant Yellow Box and Blakely's Red Gum trees were observed during the preliminary site inspection to contain hollows of various dimensions, together with numerous stick nests.

These habitat features were observed to be occupied by nesting common native birds (i.e., Crimson Rosella (*Platycercus elegans)*, Red-rumped Parrot (*Psephotus haematonotus)*, Galah (*Eolophus roseicapilla)*, Little Raven (*Corvus mellori)*, and Australian Magpie (*Gymnorhina tibicen*), however there is the potential that threatened bird species may also nest in these trees (e.g., Superb Parrot (*Polytelis swainsonii)* and Little Eagle (*Hieraaetus morphnoides*). Further, preliminary targeted surveys for diurnal birds including Superb Parrot surveys undertaken in November and December of 2020 found no indication of nesting activity during the first two surveys. Further surveys would be undertaken as part of the BDAR.

Plate 2: Scattered outcrops of deeply embedded granite boulders

Likely impacts

Potential impacts to flora and fauna would most likely occur during the construction of the Project when vegetation clearance and ground disturbance works would be undertaken.

Assessment level and approach

Under the BC Act, biodiversity assessment in accordance with the Biodiversity Assessment Method (BAM) is required for any SSD project. The Project would trigger the need to prepare a Biodiversity Development Assessment Report (BDAR) in accordance with the BAM.

Following completion of the detailed vegetation and species surveys, the BDAR would be prepared to report the findings of the assessment, including the outcomes of the BAM calculator assessment identifying any biodiversity credits that would require offsetting for the Project.

Base International has already engaged Capital Ecology to conduct further ecological assessment as part of the BDAR. A detailed assessment of potential impacts to biodiversity would be undertaken as part of the BDAR for the EIS, in accordance with the BAM, as established under the BC Act.

The assessment would address the requirements of the Biodiversity Offset Scheme (BOS) in accordance with the BC Act and the Biodiversity Conservation Regulation 2017 (BC Regulation) through the application of the BAM. The BDAR would be finalised upon completion of all field surveys and would also include the assessment requirements of the EPBC Act.

6.1.5 Hazards and risks

Bushfire risk

Likely impacts

NSW RFS bushfire prone land mapping (NSW RFS, 2021) indicates that the Project area is located in land identified as bushfire prone land (Vegetation Buffer and Vegetation Category 1) (Figure 6-4). The Project area has been subject to extensive clearing associated with historical agricultural land use however areas of remnant vegetation occur within the Project area which may present a potential fuel load capable of influencing bushfire behaviour.

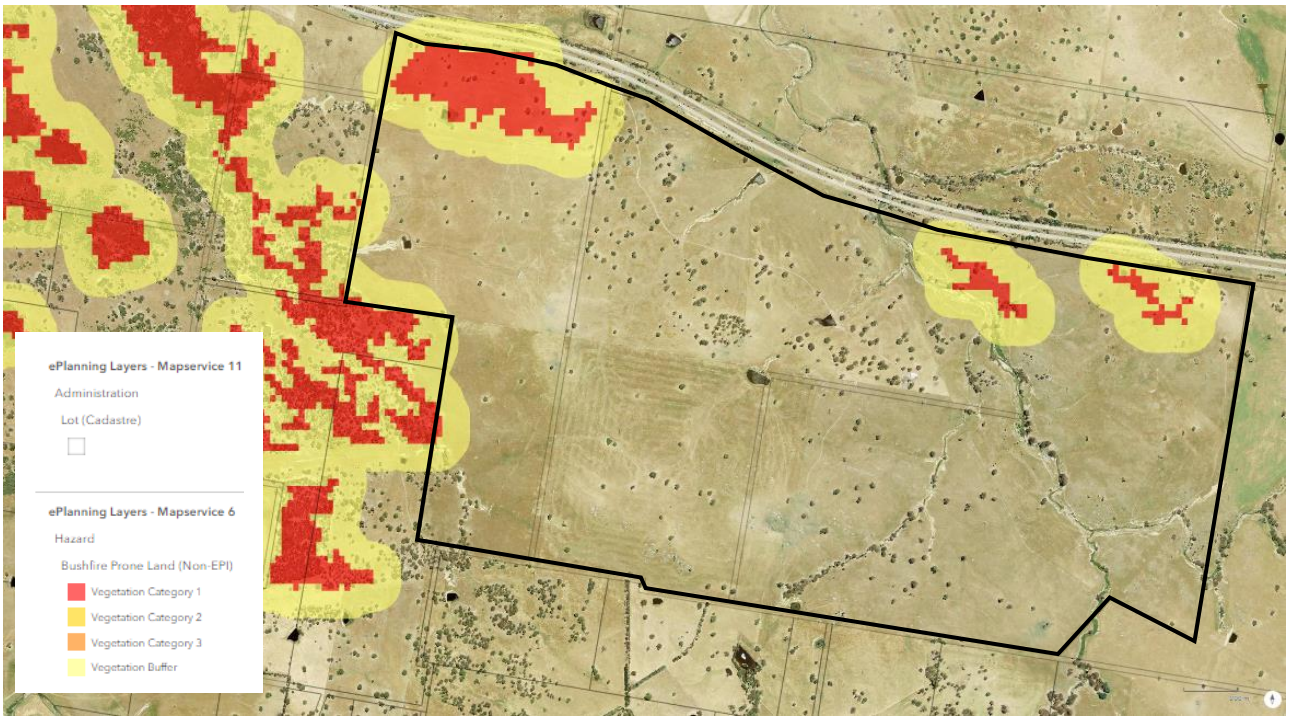

Figure 6-4: Bushfire Prone Land (ePlanning Spatial Viewer, accessed February 2022)

Assessment level and approach

As per the outcomes of consultation with RFS (Section 5.2.1), a detailed bushfire assessment would be prepared as part of the EIS. The requirements of PBP (NSW RFS, 2019) – clause 8.3.5 Wind and Solar Farms would be considered as part of the bushfire assessment.

Hazardous and offensive development and dangerous goods

Likely impacts

Existing sources of electromagnetic fields (EMF) include the 330 kV transmission line which passes through the centre of the Project area. There is no established evidence that the exposure to magnetic fields generated by powerlines, substations and other electrical sources cause adverse health effects (ARPANSA 2018). Generally, distances beyond 50m from a high voltage powerline are not expected to have higher than typical magnetic fields and for substations magnetic field levels at distances of 5-10m away are no higher than background levels in a typical home.

The EMF levels of the proposed solar infrastructure including, substation, inverters and the BESS would be assessed as part of the EIS but are not considered to increase EMF levels in a material way above existing background environmental levels.

Assessment level and approach

SEPP 33 requires the consent authority to consider whether a project is a potentially hazardous development or a potentially offensive development. Clause 12 provides that development for the purposes of a potentially hazardous industry must prepare a preliminary hazard analysis in accordance with the current circulars or guidelines published by the Department of Planning and submit the analysis with the development application. Clause 13 provides matters for consideration by consent authorities in determining an application to carry out a potentially hazardous development or a potentially offensive development. A summary of these matters is provided in Section 4.4.

Potential hazards and risks associated with the Project such as the battery storage, associated storage of chemicals, electromagnetic fields and bushfire would be included as part of a detailed preliminary hazard analysis (PHA) in accordance with SEPP 33. The PHA would be prepared in accordance with the *Hazardous Industry Planning Advisory Paper No. 6, Hazard Analysis* (Department of Planning, January 2011) and *Assessment Guideline Multi-Level Risk Assessment* (NSW Department of Planning and Infrastructure, May 2011).

Waste

Likely impacts

The Project has the potential to generate the following wastes.

- Surplus materials used during site establishment such as safety fencing and barriers which may include plastics and metal. The volume of waste is expected to be minimal as it is likely that prefabricated structures would be used.
- General construction waste such as excess concrete, timber, paper, plastic, metal and packaging materials.
- Vegetation waste from the clearance of vegetation on site.
- Domestic waste including food scraps, aluminium cans, glass bottles, plastic and paper containers, and putrescible waste generated by site construction personnel.
- Surplus spoil from earthworks required on site.
- Waste from onsite amenities. This waste would be collected by the supplier of any such systems in line with general practices.
- Wastewater generated from the construction compounds.

All construction waste would be transported and disposed of in accordance with the *Waste Classification Guidelines* (EPA 2014) and the POEO Act.

During operation, the generation of wastes would be limited to maintenance activities and would include redundant equipment and general waste from maintenance workers. All waste during maintenance activities would be removed from site by appropriately licensed contractors.

Assessment level and approach

The POEO Act regulates pollution to the environment and requires licences for environmental protection including waste, air, water and noise pollution control. Solar farms are not a scheduled activity under the POEO Act. The Project does not, therefore require an Environment Protection Licence (EPL).

The EIS would include a standard assessment of impacts related to waste streams likely to be generated during construction and operation and describe measures to manage, reuse, recycle and dispose of this waste in accordance with relevant legislation and guidelines including the *Waste Classification Guidelines* (EPA 2014), *Waste Avoidance and Resource Recovery Act 2001* and the *POEO Act*

Land and groundwater contamination

Receiving environment

Due to the Project area's historical agricultural use, potential sources of contamination within the site are those associated with agricultural activities (e.g., pesticides, herbicides, cattle/sheep dips etc). Due to the flat site terrain, minimal earthworks would be required during construction. There is therefore, a low likelihood of encountering contamination during construction, if present.

The CLM Act establishes the process for investigating and if required, remediating land that the EPA considers to be sufficiently contaminated so as to require regulation under Part 3, Division 2.

Clause 7 of SEPP 55 requires the consent authority to consider whether a site is contaminated and if it must be remediated to be suitable for the proposed development (Section 4.4). A review of the EPA Contaminated Land Record and List of NSW contaminated sites notified to the EPA, undertaken on 30 September 2021, confirmed there are no known contaminated sites in or near the Project area.

Assessment level and approach

Risks associated with contamination are considered low therefore the EIS would include a standard assessment of contamination risk and include relevant mitigation and management measures to address any potential contamination issues. Legislation and guidelines to be taken into consideration as part of the assessment would include POEO Act ,CLM Act and *Guidelines on the Duty to Report Land Contamination (EPA, 2015)* and *Guidelines for the assessment and management of groundwater contamination (EPA, 2007).* A Construction Environmental Management Plan (CEMP) would address management of contamination if identified during construction.

6.1.6 Heritage

Aboriginal cultural heritage

Receiving environment

A desktop Aboriginal heritage study indicated that the Southern Tablelands region is a part of the South Eastern Highlands bioregion and the catchment of the Murrumbidgee River. The Study area is comprised of crests, slopes and drainage depressions. A second order stream, Franfield Creek, is located between the north and west of the solar farm area. A first order stream, Lerida Creek, is located approximately one and half kilometres east of the Study area.

The Gunning Hills soil landscape is present in the Study area, which is characterised by linear ranges and hills on lower Silurian gneissic and foliated granite, siliceous uniform sands, red earths and yellow texture-contrast soils (Mitchell 2002). The majority of the area is an undulating granite plain with some rounded granite boulder outcrops.

The area is a rural landscape and is predominantly utilised for grazing which has been cleared over the last 150 years for agricultural activities, only some thin scattered trees are present. The native Woodland of Blakely's Red Gum (*E. blakelyi*), Yellow Box (*Eucalyptus Melliodora*), Apple Box (*E. bridgesiana*) with some broad-leaved peppermint (*E. dives*) and brittle gum (Eucalyptus mannifera) were recorded on ridges (Mitchell 2002). Small areas of Argyle apple (Eucalyptus cinerea) and black cypress pine (Callitris endlicheri) is also

reported in the region. In the broader region the Lake George, and its environs, would have been one locus of intensive habitation and activity for the local Aboriginal people as it is the large body water with abundant natural resources (Dibben 2012).

Aboriginal Heritage Information Management System

A search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on the 20 September 2021 and encompassed eastings 705609– 728846, and northings 6136845 – 6151833. This broad search revealed 38 registered Aboriginal sites located a10km radius around the Study area. Of these, one (1) registered Aboriginal site (AHIMS 51-5-0019) is located within 1km east of the Study area (Figure 6-5), which is recorded as open camp site (Table 6-2)**.** Other registered Aboriginal sites located within the broader investigation area include open camp sites and artefact scatters. No registered sites are located within the Study area.

Table 6-2: Aboriginal sites listed on AHIMS search in close proximity to the Study area (GDA 94)

Site ID	Site Name	Easting	Northing	Site Type
51-5-0019	CR01 (Field Designation) Gunning	712334	6145363	Open Camp Site

Native Title

There are no registered Native Title Determinations or Native Title Claim intersecting the Study area

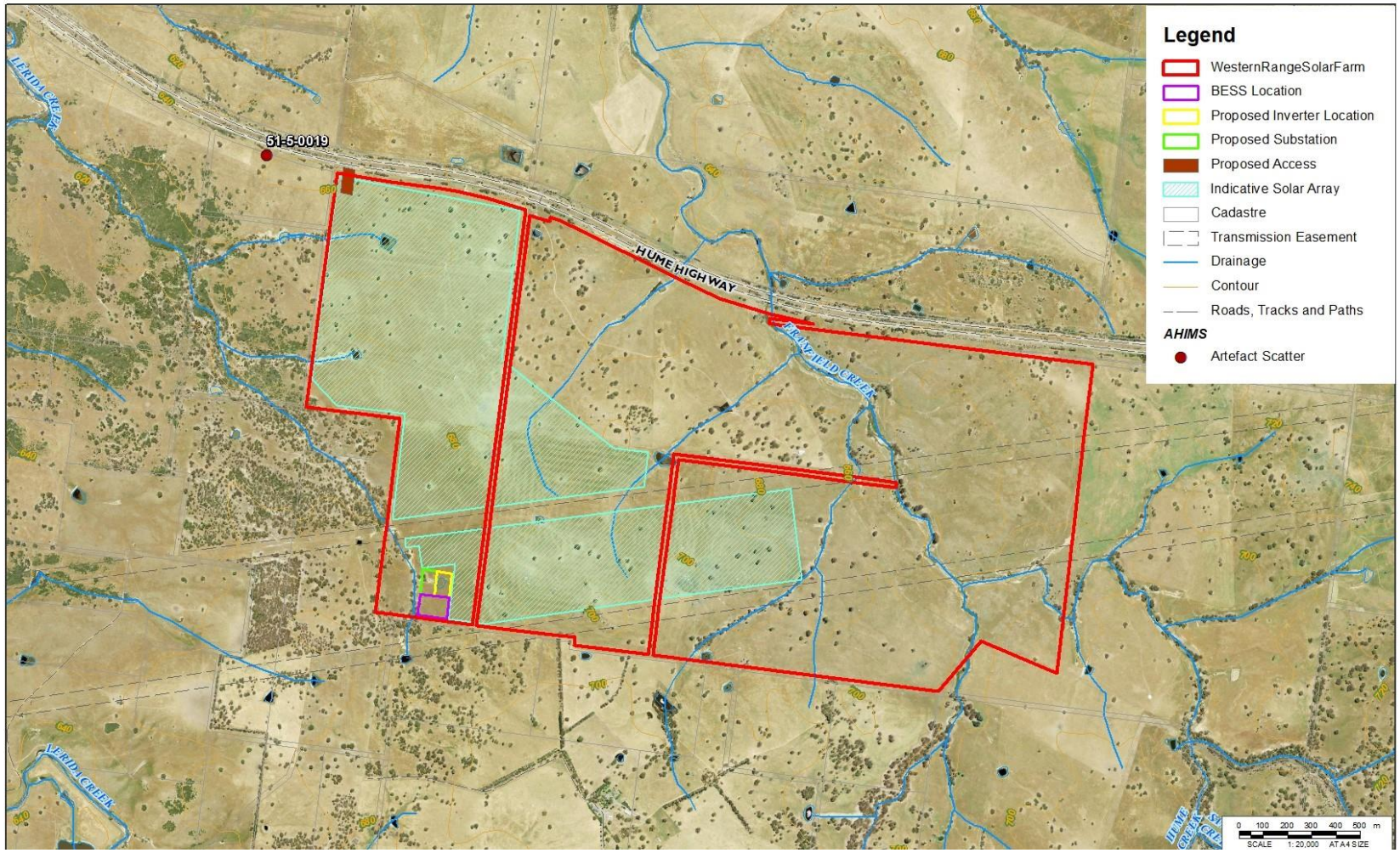

Figure 6-5: AHIMS in Study area

Previous Archaeological Investigations

Aboriginal population around the Study area were recorded first in 1820s as 44 people which declined to 20 or less by the 1840s (Smith 1992). It is suggested that present day Goulburn was situated between the lands of the – the *Gundungurra* (Gandangara) people to the north and the *Ngunawal* people to the south (Avery 1994). Ethnohistorical sources indicate that within the southern tablelands a broad range of resources were accessed by Aboriginal groups as they moved through their country (Avery 1994). Open plains and woodland were home to kangaroos, wallabies, wallaroos, wombats, emus and a variety of other fauna. Other small animals included birds, lizards, possums, native cats, fish, mussels, bird eggs, and variety of yams, berries, grubs and grass seed were collected by Aboriginal groups. The various waterways in the region were an abundant food source which included many types of aquatic birds.

Several archaeological surveys and test excavations have been conducted in the region since the 1980s, most of which were targeted to locations of developments or research questions.

Investigations of the Cullerin Range Bypass (located 7km east of the Study area) concluded that dryer hilly terrain in the region was occupied as temporally, but downstream, closer to the Lachlan River should have more suitable conditions for habitation (Dallas 1985). Following this, Koettig and Silcox surveyed the same area and noted that artefact densities were low, and all artefact locales situated within 200 metres of a creek line (Koettig and Silcox 1985). An excavation, approximately 3 kilometres west or the Study area, followed these surveys revealing over 2000 artefacts, mostly quartz, that 20 per cent of those were found on surface (Koettig 1986).

Likely Impacts

While ground disturbance due to farming activities would affect the intactness of an archaeological deposits, Aboriginal objects may be identified in a disturbed context. Disturbance is only one factor considered in the assessment of Aboriginal archaeological potential. Landscape, landform and an understanding of the Aboriginal archaeological context are also considered. The *National Parks and Wildlife Act 1974* protects all Aboriginal objects, regardless of the context in which Aboriginal objects are identified.

Creeks and water sources are located across the Study area, and naturally occurring materials which would be appropriate for the manufacture of stone tools were also identified.

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010/ Heritage NSW) outlines landscape features and distance to water (includes land within 200 metres of water) that indicate the likely existence Aboriginal objects.

Previous studies in the vicinity indicate that there is potential for unlisted places of Aboriginal archaeological significance to be located in the Study area. While clearing for agriculture may have destroyed many old growth native trees suitable for cultural modification as well as surface archaeological sites and archaeological deposits, registered sites in close proximity indicates potential for further Aboriginal sites to still be located within the Study area.

Assessment level and approach

As registered Aboriginal sites are located in proximity to the Study area and there is potential for additional unlisted sites to be located within the Study area, a comprehensive Aboriginal cultural heritage and archaeological investigation would be undertaken for the Project. This would include an Aboriginal Cultural Heritage Assessment. The local Aboriginal land council and knowledge holders would be involved in any further Aboriginal cultural heritage assessments.

Consultation with the Aboriginal community as per *Aboriginal Cultural Heritage Consultation Requirements for Proponents (Consultation Requirements)* (2010 DECCW/ Heritage NSW) has not yet been undertaken for the Study area. Aboriginal people are the primary determinants of the significance of their cultural heritage and how best to conserve it. As such, the Aboriginal community would have an active role in the heritage planning process and have input into decision making as to how their heritage should be managed.

It is anticipated that archaeological survey, consultation with the Aboriginal community and assessments of potential heritage values would be required to form part of EIS studies. Archaeological survey and community consultation should be undertaken in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, Department of Premier and Cabinet, 2011), the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (2010 DECCW/ Heritage NSW)* and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents (Consultation Requirements)* (2010 DECCW/ Heritage NSW).

Non-Aboriginal heritage

Receiving environment

A desktop assessment was undertaken to identify baseline information with regard to non- Aboriginal (historic) heritage and archaeological potential within the Study area in October 2021. This preliminary assessment was conducted in line with the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act), the *Heritage Act (NSW) 1977* (the Heritage Act) and *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013* (Burra Charter).

Register searches

A review of the following statutory and non-statutory heritage lists was undertaken to identify the locations of registered historic heritage items, conservation areas and archaeological sites in relation to the Study area.

- World Heritage List.
- National Heritage List.
- Commonwealth Heritage List.
- State Heritage Register.
- *Upper Lachlan LEP 2010.*

There are no registered items located within the Study area.

However, one item listed (Table 6-3) on the *Upper Lachlan LEP 2010* is located within approximately 1.5km north of the Study area (Figure 6-6). This heritage item is *The Frankfield Homestead Complex.* It was built in the 1870s, and statement of significance is as follows.

"The complex is significant for its extensive range of building types and styles. In addition to the Italianate homestead, there is an early slab and stone kitchen, a conservatory, a most distinctive and unusual set of stables, an early rubble blacksmith's shop, and a gravity fed bath house. The homestead reflects the characteristics of a rural residence designed in Italianate style. The Frankfield Group possesses aesthetic qualities, located as it is within a very well landscaped setting with fine trees."

Table 6-3: Heritage register results

Item name	Listing	Address	Approximate Distance to Proposed Project Footprint Boundary
Frankfield Homestead Complex	Upper Lachlan Local Environmental Plan 2010#I98	Cullerin Road GUNNING NSW 2581	1.5 kilometres north

Non- Statutory Heritage Items

The *Australian Bicentennial National Trail* (BNT) is also located approximately 5 kilometres east of the Study area. The BNT runs for 5,330 kilometres from Healesville in Victoria, to Cooktown in North Queensland and is described as a "living history" as a result of following the historic coach and stock routes, old pack horse trails, and country roads (Dibden 2012). This trail is not listed on any statutory instruments, however, potential heritage impacts of the proposed works to the BNT would be considered in the EIS.

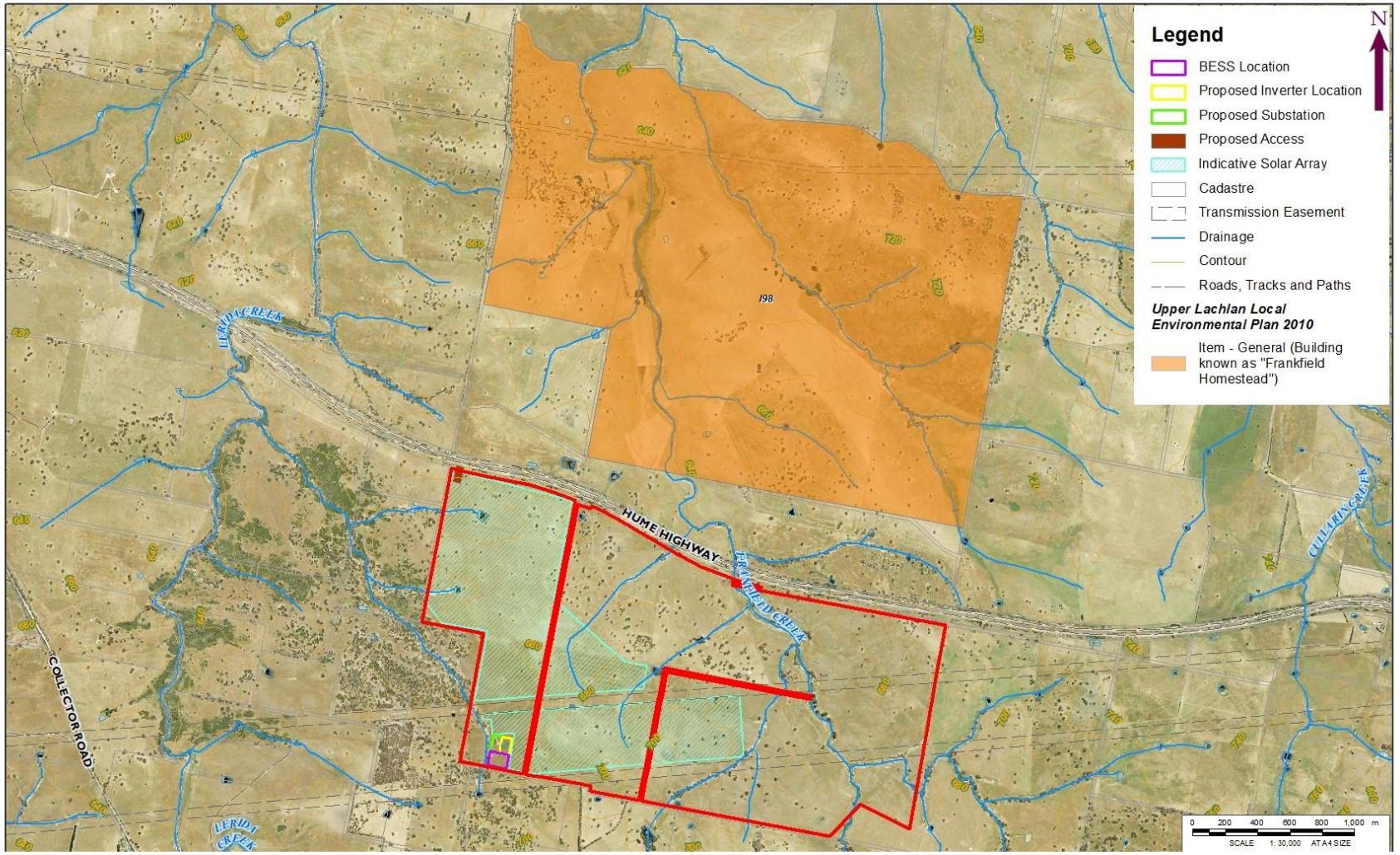

Figure 6-6: Heritage listed items

Historical background

The Study area is located within the Upper Lachlan Shire, with the closest town Gunning being 8km northwest. Following first exploration in the region by Hamilton Hume in 1814, other parties led by Throsby – 1818, Throsby-Smith – 1820, Wild – 1820, and Kearns – 1822 visited the district (NOH Consultants 2003; Dibden 2012). In 1821 Hume was settled in the northeast of present day township. After Hume and Hovell pioneered the route to present day Melbourne in 1824, Gunning became an attractive land for European grazing purposes..

Likely impacts

There are no registered non-Aboriginal heritage sites located within the Study area, however one LEP item is in close proximity.

Non-Aboriginal archaeological potential for the Study area is largely unknown. Detailed historical research including the analysis of archival information, plans and maps would be required to compile an assessment of the archaeological potential of the Study area. Archaeological values in the Study area are likely to be associated with agricultural practices may be of Local significance.

Assessment level and approach

A comprehensive assessment of potential non-Aboriginal heritage items, and historical archaeological potential of the Study area during EIS study would require detailed background research and heritage survey. Assessment would consider:

- *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).

The visual impacts to the views from the *Frankfield Homestead Complex* would be considered prior to the commencement of development.

6.1.7 Land: soil and land capability

Receiving environment

The Project area is located within a rural setting and has been historically cultivated, sown to pasture and is maintained by annual superphosphate application. Wool and lamb farming is currently the main land use in the Project area. The Project area is zoned RU2 Rural Landscape under the Upper Lachlan LEP 2010. The Project would result in a change in land use from agricultural use to electricity generation as a result of the construction of the solar infrastructure with the landowner planning for agricultural practices to continue in and around the solar farm with reduced stocking density.

Soils within the Project area are identified as sodosols and the Project area is not identified as BSAL (DPIE, 2021). The Land in the Project area is Class 4 under the NSW Land and Soil Capability Assessment Scheme. Class 4 is considered moderate capability land able to sustain moderate to high-impact land uses such as cropping with restricted cultivation (Office of Environment and Heritage (OEH), 2012).

Assessment level and approach

The EIS would include a standard assessment of the impact of the Project on erosion and sedimentation, existing land use, including on agricultural production. The assessment would be informed by the following guidelines:

- *Agricultural Land Use Mapping Resources in NSW - User's guide* (Department of Primary Industries, February 2017)

- *The land and soil capability assessment scheme* (OEH, October 2012)

6.1.8 Social: community and livelihoods

Receiving environment

The population of Cullerin in 2016 was 38 people. Due to the small population for the area, limited information is available as such statistics for the town of Gunning which is the closest town to the Project area have been used. The population of Upper Lachlan Shire LGA in 2016 was 7,695 people, which has increased from 7,193 in 2011. Of this 17.5% were youths between 0 and 14 years. The percentage of seniors (+65 years) in Gunning is 16.9% which represents a lower proportion of the population of Gunning than of Upper Lachlan LGA (23.5%) and NSW as a whole (16.2%) (Australian Bureau of Statistics, Quickstats, 2017).

The top industry of employment in Gunning is Central Government Administration (6.9%) . Other major industries of employment included sheep farming (6.1%), defence (5.7%), hospitals (except Psychiatric Hospitals) (5.3%) and road freight transport (4.5%). The top industry of employment in Upper Lachlan Shire LGA, sheep farming (11%), Other major industries of employment included beef cattle farming (4.8%), sheep-beef cattle farming 4.1%, local government Administration (3.6%) and aged care residential services (3.1%).

In 2016, the unemployment rate of Gunning was 5.4% which is higher than the unemployment rate of Upper Lachlan Shire LGA (3.9%) and lower than that of NSW 6.3%.

Assessment level and approach

There is considerable scope for mitigating the risks associated with a heavy dependence on agriculture within the Upper Lachlan Shire LGA by diversifying the regional economy. The Project would result in:

- the generation of up to 100 jobs in regional NSW during the construction period
- the generation of permanent regional jobs would be indirectly enabled by the Project
- lower cost of energy through economies of scale and declining price of renewable energy, which can be passed on to all energy consumers through the National Energy Market
- significant secondary skills, direct and indirect employment opportunities, economic stimulus for small business and work opportunities in regional NSW during construction and operations
- direct and indirect benefits to the local, state and national economies during the life of the Project.

Standard assessment as part of the EIS would include consideration of the socio-economic impacts and benefits of the Project including an assessment of the likely impacts on the local community and a consideration of the construction workforce (including cumulative impacts). Assessment of social impacts would be undertaken in accordance with the *Social Impact Assessment Guideline* (DPIE, 2021), *Undertaking Engagement Guidelines for State Significant Projects* (DPIE, 2021) and *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPIE, 2021).

6.1.9 Water: hydrology, water quality and water availability

Receiving environment

The Project area is located within the Lachlan catchment, approximately 6.5km north of the Lachlan River. Land within the Lachlan catchment supports extensive agriculture with 75 per cent of the catchment used for livestock grazing and 15 per cent for dryland cropping.

A number of ephemeral drainage lines are located within the Project area (Appendix A.1), which include 1st to 2nd order streams under the Strahler Stream Classification System (NSW Department of Primary Industries (DPI) 2018). Franfield Creek is located within the Study area. Several farm dams are also located in the Project area. The location of waterbodies to be retained would be determined as the Project design progresses.

The area is not defined as flood prone according to the Upper Lachlan Shire LEP.

Likely impacts

The preliminary layout for the Project has been designed to avoid identified watercourses such as Franfield Creek to assist with minimising potential impacts. on water flow and quality.

The location of waterbodies to be retained would be determined as the Project design progresses.

Water would be required for construction, operation and decommissioning of the Project. The Project's water use would consist of water for purposes such as dust suppression, compaction, concrete works and site facilities during construction and water for solar array cleaning and staff amenities during operation. At this stage, it is expected that water would be sourced from water trucks, opportunistically from farm dams located within the Project area or from treated wastewater if available in the nearby region (primarily for dust suppression). However, all potential sources of water would be identified and assessed through the EIS process.

Construction and operation of the Project would result in a minor increase in impervious surface area due to the establishment of permanent and temporary structures such as a BESS, substation and internal access roads.

Assessment level and approach

Standard assessment of impacts to watercourses would be undertaken as part of the EIS and appropriate mitigation or avoidance measures would be included where required or appropriate. The assessment would be undertaken in accordance with *Managing Urban Stormwater: Soils and construction - Volume 1 4th edition (Landcom,2004)*. The EIS would include standard protocols for stormwater management.

Any water extractions from water sources (surface and groundwater) regulated by a Water Sharing Plan required for construction purposes would require licensing under the *Water Management Act 2000* (WM Act). The potential water requirements during construction would be assessed as part of the EIS. Any necessary licences would be obtained for the Project.

6.1.10 Cumulative Impacts

The proposed Western Range Solar Farm will contribute to overall infrastructure development in the region.

A search of the NSW DPI&E Major Projects Portal for the Upper Lachlan LGA Shire LGA was conducted on 11 February 2022. Table 6-4 lists major projects that were under assessment or determined at the time of the search.

The closest development, Cullerin Wind Farm in Cullerin (approximately 8km east from the proposal site), located off the Hume Highway has a total capacity of 30MW and was determined in February 2007. The solar farm has been operating since 2009.

Based on this preliminary assessment it does not appear that cumulative impacts will be a key consideration for the proposed Western Range Farm development. During construction and operation, key cumulative impacts that could be considered relevant include the potential for community complaints regarding stress on local business for supply and demand (in particular staff accommodation), waste management and traffic. Early consultation with the community regarding cumulative impacts should be conducted. Further assessment/investigation of cumulative impacts in the EIS will assess potential impact and risk.

Table 6-4: Extract from NSW Planning Portal showing surrounding Upper Lachlan Shire LGA major projects under assessment.

Major Project	Stage
Crookwell 3 Wind Farm	Determination
Biala Wind Farm	Determination
Barina hard rock quarry	Determination
Moomba to Wilton Pipeline MOD 1 - Compressor Station Installation	Determination
Moomba to Wilton Pipeline	Determination
Taralga Wind Mod 8 - Cooranbong Distribution Project	Determination

Major Project	Stage
Taralga Wind Mod 6 - Change to Heavy Vehicle Route	Determination
Taralga Wind Mod 7 - Underground Cabling	Determination
Crookwell 2 Wind Farm Mod 2 - Turbine height and infrastructure changes	Determination
Rye Park Wind Farm MOD 1 - Tip Height Increase	Determination
Biala Wind Farm MOD 2 - Ancillary Infrastructure	Determination
Dalton Power Station	Determination
Cullerin Wind Farm	Determination
Collector Wind Farm MOD 3 - Temporary Concrete Batch Plant	Determination
Gullen Range Wind Farm Mod 1	Determination
Gullen Range Wind Farm	Determination
Collector Wind Farm MOD 2 - Grid Connection & Road Upgrades	Determination
Collector Wind Farm MOD 1 - Ancillary Infrastructure & Blade Diameter	Determination
Collector Wind Farm	Determination
Rye Park Wind Farm	Determination
Biala Wind Farm MOD 1 - Meteorological Mast	Moomba to Wilton Pipeline Mod 3 Groundwater Bore
Moomba to Wilton Pipeline Mod 3 Groundwater Bore	Prepare Mod Report
Moomba to Wilton Pipeline MOD 2 - Compressor Station Installation	Prepare Mod Report
Barina hard rock quarry Barina Hard Rock Quarry (Mod 1) - Time extension	Prepare Mod Report
Taralga Wind Mod 4 - Met Masts	Determination
Taralga Wind Mod 5 - Five Modification Elements	Determination
Taralga Wind Mod 1 - Increase Turbine Height	Determination
Taralga Wind Mod 3 - Change to site compounds	Determination
Taralga Wind Mod 1 - Reduction in Turbines	Determination
Taralga Wind	Determination
Crookwell 2 Wind Farm	Determination

6.2 Matters requiring no further assessment in the EIS

Table 6-5 identifies the matters requiring no further assessment in the EIS.

Table 6-5: Matters requiring no further assessment in the EIS

Matter		Explanation
Access	Port and airport facilities	The matter is not relevant to the project
	Rail facilities	The matter is not relevant to the project
Air	Particulate matter	The matter is not relevant to the project
	Gases	The matter is not relevant to the project
Amenity	Odour	The matter is not relevant to the project
Biodiversity	Aquatic flora and fauna	The matter is not relevant to the project
	Conservation areas	The matter is not relevant to the project
Built environment	Public infrastructure	The matter is not relevant to the project
	Public land	The matter is not relevant to the project
	Private property	The impacts are of such a small scale to not warrant further assessment.
	Design quality	The matter is not relevant to the project
Economic	Opportunity cost	The impacts are of such a small scale to not warrant further assessment.
	Natural resource use	Water availability would be addressed under Water – Water availability
	Livelihood	Would be addressed under Social - livelihoods
Hazards and risk	Biosecurity	The impacts are of such a small scale to not warrant further assessment.
	Coastal hazards	The matter is not relevant to the project
	Dams safety	The matter is not relevant to the project
	Dangerous goods	The impacts are of such a small scale to not warrant further assessment.
	Environmental hazards	The matter is not relevant to the project
	Land movement	The matter is not relevant to the project
	Flooding	The matter is not relevant to the project. Standard stormwater management would be addressed under Water - Hydrology.
Heritage	Natural	The matter is not relevant to the project
Land	Stability	The impacts are of such a small scale to not warrant further assessment.
	Topography	The impacts are of such a small scale to not warrant further assessment.
Social	Way of life	The impacts are of such a small scale to not warrant further assessment.
	Accessibility	The matter is not relevant to the project
	Culture	The impacts are of such a small scale to not warrant further assessment.
	Health and wellbeing	The impacts are of such a small scale to not warrant further assessment.
	Livelihoods	The impacts are of such a small scale to not warrant further assessment.
	Decision-making systems	The matter is not relevant to the project

7 CONCLUSION

This Scoping Report has outlined the proposed Western Range Solar Farm and established the environmental and, planning context of the Project. The Project would be assessed under Part 4 of the EP&A Act and categorised as State Significant Development under SRD SEPP.

The Project layout would be subject to further analysis and refinement as part of the detailed specialist studies to be undertaken to inform the EIS and as an outcome of the ongoing stakeholder engagement program.

All identified matters would be subject to assessment as part of the EIS as detailed in Section 6 and in accordance with the SEARs. The Scoping Report has been prepared to assist the development of the SEARs for the Project, which will guide the preparation of the EIS.

Based on this Scoping Report, the following key matters associated with the Project, were identified.

- Access: property, traffic and road facilities.
- Amenity noise, vibration and visual.
- Biodiversity: terrestrial flora and fauna.
- Hazards and risks: bushfire, hazardous and offensive development and dangerous goods.
- Heritage: Aboriginal cultural and non-Aboriginal.

These matters will be assessed in detail in the EIS.

Based upon preliminary investigations other matters, listed below would be addressed through standard level assessments the adoption of typical mitigation and management measures

- Air: atmospheric emissions.
- Hazards and risks: waste and land and groundwater contamination.
- Land: soil and land capability.
- Social: community and livelihoods.
- Water: hydrology, water quality and water availability.
- Cumulative impacts

The relevance and importance of issues would be reviewed throughout the EIS process.

8 REFERENCES

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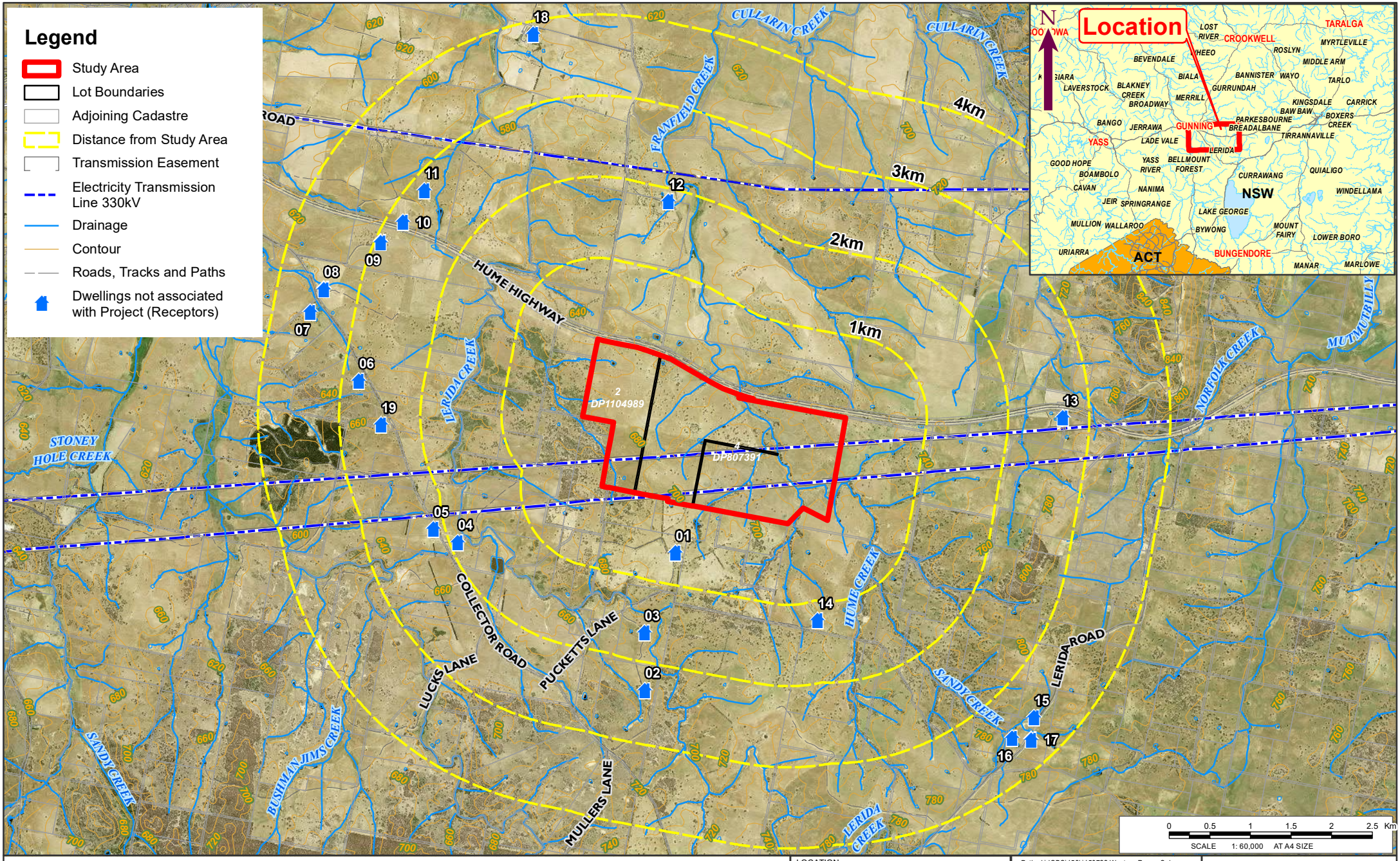
Appendix A

A.1 The Study area



Study Area Context

LOCATION: WESTERN RANGE SOLAR FARM, CULLERIN

PURPOSE: ENVIRONMENT

Technician: Natalie.Wood Date: 20/12/2021

Path: J:\JOBS\150k\150722 Western Range Solar Farm\10 - Drafting\Arcgis Map Documents\Enviro\150722 WRSF_Figure 1 PA Context

VERSION (PLAN BY): C A4L

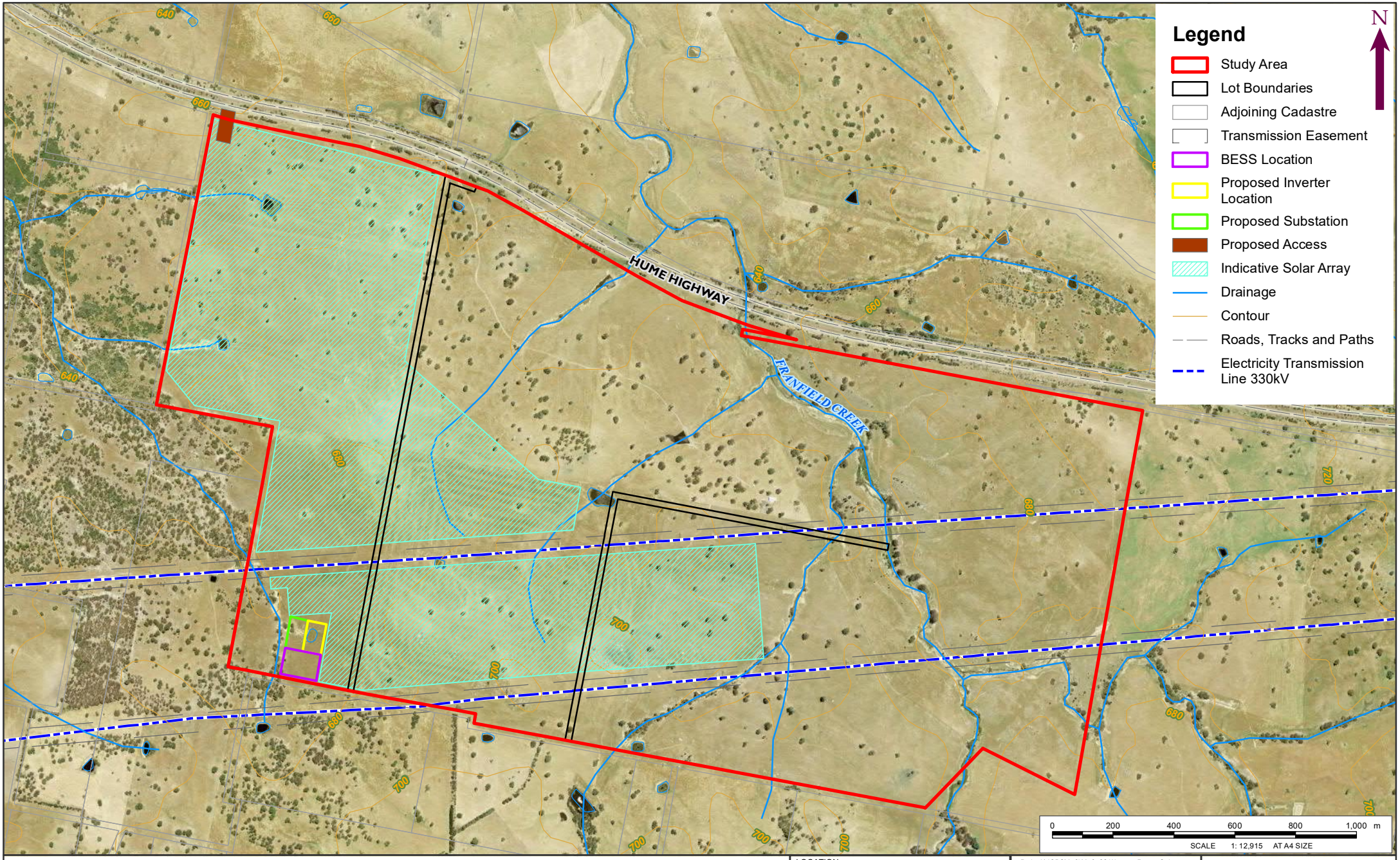
DATUM: GDA2020
PROJECTION: MGA Zone 55

Data Sources:
RPS, Client
© Department of Finance, Services & Innovation

CLIENT: BASE INTERNATIONAL
JOB REF: PR150722

MAKING COMPLEX EASY

A.2 The Project



Indicative Project Layout

LOCATION: WESTERN RANGE SOLAR FARM, CULLERIN

PURPOSE: ENVIRONMENT

Technician: Natalie.Wood Date: 21/12/2021

Path: J:\JOBS\150k\150722 Western Range Solar Farm\10 - Drafting\Arcgis Map Documents\Enviro\150722 WRSF_Figure 2 PA

VERSION (PLAN BY): C A4L

DATUM: GDA2020
PROJECTION: MGA Zone 55

Data Sources:
RPS, Client

CLIENT: BASE INTERNATIONAL

JOB REF: PR150722

MAKING COMPLEX EASY

Appendix B
Scoping summary table

Level of Assessment	Matter	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Access – property, traffic and road facilities	Y	Specific	• *Guide to Traffic Management* (Austroads, 2020) and relevant supplements, • Research Report AP-R591-19 *Guidelines for the Provision of Heavy Vehicle Rest Area Facilities* (Austroads, 2019) • *Guide to Traffic Generating Developments* (Roads and Traffic Authority, 2001), specifically Table 2.1 • *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (Austroads, 2021): Section 3.2.2 Safe Intersection Sight Distance; Section 4.8 Turn Treatments; Section 5.2 Deceleration Lanes; and Section 5.3 Acceleration Lanes.	Section 6.1.1
Detailed	Amenity: noise and vibration	N	General	• *Construction Noise Strategy* (Transport for NSW, 2012) • *NSW Industrial Noise Policy* (EPA, 2020) • *Interim Construction Noise Guideline* (Department of Environment, Climate Change and Water (DECCW), 2009) • *NSW Road Noise Policy* (DECCW, 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 Guidelin*e (Department of Environment and Conservation, 2006)	Section 6.1.3
Detailed	Amenity: visual	Y	General	• Upper Lachlan LEP 2010 Upper Lachlan DCP 2010 • *Guidance Note for Landscape and Visual Assessment* (Australian Institute of Landscape Architects, 2018) • *Guideline for Landscape character and visual impact Environmental Impact Assessment Practice Note assessment EIA-N04* (Transport for NSW, 2020).	Section 6.1.3
Detailed	Biodiversity: terrestrial flora and fauna	N	General	Refer to the Scoping Report for discussion on approach to assessment	Section 6.1.4

Level of Assessment	Matter	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Hazards and risks: Bushfire	N	General	PBP (NSW RFS, 2019)	Section 6.1.5
Detailed	Hazards and risks: Hazardous and offensive development and dangerous goods	N	General	• Hazardous Industry Planning Advisory Paper No. 6, Hazard Analysis (Department of Planning, January 2011) • *Assessment Guideline Multi-Level Risk Assessmen*t (NSW Department of Planning and Infrastructure, May 2011).	Section 6.1.5
Detailed	Heritage: Aboriginal cultural	N	Specific	• *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, Department of Premier and Cabinet, 2011)* • *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010 DECCW/ Heritage NSW) • *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (2010 DECCW/ Heritage NSW)	Section 6.1.6
Detailed	Heritage: non- Aboriginal	N	General	• *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).	Section 6.1.6
Standard	Air: atmospheric emissions	N	General	Refer to the Scoping Report	Section 6.1.2
Standard	Hazards and risks: Waste	N	General	• *Waste Classification Guidelines (EPA 2014)* • Refer to scoping report	Section 6.1.5
Standard	Hazards and risks: Land and groundwater contamination	N	General	• *Guidelines on the Duty to Report Land Contamination* (EPA, 2015) • *Guidelines for the assessment and management of groundwater contamination* (EPA, 2007).	Section 6.1.5

Level of Assessment	Matter	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Standard	Land: soil and land capability	Y	General	• *Agricultural Land Use Mapping Resources in NSW - User's guide* (Department of Primary Industries, February 2017) • *The land and soil capability assessment scheme* (OEH, October 2012)	Section 6.1.7
Standard	Social: community and livelihoods	Y	Specific	• *Social Impact Assessment Guidelines for State Significant Projects* (Department of Planning Industry and Environment, 2021) • *Undertaking Engagement Guidelines for State Significant Projects* (DPIE, 2021) • *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPIE, 2021).	Section 6.1.8
Standard	Water: hydrology, water quality and water availability	N	General	• *Managing Urban Stormwater: Soils and construction* - Volume 1 4th edition (Landcom,2004).	Section 6.1.9
Standard	Cumulative Impacts	N/A	General	• *Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2021).*	Section 6.1.10

Appendix C
Consultation

Our ref: STH21/00161/02
Contact: Elira Reynolds 02 9549 9397

26 November 2021

Michelle Moodley
RPS Group
BY EMAIL: michelle.moodley@rpsgroup.com.au
CC: information@planning.nsw.gov.au

PRELIMINARY SCOPING ADVICE FOR STATE SIGNIFICANT DEVELOPMENT – WESTERN RANGE SOLAR FARM, CULLERIN

Dear Michelle,

Transport for NSW (TfNSW) refers to your correspondence dated 2 November 2021 regarding the above project.

TfNSW has completed an initial review of the information provided, focussing on the impact to the state road network. For this development, the key state road is the Hume Highway. TfNSW notes the following:

- A meeting to discuss the project was held on 15 November 2021 between TfNSW and RPS Group.
- The project is considered a State Significant Development (SSD) under Part 4 of the *Environmental Planning and Assessment Act 1979* and the *State Environmental Planning Policy (State and Regional Development) 2011*;
- The project proposes to construct, operate and decommission a photovoltaic solar farm on the subject property, as shown in **Attachment 1**.
- Access to the solar farm is currently proposed via two separated one-way driveways, with movements restricted to left in and left out only. Additional comments relating to potential access arrangements for the project are provided in **Attachment 2**.
- The project will generate additional road traffic during each phase (i.e. construction, operation, decommission). The impact of this traffic needs to be considered and adequately mitigated.

TfNSW requests the matters outlined in **Attachment 3** be included in any SEARs issued and subsequently addressed by the applicant in the Environmental Impact Statement (EIS) prepared for the project.

If you have any questions, please contact Elira Reynolds on 02 9549 9397.

Please ensure that any further email correspondence is sent to development.south@transport.nsw.gov.au

Yours faithfully

Elira Reynolds
Development Services Case Officer, Development Services
South Region

See attached concept design titled Attachment 1

TfNSW has significant road safety concerns with any development that increases the volume of heavy traffic at grade right hand turning movements on the Hume Highway. TfNSW supports the proposed restriction of the right turning movements into and out of the property.

The following comments are provided in relation to the proposed access arrangements:

- TfNSW notes the existing truck stop located towards the western end of the property. This facility includes a short acceleration within the Hume Highway road reserve.
- Given that it is preferable to restrict the number of accesses to the Hume Highway, TfNSW suggests that the applicant investigate the use of the ingress and egress of the existing truck stop for the project. Any formal application would need to demonstrate that the use of this ingress/egress by vehicles associated with the project would not impact upon the operation of the truck stop i.e. trucks entering and exiting.
- TfNSW recommends that the applicant considers the *Austroads Research Report AP-R591-19 Guidelines for the Provision of Heavy Vehicle Rest Area Facilities* to assess whether consolidation of the project accesses with the existing truck stop is feasible.

The above is pre-development advice based on the information provided. The TfNSW position is subject to change, dependent on the information provided with any future enquiry/application.

The following information should be included in the Secretary's Environmental Assessment Requirements:

1) *Traffic Impact Study (TIS):* As a guide Table 2.1 of the *RTA's Guide to Traffic Generating Developments* outlines the key issues that should be considered in preparing a TIS. The TIS also needs to include, but not be limited to:

a) A description of the current movements along the Hume Highway in the vicinity of the site, including into and out of the site, if any. This should include raw data from current traffic surveys conducted during peak hours, preferably across multiple days, with movements divided into heavy and light vehicles;

b) The additional movements (particularly heavy vehicles) which are expected to be generated by the project. This should include details on the types of vehicles and road transport routes that are proposed to be used to provide access to and from the site during the construction, operation and decommissioning phase. TfNSW generally does not support developments which increase right-turning truck movements on the Hume Highway on road safety grounds;

c) Measures proposed to offset the increase in additional movements must be adequately described using detailed plans and an assessment of their positive impact on road safety. The justification of these measures will be used to determine whether TfNSW will give its support to the proposed development;

d) A swept path analysis in accordance with Austroads turning templates to demonstrate that the largest vehicle likely to utilise the access can enter and exit the site in a forward direction, and that any turning movements onto the classified road network can be achieved; and

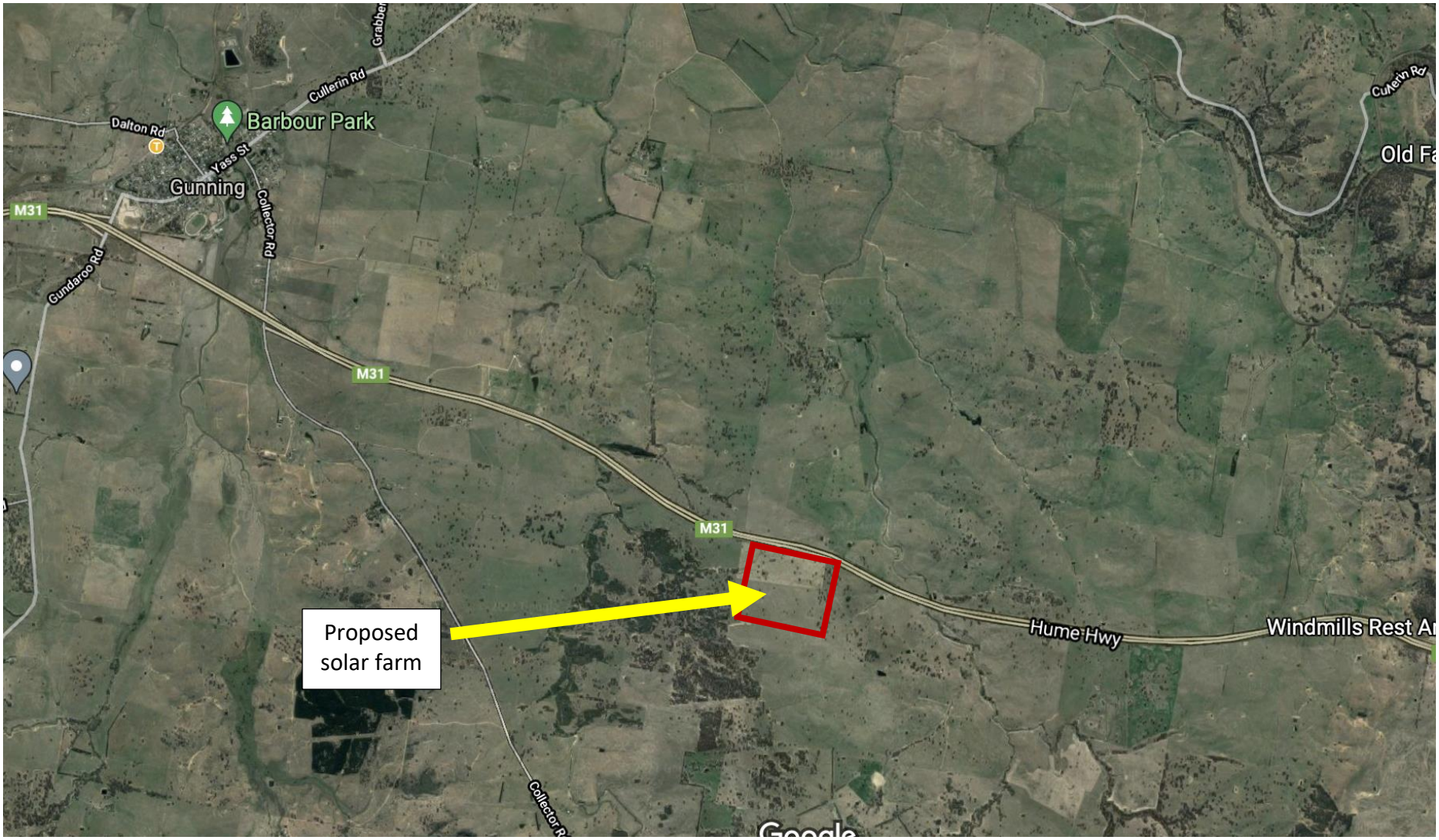
e) If required, an assessment of the predicted impacts of this additional traffic and offset measures on road safety and the capacity of the road network using SIDRA or a similar traffic model. Any modelling undertaken must ensure the base model has been calibrated with current on-site observations.

Please note the above relates only to potential impacts on the state road network. Discussions should be had with Goulburn Mulwaree Shire Council in relation to the information they may require to be included in the TIS concerning local road impacts.

2) *Strategic Design:* Strategic designs for any proposed road upgrades or offset measures on the state road network (i.e. the Hume Highway) need to be provided. The scope of works must be clarified and it must be demonstrated that the works can be constructed within the road reserve. The strategic designs will also allow the consent authority to consider any environmental impacts of the works as part of their Part 4 assessment, including traffic and road safety impacts as well as other impacts such noise, flora and fauna, heritage and impact to community.

Reference should be made to the appropriate TfNSW standards and Austroads guidelines when preparing the designs. These include, but are not limited to:

- AGRD – Part 4A: Unsignalised and Signalised Intersections (Section 3.2.2 Safe Intersection Sight Distance);
- AGRD – Part 4A: Unsignalised and Signalised Intersections (Section 4.8 Turn Treatments);
- AGRD – Part 4A: Unsignalised and Signalised Intersections (Section 5.2 Deceleration Lanes); and
- AGRD – Part 4A: Unsignalised and Signalised Intersections (Section 5.3 Acceleration Lanes).


Barbour Park
Cullerin Rd
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Collector Rd
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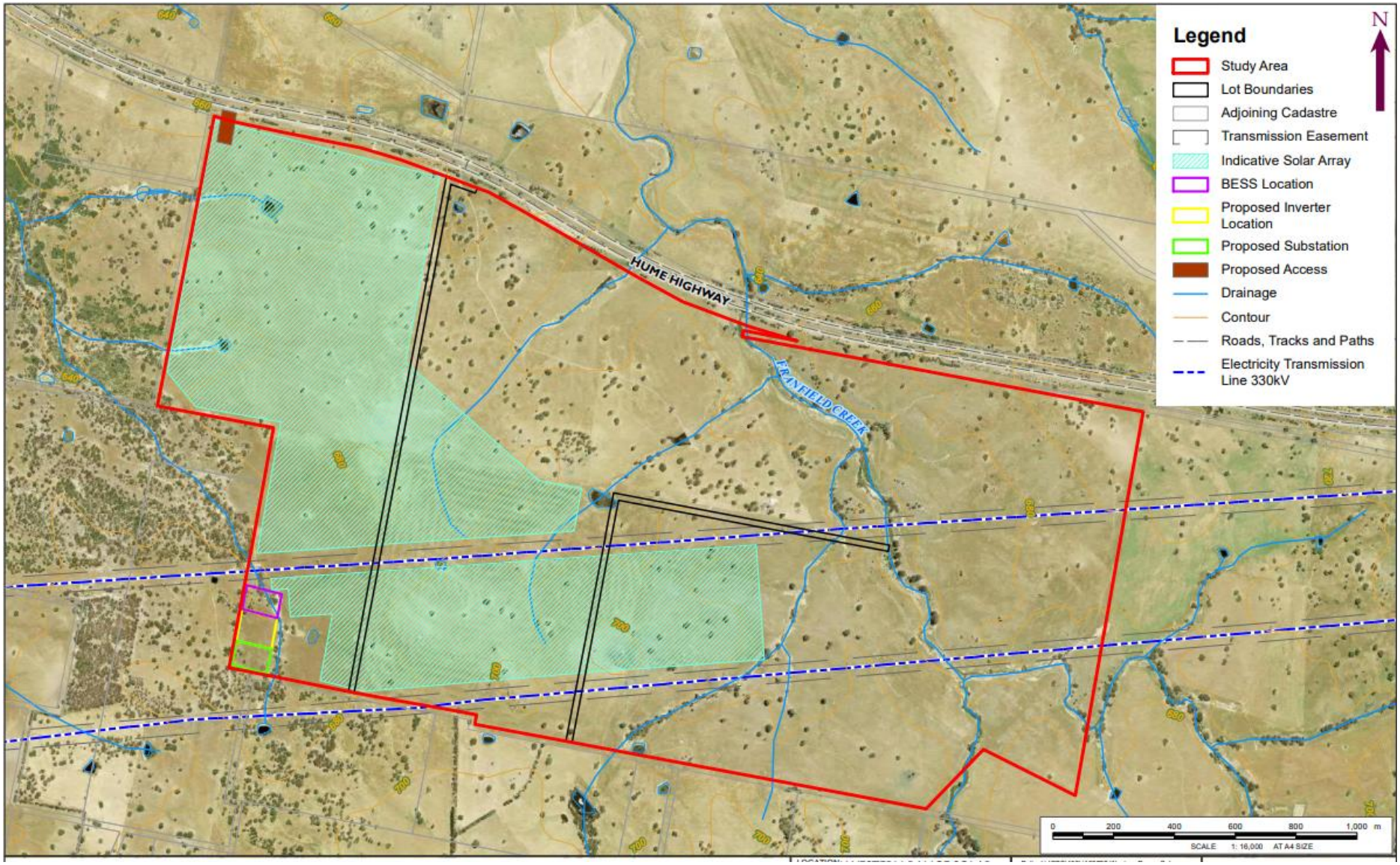
Gundaroo Rd
M31
M31
Hume Hwy
Windmills Rest Ar
Proposed solar farm
Collector R
Google


Legend
Study Area
Lot Boundaries
Adjoining Cadastre
Transmission Easement
Indicative Solar Array
BESS Location
Proposed Inverter Location
Proposed Substation
Proposed Access
Drainage
Contour
Roads, Tracks and Paths
Electricity Transmission Line 330kV
N
HUME HIGHWAY
FRANFIELD CREEK
0 200 400 600 800 1,000 m
SCALE 1: 16,000 AT A4 SIZE

From: Anna Jones
To: Michelle Moodley
Subject: RE: Western Range Solar Farm State Significant Development – Preliminary Scoping
Date: Tuesday, 30 November 2021 9:50:19 AM
Attachments: image003.gif
image001.png
image002.jpg

Good morning Michelle,

Thank you for the early referral for the proposed Western Range Solar Farm.

It is noted that part of the site is mapped as bush fire prone land. A future revision of the Upper Lachlan bush fire prone land map and inclusion of grassland vegetation as a bush fire hazard will be likely to incorporate the entire site as bush fire prone.

It is recommended that the project manager engages an accredited bush fire consultant to undertake an assessment of the proposal against Planning for Bush Fire Protection 2019 – clause 8.3.5 Wind and Solar Farms. Upon receipt of the bush fire assessment at SEARs or EIS stage the Planning & Environment Services will review the document in consultation with the Southern Tablelands District office and provide a more detailed response.

Regards
Anna Jones

Anna Jones | A/Supervisor Development Assessment and Planning | Planning & Environment Services Batemans Bay
NSW RURAL FIRE SERVICE
Unit 2 63 Cranbrook Rd Batemans Bay NSW 2536 | **Locked Bag 17 Granville NSW 2142**
P 02 4472 0600 | **M** 0437 497 246
E anna.jones@rfs.nsw.gov.au
www.rfs.nsw.gov.au | www.facebook.com/nswrfs | www.twitter.com/nswrfs
PREPARE. ACT. SURVIVE.

From: Michelle Moodley <Michelle.Moodley@rpsgroup.com.au>
Sent: Tuesday, 2 November 2021 3:10 PM
To: Planning & Environment Services <CustomerService.Centre@rfs.nsw.gov.au>
Subject: Western Range Solar Farm State Significant Development – Preliminary Scoping

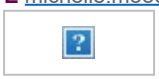
Dear Sir/Madam,

Base International is proposing to develop a solar farm, in the Southern Tablelands region of New South Wales, approximately 8 km south east of Gunning, within the Upper Lachlan Shire Local Government Area. The Project is considered a State Significant Development under Part 4 of the Environmental Planning and Assessment Act 1979 and State Environmental Planning Policy (State and Regional Development) 2011) and will require development consent from the Minister for Planning and Public Spaces. A scoping report is being prepared to support Base International's request to the consent authority for the Secretary's Environmental Assessment Requirements (SEARs) for the Project.

The purpose of the attached communication is to inform NSW Rural Fire Service about the Project and provide your organisation with an opportunity to comment on the proposed Project at this early stage of project planning. NSW Rural Fire Service will have an opportunity to provide comment on the assessment during the public exhibition period of the EIS. It would be appreciated if you could provide preliminary comment about the Project by Tuesday 16 November 2021.

Regards,

Michelle Moodley
Senior Consultant - Environment
RPS | Australia Asia Pacific
Level 13, 255 Pitt Street
Sydney NSW 2000, Australia
T +61 2 8099 3200 **F** +61 2 8099 3299
D +61 2 8099 3279 **M** +61 (0) 447 272 459
E michelle.moodley@rpsgroup.com.au



Planning, Industry & Environment

Michelle Moodley

Our ref: DOC21/1046576

Senior Consultant - Environment

RPS Australia Asia Pacific

15 December 2021

Subject: **Western Range Solar Farm preliminary comments**

Thank you for inviting the Biodiversity and Conservation Division (BCD) to provide preliminary comments regarding the proposed Western Range Solar Farm, near Gunning in the Upper Lachlan Shire Council local government area.

BCD consider these comments preliminary and that they are likely to be refined following a review of the Scoping Report currently in preparation and through the Secretary's Environmental Assessment Requirements (SEARs) request process.

In our initial review of the site BCD note the following:

- Franfield Creek, which dissects the study area, is mapped on the Biodiversity Values Map;
- There are numerous records of threatened birds including superb parrot (*Polytelis swainsonii*) and gang-gang cockatoos (*Callocephalon fimbriatum*) in the immediate vicinity of the study area.
- the site may also provide habitat for the critically endangered Golden Sun moth along with other grassland fauna; and
- A preliminary review of high-resolution aerial imagery suggests that there are numerous overstorey species that are likely to be native eucalypt species and that threatened ecological communities including box-gum woodland[1] are known to occur in the surrounding region.

Noting the above, BCD would also like to reiterate that in preparing a biodiversity assessment report it is important to consider all direct, indirect and prescribed impacts of the proposed development consistent with the Biodiversity Assessment Method 2020.

If you would like to discuss the contents of this letter further, please contact Nat O'Rourke, Senior Conservation Planning Officer, on 02 6229 7132 or via email at nat.orourke@environment.nsw.gov.au.

Yours Sincerely

ALLISON TREWEEK
Senior Team Leader, Planning,
Biodiversity and Conservation, South East

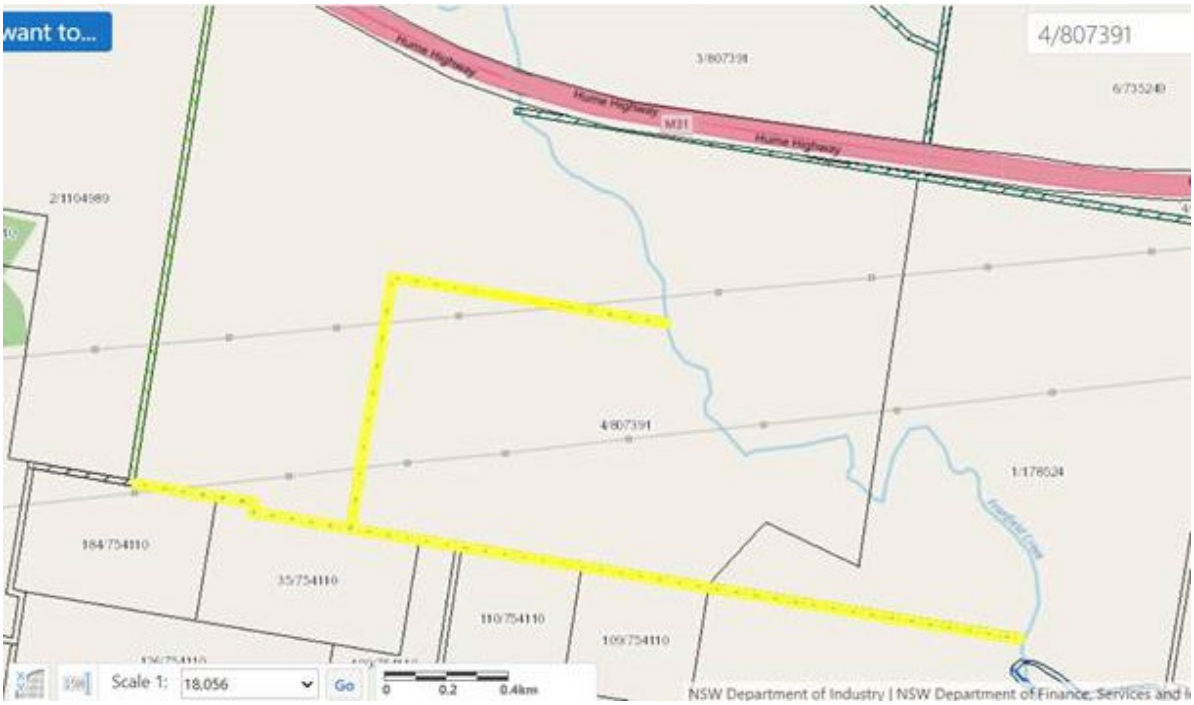
[1] White Box- Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions

From: Gina Guinane
To: Michelle Moodley
Subject: Crown Land Enquiry - Proposed Solar Farm - Lot 4 DP 807391
Date: Tuesday, 25 January 2022 11:35:48 AM

Hi Michelle,

I believe we have spoken previously about his project (or perhaps I have spoken to a colleague of yours?)

The yellow highlighted areas shown in the image below are noted as “unidentified Crown land” in our spatial system.



What this means is that the land may have once been Crown roads, which were closed but not sold or purchased by another party at the time and hence remain Crown land. In terms of your project proposal, it will be important to confirm the status of this land if works will impact it in any way.

In order to progress this, I recommend you do the following;

1. Request a land status search to confirm the current status of the land (is it road or Crown land). This will determine which legislation any future approvals for works would need to be issued under (Roads Act 1993 or Crown Land Management Act 2016). You can request a search via application available at the link below. I have also included the general link to our searches page of our website.

   Application Form:
   https://www.industry.nsw.gov.au/__data/assets/pdf_file/0009/296127/Crown-land-status-search-aplication.pdf

   Web Page:
   https://www.industry.nsw.gov.au/lands/what-we-do/crown-land-searches

2. If this project is being determined as a State Significant Development (SSD)/Major Project then when the application is made to Planning, we would normally be referred the proposal for comment or to provide advice as part of a SEARS request etc.

3. If this project is not a SSD and will be determined under Part 4 of the Environmental Planning and Assessment Act 1979 (via a normal Development Application process), then you will first need to seek Landowners Consent (LOC) from Crown Lands to authorise the lodgement of the DA for determination. We are also generally referred DA's which involve Crown Land by Council for comment as part of their assessment process.

   Applications for LOC can take a couple of weeks to review. The use and occupation of Crown Land requires authorisation therefore the LOC process allows Crown Lands to consider whether there are any matters that may prevent us from licencing the proposed end use as well. Please ensure supporting information as noted on the application form is included when you apply for LOC.

   The application form for LOC is available at the following link:
   https://www.industry.nsw.gov.au/__data/assets/pdf_file/0003/144345/landowners-consent-application-form.pdf

4. If LOC is granted, you will require further authorisation (usually in the form of a Licence) prior to any works or occupation of the land. A licence cannot be granted without Development Consent also being in place. A licence will require payment of an application fee and ongoing licence rent.

   Application for a licence is at the link below;
   https://www.industry.nsw.gov.au/__data/assets/pdf_file/0015/144033/licence-new-licence-application-form.pdf

Hopefully this is of assistance.

Kind regards,

Gina Guinane
Natural Resource Management Project Officer
Crown Lands | Department of Planning, Industry and Environment
Direct T 02 4824 3708 | **E** gina.guinane@crownland.nsw.gov.au
General T 1300 886 235 | **E** goulburn.crownlands@crownland.nsw.gov.au
Level 2, 159 Auburn Street, GOULBURN NSW 2580
PO Box 2185, DANGAR NSW 23098
www.dpie.nsw.gov.au

NSW GOVERNMENT | Planning, Industry & Environment

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Appendix D
PMST Results

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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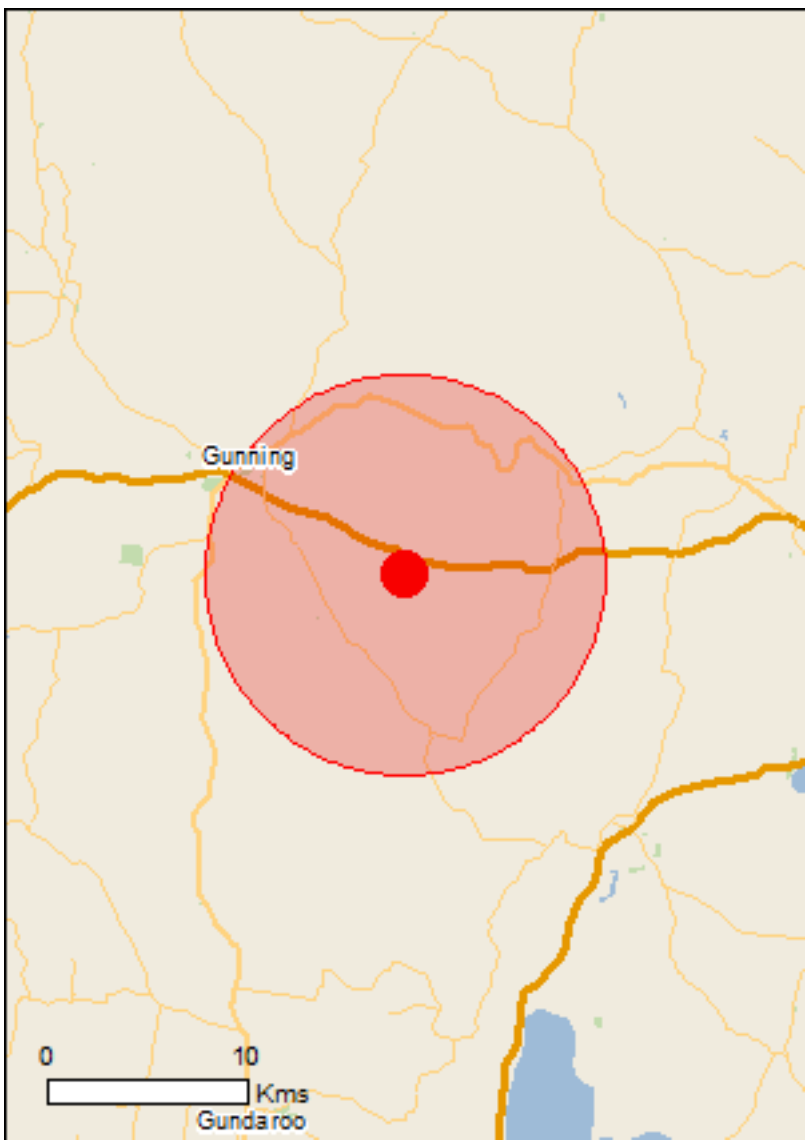

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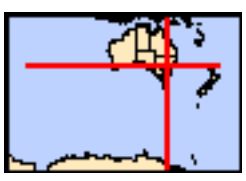

Summary

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:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	36
Listed Migratory Species:	12

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:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	19
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:	1
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	800 - 900km upstream
Hattah-kulkyne lakes	600 - 700km upstream
Riverland	700 - 800km upstream
The coorong, and lakes alexandrina and albert wetland	800 - 900km upstream

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
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to 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 known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may 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 known 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 likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur

Name	Status	Type of Presence
		within area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Fish		
[Maccullochella macquariensis](#) Trout Cod [26171]	Endangered	Species or species habitat may occur within area
[Maccullochella peelii](#) Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
[Macquaria australasica](#) Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
Frogs		
[Litoria aurea](#) Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat may occur within area
[Litoria castanea](#) Yellow-spotted Tree Frog, Yellow-spotted Bell Frog [1848]	Critically Endangered	Species or species habitat likely to occur within area
[Litoria raniformis](#) Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area
Insects		
[Synemon plana](#) Golden Sun Moth [25234]	Vulnerable	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 may 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 may occur within area
[Petauroides volans](#) Greater Glider [254]	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 likely to occur within area
Plants		
[Ammobium craspedioides](#) Yass Daisy [20758]	Vulnerable	Species or species habitat likely to occur within area
[Amphibromus fluitans](#) River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within area
[Dodonaea procumbens](#) Trailing Hop-bush [12149]	Vulnerable	Species or species habitat may occur within area
[Eucalyptus aggregata](#) Black Gum [20890]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Lepidium aschersonii Spiny Pepper-cress [10976]	Vulnerable	Species or species habitat may occur within area
Lepidium hyssopifolium Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat likely to occur within area
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat known to occur within area
Prasophyllum petilum Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area
Rutidosis leptorhynchoides Button Wrinklewort [67251]	Endangered	Species or species habitat may occur within area
Senecio macrocarpus Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area
Swainsona recta Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat may 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 known 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

Name	Threatened	Type of Presence
		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 likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Australian Telecommunications Commission

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

Name	Threatened	Type of Presence
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		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 likely to 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 known to occur within area
Neophema chrysostoma Blue-winged Parrot [726]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may 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 within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Belmount	NSW

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
Alauda arvensis Skylark [656]		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
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
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur 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
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		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		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common		Species or species

Name	Status	Type of Presence
Broom, Scottish Broom, Spanish Broom [5934]		habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may 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
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
Ulex europaeus Gorse, Furze [7693]		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

-34.82416 149.33608

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.

Department of Agriculture Water and the Environment
GPO Box 858
Canberra City ACT 2601 Australia
+61 2 6274 1111