



SCOPING REPORT

CULCAIRN SOLAR FARM



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ABBREVIATIONS AND ACRONYMS

| | |
|--------------|---|
| ABS | Australian Bureau of Statistics |
| AHIMS | Aboriginal Heritage Information Management System |
| BC Act | <i>Biodiversity Conservation Act (NSW)</i> |
| CCP | Community Consultation Plan |
| CEMP | Construction Environmental Management Plan |
| CSF | Culcairn Solar Farm (the proposal) |
| Cwth | Commonwealth |
| DPE | Department of Planning and Environment (NSW) |
| EEC | Endangered Ecological Community (listed under NSW BC Act) |
| EIS | Environmental Impact Statement |
| EPBC Act | <i>Environmental Protection and Biodiversity Conservation Act 1999 (Cwth)</i> |
| EP&A Act | <i>Environmental Planning and Assessment Act 1979 (NSW)</i> |
| ha | hectares |
| Heritage Act | <i>Heritage Act 1977 (NSW)</i> |
| ISEPP | <i>State Environmental Planning Policy (Infrastructure) 2007 (NSW)</i> |
| km | kilometres |
| kV | kilovolt |
| LEP | Local Environment Plan |
| LGA | Local Government Area |
| m | metres |
| MNES | Matters of National Environmental Significance under the EPBC Act (c.f.) |
| MW | megawatts |
| Neoen | The proponent |
| NPW Act | <i>National Parks and Wildlife Act 1974 (NSW)</i> |
| NSW | New South Wales |
| NV Act | <i>Native Vegetation Act 2003 (NSW)</i> |
| OEH | Office of Environment and Heritage (NSW) |
| RET | Renewable Energy Target |
| RMS | Roads and Maritime Services |
| SEARs | Secretary's Environmental Assessment Requirements (issued by DPE) |
| SEPP | State Environmental Planning Policy (NSW) |
| SSD | State Significant Development |
| TEC | Threatened Ecological Community (listed under Commonwealth EPBC Act) |

1 INTRODUCTION

1.1 PROPOSAL OVERVIEW

Neoen proposes to develop a solar farm at Culcairn, New South Wales (the proposal). The 400 Megawatt (MW) alternating current (AC) solar farm would occupy up to approximately 1350 ha of rural land currently used for agriculture. The proposal infrastructure includes solar panels, inverters, transformers, underground cabling, battery storage (200 MW), site office and maintenance building, access tracks, road and electrical easement crossings, perimeter security fencing, and a substation to connect the solar farm to TransGrid's existing transmission line.

Draft site constraints relating to biodiversity, landowners, existing infrastructure and hydrology is shown in Figure 1-1.

1.2 THIS REPORT

Scoping is a key stage in the Environmental Impact Assessment process. It identifies the main issues and information requirements for the assessment, considering the values of the site, the nature and extent of potential impacts, planning and regulatory requirements and the results of early consultations. This allows the assessment to efficiently focus on the most important issues.

This Scoping Report:

- Describes the proposal and the site.
- Identifies statutory approval requirements.
- Identifies key potential environmental issues associated with the proposal.

The Assessment has been prepared to support a request to the Department of Planning and Environment (DPE) for the Secretary's Environmental Assessment Requirements (SEARs). The SEARs would guide the preparation of an Environmental Impact Statement (EIS) for the proposal under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.2.1 Terms used in this document

Development footprint - The draft area of land that would be directly impacted by the proposal, including solar array design, perimeter fence, access roads, transmission line footprint and stockpile areas.

Development site – The area of land that is subject to the proposed development. The development site is the area surveyed for this assessment.

Subject land – Any and all lots to be directly impacted, in whole or part, by the proposed development.

The proposal – The entire solar farm proposal, including auxiliary construction infrastructure, access, substation, transformers and battery systems.

The proponent – Neoen.

1.3 NEOEN

Neoen (the proponent) is a French company specialising in renewable energy production. Neoen has developed renewable energy projects, including solar farms, wind farms and Battery Energy Storage Systems, in France,

Australia, El Salvador, Zambia, Portugal, Argentina, Jamaica, and Finland. The company has many years of experience in developing, building and operating solar power projects.

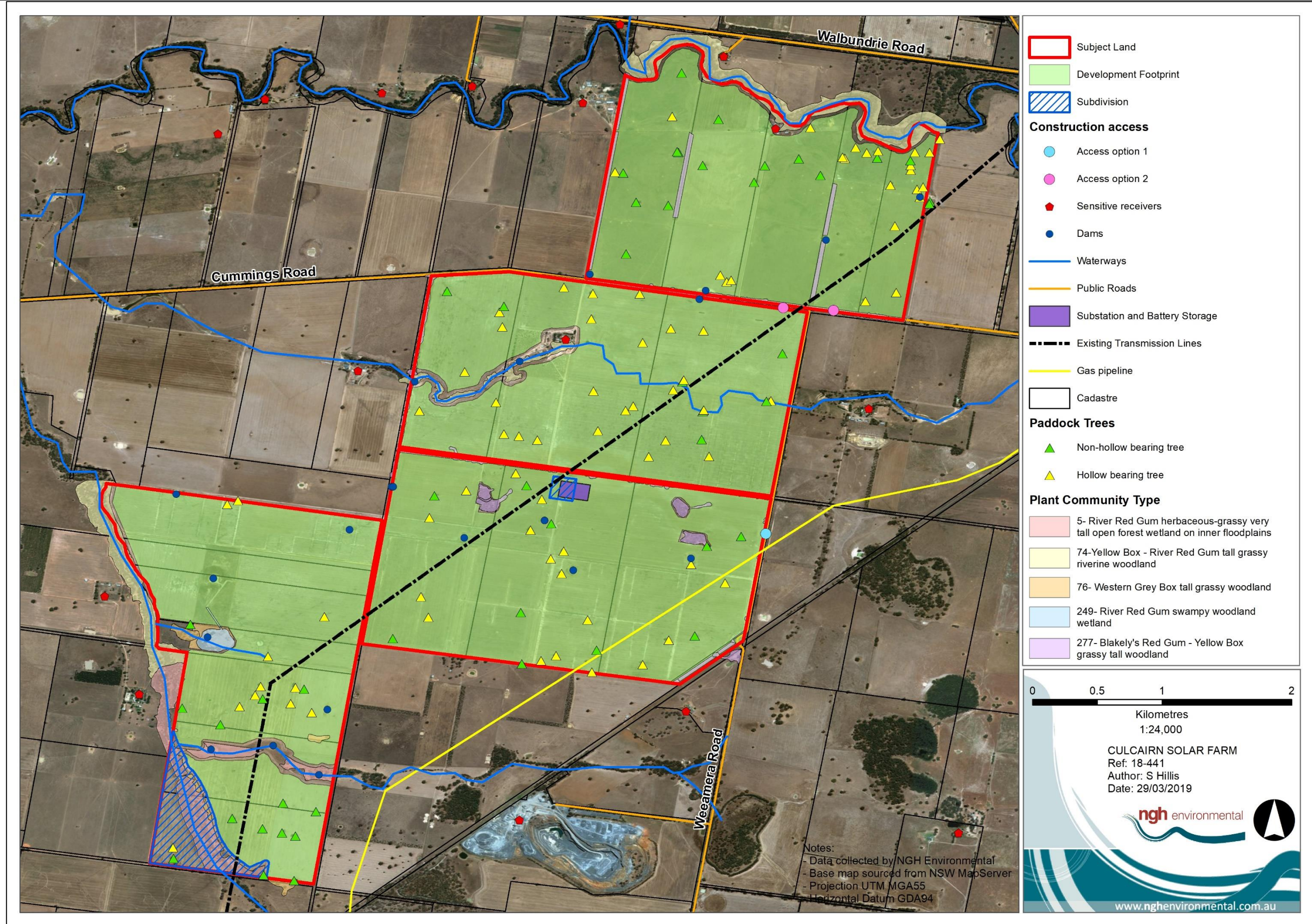


Figure 1-1 Preliminary site constraints

2 DEVELOPMENT SITE DESCRIPTION

2.1 LOCATION

The proposal is located within the NSW South Western Slopes region in the Greater Hume Local Government Area (LGA), around 5 km south-west of Culcairn (Figure 2-1). The development site is bound by Walbundrie Road (north), Olympic Highway (east), Cummings Road (west), and Benambra Road (south), and intersected by Cummings Road, Schoff's Lane, and an unnamed lane crossing the site north/south in the south-west corner. The Proposal would connect to an existing TransGrid 330 kV line crossing the site via a new 330 kV substation.

The proposal is located within the Murray River Catchment, with local land use primarily being agricultural (mix of cropping and grazing).

2.2 THE DEVELOPMENT SITE

The subject land (1351 ha) and development footprint (1256 ha) comprises the following lots (Figure 2-2 and Figure 2-3):

- Lots 70-73, 86 DP 753764
- Lots 9-11, 45-47, 53, 54 DP 753735
- Lot 1 DP 179854
- Lot 114 DP 664997
- Lot 1 DP 575478
- Lot 1 DP 171815
- Lot 1 DP 945904
- Lot B DP 972054

The development site is agricultural land comprising several large paddocks that are generally flat and largely cleared and cultivated primarily for cropping (Figures 2-4 and Figures 2-5). Native vegetation remains in the form of scattered paddock trees, roadside vegetation, riparian vegetation, and small isolated patches of remnant woodland. Three watercourses run through or along the boundary of the development site, Billabong Creek to the north, Back Creek to the west, and an unnamed ephemeral drainage line running east-west through the centre of the development site. Billabong Creek holds water and/or is generally flowing all year round. Back Creek and the small unnamed drainage line is generally dry, experiencing water flow only at times of high rainfall. Within the development site, sections of these creek lines are bordered by planted and remnant native vegetation. There are 19 farm dams within the development site.

The development site is zoned RU1 - Primary Production under the Greater Hume Local Environmental Plan (LEP), with a minimum lot size of 100 ha.

The development footprint is identified as Class 4 **Moderate Capability Land** under the Land and Soil Capability Assessment Scheme (Figure 2-6), which is defined as:

- Class 4: suitable for grazing with occasional cultivation. Soil conservation procedures such as pasture improvement, stock control, application of fertiliser, and minimal cultivation for the establishment or re-establishment of permanent pasture.

Land that is classified as moderate has moderate to high limitations for high-impact land uses. It restricts land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture (OEH 2012).

The NSW Government introduced a range of measures designed to deliver greater protection to agricultural land from the impacts of developments. These measures included the safeguarding of 2.8 million ha of **Biophysical Strategic Agricultural Land** (BSAL) across the state, and **Critical Industry Clusters** (CIC). BSAL is land identified with high quality soil and water resources capable of sustaining high levels of productivity, which is critical to sustaining the state's agricultural industry, while CIC are concentrations of highly productive industries within a region that are related to each other, contribute to the identity of that region, and provide significant employment opportunities. The development site is not mapped as being BSAL or CIC, therefore the proposal would not impact on land critical for agriculture (DPE 2017).

The land is owned and managed by three associated landowners, with a portion of land leased to a separate landowner – the northern portion of the proposal is owned by one landowner, the middle portion owned by one landowner and leased and managed by two tenants, and the southern portion owned by one landowner with shared farming. 32 non-associated dwellings and 4 industries are located within 3 km of the development site (Figure 2-7 and Table 2-1).

Table 2-1

| Receiver | Distance from subject land (km) | Receiver | Distance from subject land (km) |
|----------|---------------------------------|----------|---------------------------------|
| R1 | 2.39 | R19 | 0.25 |
| R2 | 2.85 | R20 | 1.85 |
| R3 | 0.98 | R21 | 2.19 |
| R4 | 1.70 | R22 | 2.16 |
| R5 | 2.81 | R23 | 2.67 |
| R6 | 2.99 | R24 | 0.33 |
| R7 | 1.40 | R25 | 1.73 |
| R8 | 0.81 | R26 | 1.72 |
| R9 | 0.49 | R27 | 1.45 |
| R10 | 2.16 | R28 | 0.93 |
| R11 | 3.00 | R29 | 0.24 |
| R12 | 2.95 | R30 | 0.37 |
| R13 | 2.03 | R31 | 0.13 |
| R14 | 0.22 | R32 | 0.96 |
| R15 | 2.45 | I01 | 1.19 |
| R16 | 2.67 | I02 | 1.87 |
| R17 | 0.62 | I03 | 0.89 |
| R18 | 1.16 | I04 | 1.95 |

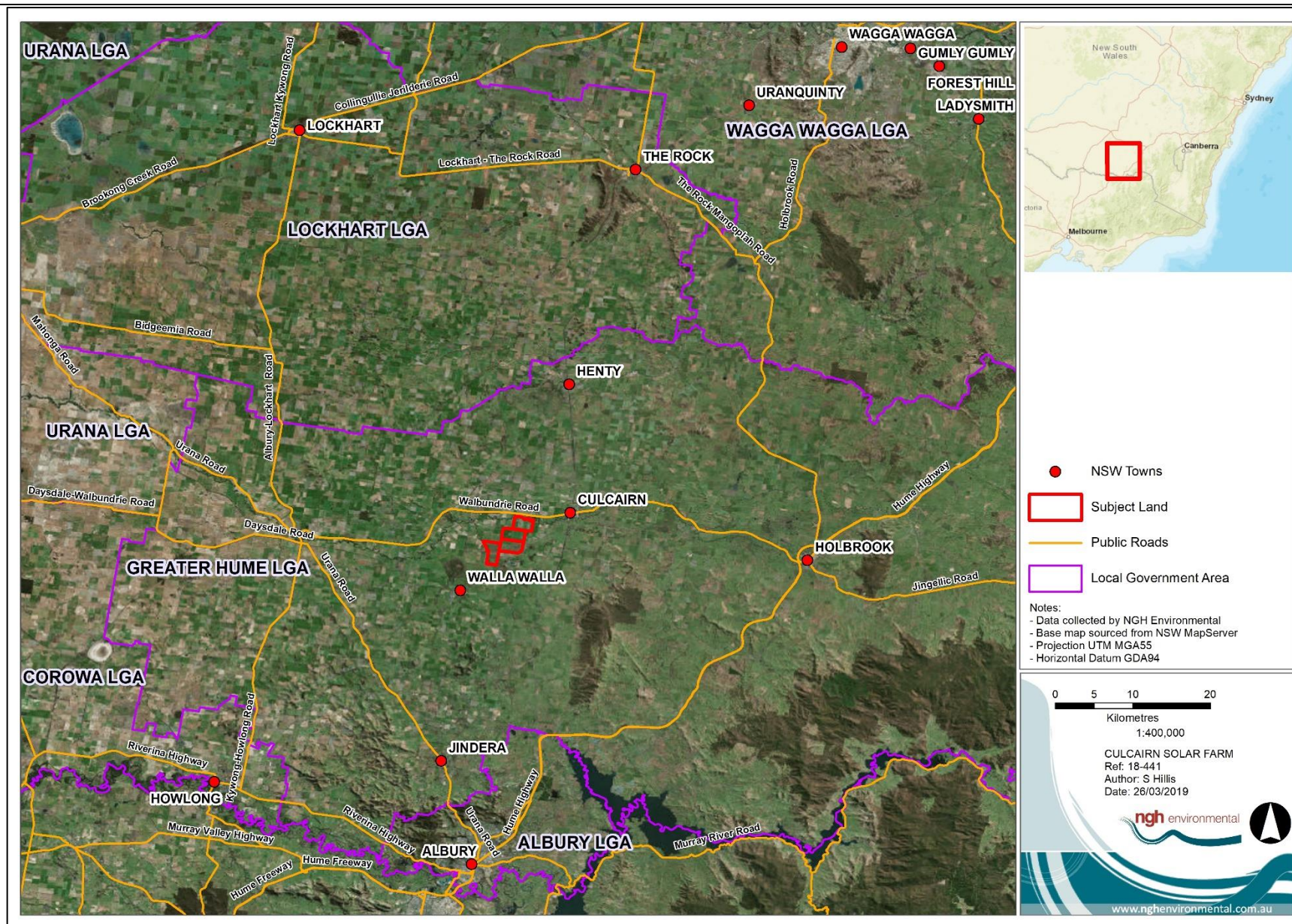


Figure 2-1 Location of the proposal site.

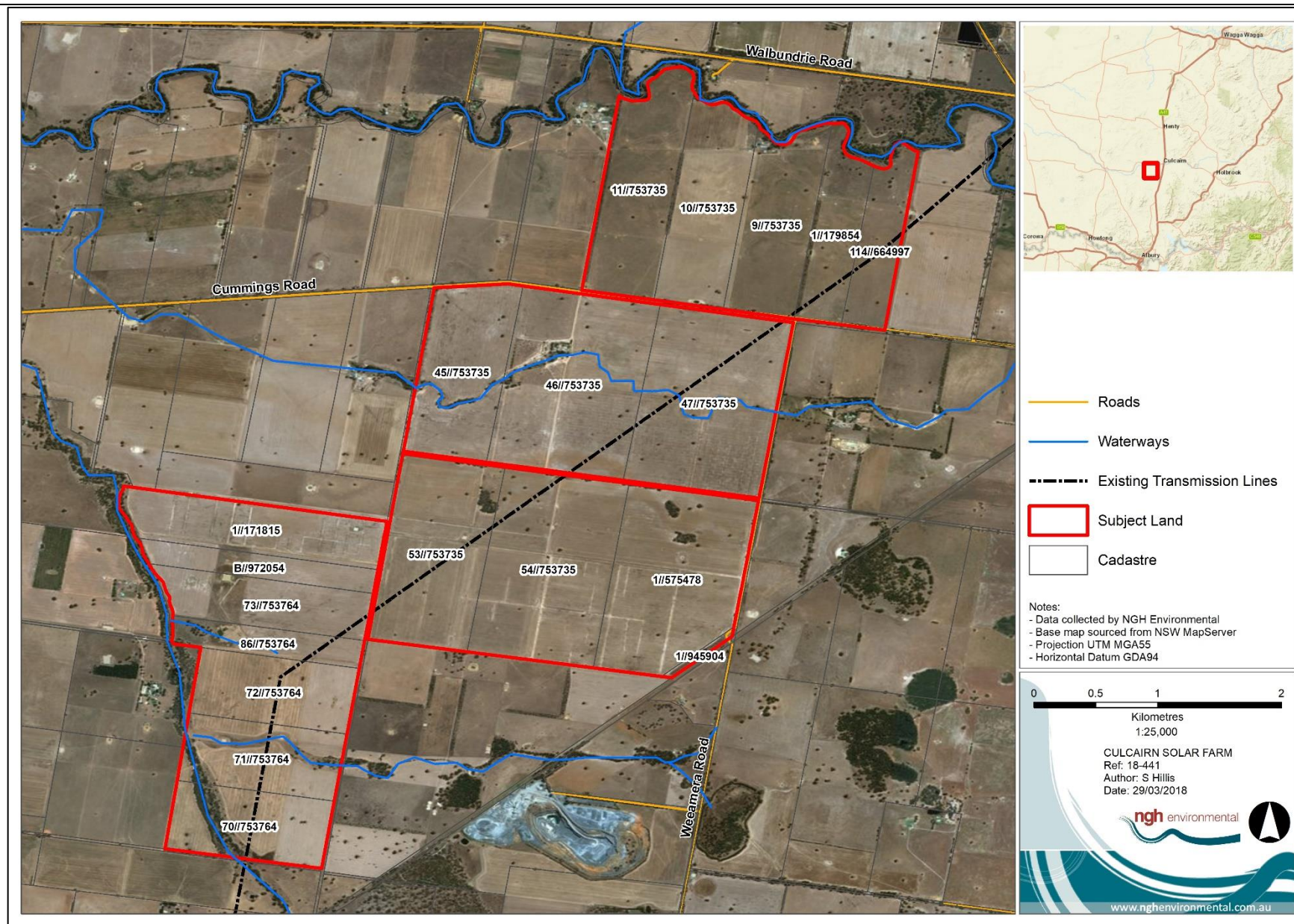


Figure 2-2 Proposed lots for development and layout.

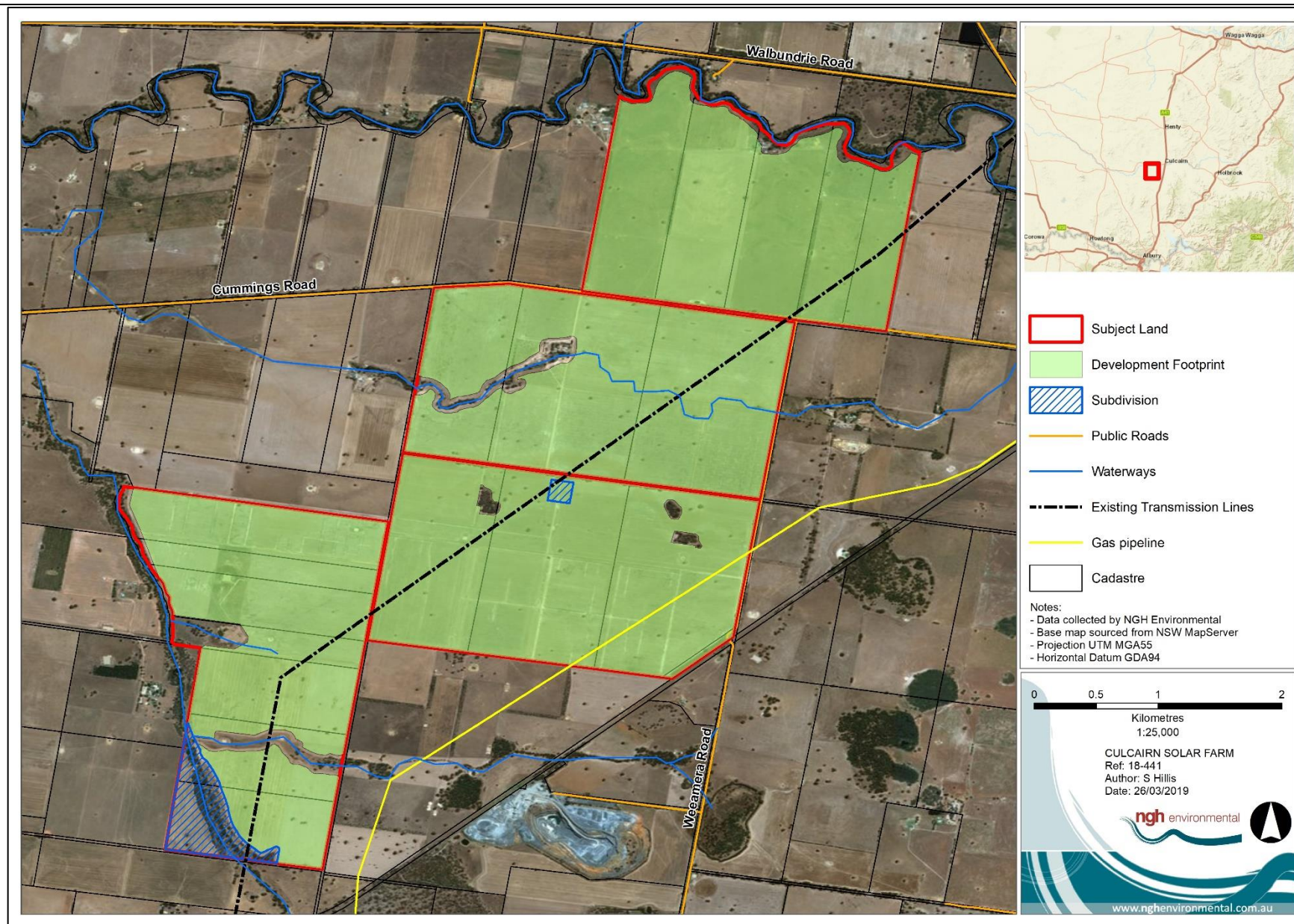


Figure 2-3 Proposed draft development footprint



Figures 2-4 Typical landscape within the subject land.



Figures 2-5 Example of dams within the subject land.

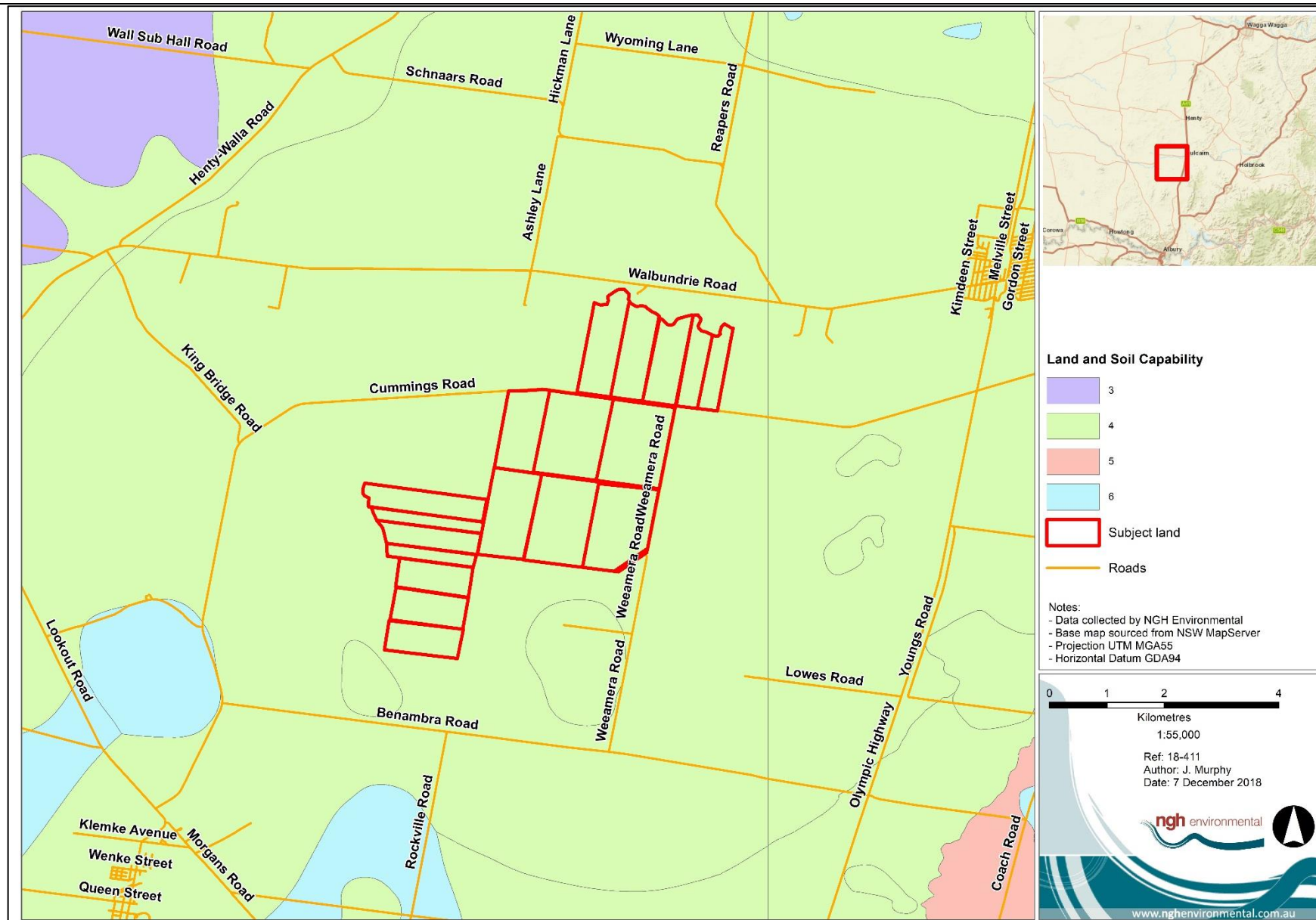


Figure 2-6 Land Soil Capability map.

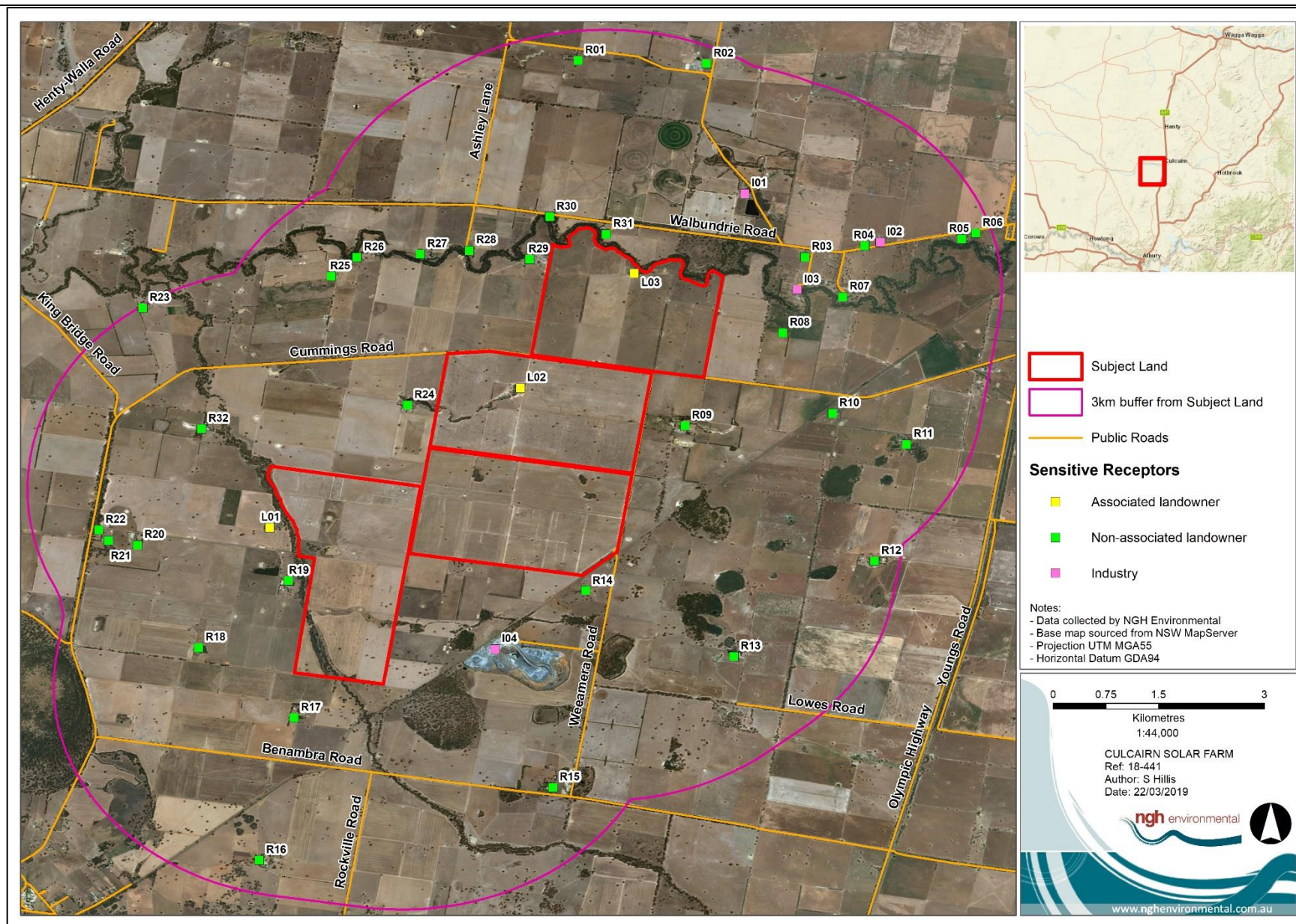


Figure 2-7 Sensitive Receivers within 3 km of the development site

2.3 THE LOCALITY

The proposal is located within the Greater Hume Shire LGA, located in southern New South Wales between the major regional centres of Albury and Wagga Wagga. The shire has several small towns including Culcairn, Henty, Holbrook, Jindera and Walla Walla, and the smaller villages of Brocklesby, Burrumbuttock, Gerogery, Gerogery West, Morven, Walbundrie, and Woomargama. The LGA is 5 746 km² with a population of 10 351 as at the 2016 Census (ABS 2018a).

Major and/or towns in the area (horizontal distance) that may provide accommodation and services include:

- Walla Walla – 3.7 km south-west.
- Culcairn – 3.9 km east.
- Henty – 17.2 km north.
- Jindera – 25.9 km south.
- Holbrook – 29.2 km east.
- Albury – 38.3 km south.
- Lockhart – 54.8 km north-west.
- Wagga Wagga – 68.5 km north-east.

2.3.1 Culcairn

The town of Culcairn is located approximately 50 km north of the major town of Albury, with a population of 1,473 as at the 2016 Census (ABS 2018b). Culcairn has a number of attractions including the Station House Museum, Morgan's Lookout, Culcairn Bike Track, Culcairn Golf Club, and Culcairn Hotel.

2.3.2 Population

The median age of persons in Greater Hume LGA is 44; this is higher than the Australian average of 38 (ABS 2016). The 2016 census records state that 3.3% of the population are Aboriginal and Torres Strait Islander people (ABS 2016). A large portion, 86.2% of the community were born in Australia; 1.9% in England, 0.9% in New Zealand, 0.5% in Germany, 0.4% in the Netherlands, and 0.2% in the Philippines (ABS 2016).

2.3.3 Climate

The Greater Hume LGA is part of the NSW South Western Slopes Bioregion, Lower Slopes subregion. This bioregion is dominated by a sub-humid climate that generally experiences hot summers and cool wet winters (OEH 2016). The BOM (2018) climate records available from the nearest climate station at Albury Airport (station no. 072160) indicate a mean summer maximum of 32.3 °C (January) and a mean winter minimum of 3.1 °C (July) (Figure 2-8). Rainfall records from the same station show a mean annual rainfall of 623.7 mm, and that rainfall is generally greatest over winter and spring, with the average monthly maximum occurring in August (66.5 mm).

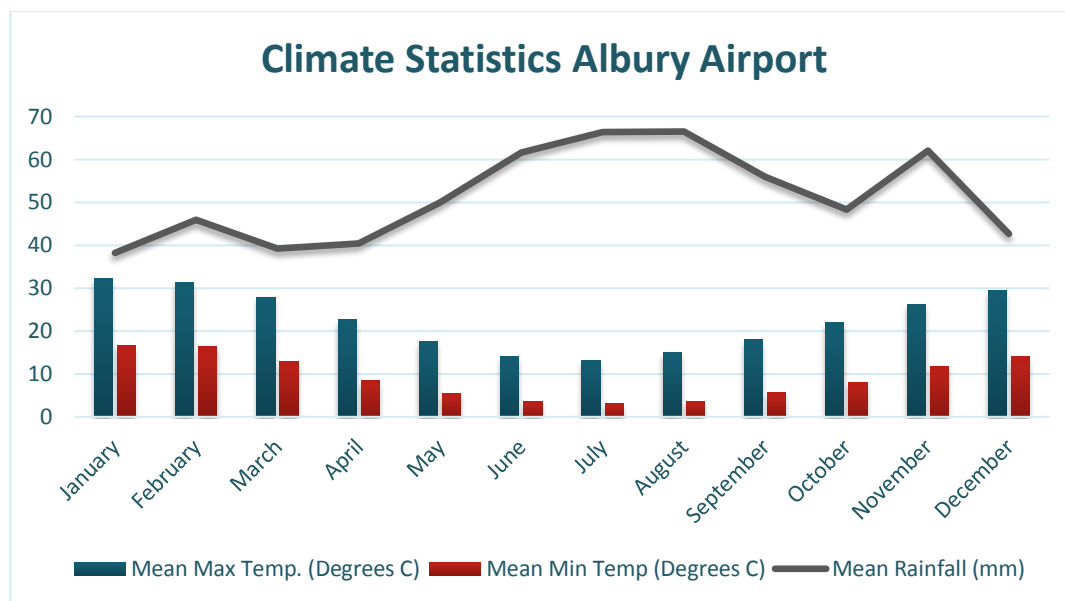


Figure 2-8 Climate Statistics for Albury (BOM 2018).

2.3.4 Geology and Vegetation

The geology and vegetation characteristics for the South Western Slopes-Lower Slopes subregion are as follows (OEH 2016):

Table 2-2 Inland Slopes Subregion Geology and Vegetation

| Geology | Characteristic Landforms | Typical Soils | Vegetation |
|--|---|---|---|
| Ordovician to Devonian folded and faulted sedimentary sequences with inter-bedded volcanic rocks and large areas of intrusive granites, and large areas of Tertiary and Quaternary alluvium. | Undulating and hilly ranges and isolated peaks set in wide valleys at the apices of the River in alluvial fans. | Shallow stony soils on steep slopes, texture contrast soils grading from extensive red-brown earths on undulating plains, and extensive grey clays on alluvium. | <p>Dwyer's Gum on granite, Red Ironbark on sedimentary rocks, Hill Red Gum, White Cypress Pine and Red Stringybark in the ranges.</p> <p>Grey Box woodlands with Yellow Box, White Cypress Pine and Belah on lower areas.</p> <p>Poplar Box, Kurrajong, Wilga and Red Box in the north, limited areas of Bull Mallee, Blue Mallee, Green Mallee and Congoo Mallee in the central west.</p> <p>Myall, Rosewood and Yarran on grey clays, Yellow Box, Poplar Box, and Belah on alluvial loams.</p> <p>River Red Gum on all streams with Black Box in the west with some Lignum and River Cooba.</p> |

3 THE PROPOSAL

3.1 SITE SELECTION

The site of the Proposal has been selected for the following reasons:

- Excellent solar exposure.
- Excellent access to local and major roads.
- Excellent access to the grid transmission network.
- Likely low level of environmental impact – the site has been largely cleared and heavily disturbed by cultivation and cropping.
- Suitable topography, land size and land zoning.

The portion of land north of Cummings Road would be purchased by the proponent. The remaining use of the site would be based on a lease agreement between the proponent and the landowners for the life of the project.

3.2 PROPOSED WORKS

3.2.1 Proposed infrastructure

The proposal involves the construction of a ground mounted photovoltaic solar array which would have capacity to generate up to 400 MW (AC) of renewable energy. The solar farm would connect into an existing 330 kV TransGrid transmission line that traverses the proposal.

The proposal would consist of the following components:

- Single axis tracker photovoltaic solar panels mounted on steel frames over most of the site (maximum tilt 4.2m in height).
- Battery storage to store energy produced on site (up to 200 MWh capacity).
- Underground and overground electrical conduits and cabling to connect the arrays to the inverters and transformers.
- Systems of inverter units and voltage step-up throughout the arrays.
- On site substation, connecting to the existing 330 kV TransGrid transmission line.
- Site office and maintenance building, vehicle parking areas, internal access tracks and perimeter security fencing.
- Site access track off Weeamera Road.
- Road crossing and easement electrical crossing through underground and/or overhead lines.

The solar farm arrangement is flexible and adaptable and would be designed to avoid impacts where feasible and minimise and mitigate environmental impacts if avoidance is not possible. The design would consider the results of the Scoping Report, consultation with relevant stakeholders and the EIS to be prepared. The EIS would detail how these studies have been used to produce the final proposal design.

The proposed infrastructure footprint is shown in Figure 2-2 and Figure 2-3. This includes all land likely to be directly impacted by the construction, operation and decommissioning of the proposal, including auxiliary construction facilities (site compound, laydown, stockpiling etc.) and all considered options. It is important to note that the proposed footprint is indicative only and will be refined as part of the EIS process (considering environmental constraints and engineering studies), with project infrastructure layout to be detailed in the EIS.

3.2.2 Construction, operation and decommissioning

The proposal is expected to operate for around 30 years. The construction phase of the proposal is expected to take 12 to 18 months. After the initial operating period, the solar farm would either be decommissioned, removing all above-ground infrastructure and returning the site to its existing land capability, or upgraded with new PV equipment.

3.2.3 Capital investment

The proposal would have an estimated capital investment in excess of \$30 million, identifying the proposal as State Significant Development under Part 4 of the EP&A Act. The actual value of the proposal will be in excess of \$350 million. A quantity surveyor's report would be prepared during the EIS process as part of the proposal which would confirm the capital investment cost.

3.2.4 Subdivision

Part of Lot 70 DP 753764 will be subdivided from the proposal as it is not ideal for the proposal layout, and so the landowner can continue their farming practices (Figure 2-3). A 1 to 5 ha subdivision for the proposed substation will also be required (Figure 2-3). When land is leased from a landowner and the lease affects part of a lot or lots in a current plan, a subdivision under s.7A *Conveyancing Act 1919* (formerly s.327AA *Local Government Act 1919* now repealed) is required when the total of the original term of the lease, together with any option for renewal, is more than five years. When the lease affects the whole lot in a current plan, the body of the lease identifies the area by lot and DP number with a subdivision not required.

As part of lots will be leased, subdivision for the purpose of the internal substation and solar infrastructure will be required. Greater Hume Shire have indicated their support of subdivision in initial consultation with the proponent.

An easement may be created by means of an appropriate dealing registered in the NSW Land Registry Service or by the inclusion in a Section 88B instrument lodged with a new deposited plan.

4 JUSTIFICATION AND ALTERNATIVES

4.1 STRATEGIC JUSTIFICATION

4.1.1 Technical feasibility

The proposal would employ proven and mature solar technology. The solar site is highly suited to efficient, high output generation. Battery storage would also aid in storing and managing energy flow to the grid at times of grid constraints.

The site is flat and predominantly clear, making it an ideal location for a utility scale solar project.

Connection would be achieved by cutting into the 330 kV line (TransGrid owned) crossing the site. A substation would be constructed in the development site.

It is noteworthy that the electricity grid in New South Wales can present challenges in terms of having the capacity to connect utility scale renewable energy projects. The proposal benefits from having good connection options adjacent to the site with sufficient capacity in the transmission network to allow power generated at the Culcairn site to be exported to wider NSW.

4.1.2 Climate change

Electricity generation is the largest individual contributor of greenhouse gas emissions in Australia (Department of Environment 2016).

The proposal would contribute to the New South Wales Renewable Energy Action Plan (NSW Government 2013), which supports the national target of 20% renewable energy by 2020. The proposal would also further the three goals of the Action Plan:

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

The *NSW 2021: A Plan to Make NSW Number One* (NSW Government 2011) has the following goal:

- *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.*

The proposal would also contribute to the Commonwealth Government's objective to achieve an additional 33GW from renewable sources by 2020 under the Renewable Energy Target (RET).

The COP21, also known as the 2015 Paris Climate Conference, achieved a legally binding and universal agreement on climate, with the aim of keeping global warming below 2°C, chiefly by reducing greenhouse gas emissions. The proposal would form part of the Australian effort to help meet this target.

4.1.3 Electricity supply

The Australian Energy Market Operator (AEMO 2016) forecasts that grid-supplied electricity consumption will remain flat for the next 20 years, despite projected 30% growth in population. Although not required to meet projected electricity demand, the proposal would benefit the network by shifting electricity production closer to local consumption and regulating inputs to the grid using an Energy Storage Facility.

The electricity network was designed to deal with a small number of very large power generating stations. The localisation of power generation helps the grid to cope with the supply from diversified renewable energy projects.

4.1.4 Socio-economic benefits

Employment

The proposal would generate around 300 to 400 full-time equivalent jobs during construction plus indirect supply chain jobs. In addition, it would employ approximately 5 to 10 direct and indirect full time equivalent staff during the operation and maintenance phase (expected to be around 30 years).

The employment benefits for construction extend through the local supply chains to fuel supply, vehicle servicing, uniform suppliers, hotels/motels, B&B's, cafés, pubs, catering and cleaning companies, tradespersons, tool and equipment suppliers and many other businesses.

Further extension of employment benefit extends through the operation of the proposal, such as panel cleaning and maintenance, electrical maintenance, fence supplies and maintenance, road grading, adjustment and grazing of sheep.

In 2015/16, 11,150 Australians were directly employed in the renewable energy sector with an additional 3,725 jobs expected to be created in the 2017/18 financial year (CEC 2016).

Electricity prices

According to Deloitte, Australian households will pay \$510 million more for power in 2020 without renewable growth through the RET and up to \$1.4 billion more per year beyond 2020. Renewables increase competition in the wholesale energy market – and, as in any market, more competition means lower prices.

Economic diversification

The proposal would diversify the use of land in the area. The predominant land use in the area is agriculture. The proposal would add to that and provide both local land holders and businesses in the broader area with an additional source of income and economic activity. The income created in the locality from the proposal would be consistent and stable. This income will be of greater security being removed from the normal cycle and risks of agricultural activity (like flood and drought).

4.1.5 Land Use

It is also important to note that solar farms do not preclude the use of land for agriculture. Some agricultural activity is still possible whilst a solar farm is operating (e.g. grazing). Additionally, the degree of permanent land disturbance in the construction and operation of solar farms is small, and it is likely that agricultural activities that were occurring before the solar farm was constructed would be able to be continued once the solar farm is decommissioned and removed.

4.1.6 Site suitability

Key considerations for site selection are detailed within the *NSW Large-scale Solar Energy Guideline for State Significant Development* (DPE 2018). The key site constraints with justification as to why the site is suitable is detailed in Table 4-1 below:

Table 4-1 Site conditions and constraints

| Areas of constraint | Site justification |
|---|---|
| Visibility and topography - Sites with high visibility, such as those on prominent or high ground positions, or sites which are located in a valley with residences with elevated views looking towards the site. This is particularly important in the context of significant scenic, historic or cultural landscapes. | The site does not have high visibility, is not on a prominent location or on high ground, or within a valley with residences with an elevated view. One resident to the south-west has a slightly elevated view of the proposal. The area is generally flat, with little to no variation in height. |
| Biodiversity - Areas of native vegetation or habitat of threatened species or ecological communities within and adjacent to the site, including native forests, rainforests, woodlands, wetlands, heathlands, shrublands, grasslands and geological features. | Areas of high biodiversity value, such as riparian vegetation, swamps and native grasslands have been excluded from the development footprint. No native forests, rainforests, woodlands, wetlands, heathlands, shrublands or significant grasslands are located adjacent to the site. |
| Residences - Residential zones or urbanised areas. | The proposal is not likely to generate land use conflicts with surrounding land uses and is compatible with land use zoning. The proposed development site is within land zoned RU1, Primary Production under the Greater Hume Local Environmental Plan (LEP). |
| Agriculture - Important agricultural lands, including Biophysical Strategic Agricultural Land (BSAL), irrigated cropping land, and land and soil capability classes 1, 2 and 3. Consideration should also be given to any significant fragmentation or displacement of existing agricultural industries and any cumulative impacts of multiple developments. | The proposal is not located on Strategic Agricultural Land, including industry clusters and biophysical strategic agricultural land. The proposal is also located on land classes as Soil Capability Class 4 land. However, the proposal: <ul style="list-style-type: none"> • Is not expected to adversely affect the biophysical nature of the land. • Would positively affect soils by providing many of the benefits of long-term fallow, including increasing soil moisture, building soil carbon levels, allowing structural recovery and improving soil biota. • Will not result in the permanent removal of agricultural land. • Would not result in rural fragmentation given it will not alter the existing or surrounding environment. • Adjacent farming operations are compatible. • Strategic sheep grazing may be used within the development site. Grazing would be used to reduce vegetation biomass and put grazing pressure on weeds adjacent to the solar panels. |
| Natural Hazards – Areas subject to natural hazards, such as flooding and land instability. | The site has not been identified as flood prone in the Greater Hume LEP – however, sections of the site along creek lines are subject to minor flooding in periods of heavy rainfall. Part of the site has also been identified as bushfire prone. |
| Resources - Prospective resources developments, including areas covered by exploration licences and mining and petroleum production leases, Solar development applicants should seek advice from the Department of Planning, Division of Resources and Geoscience (GSNSW) about the coverage of resources-related licences. | The area is not covered by any exploration or mining leases. Advice has been sought from GSNSW about the coverage of resource related licences. |
| Crown Lands – If any part of the project or associated transmission or distribution infrastructure will cross Crown Lands, it may be subject to legislative requirements that restrict access to the land. | A Crown road (Schoffs Lane) intersects and cross the site. The road is currently subject to an Application for Road Closure and Purchase. No other Crown roads or lands will be impacted by the proposal. |

4.2 ALTERNATIVES TO THE PROPOSAL

4.2.1 *Alternative sites*

The proponent has reviewed the solar generation potential of many areas in NSW using a combination of computer modelling and analysis, on the ground surveying and observation, and experience of the proponent. The site was selected because it provides the optimal combination of:

- Low environmental constraints (predominantly cleared cropping land).
- Level terrain for cost-effective construction.
- High quality solar resource.
- Low density population and limited neighbouring properties.
- Suitable planning context.
- Acceptable flood risk.
- Road access.
- Access to the transmission network.
- High levels of available capacity on the grid transmission system.

The site is of a scale that allows for flexibility in design, allowing the proponent to avoid ecological and other constraints that may be identified during the EIS process. The factors that determine the final design area would be detailed in the EIS.

4.2.2 *Alternative technologies*

Photovoltaic solar technology was chosen because it is cost effective, low profile, durable and flexible regarding layout and siting. It is a proven and mature technology that is readily available for broad scale deployment at the site.

Battery technology was selected over mechanical or physical storage methods because it enables modular installation without major infrastructure or specialised landform features. Batteries also generally have lower weight and physical volume and better scalability compared to other technologies.

4.2.3 *The 'Do Nothing' Option*

Not proceeding with the proposal would forgo the benefits of the proposal, resulting in:

- The loss of a source of renewable energy that would assist the Australian and NSW Governments to reach their targets;
- The loss of cleaner energy and reduced greenhouse gas emission;
- The loss of additional electricity generation and supply into the grid; and
- Loss of social and economic benefit through the provision of direct and indirect employment.

The 'do nothing' option may avoid any potential impact. However, the likelihood of significant negative impacts is low. It is considered the benefit of the proposed solar farm outweighs any potential impact whilst contributing to ecologically sustainable development.

5 PLANNING CONTEXT

5.1 NSW LEGISLATION

5.1.1 *Environmental Planning and Assessment Act 1979*

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and its associated regulations and instruments set the framework for development assessment in NSW. The proposed Culcairn solar farm would be assessed under Part 4 of the EP&A Act.

State Environmental Planning Policy (State and Regional Development) 2011

Clause 20 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* defines 'State Significant Development' as including:

'Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that has a:

- (a) capital investment value of more than \$30 million, or
- (b) capital investment value of more than \$10 million and is located in an environmentally sensitive area of State significance.'

The proposal would have an estimated capital investment cost greater than \$30 million. The proposal is therefore classified as 'State Significant Development' under Part 4 of the EP&A Act.

State Significant Developments (SSD) are major projects that require approval from the Minister for Planning and Environment. While the Minister for Planning and Environment is the consent authority for SSD, the Minister may delegate the consent authority function to the Planning and Assessment Commission (PAC), the Secretary or any other public authority.

An Environment Impact Statement (EIS) is prepared in accordance with environmental assessment requirements issued by the Secretary of the Department of Planning and Environment (SEARs). In determining the SEARs, the Secretary must consult with relevant public authorities and would have regard to the need to assess key issues raised by those public authorities. A scoping study is required to be submitted with the request for the SEARs.

5.1.2 *State Environmental Planning Policy (Infrastructure) 2007*

Part 3 Division 4 of the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) provides that development for the purpose of 'electricity generating works', solar in particular, may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone. The proposed Culcairn solar farm is located in a rural zone and is permissible with consent under the ISEPP.

5.1.3 *State Environmental Planning Policy (Rural Lands) 2008*

The aims of the *State Environmental Planning Policy (Rural Lands) 2008* (Rural Lands SEPP) are:

- (a) *to facilitate the orderly and economic use and development of rural lands for rural and related purposes,*

- (b) *to identify the Rural Planning Principles and the Rural Subdivision Principles to assist in the proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State,*
- (c) *to implement measures designed to reduce land use conflicts,*
- (d) *to identify State significant agricultural land for ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,*
- (e) *to amend provisions of other environmental planning instruments relating to concessional lots in rural subdivisions.*

The Rural Lands SEPP rural planning principles, listed under clause 7, are:

- (a) *the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas,*
- (b) *recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State,*
- (c) *recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development,*
- (d) *in planning for rural lands, to balance the social, economic and environmental interests of the community,*
- (e) *the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land,*
- (f) *the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities,*
- (g) *the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing,*
- (h) *ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.*

It is considered that the proposal is consistent with the aims and planning principles of the Rural Lands SEPP. Part 4 of the Rural Lands SEPP relates to state significant agricultural land. Given the development site is not identified in Schedule 2 (State Significant Agricultural Land), Part 4 does not apply.

5.1.4 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

This SEPP defines and regulates the assessment and approval of potentially hazardous or offensive development. The SEPP defines ‘potentially hazardous industry’ as:

“...development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:

(a) to human health, life or property, or

(b) to the biophysical environment,

and includes a hazardous industry and a hazardous storage establishment”

‘Potentially offensive industry’ defined as:

...a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on

other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.

SEPP 33 provides for systematic assessment of potentially hazardous and offensive development for the purpose of industry or storage. For development proposals classified as 'potentially hazardous industry' the policy requires a preliminary hazard analysis (PHA) to determine risks to people, property and the environment.

A checklist and a risk screening procedure developed by DPE is used to help determine whether a development is considered potentially hazardous industry (DOP, 2011). Appendix 3 of the *Applying SEPP 33* guidelines lists industries that may fall within SEPP 33; the lists do not include solar farms and energy storage facilities.

5.1.5 State Environmental Planning Policy No 55 – Remediation of Land

The State Environmental Planning Policy No 55 – Remediation of Land provides a framework for the consideration of land contamination and remediation as part of any planning purpose.

Under clause 7 of the SEPP, the consent authority must not consent to a development unless it has considered whether the land is contaminated, whether land would be suitable where it is contaminated, whether land can be made suitable by remediation, and that remediation would take place prior to the proposed use.

The land is not on the register of Contaminated Sites notified to the NSW EPA. Further, the land is not on Greater Hume Shire Council's register of contaminated or potentially contaminated land. Historical aerial imagery indicates that the land has been utilised for agricultural activities (specifically cereal cropping and livestock grazing, which is a potentially contaminating land use according to the 'Managing Land Contamination Planning Guidelines' (Environment Protection Authority, 1998).

Consideration of potential contamination risks to satisfy the requirements of clause 7 of the SEPP, would be provided in the EIS.

5.1.6 Roads Act 1993

The *Roads Act 1993* (Roads Act) provides for the classification of roads and for the declaration of the Roads and Maritime Services (RMS) and other public authorities as roads authorities for both classified and unclassified roads. It also regulates the carrying out of various activities in, on and over public roads. The need for upgrade works on local roads would be considered as part of the traffic assessment conducted for the proposal. If required, approval from the road authority (RMS and/or Council) would be sought under Section 138 of the Roads Act. Greater Hume Shire Council, and RMS if required, would be consulted during the design and preparation of the EIS.

5.1.7 Water Management Act

The *Water Management Act 2000* provides for the sustainable and integrated management of the State's water resources. The proposal would require water during both construction and operation. Quantities and sources of water required would be identified during the EIS stage.

5.1.8 Biodiversity Conservation Act 2016

The NSW Government introduced new biodiversity legislation for the consideration and assessment of biodiversity impacts. The *Biodiversity Conservation Act 2016* (BC Act) and *Local Land Services Act 2013* (LLS Act) commenced on 25 August 2017 and have replaced the *Threatened Species Conservation Act 1995*.

The proposal would require assessment under Section 7.9 of the BC Act. A preliminary assessment of potential impacts has been conducted in Section 7 of this report.

5.1.9 National Parks and Wildlife Act 1974

Under the *National Parks and Wildlife Act 1974*, the Director-General of the National Parks and Wildlife Service is responsible for the care, control and management of all national parks, historic sites, nature reserves, Aboriginal areas and state game reserves. The Director-General is also responsible under this legislation for the protection and care of native fauna and flora and Aboriginal places and objects throughout NSW. Under Section 89J of the EP&A Act, an Aboriginal Heritage Impact Permit under Section 90 of the *National Parks and Wildlife Act 1974* would not be required for a State Significant Development. The potential impacts to Aboriginal heritage are discussed in Section 7 of this report.

5.1.10 Heritage Act 1977

This Act aims to conserve heritage values. The Act defines 'environmental heritage' as those places, buildings, works, relics, moveable objects and precincts listed in the Local or State Heritage Significance Register. Heritage items are listed in the environmental heritage schedule of the local Council's Local Environmental Plan or listed on the State Heritage Register, a register of places and items of particular importance to the people of NSW. Under Section 89J of the EP&A Act, an approval under Part 4 or a permit under Section 139 of the *Heritage Act 1977* would not be required for a State Significant Development. The proposal is unlikely to directly or indirectly affect any items of heritage significance (refer to Section 7.3).

5.1.11 Crown Lands Management Act 2016

The main aims of the *Crown Lands Management Act 2016* is to provide for the ownership and management of Crown land in NSW, and provide clarity concerning the law applicable to Crown land. Works within a Crown reserve require environmental, social, cultural heritage and economic considerations to be considered, and must facilitate the use of land by the NSW Aboriginal people.

A Crown road (Scoffs Lane) intersect and cross the Subject Land. This road is currently subject to an Application for Road Closure and Purchase by an involved landowner.

5.1.12 Conveyancing Act 1919

The purpose of the *Conveyancing Act* is to amend and consolidate the law of property and to simplify and improve the practice of conveyancing, and for such purposes to amend certain Acts relating thereto.

Subdivision or creation of an easement may be required for the purpose of the transmission line and substation infrastructure.

5.2 LOCAL GOVERNMENT

5.2.1 Greater Hume Local Environmental Plan 2012

The proposal is in the Greater Hume LGA and is subject to the *Greater Hume Local Environmental Plan 2012* (LEP).

The aims of the LEP are:

- a) to encourage sustainable economic growth and development in Greater Hume.

- b) to protect and retain productive agricultural land.
- c) to protect, conserve and enhance natural assets.
- d) to protect built and cultural heritage.
- e) to provide opportunities for the growth of townships.

The development site is zoned RU1 - Primary Production under the Greater Hume LEP (Figure 5-1). Electrical generation is not listed among developments that are permitted within the zone. However, the ISEPP takes precedence over an LEP and permits solar energy systems with consent in the RU1 zone.

Land Use Zone Objectives

The LEP states that the consent authority must have regard to the objectives for development in a zone when determining a development application. The objectives of the RU1 zone are to:

- a) Encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- b) Encourage diversity in primary industry enterprises and systems appropriate for the area.
- c) Minimise the fragmentation and alienation of resource lands.
- d) Minimise conflict between land uses within this zone and land uses within adjoining zones.
- e) Maintain the rural landscape character of the land.

The proposal would have negligible impact on primary industry production within the Greater Hume LGA. The degree of permanent land disturbance as a result of construction and operation of the solar farms is small and would not result in fragmentation and alienation of resource lands. Some agricultural activity is still possible whilst the solar farm is operating (e.g. grazing), and it is highly likely that agricultural activities which were occurring before the solar farm was constructed would be able to be continued once the solar farm is decommissioned and removed.

Minimum subdivision lot size

Clause 4.1(3) of the LEP states that 'the size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

With respect to the subject land, which is zoned RU1 Primary Production, the minimum lot size shown on the Lot Size Map is 100 ha. A 32 ha allotment retained for the landowner and a 1 to 5 ha allotment for the subdivision is proposed (Figure 2-3). Therefore, the subdivision of land would result in the creation allotments comprising an area of land that does not meet the minimum lot size and therefore is not permitted under the provisions of the Greater Hume LEP 2012.

However, given the development proposal is a State Significant Development (SSD), DPE is able to approve the subdivision of land as part of the overall development for the solar farm under the provisions of the Environmental Planning and Assessment Act 1979 and the State Environmental Planning Policy (State and Regional Development) 2011.

Clause 8(2) of the SEPP State & Regional Development 2011 states that if a single development application comprises development that is only partly SSD, the remainder of the development is also declared to be State Significant Development. Former consultation with the DPE confirmed that the intent of this clause means if the subdivision is included in the development application with the solar farm, the subdivision is also declared to be state significant.

Clause 4.38(3) of the EP&A Act states that development consent for SSD may be granted despite the development being prohibited by an environmental planning instrument. Therefore, if the subdivision is not permitted by the LEP due to the minimum lot size restrictions, Consent may still be granted as the project is SSD.

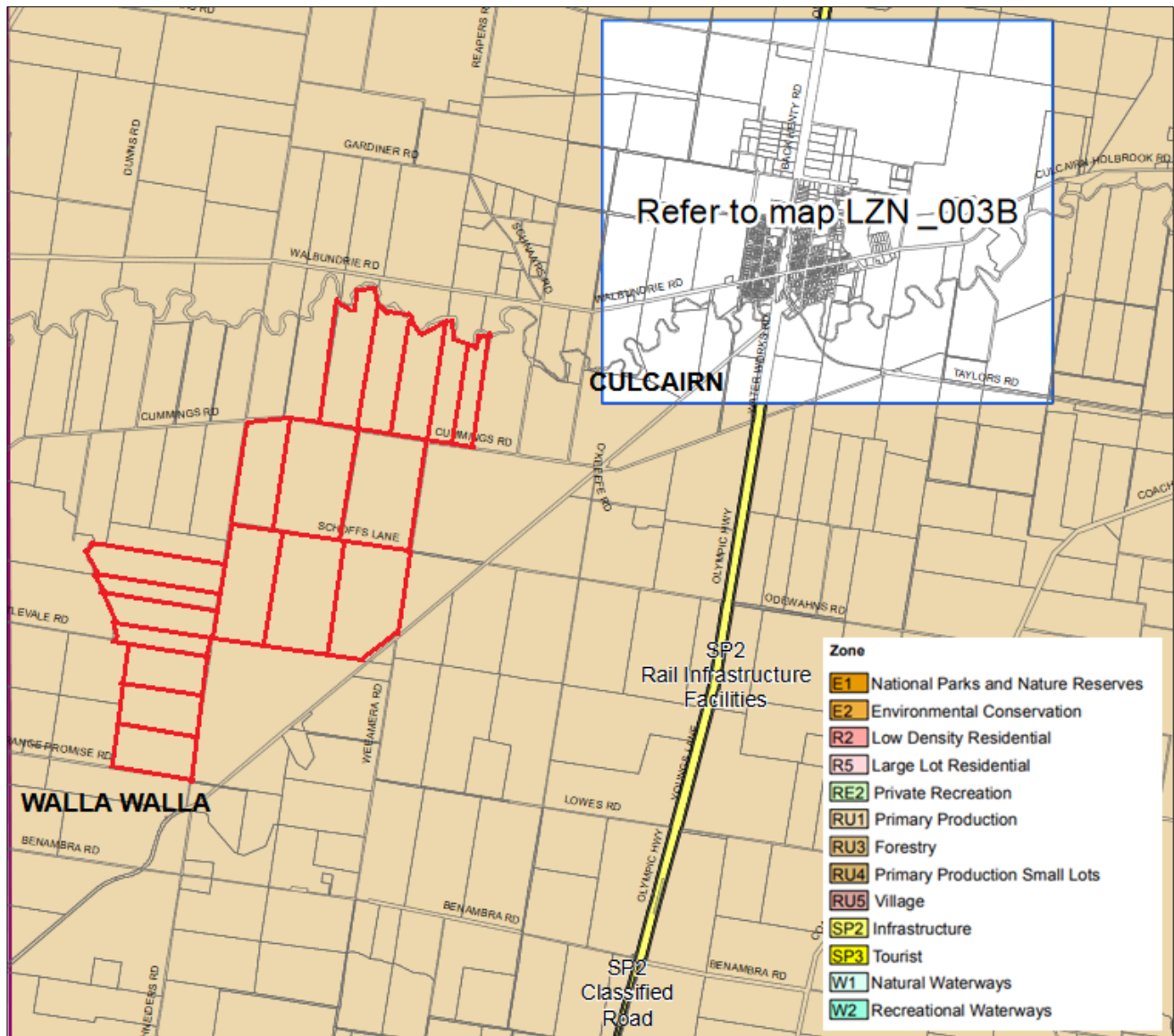


Figure 5-1 Greater Hume LEP zoning, location of proposal shown in red.

5.3 COMMONWEALTH LEGISLATION

5.3.1 Environmental Protection and Biodiversity Conservation Act 1999

The EPBC Act provides an assessment and approval process for actions likely to cause a significant impact on Matters of National Environmental Significance (MNES). These include:

- World Heritage properties.
- National Heritage places.
- Wetlands of international importance (listed under the Ramsar Convention).
- Listed threatened species and ecological communities.
- Migratory species protected under international agreements.
- Nuclear actions (including uranium mines).
- Commonwealth marine areas.
- The Great Barrier Reef Marine Park.
- A water resource, in relation to coal seam gas development and large coal mining development.

Approval by the Commonwealth Environment Minister is required if an action is likely to have a significant impact on a MNES. Assessments of significance based on criteria listed in *Significant Impact Guidelines 1.1* issued by the Commonwealth (Commonwealth of Australia 2013) are used to determine whether the proposed action is likely to have a significant impact (i.e. is likely to be considered a 'controlled action').

A search of the Commonwealth Protected Matters Search Tool (10 km buffer, undertaken on 12 November 2018) indicated three threatened ecological communities, 24 threatened species and 11 migratory species in the search area. Surveys to determine the presence and likelihood of impact to these entities would be undertaken during the preparation of the EIS. Four important wetlands are indicated in the search as their tributaries are location within 10 km of the proposal, but the wetlands themselves are more than 400 km upstream of the proposal.

A summary of the EPBC Act search report is provided in Table 5-1.

Table 5-1 Summary of EPBC Act Protected Matters Report search results.

| Protected Matter | Entities within the search area |
|---|---------------------------------|
| World Heritage Properties | 0 |
| National Heritage Places | 0 |
| Wetlands of International Significance (Ramsar) | 4 |
| Threatened Ecological Communities | 3 |
| Threatened Species | 24 |
| Migratory Species | 11 |
| Listed Marine Species | 18 |
| Commonwealth land | 1 |
| Commonwealth Heritage places | 0 |
| Critical habitats | 0 |
| Commonwealth reserves (terrestrial) | 0 |
| State and Territory reserves | 0 |
| Regional Forest Agreements | 0 |
| Invasive species | 31 |

| Protected Matter | Entities within the search area |
|-------------------------------|---------------------------------|
| Nationally Important Wetlands | 1 |

5.3.2 Native Title Act 1993

The *Native Title Act 1993* provides a legislative framework for the recognition and protection of common law native title rights. Native title is the recognition by Australian law that Indigenous people had a system of law and ownership of their lands before European settlement. Where that traditional connection to land and waters has been maintained and where government acts have not removed it, the law recognises this as native title.

People who hold native title have a right to consult or continue to practise their law and customs over traditional lands and waters while respecting other Australian laws. This could include visiting to protect important places, making decisions about the future use of the land or waters, hunting, gathering and collecting bush medicines. Further, when a native title claimant application is registered by the National Native Title Tribunal, the people seeking native title recognition gain a right to consult or negotiate with anyone who wants to undertake a project on the area claimed.

Where native title does exist in relation to the proposal site, the proponent would comply with the provisions of the *Native Title Act 1993*.

A search of the National Native Title Tribunal website (NNTT 2018) indicates no native title claims, land use agreements, applications or determinations within the development site.

6 CONSULTATION

Community and stakeholder consultation will be integral to the proposal. The proponent and NGH Environmental have begun consultation with a wide range of relevant Local Government and State, neighbours, as well as local businesses, community groups and other interested parties.

Neoen is a long-term owner and operator of projects. This makes an important difference in our community engagement approach because of the fact that we are establishing relationships with communities during the development phase that will endure for the lifetime of the projects.

The proponent is preparing a Community Engagement Plan (CEP) to provide a framework to further engage with the community and stakeholders about the proposal and ensure opportunities to provide input into the assessment and development process are understood. Stakeholders were identified as those potentially being impacted by the solar farm or having an interest in the project itself. The CEP will set out our community engagement approach and minimum requirements with interested parties including representative bodies (e.g. Greater Hume Shire Council, community groups, and neighbours to the site).

As the CEP is implemented, the following activities will occur:

- Keep the Culcairn and Walla Walla community informed in all stages of the proposal through media avenues including advertisements in local radio, television and newspaper.
- Face to Face meetings with adjacent landholders, stakeholders and concerned local residents as required.
- A project website including a News Room that will be updated at each project milestone and email address to inform the broader community.
- Preparation and dissemination of a feedback form to better understand the community's feelings toward solar development and the development of the Culcairn solar proposal. This will be made available at meetings and on the project website.
- Hold an information session during the proposal stage providing access to specialists and project information.
- Develop and implement a benefit sharing scheme in consultation with the community
- A public open day on the site would occur when the approved project commences operation.
- Establishment of a register to record contact with stakeholders including potentially affected landholders.

The CEP would aim to ensure that there is effective, ongoing liaison with the community. Measures to reduce adverse impacts and promote positive impacts would be identified in the EIS and appropriate management plans developed for the project. Agency consultation would also take place in accordance with any requirements of the SEARs.

6.1.1 Consultation to date

Many adjacent landowners and those within 3 km of the subject land have been contacted by phone and email to inform them about the project and offer them the possibility to meet. Some meetings have been held on 8 and 9 November 2018 and 27 and 28 November 2018, with additional meeting proposed as required or requested.

Landowners met were informed about the project and were given the following information:

- Presentation of the proponent.

- Presentation of the development process of a solar farm in NSW.
- Potential land considered for the development.
- Discussions on the concerns raised by the landowners.
- The contact email address of the project was shared.

A presentation leaflet on solar developments and the proponent, a 2-page information leaflet on the project and a feedback form were provided to neighbours to allow early feedback on the project.

During the meetings in November, landowners raised several questions and concerns. Among others, the main concerns raised were the following:

- Development of a solar farm on agricultural land.
- Local economic impact of a solar farm during its operations compared to normal agricultural operations of the land.
- Visual amenity and effect on adjacent property values.
- Heat effect of solar farms and impact on neighbouring farming operations.
- Health impacts of a solar farm.
- Bush fire risk management.
- Weed and vegetation management.

When possible at this stage of the development, the proponent has provided initial answers to those concerns.

In order to plan this first on-going early stage consultation, neighbours were informed by phone or email and were offered the possibility to provide feedback through a face to face meeting or by phone when a face to face meeting couldn't be held directly.

Additionally, a letter of information was sent in December 2018 to the Federal Member for the Farrer Electorate and to the Member of Parliament of NSW for the Albury electorate, APA (gas pipeline owner) was contacted via email in July 2018 and Council consulted in February, October and November 2018, and March 2019.

6.1.2 TransGrid

Discussions with TransGrid started in the first half of 2018 through the submission of a connection Enquiry. Confirmation was given of the available capacity on the transmission line for the connection of an additional 350 MW AC of solar generation subject to further precise studies. Discussions are ongoing as connection studies started by the proponent and TransGrid in the second half of 2018.

6.1.3 Greater Hume Council

There have been on-going discussions with the Greater Hume Council since the beginning of prospection in the LGA. Main points discussed have been: subdivision requirements, access road to site and required road upgrades.

7 PRELIMINARY ENVIRONMENTAL ASSESSMENT

7.1 METHODOLOGY

A preliminary environmental risk assessment has been conducted to assist in the identification of key environmental matters that would require detailed assessment within the EIS. Risks were identified for both the construction and operation phase of the proposal and analysed in relation to their possible consequence and likelihood of occurrence. From this analysis, some environmental matters were deemed to be key issues on the basis that they had the potential, without suitable mitigation, to have a significant impact on the environment.

The assessment is based on a desktop review and preliminary site inspection (involving flora and fauna surveys) to identify potential high-level constraints and major risks to the proposal. A preliminary constraints map is provided in Figure 7-1. This will be used to guide further detailed investigations and ultimately the site infrastructure layout. Constraints mapping will also be refined based on these investigations prior to submission of the EIS.

A summary of the key environmental issues is provided in Section 7.2. The intent of the discussion is to demonstrate an understanding of the issues that require further environmental assessment and likely mitigation measures for these key issues. The potential impacts and management of other (less significant) issues are discussed in Section 7.3.

The following environmental risks are considered to be key aspects:

- Biodiversity.
- Aboriginal Heritage.
- Visual amenity.
- Noise.
- Land use and resources.
- Watercourses and hydrology.

7.2 ASSESSMENT OF KEY ENVIRONMENTAL ISSUES

7.2.1 Biodiversity

Methodology

NGH Environmental has undertaken a preliminary constraints assessment of the proposal to identify potential high-level constraints and major risks to the proposal.

The potential ecological constraints within the study area have been identified based on the following information sources:

- Threatened species and community listings under the BC Act and EPBC Act;
- Commonwealth EPBC Act Protected Matter Search Tool, using a 10-km search radius;
- Areas of outstanding biodiversity values declared under the BC Act;
- Threatened species and communities' records in the Bionet Database (OEH), using a 10-km search radius;
- Threatened species and communities' records in the IBRA Region NSW South Western Slopes and Lower Slopes Subregion.
- Office of Environment and Heritage (OEH) Vegetation Information System (VIS) Mapping;
- NSW Government's SEED (Sharing and Enabling Environmental Data) Mapping; and
- A preliminary site inspection by an ecologist.

Overview

The development site has been selected on the basis that it supports limited native vegetation. The land has been extensively farmed, including cropping and grazing over a long period of time.

The primary constraint is associated with remnant woodland vegetation throughout the proposal site. Further survey of the area is a requirement of the EIS, and a full assessment of the impact to potential habitat in these areas would be conducted.

Database searches

The EPBC Act Protected Matters Search undertaken on 12 November 2018 indicated three listed threatened ecological communities which may or are likely to occur in the search area (Appendix A):

- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia.
- Weeping Myall Woodlands.
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

The EPBC Act search indicated 6 threatened flora species and 18 threatened fauna species that are known to occur or have potential to occur in the search area.

The NSW Bionet search indicated 3 threatened flora species and 18 threatened fauna records for the search area. Two threatened species have been recorded within 2 km of the subject land, Sloane's Froglet recorded along Billabong Creek to the north, and Bush Stone-curlew in a patch of vegetation 1.1 km south-east of the subject land. These areas of habitat are outside the proposed impact area.

A preliminary Biodiversity Assessment Methodology (BAM) Calculator was run in November 2018. Species produced from this search are included below. The threatened species indicated by the searches are shown in Table 7-1.

Table 7-1 Threatened flora and fauna species indicated in the database searches.

| Species | Indicated in search? | |
|--|----------------------|--------|
| | EPBC Act | BC Act |
| Plants | | |
| Small Purple-pea (<i>Swainsona recta</i>) | ✓ | ✓ |
| Silky Swainson-pea (<i>Swainsona sericea</i>) | - | ✓ |
| Ausfeld's Wattle (<i>Acacia ausfeldii</i>) | - | ✓ |
| Mueller Daisy (<i>Brachyscome muelleroides</i>) | ✓ | - |
| Yass Daisy (<i>Ammobium craspedioides</i>) | ✓ | ✓ |
| Floating Swamp Wallaby-grass (<i>Amphibromus fluitans</i>) | ✓ | ✓ |
| Austral Pillwort (<i>Pilularia novae-hollandiae</i>) | - | ✓ |
| Sand-hill Spider-orchid (<i>Caladenia arenaria</i>) | ✓ | - |
| Tarengo Leek Orchid (<i>Prasophyllum petilum</i>) | ✓ | - |
| Sturdy Leek-orchid (<i>Prasophyllum validum</i>) | ✓ | - |
| Pine Donkey Orchid (<i>Diuris tricolor</i>) | - | ✓ |
| Small scurf pea (<i>Cullen parvum</i>) | - | ✓ |
| A spear grass (<i>Austrostipa wakoolica</i>) | ✓ | ✓ |
| Euphrasia arguta (<i>Euphrasia arguta</i>) | ✓ | ✓ |
| Leafless Indigo (<i>Indigofera efoliata</i>) | ✓ | ✓ |
| Frogs | | |
| Southern Bell Frog (<i>Litoria raniformis</i>) | ✓ | - |
| Boorolong Frog (<i>Litoria booroolongensis</i>) | ✓ | ✓ |
| Sloane's Froglet (<i>Crinia sloanei</i>) | - | ✓ |
| Birds (threatened) | | |
| Australasian Bittern (<i>Botaurus poiciloptilus</i>) | ✓ | - |
| Australian Painted Snipe (<i>Rostratula australis</i>) | ✓ | - |
| Black-chinned Honeyeater (<i>Melithreptus gularis</i>) | - | ✓ |
| Brolga (<i>Grus rubicunda</i>) | - | ✓ |
| Brown Treecreeper (<i>Climacteris picumnus victoriae</i>) | - | ✓ |
| Bush Stone-curlew (<i>Burhinus grallarius</i>) | - | ✓ |
| Barking Owl (<i>Ninox connivens</i>) | - | ✓ |
| Curlew Sandpiper (<i>Calidris ferruginea</i>) | ✓ | - |
| Diamond Firetail (<i>Stagonopleura guttata</i>) | - | ✓ |

| | | |
|---|---|---|
| Dusky Woodswallow (<i>Artamus cyanopterus</i>) | - | ✓ |
| Eastern Curlew, Far Eastern Curlew (<i>Numenius madagascariensis</i>) | ✓ | - |
| Flame Robin (<i>Petroica phoenicea</i>) | - | ✓ |
| Grey-crowned Babbler (<i>Pomatostomus temporalis temporalis</i>) | - | ✓ |
| Glossy Black Cockatoo (<i>Calyptorhynchus lathami</i>) | - | ✓ |
| Hooded Robin (<i>Melanodryas cucullata cucullata</i>) | - | ✓ |
| Little Lorikeet (<i>Glossopsitta pusilla</i>) | - | ✓ |
| Little Eagle (<i>Hieraaetus morphnoides</i>) | - | ✓ |
| Major Mitchell's Cockatoo (<i>Lophochroa leadbeateri</i>) | - | ✓ |
| Masked Owl (<i>Tyto novaehollandiae</i>) | - | ✓ |
| Square-tailed Kite (<i>Lophoictinia isura</i>) | - | ✓ |
| Painted Honeyeater (<i>Grantiella picta</i>) | ✓ | - |
| Regent Honeyeater (<i>Botaurus poeciloptilus</i>) | ✓ | - |
| Gang-gang Cockatoo (<i>Callocephalon fimbriatum</i>) | - | ✓ |
| Scarlet Robin (<i>Petroica boodang</i>) | - | ✓ |
| Speckled Warbler (<i>Chthonicola sagittata</i>) | - | ✓ |
| Spotted Harrier (<i>Circus assimilis</i>) | - | ✓ |
| Superb Parrot (<i>Polytelis swainsonii</i>) | ✓ | - |
| Swift Parrot (<i>Lathamus discolor</i>) | ✓ | - |
| Varied Sittella (<i>Daphoenositta chrysoptera</i>) | ✓ | - |
| White-bellied Sea-Eagle (<i>Haliaeetus leucogaster</i>) | - | ✓ |
| Birds (migratory) | | |
| Fork-tailed Swift (<i>Apus pacificus</i>) | ✓ | - |
| White-throated Needletail (<i>Hirundapus caudacutus</i>) | ✓ | - |
| Yellow Wagtail (<i>Motacilla flava</i>) | ✓ | - |
| Satin Flycatcher (<i>Myiagra cyanoleuca</i>) | ✓ | - |
| Rufous Fantail (<i>Rhipidura rufifrons</i>) | ✓ | - |
| Common Sandpiper (<i>Actitis hypoleucos</i>) | ✓ | - |
| Sharp-tailed Sandpiper (<i>Calidris acuminata</i>) | ✓ | - |
| Pectoral Sandpiper (<i>Calidris melanotos</i>) | ✓ | - |
| Latham's Snipe (<i>Gallinago hardwickii</i>) | ✓ | - |
| Mammals | | |
| Corben's Long-eared Bat (<i>Nyctophilus corbeni</i>) | ✓ | - |
| Southern Myotis (<i>Myotis Macropus</i>) | - | ✓ |
| Large-eared Pied Bat (<i>Chalinolobus dwyeri</i>) | ✓ | ✓ |

| | | |
|---|---|---|
| Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) (<i>Phascolarctos cinereus</i>) (combined populations of Qld, NSW and the ACT) | ✓ | - |
| Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>) | ✓ | - |
| Spotted-tailed Quoll (<i>Dasyurus maculatus</i>) | ✓ | - |
| Squirrel Glider (<i>Petaurus norfolcensis</i>) | - | ✓ |
| Fish | | |
| Flathead Galaxias (<i>Galaxias rostratus</i>) | ✓ | - |
| Murray Cod (<i>Maccullochella peelii</i>) | ✓ | - |
| Macquarie Perch (<i>Macquarie Perch</i>) | ✓ | - |
| Reptiles | - | - |
| Pink-tailed Legless Lizard (<i>Aprasia parapulchella</i>) | ✓ | - |
| Striped Legless Lizard (<i>Delma impar</i>) | ✓ | - |
| Pale headed snake (<i>Hoplocephalus bitorquatus</i>) | - | ✓ |

Vegetation Mapping

An assessment was undertaken of existing vegetation mapping of the development site. The development site is not listed as an area of outstanding biodiversity value under the *Biodiversity Conservation Act*.

The NSW Government's SEED mapping for the locality shows exotic vegetation predominantly throughout the development site, with patches of remnant grassy woodland, riverine forests and woodland along riparian corridors. Patches of Blakely's Red Gum-Yellow Box grassy tall woodland occurs in the north of the development site and along Cummings Road. Towards the south, Grey Box Grassy Woodland occurs as isolated patches. A mixture of River Red Gum dominated and Yellow Box, and Grey Box occurs along the creek lines. A River Red Gum swampy depression occurs east of Back Creek. This mapping is based on spatial modelling.

Site inspection

Field surveys were completed over two periods, from the 28th and 29th November and the 18th December to the 21st December 2019. The results of the field survey are shown in Figure 7-1 and Figure 7-2.

Most of the development site has been largely cleared of native vegetation through past agricultural practices. The vegetation within the development site is predominately exotic and comprises crops of Wheat (**Triticum* sp.) Canola (**Brassica napus*) and Oats (**Avena sativa*). Exotic pastures occur more frequently in the north and are comprised of Lucern (**Medicago sativa*) Chicory (**Cichorium intybus*) or clover (**Trifolium*) mixes.

Native vegetation predominantly occurs as scattered paddock trees over exotic crops or pasture or small isolated patches or remnant woodland. The understory of these woodland patches has undergone frequent disturbance by grazing and agricultural practices and are dominated by exotic species such as Barley Grass (**Hordeum leporinum*) and Rye Grass (**Lolium perenne*), Paspalum (**Paspalum dilatatum*) and Bromes (**Bromus* sp). Yellow Box (*Eucalyptus melliodora*), Blakely's Red Gum (*Eucalyptus blakelyi*) and White box (*Eucalyptus albens*) are the dominant trees remaining in the development site. Further south, Grey Box (*Eucalyptus microcarpa*) transitions as the dominant paddock tree. The Higher quality vegetation of Yellow Box, Blakely's Red Gum and White Box (*Eucalyptus albens*) remains along the creeklines,

roadsides and central Crown Land paper roads. These higher quality areas have a mix of native groundcovers, shrubs and overstorey canopy.

Areas of linear planted native vegetation occurs in the north along fence lines. planted native vegetation is comprised of a mix of Eucalypt and Acacia species.

There are 19 farm dams within the development site. The majority of these dams are devoid of native vegetation and are surrounded by exotic vegetation such as Phalaris, Rye Grass Wire weed and Barley Grass or no vegetation at all. A number of drainage channels are also scattered throughout the development site.

Two ephemeral wetlands occur in the south, one including a swampy depression about 200m east of Back Creek, and the other a drainage line connecting further south to Back Creek. The swampy wetland has previously been modified through the creation of a dam and connecting drainage lines. This wetland was dry at the time of the survey with a small amount of water in the dam. Surrounding the dam vegetation was comprised of riparian species including; Couch (*Cynodon dactylon*) and a number of rushes including Giant Rush (*Juncus ingens*). The presence of these species suggests moisture is retained in the wetland during the wet season.

The drainage line in the south that flows into back Creek has been left uncultivated. Some native understory has been retained in this area. It is likely to receive flows of water which could provide riparian habitat to a number of wetland fauna. These two wetland features could provide habitat for the Sloane's Froglet (*Crinia sloanei*), Southern Bell Frog (*Litoria raniformis*) and Boorolong Frog (*Litoria booroolongensis*). Further assessment of these areas would be completed as part of the EIS.

The areas of remnant vegetation throughout the development site provide habitat and fauna movement corridors. Hollow bearing trees and a good condition over-storey could provide habitat for several threatened woodland birds and mammals including the Squirrel Glider (*Petaurus norfolcensis*) and Koala (*Phascolarctos cinereus*). These areas of remnant vegetation would be further surveyed for fauna species during the preparation of the EIS.

Plant Community Types and Endangered Ecological Communities

Based on existing vegetation mapping and the initial site inspection, vegetation within the development site was assigned to Plant Community Types (PCTs) in accordance with the Vegetation Information System Classification Database. PCTs were determined based on the presence of diagnostic species identified in the site survey. The results are preliminary in nature and would be refined following detailed vegetation survey of the site, and the undertaking of Floristic Plots in accordance with the Biodiversity Assessment Methodology (OEH, 2017).

PCTs identified within the development site are:

- PCT 277 – Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion.
- PCT 76 – Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions.
- PCT 74 – Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion.
- PCT 5 – River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
- PCT249 – River Red Gum swampy woodland wetland on cowals (lakes) and associated flood channels in central NSW.

- Patches of derived grassland communities associated with the above PCTs were also identified in low condition throughout the site.

PCT 277 and PCT 74 form part of the Threatened Ecological Community - *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. This community is listed as Endangered under the BC Act.

PCT 76 forms part of Threatened Ecological Community - *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions*. This community is listed as Endangered under the BC Act.

Further assessment is required to determine whether the vegetation communities form part of the critically endangered community - *White Box–Yellow Box–Blakely's Red Gum Grassy Woodland and Derived Native Grassland* and *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia* under the EPBC Act.

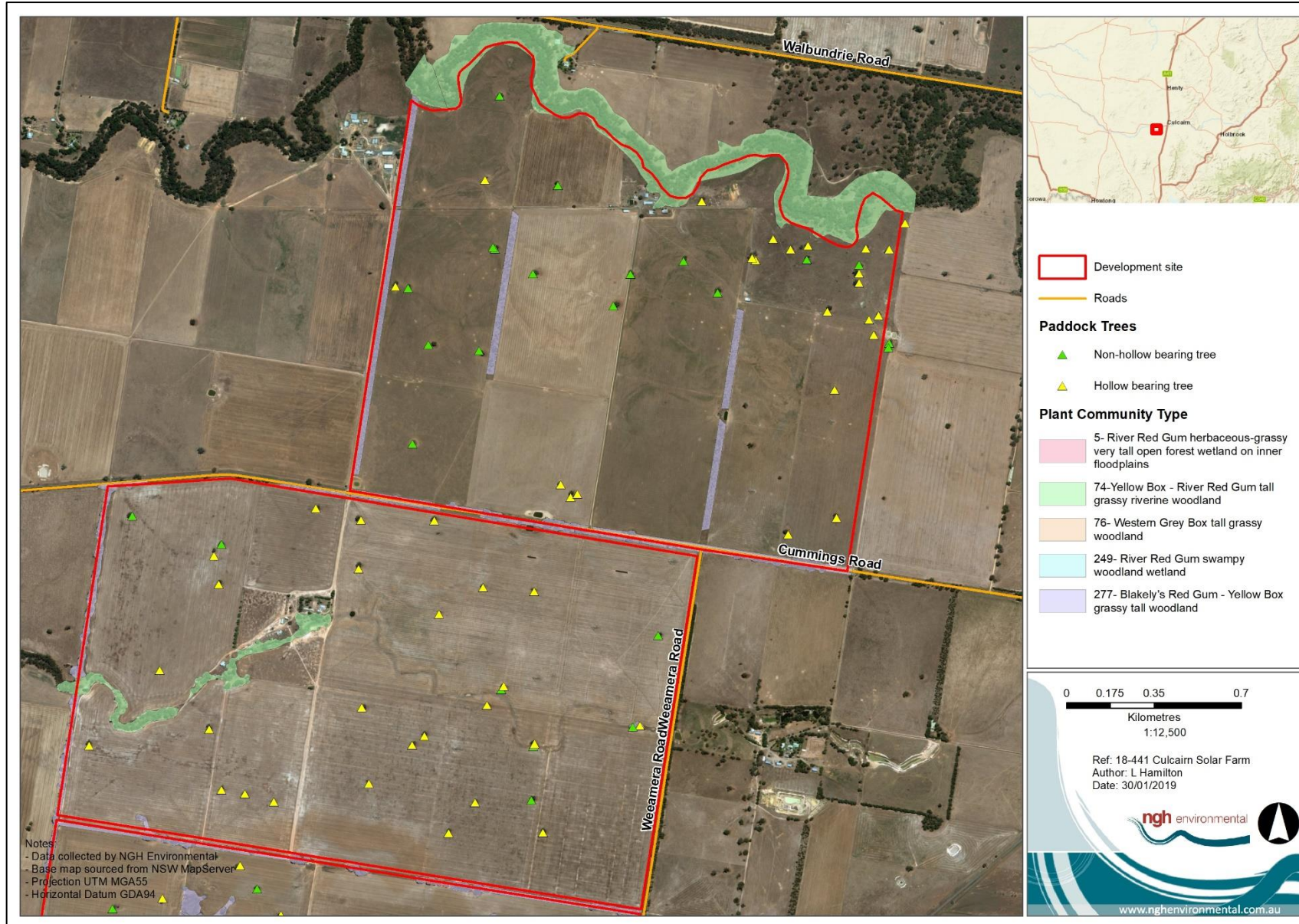


Figure 7-1 Culcairn Solar Farm preliminary biodiversity survey results – Northern section

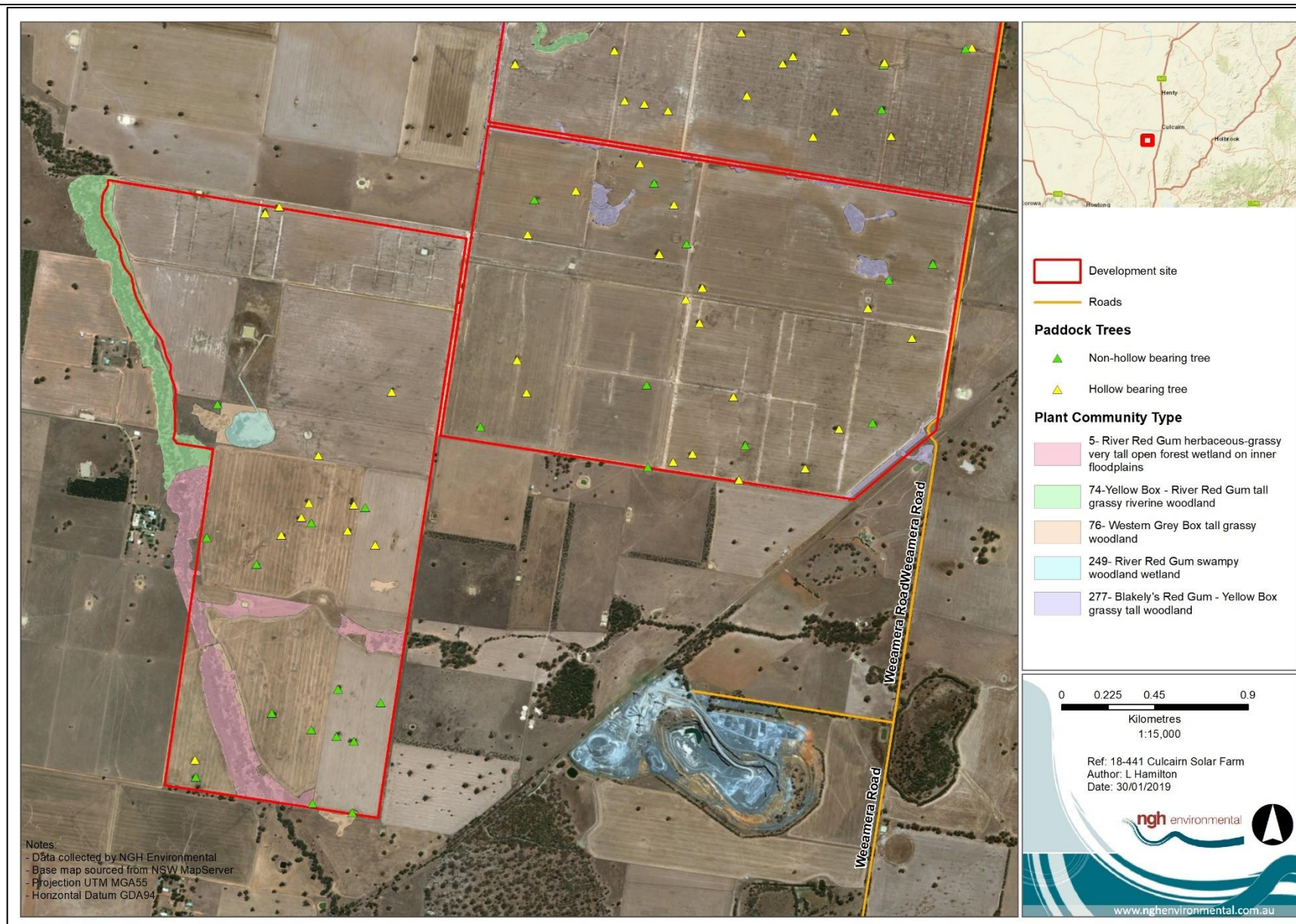


Figure 7-2 Culcairn Solar Farm preliminary biodiversity survey results – Southern section

Threatened Species

The proposal would be assessed through the Biodiversity Assessment Methodology (OEH 2017). Once full floristic plots have been undertaken in areas of native vegetation to be impacted, the Biodiversity Assessment Methodology Calculator would determine credit species requiring further consideration. A draft BAM Calculator was run for the results of the initial biodiversity survey results. The results are preliminary and would be refined following detailed vegetation survey of the site, and the undertaking of Floristic Plots in accordance with the Biodiversity Assessment Methodology (OEH, 2017). The results of the BAM calculations are listed in Table 7-2 Preliminary BAM calculations and are used to provide preliminary advice on species that may require further assessment during the preparation of the EIS. A habitat table for the preliminary BAM indicated species is included in Appendix A.

Table 7-2 Preliminary BAM calculations.

| Common Name | Scientific Name | Survey Period |
|----------------------------------|---------------------------------|----------------------|
| Fauna | | |
| Bush Stone-curlew | <i>Burhinus grallarius</i> | All year |
| Swift Parrot | <i>Lathamus discolor</i> | May – August |
| Superb Parrot | <i>Polytelis swainsonii</i> | September – November |
| Gang-gang Cockatoo | <i>Callocephalon Fimbriatum</i> | October – January |
| Major Mitchell's Cockatoo | <i>Lophochroa leadbeateri</i> | September – December |
| Glossy Black-cockatoo | <i>Cercartetus nanus</i> | March – August |
| Regent Honeyeater | <i>Anthochaera phrygia</i> | September – December |
| Barking Owl | <i>Ninox connivens</i> | May – December |
| Powerful Owl | <i>Ninox strenua</i> | May – August |
| Masked Owl | <i>Tyto novaehollandiae</i> | May – August |
| Square-tailed Kite | <i>Lophoictinia isura</i> | September – January |
| Little Eagle | <i>Hieraaetus morphnoides</i> | August – October |
| White-bellied Sea-Eagle | <i>Haliaeetus morphnoides</i> | July – December |
| Eastern Pygmy-possum | <i>Cercartetus nanus</i> | October - March |
| Brush-tailed Phascogale | <i>Phascogale tapoatafa</i> | All year |
| Squirrel Glider | <i>Petaurus norfolcensis</i> | All year |
| Koala | <i>Phascolarctos cinereus</i> | All year |
| Brush-tailed Rock-wallaby | <i>Petrogale penicillata</i> | All year |
| Large-eared Pied Bat | <i>Chalinolobus dwyeri</i> | September – March |

| Common Name | Scientific Name | Survey Period |
|------------------------------|--|----------------------|
| Eastern Bentwing-bat | <i>Miniopterus schreibersii oceanensis</i> | December – February |
| Southern Myotis | <i>Myotis macropus</i> | November – March |
| Grey-headed Flying-fox | <i>Pteropus poliocephalus</i> | October – December |
| Sloane's Froglet | <i>Crinia sloanei</i> | July – August |
| Booroolong Frog | <i>Litoria booroolongensis</i> | November – December |
| Southern Bell Frog | <i>Litoria raniformis</i> | October – January |
| Pink-tailed Legless-lizard | <i>Aprasia parapulchella</i> | September – October |
| Striped Legless-lizard | <i>Delma impar</i> | September – December |
| Pale-headed Snake | <i>Hoplocephalus bitorquatus</i> | November – March |
| Golden Sun Moth | <i>Synemon plana</i> | October – December |
| Flora | | |
| Austral Pillwort | <i>Pilularia novae-hollandiae</i> | All year |
| Floating Swamp Wallaby-grass | <i>Amphibromus fluitans</i> | December – March |
| A Spear-grass | <i>Austrostipa wakoolica</i> | September – December |
| Small Scurf-pea | <i>Cullen parvum</i> | December – February |
| Small Purple-pea | <i>Swainsona recta</i> | September – November |
| Silky Swainson-pea | <i>Swainsona sericea</i> | September – February |
| Ausfeld's Wattle | <i>Acacia ausfeldii</i> | All year |
| Yass Daisy | <i>Ammobium craspedioides</i> | September – November |
| Sand-hill Spider Orchid | <i>Caladenia arenaria</i> | September |
| Pine Donkey-orchid | <i>Diuris tricolor</i> | September – October |
| Tarengo Leek-orchid | <i>Prasophyllum petilum</i> | September – December |
| - | <i>Euphrasia arguta</i> | November – March |
| Leafless Indigo | <i>Indigofera efoliata</i> | All year |

Potential Impacts

The following impacts upon biodiversity have been considered as having potential to occur during the construction and operation of the proposal:

- Clearing, removal and disturbance of vegetation, in particular paddock trees;
- Clearing of limited habitat (including disturbance of foraging habitat, sheltering and breeding habitat);
- Loss of connectivity and nesting sites;
- Introduction and spread of invasive species and weeds;
- Increased risk of competition with regenerating native plants;
- Disturbance or displacement of fauna;
- Microclimate impacts due to shading, water availability, temperature etc.; and
- Movement barrier and collision hazard by perimeter fencing.

Further assessment

A full floristic plot survey is required to determine the floristic composition, condition and EEC status of native vegetation at the proposal site. Fauna survey and habitat assessment is also required to determine the potential for the presence of threatened fauna species and habitat features such as tree hollows. These surveys and assessments would be undertaken as part of the EIS, under the BAM. This would include the calculation of any biodiversity offset required for the project.

7.2.2 Aboriginal heritage

A search of the Aboriginal Heritage Information Management System (AHIMS) on 13 November 2018 identified 43 Aboriginal sites and no Aboriginal places within the Walla Walla /Creighton area identified in the AHIMS search (Appendix B).

Landforms, vegetation and soils over much of the proposal site have been heavily disturbed by paddock levelling, cultivation, track formation and clearing for agriculture. This is likely to reduce the potential for Aboriginal heritage sites of significance in the affected areas. Conversely, unmodified areas with remnant woodlands exist within the site and are likely to have a higher potential for significance. It is noted that field assessment is required to confirm this and that any Aboriginal heritage sites/items/etc. identified would be a moderate to high constraint, requiring impact mitigation.

Aboriginal consultation

Consultation with Aboriginal stakeholders would be undertaken in accordance with clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents provided by OEH.

A brief summary of the consultation process includes:

1. Registration and initial consultation and registration of Aboriginal community members.
2. Review of survey methodology by Registered Aboriginal Parties (RAPs).
3. Completion of field work and reporting.
4. Review of report by RAPs.
5. Report finalisation.

Advertisement and registration for the Aboriginal Cultural Heritage Assessment process commenced on 7 November 2018 in the Eastern Riverina Chronicle and closed on 21 November 2018. Two Registered Aboriginal Parties (RAPs) registered their interest, and fieldwork commenced 4 February 2019.

Potential impacts

The following impacts upon Aboriginal heritage have been considered as having potential to occur during the construction of the proposal:

- Uncovering an unexpected or unidentified Aboriginal heritage item.

Further assessment

An Aboriginal heritage assessment of the development footprint and stakeholder consultation process would be completed as part of the EIS. The significance of any Aboriginal heritage sites that may be potentially affected by the proposal would be determined in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).

7.2.3 Visual amenity and landscape character

The proposal has potential to result in visual impacts to neighbouring houses and road users adjacent to the site. The site is located within a rural area with large lot agricultural production and sparsely distributed residences usually located some distance from main roads. There are approximately 32 potentially sensitive receivers and 4 industries within 3 km of the subject land (see Figure 2-7). The closest sensitive receivers are located 130 m north (R31) and 220 m (R14) South-east from the subject land. The flat terrain and intermittent tree cover limits long range views in the locality.

An assessment of the level of visual disturbance would be undertaken as part of the EIS. The EIS would also consider the potential for the solar farm to affect local landscape character. Additional consultation with specific affected residences would be undertaken to identify the nature and significance of impacts and the need for mitigation measures. The level terrain improves the potential effectiveness of vegetation plantings as screening around the site.

It is noted that solar panels are designed to absorb as much sunlight as possible. They therefore reflect a very low percentage of the light and are not considered likely to result in glare or reflections that would affect traffic or nearby receivers.

Further assessment

A visual impact assessment including photo montages and community consultation would be prepared as part of the EIS to investigate visual impacts and mitigation options.

7.2.4 Noise

There are approximately 32 potentially sensitive receivers within 3 km of the development site (Figure 2-7). Noise impacts, for the most part, only occur during construction (generated by construction vehicles and machinery), with minimal noise likely to be generated during operation. The proponent would adopt best practice mitigation measures during construction, such as standard work hours and regular vehicle and machinery maintenance to reduce the risk of adverse noise impacts.

During the operation of the solar farm, low level noise would be potentially produced by the solar tracking system, the substation and switchgear and any maintenance works undertaken at the site. Noise impacts during operation of the solar farm are expected to be very low.

Further assessment

A construction and operational noise assessment would be undertaken as part of the EIS to assess potential noise impacts. The assessment would be undertaken in accordance with the Interim Construction Noise Guideline (DECC 2009) and NSW Noise Policy for Industry (NSW EPA 2017).

7.2.5 Land use and resources

The rural land within the region is used primarily for agriculture including cropping and grazing. The development area comprises several large paddocks which have been deep ripped and largely cleared for pastures and grazing. Land and agricultural activities like those of the development site are widespread in the region. There is no evidence of horticulture or other intense farming activities within the development site.

The Mining, Petroleum, Production and Extractive Industries State Environmental Planning Policy 2007 (the Mining SEPP) extends across the proposal. The land is not classed as BSAL or CIC in the Mining SEPP Strategic Agricultural Land Map; BSAL has been described as land with high quality soil and water resources capable of sustaining high levels of productivity, while CIC are concentrations of highly productive industries within a region that are related to each other, contribute to the identity of that region, and provide significant employment opportunities.

The land is classified as Class 4 under the Land and Soil Capability Assessment Scheme (OEH 2012), which is moderate capability land with moderate to high limitations for high impact land uses. This restricts management options for regular high-impact land uses such as cropping, high intensity grazing and horticulture. Limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investments and technology. The land is used for a range of crops and pastures.

There are no mineral titles and no mineral applications relevant to the development site indicated in the Minview database (DPE 2017). This was confirmed by a letter from the NSW Division of Resources and Geoscience, stating there are no current mineral, coal or petroleum titles over the site or adjacent lands (Appendix C). It was however noted that the Boral Quarry is located approximately 1.5 km from the proposal, and consideration should be given to any potential impacts.

For the construction period, there would be a complete reduction in agricultural activities within the development footprint. During the operational phase, not all agricultural activities would be precluded, and it is highly likely that limited production such as occasional grazing could continue. As such, it can be expected that the nature of the agricultural activities would change from cropping and grazing to predominately grazing within the development site. The amount of agricultural land that would be temporary unavailable for cropping during operation is small given the large amount of available agricultural land within the surrounding locality. Given the dry climatic conditions currently being experienced across Australia, a reduction in cropping would be beneficial to the land and its resources as it would result in a reduction in water use. This would be further explored in the EIS.

The solar farm would be decommissioned at the end of its operational life, removing all above and below-ground infrastructure. It is expected that the land would be returned to its prior production uses, as solar farms typically do not have significant permanent impacts to soil and landform.

Overall, the adverse impacts related to alienation of resources are expected to be low and restricted only to the period of operation.

Further assessment

The impact on agricultural production in the locality and region would be assessed in detail in the EIS.

7.2.6 Watercourses and Hydrology

The proposal is located approximately 45 km north of the Murray River. Three watercourses run through or along the boundary of the development site, Billabong Creek to the north, Back Creek to the west, and an unnamed ephemeral drainage line running east-west through the centre of the development site. These creeks are classified as first or second order streams under the Strahler Stream Classification System (DPI 2018). These creeks are generally dry, experiencing water flow only at times of high rainfall. There are 18 farm dams within the development site.

The creeks are identified as Class 4 under the Waterway Classification System (DPI 2018). This is described as unlikely fish habitat, and/or as a named or unnamed waterway with intermittent flow following rain events only, little or no defined drainage channel, little or no flow or few standing water or pools after rainfall events (e.g. dry gullies or shallow floodplain depressions with no permanent aquatic flora present). Development is not proposed within the creek lines, no riparian vegetation would be cleared, and a riparian vegetation zone buffer retained.

None of the 18 farm dams across the proposal site are large and contain only poor-quality aquatic habitat. Some or all of these dams are proposed to be removed, which would result in the loss of some aquatic habitat.

Water demand for the proposal would be relatively small, as construction of the solar farm is not water intensive. Stock will potentially be watered from retained dams and/or artificial water sources.

Moderate potential for aquatic Groundwater Dependant Ecosystems (GDE) is shown along Billabong Creek north of the proposal, with low to high potential for terrestrial GDE across the site (Figure 7-3 and 7-4). Most of these areas are located within proposed retained vegetation. As such, there is a low potential for groundwater to be encountered during excavations and earthwork for the construction. This is likely to be highly localised and no inception of groundwater is considered.

The development site is not identified as flood prone land under the Greater Hume LEP. However, the Billabong Creek system has recorded major floods in 1931, 1939, 1956, 1960, 1970, 1974, 1981, 1983 and 1995, with the largest recorded flood in July 1931. The system is subject to the *Billabong Creek Floodplain Management Plan 2012* (DNR 2012). The development site is however outside of the critical flow distribution areas detailed within the management plan.

Moderate to major flooding events have also been recorded upstream of Culcairn in 2010, 2011 and 2016 by the SES, ABC News and the Greater Hume Shire Council.

Potential Impacts

Impacts upon watercourses and hydrology that are considered as having the potential to occur during the construction of the proposal include:

- Removal of suitable aquatic habitat by filling in dams for threatened species.
- Accidental release of hydrocarbons by inappropriate storage, use and disposal of chemicals.
- Domestic waste, effluent and putrescibles causing contamination.
- Erosion of soil and sedimentation through stormwater runoff.
- Dewatering sediment laden water from excavations.

Further assessment

The EIS would assess the impacts to waterways during construction and operation and include a flood impact assessment and appropriate mitigation measures as required.

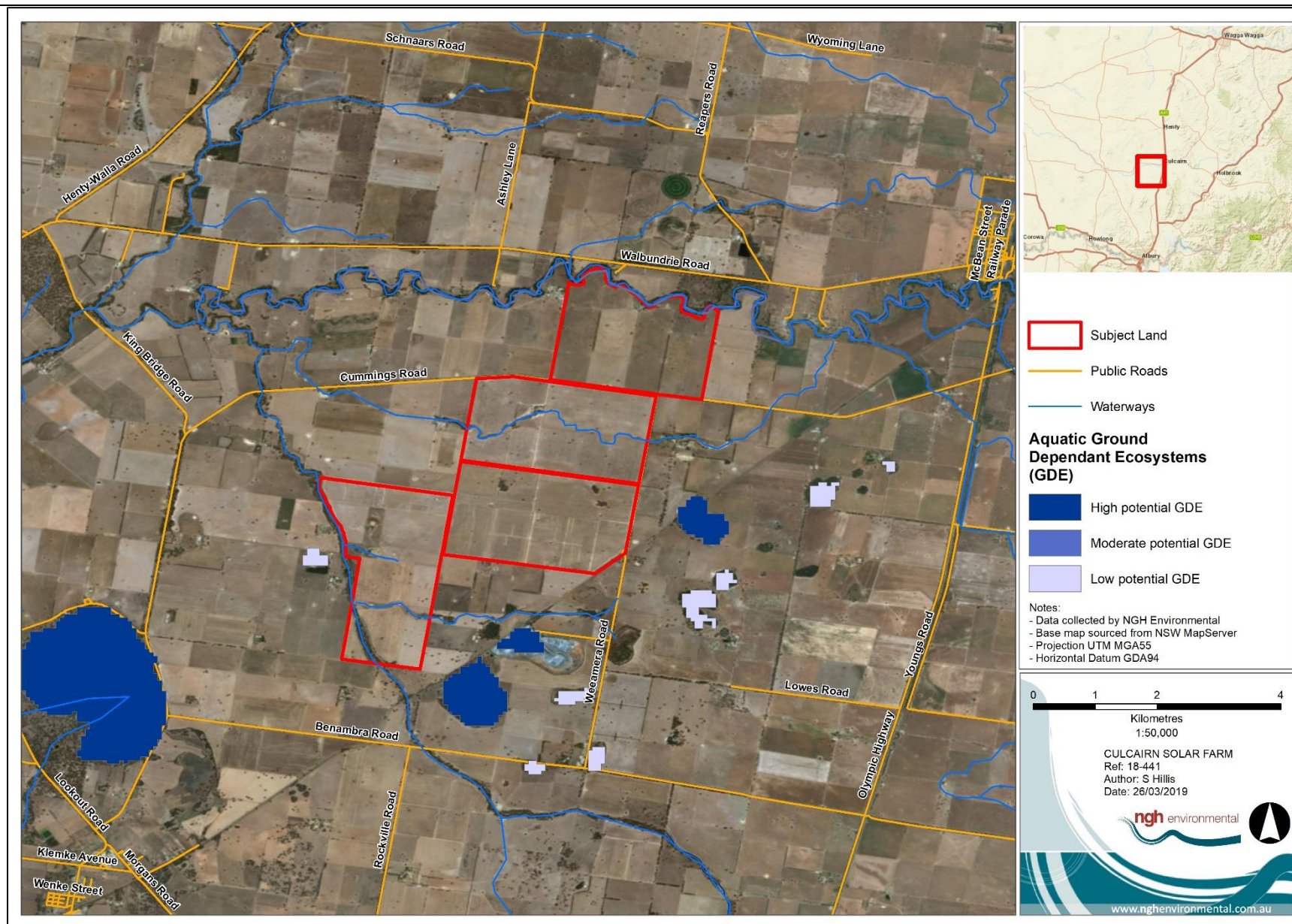


Figure 7-3 Groundwater Dependant Ecosystems – aquatic.

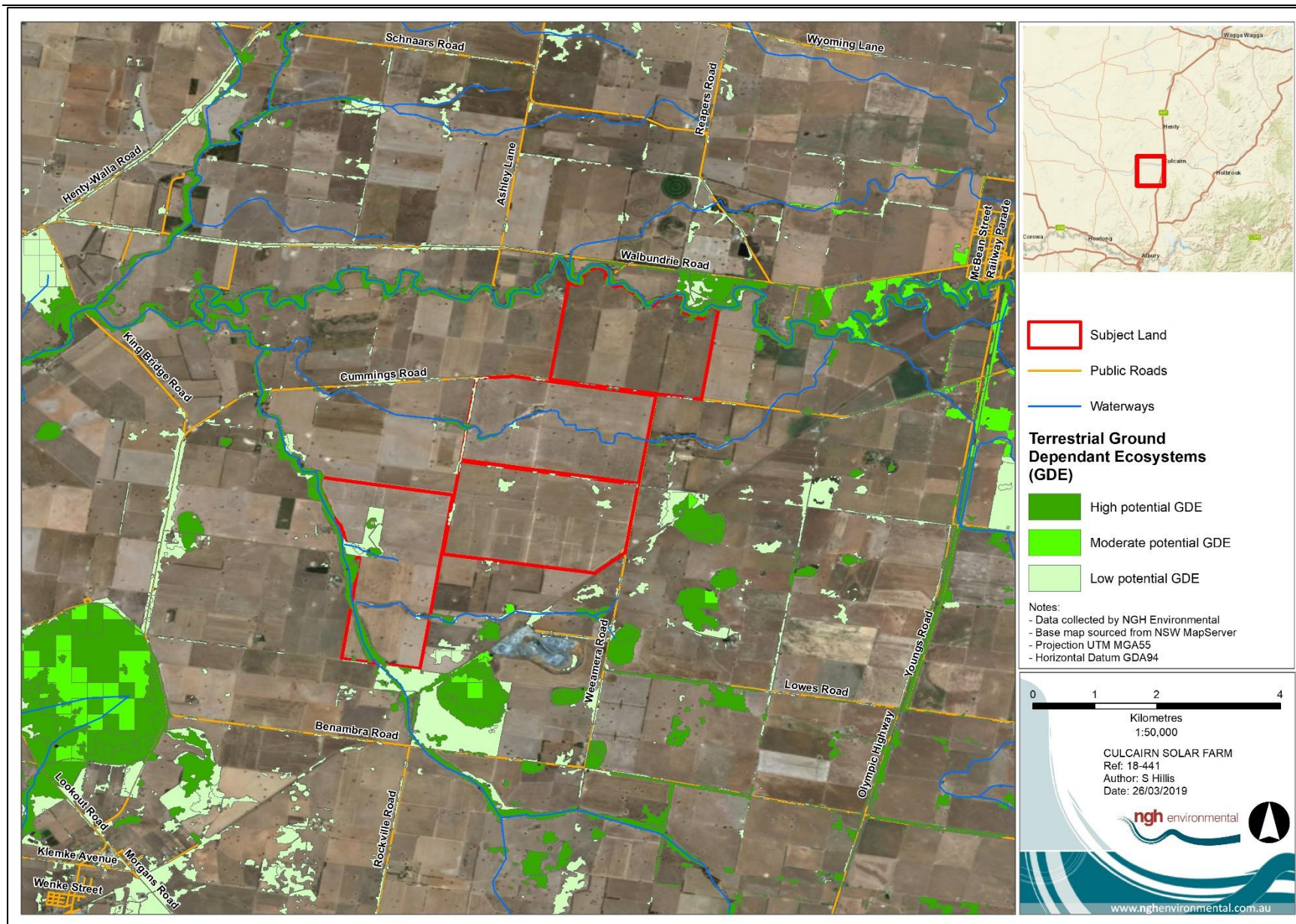


Figure 7-4 Groundwater Dependant Ecosystems – terrestrial.

7.3 OTHER ENVIRONMENTAL ISSUES

There are a range of potential environmental issues associated with the proposal which are not considered to be key issues. These are considered secondary issues for investigation, given the characteristics of the proposal and the availability of appropriate safeguards for mitigation. These issues are outlined in Table 7-3. The impacts and any required mitigation relating to these issues would be addressed at an appropriate level of detail in the EIS.

Table 7-3 Other environmental issues.

| Existing environment | Potential impacts | Management and mitigation |
|---|--|--|
| Soils | | |
| <p>CSIRO's ASRIS database shows that the development site is dominated by sodosols. Sodosols are soils with a clear or abrupt textural B horizon and in which the major part of the upper 0.2 m of the B2 horizon (or the major part of the entire B2 horizon if less than 0.2 m thick) is sodic and not strongly acid.</p> <p>The nearest eSpade soils profiles (OEH, 2017) are along the railway line along the south-east boundary of the development site. The first records Mottled Brown Dermosol with low slope (2%) and low relief (9 – 30 m). Surface condition is firm, profile drainage is well drained, erosion hazard is slight, and no salting evident. The second records Mottled Red Dermosol with low slope (8%) and low relief (30 – 90 m). Surface condition is loose, profile drainage is moderately well drained, and no salting evident. The third records Yellow Sodosol with low slope (0%) and extremely low relief (<9 m). Surface condition is hard set, profile drainage is imperfectly drained, erosion hazard is moderate, and no salting evident.</p> | <p>Construction activities would include minor excavations and vegetation removal which have the potential to cause soil erosion and sedimentation and dust issues.</p> | <p>The design would provide all weather access at the site during construction and operation to avoid erosion/sedimentation impacts and tracking of soil, in particular after rain events.</p> <p>The EIS would provide thorough consideration of soil impacts, runoff and potential for erosion and proposed mitigation measures during construction and operation.</p> |
| Historic heritage | | |
| <p>A search of the NSW Heritage Register on 13 November 2018 for the Greater Hume LGA identified 1 record under the NPW Act, 4 items under the NSW Heritage Act, and 61 items listed under the Greater Hume LEP and by state agencies. A search of the Australian Heritage Database identified 13 records in the Greater Hume LGA (Appendix B).</p> <p>The closest listed heritage items are in the township of Culcairn, including Culcairn Railway Station and yard group, Bakery Shop, Court House/Police Building, Hotel, and Street Trees, which are all at least 3 km north-east of the proposal.</p> | <p>There is considered to be a low risk of impact to heritage items.</p> | <p>The heritage status of the site would be assessed during fieldwork undertaken as part of the archaeological assessment. Appropriate management measures would be implemented if required.</p> |
| Access and traffic | | |
| <p>The RMS NSW Combined Higher Mass Limits and Restricted Access Vehicle Map (RMS 2018) indicates that the Olympic Highway, Cummings Road, Benambra Road and Weeamera Road are approved heavy vehicle access routes (25/26 m B-double routes as a maximum) (Appendix B). As such, the major access and</p> | <p>Construction traffic could impact traffic along Benambra Road, Weeamera Road, the Olympic Highway, and the surrounding road network. Maintenance access tracks during</p> | <p>Construction traffic impacts would be considered in the EIS. Consultation would be undertaken with the local council and local residents regarding</p> |

| Existing environment | Potential impacts | Management and mitigation |
|--|---|---|
| <p>transport/haulage route is likely to be either via Cummings Road or Benambra and Weeamera Roads. The major transport route is subject to further assessment, specialist input and consultation with Greater Hume Shire council and the Roads and Maritime Services (RMS).</p> <p>New site accesses will be constructed off Cummings Road or Weeamera Road (being the approved heavy vehicle access routes), with proposed emergency and maintenance only access from either alternative road. If Weeamera Road is the main transport route, access to the northern portion of the site will be via internal tracks that will cross Cummings Road at an appropriate location. If Cummings Road is the main transport route, access to the northern and southern portion will be via two staggered access points off Cummings Road. Refer to Figure 1-1 for access locations.</p> <p>Access design and location is indicative only, subject to further assessment and specialist input. Internal access tracks would be constructed as part of the works.</p> | <p>operation would also be required across the development site.</p> <p>During construction, there may be impacts to residences along the access route associated with dust, vibration and noise.</p> | <p>the works that may affect roads or traffic.</p> <p>The design would also consider any requirements from the RMS, local council and other relevant stakeholders on access arrangements to the proposal site.</p> <p>The mitigation measures would require a Traffic Management Plan to be prepared.</p> |
| Contamination | | |
| <p>The EPA contaminated land register identified no contaminated sites within the Greater Hume LGA (Appendix B).</p> <p>Contamination associated with agricultural activities (e.g. pesticides, petrochemicals) or asbestos construction or insulation materials may still be present on the site.</p> | <p>There is potential that contaminants may be uncovered during excavation activities at the site.</p> | <p>Risks associated with contamination at the site are considered low and therefore no detailed investigation is likely to be required within the EIS.</p> <p>The mitigation measures would require a CEMP to be prepared to manage any contamination identified during site construction.</p> |
| Air quality | | |
| <p>The air quality in the study area is expected to be good and typical of rural settings in NSW with low population density and few industrial pollution sources. Existing sources of air pollution are expected to include vehicle emissions, dust from agricultural practices and smoke from seasonal stubble burning. During colder</p> | <p>The construction of the proposal is not anticipated to have a significant impact on air quality and would mostly be related to dust during dry periods and vegetation</p> | <p>The mitigation measures would require a CEMP to be prepared to manage air quality impacts during the construction phase. There is an opportunity to</p> |

| Existing environment | Potential impacts | Management and mitigation |
|--|--|---|
| months, solid fuel heating may result in a localised reduction in air quality, particularly if temperature inversions operate overnight. | removal. Impacts to air quality during operation would be negligible. | improve local air quality by maintaining ground cover vegetation under the panels. |
| Hazard and risk – electric and magnetic fields (EMF) | | |
| Existing powerlines produce EMF at the site. Additional infrastructure which forms part of the proposal such as connecting powerlines and substation would produce additional electromagnetic emissions at the site. | The substation, battery storage and network connection would be located on the proposal site. The powerlines constructed as part of the proposal would not pass through any neighbouring properties. The EMF that would be generated by the proposed powerlines, battery storage and substation is expected to be below the guideline for public exposure and would not be expected to have an adverse impact on human health. | The EMF levels of the proposed powerlines, battery storage and substation would be assessed as part of the EIS. |
| Battery storage is currently not utilised on-site but has been proposed. | Batteries pose a potential fire or contamination risk to the site. | An assessment of hazard and risk would be assessed in the EIS as per <i>SEPP 33 – Hazardous and Offensive Development</i> . |
| Hazard and risk - bushfire | | |
| The development site has been predominantly cleared for agriculture. The northern and western sections of the property have been identified as bushfire prone land on NSW Rural Fire Service mapping. The gas pipeline has potential to explode, leak or ignite if damaged during construction. | The proposal is unlikely to be affected by bushfire or pose a significant bushfire risk. | The impacts and risks of a bushfire or gas explosion or leak would be assessed in the EIS. Risk of fire from proposed infrastructure will also be addressed in the EIS. |
| Social and economic impacts | | |
| The proposal is located within the Greater Hume LGA. In 2016 Greater Hume LGA had a population of 10,351. The main industry of employment in 2016 was beef cattle farming. | The proposal would reduce the availability of agricultural land but would generate economic benefits during construction and | The EIS would assess potential social and economic impacts of the proposal. |

| Existing environment | Potential impacts | Management and mitigation |
|--|--|---|
| <p>Workforce accommodation would be required for potentially 300 to 400 staff members during peak construction periods. A large majority of these would already reside locally. For visiting workers, accommodation can be sought from Culcairn or other towns within a 100 km radius, including Albury, Wodonga, Jindera, and Henty. There is potential for a shortage in accommodation for tourists visiting the region to occur with large numbers of staff utilising accommodation.</p> <p>There is community concern that the proposal will reduce agricultural employment in the area for the life of the project and put current employers out of work.</p> | <p>operation, including local direct and indirect employment opportunities outside of agricultural activities. Other socio-economic impacts would include traffic and access, noise, air quality and visual impacts.</p> | |
| Utilities | | |
| <p>Electricity network</p> <p>TransGrid manages and operates the high voltage electricity transmission network in NSW. TransGrid has restrictions on development within powerline easements. TransGrid guidelines state that activities and encroachments are prohibited within a transmission line easement, including ‘the installation of fixed plant or equipment’, and ‘the placing of obstructions within 20 metres of any part of a transmission line structure or supporting guy wire’. Roads or tracks within 10 metres of the centre-line of a transmission line 132 kV are prohibited although roads that cross the transmission line as a thoroughfare may be permitted.</p> <p>Gas Pipeline</p> <p>APA manages and operates gas pipelines across Australia. APA has restrictions on development within pipeline easements. APA’s guidelines state that written approval from APA is required prior to the commencement of activities within the pipeline easement or any work that may impact on the gas pipeline. The Dial Before You Dig service must also be used prior to any construction or excavation work near a high-pressure gas transmission pipeline.</p> | <p>The proposed works would involve works adjacent to these utilities. The solar farm will need to connect to the TransGrid electricity network.</p> | <p>The EIS would assess the proposal against the setback and approval requirements of TransGrid and APA. The solar farm would be designed to comply with required setback, approval and consultation requirements of TransGrid.</p> |
| Waste management | | |
| <p>The proposal would generate several waste streams and utilise a variety of materials during the construction phase.</p> | <p>During construction, excavated material and green waste would be generated as waste. Packaging from panels and other</p> | <p>A Waste Management Plan would be incorporated into the CEMP, applying the principles to avoid, re-use and</p> |

| Existing environment | Potential impacts | Management and mitigation |
|---|---|---|
| | components would require disposal. Limited operational waste would be associated with the proposal. | recycle to minimise wastes. Cleared trees would be recycled as fauna habitat where possible. |
| Cumulative impacts | | |
| <p>The proposed Culcairn Solar Farm will contribute to overall infrastructure development in the region.</p> <p>A review of the State Significant Development register for the Greater Hume LGA and surrounding LGAs of Albury City, Federation, Lockhart, Wagga Wagga and Snowy Valleys (bordering LGAs) was conducted on 4 December 2018. Six major solar farm developments have been applied for: Walla Walla, Jindera, Glenellen, Mulwala, Gregadoo, and Bomen. A number of other State Significant Developments have been applied for within the surrounding LGAs, however only Culcairn, Walla Walla, Jindera and Glenellen Solar Farms occur in the Greater Hume LGA. Boral quarry is also located 1 km south of the proposal area.</p> <p>It has also been identified that the proposed haulage route is the same as the proposed Walla Walla Solar Farm.</p> | <p>During construction and operation, key cumulative impacts may include additional stress on the grid, community complaints such as visual amenity impacts, stress on local business for supply and demand (in particular staff accommodation), noise impacts, air quality, waste management, traffic etc.</p> | <p>Early consultation with the community regarding cumulative impacts should be conducted. Further assessment/investigation of cumulative impacts will be required, and the EIS would assess potential impact and risk.</p> |

8 CONCLUSION

The Preliminary Environmental Assessment has outlined the proposed Culcairn Solar Farm and established the environmental and planning context of the proposal. The proposal would be assessed under Part 4 of the EP&A Act and classed as State Significant Development under *State Environmental Planning Policy (State and Regional Development)* 2011.

The report has been prepared to assist the development of the SEARs for the proposal, which will guide the preparation of the EIS.

The report identifies the following key environmental issues associated with the proposal, based on the preliminary investigations:

- Biodiversity.
- Aboriginal Heritage.
- Visual amenity.
- Noise.
- Land use and resources.
- Watercourses and hydrology.

These issues will be assessed in detail in the EIS. It is likely that other issues such as soil values, traffic impacts and natural hazards can be readily addressed by appropriate standard mitigation and management measures. The relevance and importance of issues would be reviewed throughout the EIS process.

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APPENDIX A PROTECTED MATTERS SEARCH



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.

Report created: 12/11/18 09:48:43

[Summary](#)

[Details](#)

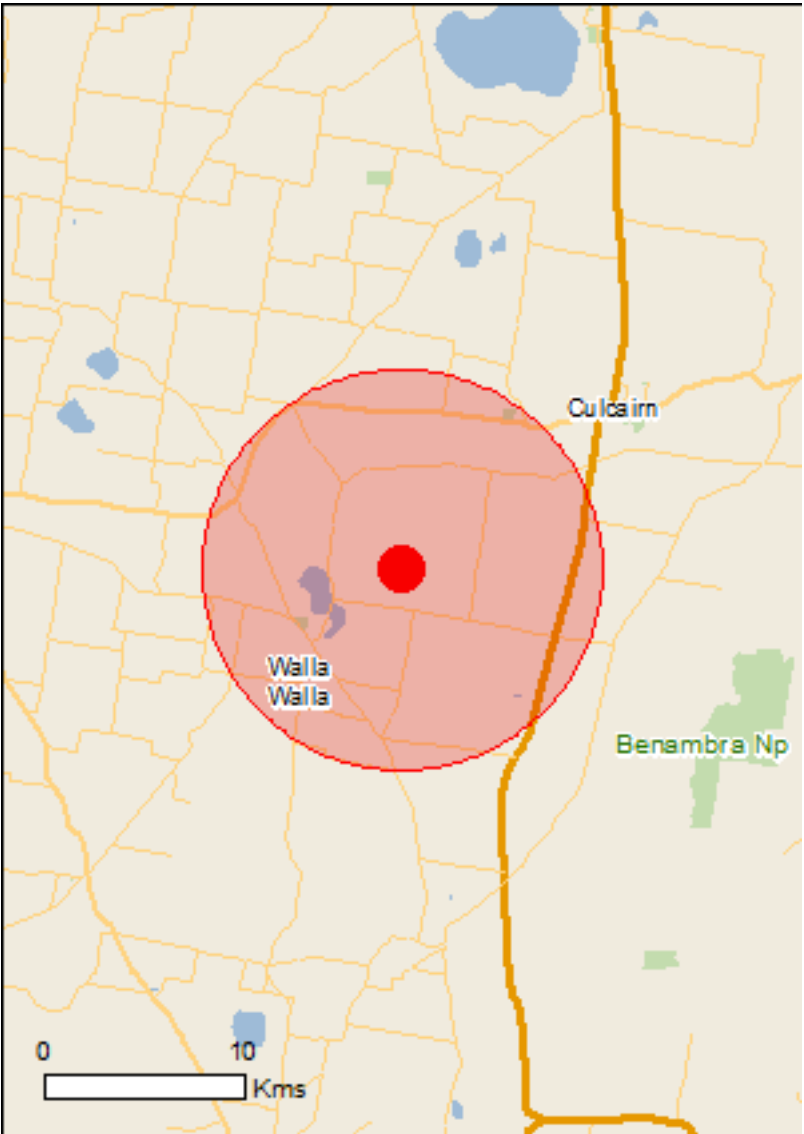
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

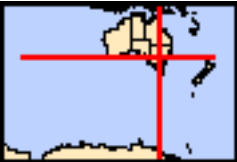
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 10.0Km



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: | 3 |
| Listed Threatened Species: | 24 |
| Listed Migratory Species: | 11 |

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: | 18 |
| Whales and Other Cetaceans: | None |
| Critical Habitats: | None |
| Commonwealth Reserves Terrestrial: | None |
| Australian Marine Parks: | None |

Extra Information

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

| | |
|--|------|
| State and Territory Reserves: | None |
| Regional Forest Agreements: | None |
| Invasive Species: | 31 |
| Nationally Important Wetlands: | 1 |
| Key Ecological Features (Marine) | None |

Details

Matters of National Environmental Significance

| Wetlands of International Importance (Ramsar) | | [Resource Information] |
|---|----------------------|--------------------------|
| Name | Proximity | |
| Banrock station wetland complex | 600 - 700km upstream | |
| Hattah-kulkyne lakes | 400 - 500km upstream | |
| Riverland | 500 - 600km upstream | |
| The coorong, and lakes alexandrina and albert wetland | 600 - 700km 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 |
|--|-----------------------|---------------------------------------|
| Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia | Endangered | Community likely to occur within area |
| Weeping Myall Woodlands | Endangered | Community may 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 | Foraging, feeding or related behaviour likely to occur within area |
| Botaurus poiciloptilus Australasian Bittern [1001] | Endangered | Species or species habitat likely to occur within area |
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area |
| Grantiella picta Painted Honeyeater [470] | 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 likely to occur within area |
| Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037] | Endangered | Species or species habitat may occur within area |

| Name | Status | Type of Presence |
|---|-----------------------|--|
| Fish | | |
| Galaxias rostratus Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745] | Critically 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 raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog [1828] | Vulnerable | Species or species habitat likely to occur within area |
| Mammals | | |
| 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 |
| Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395] | 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 may occur within area |
| Pteropus poliocephalus Grey-headed Flying-fox [186] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area |
| Plants | | |
| Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215] | Vulnerable | Species or species habitat may occur within area |
| Brachyscome muelleroides Mueller Daisy [15572] | Vulnerable | Species or species habitat may occur within area |
| Caladenia arenaria Sand-hill Spider-orchid [9275] | Endangered | Species or species habitat may occur within area |
| Prasophyllum petilum Tarengo Leek Orchid [55144] | Endangered | Species or species habitat may occur within area |
| Prasophyllum validum Sturdy Leek-orchid [10268] | 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 |
| 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 [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] | | Species or species habitat likely to occur within area |
| Motacilla flava Yellow Wagtail [644] | | Species or species habitat may occur within area |
| Myiagra cyanoleuca Satin Flycatcher [612] | | Species or species habitat likely to occur within area |
| Rhipidura rufifrons Rufous Fantail [592] | | Species or species habitat may occur within area |
| Migratory Wetlands Species | | |
| Actitis hypoleucos Common Sandpiper [59309] | | Species or species habitat may occur within area |
| Calidris acuminata Sharp-tailed Sandpiper [874] | | Species or species habitat may occur within area |
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area |
| Calidris melanotos Pectoral Sandpiper [858] | | Species or species habitat may occur within area |
| Gallinago hardwickii Latham's Snipe, Japanese Snipe [863] | | Species or species habitat may occur within area |
| Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | 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 |

| Name | Threatened | Type of Presence |
|---|-----------------------|---|
| Ardea alba Great Egret, White Egret [59541] | Critically Endangered | within area 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] | | 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] | Critically Endangered | Species or species habitat likely to occur within area |
| Gallinago hardwickii Latham's Snipe, Japanese Snipe [863] | | Species or species habitat may occur within area |
| Haliaeetus leucogaster White-bellied Sea-Eagle [943] | | Species or species habitat known to occur within area |
| Hirundapus caudacutus White-throated Needletail [682] | | Species or species habitat likely to occur within area |
| Lathamus discolor Swift Parrot [744] | | Species or species habitat likely to occur within area |
| Merops ornatus Rainbow Bee-eater [670] | Critically Endangered | Species or species habitat may occur within area |
| Motacilla flava Yellow Wagtail [644] | | Species or species habitat may occur within area |
| Myiagra cyanoleuca Satin Flycatcher [612] | | Species or species habitat likely to occur within area |
| Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847] | | Species or species habitat may occur within area |
| Rhipidura rufifrons Rufous Fantail [592] | | Species or species habitat may occur within area |
| Rostratula benghalensis (sensu lato) Painted Snipe [889] | Endangered* | Species or species habitat may occur within area |

Extra Information

Invasive Species

[Resource Information]

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

| Name | Status | Type of Presence |
|--|--------|--|
| Birds | | |
| Acridotheres tristis Common Myna, Indian Myna [387] | | Species or species habitat likely to occur within area |
| Alauda arvensis Skylark [656] | | Species or species habitat likely to occur within area |
| Anas platyrhynchos Mallard [974] | | Species or species habitat likely to occur within area |
| Carduelis carduelis European Goldfinch [403] | | Species or species habitat likely to occur within area |
| Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803] | | Species or species habitat likely to occur within area |
| Passer domesticus House Sparrow [405] | | Species or species habitat likely to occur within area |
| Passer montanus Eurasian Tree Sparrow [406] | | Species or species habitat likely to occur within area |
| Streptopelia chinensis Spotted Turtle-Dove [780] | | Species or species habitat likely to occur within area |
| Sturnus vulgaris Common Starling [389] | | Species or species habitat likely to occur within area |
| Turdus merula Common Blackbird, Eurasian Blackbird [596] | | Species or species habitat likely to occur within area |
| 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 |
| Capra hircus Goat [2] | | 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 |

| Name | Status | Type of Presence |
|---|--------|--|
| 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 |
| Sus scrofa Pig [6] | | Species or species habitat likely to occur within area |
| Vulpes vulpes Red Fox, Fox [18] | | Species or species habitat likely to occur within area |
| Plants | | |
| Alternanthera philoxeroides Alligator Weed [11620] | | Species or species habitat likely to occur within area |
| Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473] | | Species or species habitat likely to occur within area |
| Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934] | | Species or species habitat likely to occur within area |
| Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126] | | Species or species habitat likely to occur within area |
| Nassella neesiana Chilean Needle grass [67699] | | Species or species habitat likely to occur within area |
| Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884] | | Species or species habitat likely to occur within area |
| 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 |
| Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323] | | Species or species habitat likely to occur within area |
| Nationally Important Wetlands | | [Resource Information] |

| Name | State |
|---|-------|
| Walla Walla Swamp (Gum Swamp) | NSW |

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

-35.7237 146.94628

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.

APPENDIX B BACKGROUND SEARCHES

Combined geographic and habitat search

Use the form below to submit a search

| | | |
|--------------|-------------------|---|
| IBRA | Lower Slopes | Choose an Interim Biogeographic Regionalisation of Australia region or sub-region |
| Habitat Type | All habitat types | Search by habitat type. |
| Species Type | All species types | You can search by all species or by a particular species. |
| | | <input type="button" value="Search"/> |

Matching records: 765

[Save to CSV](#)

Click on column headers to sort

| IBRA Subregion | Scientific name | Common name | NSW status | Commonwealth status | Occurrence | Vegetation class |
|----------------|------------------------------|------------------------------|------------|---------------------|------------|--|
| Lower Slopes | <i>Acacia ausfeldii</i> | Ausfeld's Wattle | Vulnerable | | Known | Western Slopes Grasslands |
| Lower Slopes | <i>Acacia ausfeldii</i> | Ausfeld's Wattle | Vulnerable | | Known | Southern Tableland Grassy Woodlands |
| Lower Slopes | <i>Acacia ausfeldii</i> | Ausfeld's Wattle | Vulnerable | | Known | Western Slopes Dry Sclerophyll Forests |
| Lower Slopes | <i>Acacia ausfeldii</i> | Ausfeld's Wattle | Vulnerable | | Known | Southern Tableland Dry Sclerophyll Forests |
| Lower Slopes | <i>Acacia ausfeldii</i> | Ausfeld's Wattle | Vulnerable | | Known | Western Slopes Grassy Woodlands |
| Lower Slopes | <i>Amphibromus fluitans</i> | Floating Swamp Wallaby-grass | Vulnerable | Vulnerable | Known | Inland Riverine Forests |
| Lower Slopes | <i>Amphibromus fluitans</i> | Floating Swamp Wallaby-grass | Vulnerable | Vulnerable | Known | Inland Floodplain Shrublands |
| Lower Slopes | <i>Amphibromus fluitans</i> | Floating Swamp Wallaby-grass | Vulnerable | Vulnerable | Known | Inland Floodplain Swamps |
| Lower Slopes | <i>Anseranas semipalmata</i> | Magpie Goose | Vulnerable | | Known | Inland Floodplain Swamps |
| Lower Slopes | <i>Anseranas semipalmata</i> | Magpie Goose | Vulnerable | | Known | Riverine Plain Grasslands |



AHIMS Web Services (AWS) Search Result

Purchase Order/Reference : Culcairn lots

Client Service ID : 382335

NGH Environmental - Wagga Wagga

Date: 13 November 2018

Po Box 470

Bega New South Wales 2550

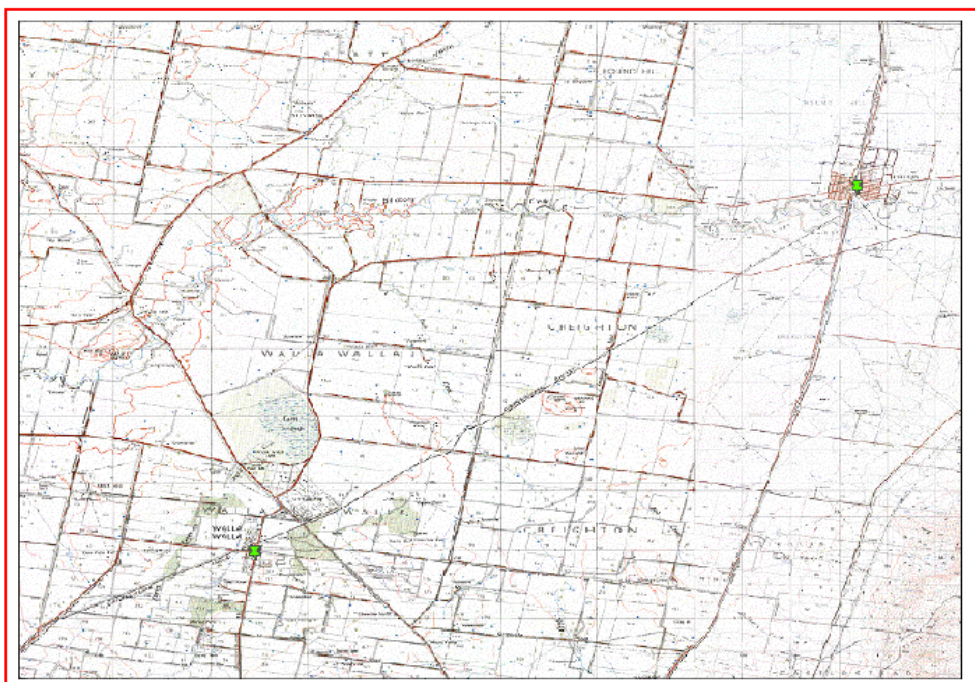
Attention: Jess Murphy

Email: jessica.m@nghenvironmental.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -35.7785, 146.8474 - Lat, Long To : -35.6433, 147.0618 with a Buffer of 50 meters, conducted by Jess Murphy on 13 November 2018.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:


| | |
|----|---|
| 43 | Aboriginal sites are recorded in or near the above location. |
| 0 | Aboriginal places have been declared in or near the above location. * |

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette](http://www.nsw.gov.au/gazette) (<http://www.nsw.gov.au/gazette>) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request


Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

| <div>  <div>Office of Environment & Heritage</div> </div> <div>AHIMS Web Services (AWS)</div> <div>Extensive search - Site list report</div> <div>Your Ref/PO Number : 17-323 Client Service ID : 361593</div> | | | | | | | | | | |
|--|-----------------------|------------------|----------------|---------|----------|-----------|------------|-------------------------------------|----------------|------------|
| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | SiteStatus | SiteFeatures | SiteTypes | Reports |
| 55-6-0003 | Jindera: | AGD | 55 | 489701 | 6021192 | Open site | Valid | Modified Tree (Carved or Scarred) : | Scarred Tree | 276,363 |
| | Contact | Recorders | Permits | | | | | | | |
| 55-6-0004 | Jindera: | AGD | 55 | 492885 | 6022687 | Open site | Valid | Artefact : - | Open Camp Site | 54,276 |
| | Contact | Recorders | Permits | | | | | | | |
| 55-6-0005 | Jindera: | AGD | 55 | 493809 | 6021691 | Open site | Valid | Artefact : - | Open Camp Site | 54 |
| | Contact | Recorders | Permits | | | | | | | |
| 55-6-0041 | ABP/NSW 5 | AGD | 55 | 492840 | 6020080 | Open site | Valid | Artefact : 4 | | |
| | Contact | Recorders | Permits | | | | | | | |
| 55-6-0042 | ABP/NSW 6 | AGD | 55 | 492800 | 6020120 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Permits | | | | | | | |
| 55-6-0098 | Drummond Road Test Ex | GDA | 55 | 490400 | 6021900 | Open site | Valid | Artefact : 10 | | 46,103,621 |
| | Contact | Recorders | Permits | | | | | | | |
| | | | | | | | | | 3918 | |

Report generated by AHIMS Web Service on 02/06/2016 for Amy Ziesing for the following area at Lat, Long From : -35.9626, 146.8851 - Lat, Long To : -35.8642, 146.9355 with a Buffer of 50 meters. Additional Info : To Inform an Aboriginal Cultural Heritage Assessment. Number of Aboriginal sites and Aboriginal objects found is 6
This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.


Page 1 of 1



Australian Government
Department of the Environment and Energy

Heritage

Australian Heritage Database



You are here: [Environment home](#) » [Heritage](#) » [Australian Heritage Database](#)

Search Results

13 results found.

[Billabong Creek \(in part\)](#)

Rand Walbundrie Rd

Walbundrie, NSW, Australia

[\(Indicative Place\)](#)
Register of the National Estate
(Non-statutory archive)

[Holbrook Conservation Area](#)

Albury St

Holbrook, NSW, Australia

[\(Indicative Place\)](#)
Register of the National Estate
(Non-statutory archive)

[Hume Dam and Pondage](#)

Hume Weir, VIC, Australia

[\(Indicative Place\)](#)
Register of the National Estate
(Non-statutory archive)

[Murray Valley Flood Plain \(part\)](#)

Riverina Hwy

Howlong, NSW, Australia

[\(Indicative Place\)](#)
Register of the National Estate
(Non-statutory archive)

[Pioneer Museum](#)

Urana Rd

Jindera, NSW, Australia

[\(Registered\)](#)
Register of the National Estate
(Non-statutory archive)

[Pioneer Museum Group](#)

Urana Rd

Jindera, NSW, Australia

[\(Registered\)](#)
Register of the National Estate
(Non-statutory archive)

[Railway Station Group](#)

Olympic Way

Gerogery, NSW, Australia

[\(Registered\)](#)
Register of the National Estate
(Non-statutory archive)

[School of Arts and War Memorial](#)

Main Street

Brocklesby, NSW, Australia

[\(Registered\)](#)
Register of the National Estate
(Non-statutory archive)

[Tabletop Nature Reserve](#)

Table Top, NSW, Australia

[\(Registered\)](#)
Register of the National Estate
(Non-statutory archive)

[Wagners Store](#)

Urana Rd

Jindera, NSW, Australia

[\(Registered\)](#)
Register of the National Estate
(Non-statutory archive)

[Walbundrie School \(former\)](#)

Walbundrie, NSW, Australia

[\(Indicative Place\)](#)
Register of the National Estate
(Non-statutory archive)

[Woomargama Dora Dora Forest](#)

Woomargama Dora Dora Rd

Holbrook, NSW, Australia

[\(Indicative Place\)](#)
Register of the National Estate
(Non-statutory archive)

[Yarra Yarra Homestead and Outbuildings](#)

Yarra Yarra Rd

Holbrook, NSW, Australia

[\(Registered\)](#)
Register of the National Estate
(Non-statutory archive)

Report Produced: Wed Dec 5 15:41:51 2018

Search for NSW heritage

[Return to search page where you can refine/broaden your search.](#)

Statutory listed items

Information and items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. For clarity, the search results have been divided into three sections.

- **Section 1** - contains Aboriginal Places declared by the **Minister for the Environment** under the National Parks and Wildlife Act. This information is provided by the Heritage Division.
- **Section 2** - contains heritage items listed by the **Heritage Council of NSW** under the NSW Heritage Act. This includes listing on the State Heritage Register, an Interim Heritage Order or protected under section 136 of the NSW Heritage Act. This information is provided by the Heritage Division.
- **Section 3** - contains items listed by **local councils** on Local Environmental Plans under the Environmental Planning and Assessment Act, 1979 and **State government agencies** under s.170 of the Heritage Act. This information is provided by local councils and State government agencies.

Section 1. Aboriginal Places listed under the National Parks and Wildlife Act.

Your search returned 1 record.

| Aboriginal place name ▴ | Local government area | Local Aboriginal Land Council | Latitude | Longitude | Gazettal date and page numbers | Comments |
|------------------------------|-----------------------|-------------------------------|------------|------------|--------------------------------|----------|
| Doodle Comer | Greater Hume | Wagga Wagga | -35.539914 | 147.002628 | 10/14/2016 p. 2769 | |

Section 2. Items listed under the NSW Heritage Act.

Your search returned 4 records.

| Item name ▴ | Address | Suburb | LGA | SHR |
|---|-----------------------|----------|--------------|-------|
| Coppabella Blacksmith Shop, Stables and Burial Plot | | Rosewood | Greater Hume | 00620 |
| Culcairn Railway Station and yard group | Main Southern railway | Culcairn | Greater Hume | 01126 |
| Gerogery Railway Station group | Main Southern railway | Gerogery | Greater Hume | 01148 |
| Henty Railway Station and yard group | Main Southern railway | Henty | Greater Hume | 01169 |

Section 3. Items listed by Local Government and State Agencies.

Your search returned 61 records.

| Item name ▴ | Address | Suburb | LGA | Information source |
|-------------|---------|--------|-----|--------------------|
|-------------|---------|--------|-----|--------------------|

Section 3. Items listed by Local Government and State Agencies.

Your search returned 61 records.

| Item name ^ | Address | Suburb | LGA | Information source |
|--|---|-------------|--------------|--------------------|
| Alma Park / Wallendool School (Former) | | Alma Park | Greater Hume | LGOV |
| Alma Park Lutheran Church | | Alma Park | Greater Hume | LGOV |
| Bakery Shop | 60 Balfour Street | Culcairn | Greater Hume | LGOV |
| Bethanqa Bridge over the Murray River | Riverina Highway (SH 20) | Albury | Greater Hume | SGOV |
| CBC Bank | Albury Street | Holbrook | Greater Hume | LGOV |
| Coffee Palace | Albury Street | Holbrook | Greater Hume | LGOV |
| Cookardinia Hotel | | Cookardinia | Greater Hume | LGOV |
| Cookardinia Memorial Hall | | Cookardinia | Greater Hume | LGOV |
| Courthouse | Albury Street | Holbrook | Greater Hume | LGOV |
| Criterion Hotel (former) | Albury Street | Holbrook | Greater Hume | LGOV |
| Culcairn Conservation Area | Balfour Street | Culcairn | Greater Hume | LGOV |
| Culcairn Court House/ Police Building | Balfour Street | Culcairn | Greater Hume | LGOV |
| Culcairn Hotel | Railway Parade | Culcairn | Greater Hume | LGOV |
| Culcairn Memorial Hall | 25 Balfour Street | Culcairn | Greater Hume | LGOV |
| Culcairn Police Station and Official Residence | 33 Balfour Street | Culcairn | Greater Hume | SGOV |
| Culcairn Railway Conservation Area | | Culcairn | Greater Hume | LGOV |
| Culcairn Railway Precinct | Melville Street | Culcairn | Greater Hume | SGOV |
| Culcairn Railway Precinct | Melville Street | Culcairn | Greater Hume | SGOV |
| Culcairn Street Trees Poplars | Culcairn - Walbundrie and Culcairn - Holbrook Roa | Culcairn | Greater Hume | LGOV |

| | | | | |
|--|------------------|------------------------|--------------|------|
| <u>Doodle Cooma Arms Hotel</u> | Sladen Street | Henty | Greater Hume | LGOV |
| <u>Geroqery Gatekeeper's Residence</u> | Main Street | Geroqery | Greater Hume | SGOV |
| <u>Goodwood Shearing Shed and Piese Dwelling</u> | | (not given) | Greater Hume | LGOV |
| <u>Hand dug brick lined well</u> | Edward Street | Culcairn | Greater Hume | LGOV |
| <u>Henty Central Hotel</u> | Allan Street | Henty | Greater Hume | LGOV |
| <u>Henty Conservation Area</u> | | (not given) | Greater Hume | LGOV |
| <u>Henty Police Station and Official Residence</u> | 41 Sladen Street | Henty | Greater Hume | SGOV |
| <u>Henty Railway Conservation Area</u> | | (not given) | Greater Hume | LGOV |
| <u>Henty Railway Precinct</u> | Railway Parade | Henty | Greater Hume | SGOV |
| <u>Henty Railway Precinct</u> | Railway Parade | Henty | Greater Hume | SGOV |
| <u>Holbrook Conservation Area (1)</u> | | Holbrook | Greater Hume | LGOV |
| <u>Holbrook Conservation Area (2)</u> | | Holbrook | Greater Hume | LGOV |
| <u>Holbrook Courthouse and Residence</u> | Albury Street | Holbrook | Greater Hume | SGOV |
| <u>Holbrook Hotel</u> | Albury Street | Holbrook | Greater Hume | LGOV |
| <u>Holbrook Police Station and Lockup Keeper's Residence</u> | 64 Albury Street | Holbrook | Greater Hume | SGOV |
| <u>Holbrook Stores</u> | | Holbrook | Greater Hume | LGOV |
| <u>Kirbys Bridge over Majors Creek</u> | Riverina Highway | 4.8 km east of Howlong | Greater Hume | SGOV |
| <u>Knox Presbyterian Church</u> | | Holbrook | Greater Hume | LGOV |
| <u>Mackie & Son Stores</u> | Albury Street | Holbrook | Greater Hume | LGOV |
| <u>Morgan's Lookout</u> | | Walla Walla | Greater Hume | LGOV |
| <u>Old School Building</u> | Queen Street | Walbundrie | Greater Hume | LGOV |

| | | | | |
|---|---------------------------|----------------------------|--------------|------|
| Parramatta Archaeological Management Unit 3140 | The Great Western Highway | Mays Hill | Holroyd | LGOV |
| Police Station | Albury Street | Holbrook | Greater Hume | LGOV |
| Presbyterian Church (former) | Hume Street | Holbrook | Greater Hume | LGOV |
| Presbyterian Manse (former) | 40 Allan Street | Henty | Greater Hume | LGOV |
| Residence | 4 Keightley Street | Henty | Greater Hume | LGOV |
| Riverina Hotel | Albury Street | Holbrook | Greater Hume | LGOV |
| Ross Buildings | Albury Street | Holbrook | Greater Hume | LGOV |
| Round Hill Hotel | Brownrigg Street | Morven | Greater Hume | LGOV |
| Scholz's Corner | Balfour Street | Culcairn | Greater Hume | LGOV |
| Shop | Albury Street | Holbrook | Greater Hume | LGOV |
| St. Clare's Convent | Albury Street | Holbrook | Greater Hume | LGOV |
| Ten Mile Creek Bridge | Hume Highway | Holbrook | Greater Hume | SGOV |
| Timber Cottage and Shop | Albury Street | Holbrook | Greater Hume | LGOV |
| Union Bridge over Murray River | Hume Highway (SH 2) | Albury | Greater Hume | SGOV |
| Vokins Creek Bridge | Little Billabong Road | 54.4 km west of Tumbarumba | Greater Hume | SGOV |
| Walbundrie Hotel | Billabong Street | Walbundrie | Greater Hume | LGOV |
| Walla Walla Library Institute and Memorial Halls | Commercial Street | Walla Walla | Greater Hume | LGOV |
| William Bros Saddlery and two storey building at rear | Albury Street | Holbrook | Greater Hume | LGOV |
| Woolpack Inn Museum | Albury Street | Holbrook | Greater Hume | LGOV |
| Wymah Ferry Crossing on the Murray River | Main Road 282 | Wymah | Greater Hume | SGOV |
| Yarra Yarra Homestead | | Holbrook | Greater Hume | LGOV |

There was a total of 66 records matching your search criteria.

Key:

LGA = Local Government Area

GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government, SGOV = State Government Agency.

Note: While the Heritage Division seeks to keep the Inventory up to date, it is reliant on State agencies and local councils to provide their data. Always check with the relevant State agency or local council for the most up-to-date information.

Greater Hume Local Environmental Plan 2012

Current version for 9 November 2018 to date (accessed 5 December 2018 at 16:04)

[Schedule 5](#)

Schedule 5 Environmental heritage

Part 1 Local heritage items

| Locality | Item name | Address | Property description | Significance | Item no |
|-------------|---|--|--|--------------|---------|
| Alma Park | Alma Park Lutheran Cemetery | 5 Alma Park Cemetery Road | Part Lot 90, DP 753760 (within Lot 1, DP 571659) | Local | I1 |
| Alma Park | Alma Park School (demolished) | Walla Park-Alma Park Road | Lot 7004, DP 1024193 | Local | I2 |
| Bowna | The Church of The Pioneers | Bowna Road | Lot 191, DP 617720 | Local | I5 |
| Bowna | Old Bowna Cemetery | 211 "Willow Park", Plunkett Road | Lot 1, DP 910044 | Local | I6 |
| Bowna | "Wollindina" (Federation homestead) | 1976 Wymah Road | Lot 2, DP 527216 | Local | I4 |
| Brocklesby | Church (ruin) | Ellis Street | Lot 1, DP 923072 | Local | I8 |
| Brocklesby | "Brocklesby Park", homestead | 1985 Kywong-Howlong Road | Lot 1, DP 1093990; Lot 65, DP 753724 | Local | I7 |
| Brocklesby | School of Arts and War Memorial Hall | 89 Main Street | Lot 15, DP 4851 | Local | I10 |
| Brocklesby | Post Office and store | 97-99 Main Street | Lot 1, DP 606948 | Local | I9 |
| Brocklesby | "The Olives" (house and barn) | Kenya Road/Brocklesby-Howlong Road | Lot 1, DP 538446 | Local | I11 |
| Bulgandry | "Goodwood", shearing shed and dwelling | 140 Goodwood Fullers Road | Lot 1, DP 559286 | Local | I12 |
| Bungowannah | "Boxwood Park" (homestead and shearing shed) | 149 Boxwood Park Road | Lot 56, DP 753749 | Local | I13 |
| Bungowannah | "Deere Park", homestead | 1315 "Park Hill" Bungowannah Road | Lot 115, DP 753727 | Local | I18 |
| Bungowannah | Methodist Church (later Uniting Church) | 1432 Bungowannah Road | Lot 3, DP 817389 | Local | I21 |
| Bungowannah | Bungowannah General Cemetery | Cemetery Road | Lot 1, DP 668472; Lot 7006, DP 1060550; Lot 7004, DP 1060549 | Local | I15 |
| Bungowannah | "The Cedars" | 116 Chambers Road | Lots 93 and 289, DP 753727 | Local | I24 |
| Bungowannah | Bungowannah Community Hall | Bungowannah Reserve, 168 Chambers Road | Lot 7004, DP 1028256; Lot 279, DP 753727 | Local | I14 |
| Bungowannah | "Hillgrove", homestead | Ferguson Road | Lot 82, DP 753749 | Local | I19 |
| Bungowannah | "Weebo Park" (homestead, garden and outbuildings) | 89 Hovell Road | Lot 49, DP 753749 | Local | I25 |
| Bungowannah | St Mark's Anglican Church | 1 Kensall Green Road | Part Lot 19, DP 753727 | Local | I23 |
| Bungowannah | "Culverley Rise", homestead | 198 Mayfield Road | Lot 7, DP 665615 | Local | I17 |

| | | | | | |
|---------------|--|---|--|-------|-----|
| Bungowannah | Bungowannah School (former) | 119 Methodist Road | Lot 238, DP 753727 | Local | I16 |
| Bungowannah | Proctor's Old Pub (Bromley) | 3134 Riverina Highway | Lot 1, DP 1091520 | Local | I22 |
| Bungowannah | "Mayfield", homestead | 3859 Riverina Highway | Lot 2, DP 1104123 | Local | I20 |
| Burrumbuttock | "Orelida" (homestead and outbuildings) | 623 Burrumbuttock- Brocklesby Road | Lot 49, DP 657589 | Local | I34 |
| Burrumbuttock | Hardwicke Remnant Woodland | 3102 Burrumbuttock- Walbundrie Road | Lot 175, DP 753730 | Local | I31 |
| Burrumbuttock | Burrumbuttock General Cemetery (at Holy Cross Lutheran Church) | Howlong- Burrumbuttock Road | Lot 7300, DP 1142667 | Local | I26 |
| Burrumbuttock | Government dam | Howlong- Burrumbuttock Road | Lot 7006, DP 1052657 | Local | I30 |
| Burrumbuttock | Holy Cross Lutheran Church and Hall | Howlong- Burrumbuttock Road | Lot 158, DP 753730 | Local | I32 |
| Burrumbuttock | "Holyrood" (homestead and outbuildings) | 1726 Howlong- Burrumbuttock Road | Lot 2, DP 854070 | Local | I33 |
| Burrumbuttock | Church (former) | 46 Urana Road | Lot 5, DP 9579 | Local | I29 |
| Burrumbuttock | Burrumbuttock Public Hall | 502 Urana Road | Lot 171, DP 753730 | Local | I28 |
| Burrumbuttock | "Burrumbuttock", homestead | 3102 Urana Road | Lot 175, DP 753730 | Local | I27 |
| Cookardinia | Chalmer's Church | 153 Mahers Lane, off Wagga Wagga Road | Lots 160 and 161, DP 753344 | Local | I35 |
| Cookardinia | Cookardinia General Cemetery | 153 Mahers Road | Lots 1-7, DP 1041131 | Local | I36 |
| Cookardinia | Cookardinia Hotel (ruin) | Morven- Cookardinia Road | Lot 5, DP 753344 | Local | I37 |
| Cookardinia | Cookardinia Memorial Hall | 2164 Holbrook Wagga Road | Lot 96, DP 753344 | Local | I38 |
| Coppabella | Coppabella Blacksmith Shop, stables and family burial plot | Coppabella Station, Coppabella Road | Part Lot 111, DP 748438 | State | I39 |
| Culcairn | Culcairn Court House and police building | Balfour Street | Lot 1, DP 772492 | Local | I41 |
| Culcairn | Scholz's Corner | Balfour Street | Lot 10, DP 2582 | Local | I51 |
| Culcairn | St Paul's Anglican Church Rectory | 9 Balfour Street | Lot 3, Section 13, DP 5886 | Local | I53 |
| Culcairn | St Paul's Anglican Church | 11 Balfour Street | Lots 1 and 2, Section 13, DP 5886 | Local | I52 |
| Culcairn | Memorial Hall and School of Arts | 25 Balfour Street | Lot 1, DP 318245; Lot 1, Section 8, DP 3870 | Local | I48 |
| Culcairn | Post Office | 33 Balfour Street | Lot 21, DP 774721 | Local | I50 |
| Culcairn | London Bank | 39 Balfour Street | Lot 1, Section 2, DP 302424; Lot 1, Section 2, DP 971652 | Local | I46 |
| Culcairn | Papworth's Bakery shop | 66 Balfour Street | Lot 3, DP 667320 | Local | I49 |
| Culcairn | Culcairn General Cemetery | Cemetery Road | Lot 7001, DP 1051423; Lot 7006, DP 1054418 | Local | I42 |
| Culcairn | Street trees | Poplars—Culcairn- Walbundrie Road and Culcairn- Holbrook Road (MR331) and palms in centre of Balfour Street | | Local | I54 |
| Culcairn | Town well | Gordon Street | Lot 1, DP 858931 | Local | I55 |
| Culcairn | John McLean's Grave | Near "Old Round Hill", Holbrook Road | Lot 1, DP 949370 | Local | I45 |

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|---------------|---|---------------------------------------|--|-------|-----|
| Culcairn | Masonic Hall | 32 Kirndeene Street | Lot 12, Section 12, DP 5886 | Local | I47 |
| Culcairn | Culcairn Railway Station and yard group | Main Southern Railway | Lot 1, DP 819838 | State | I44 |
| Culcairn | Billabong Creek Public Swimming Pool | Jubilee Park, Olympic Highway | Lot 41, DP 633394 | Local | I40 |
| Culcairn | Culcairn Hotel | 37 Railway Parade | Lots 11–16, DP 2582 | Local | I43 |
| Gerogery | “Gerogery East” (homestead and shearing shed) | 501 Coach Road | Lot 32, DP 753731 | Local | I58 |
| Gerogery | “Huondale” (formerly “Gerogery”) | 1906 Gerogery Road | Lot 234, DP 753339 | Local | I60 |
| Gerogery | Gerogery Railway Station group | Main Southern Railway | Lots 1 and 2, DP 792545; Lot 5, DP 853332 | State | I61 |
| Gerogery | Gerogery Hotel | Main Street | Lot 1, DP 570215 | Local | I59 |
| Gerogery | Gerogery Commemoration Hall | Station Street | Lot 3, DP 913033 | Local | I57 |
| Gerogery | Anglican Church (former) | West Street | Lots 16 and 17, DP 758435 | Local | I56 |
| Gerogery West | St Peter’s Lutheran Church | 925 Glenellen Road | Part Lot A, DP 915738 | Local | I64 |
| Gerogery West | St Peter’s Lutheran Church Cemetery | 925 Glenellen Road | Part Lot A, DP 915738 | Local | I65 |
| Gerogery West | Gerogery West General Cemetery | Greenwood Road (corner McLeod Street) | Lot 7009, DP 1056013 | Local | I62 |
| Gerogery West | Gerogery West School (former) | 3 Greenwood Road | Lots 198 and 200, DP 753339 | Local | I63 |
| Glenellen | Bethel Trinity Lutheran Church and Cemetery | 595 Bethel Road | Lot B, DP 187900 | Local | I3 |
| Glenellen | Glenellen School (former) | Glenellen Road | Lots 192 and 205, DP 753342 | Local | I67 |
| Glenellen | Big Gum Swamp | Sparkes Road | Lot 168, DP 753342 | Local | I66 |
| Goombargana | Goombargana General Cemetery | Balldale- Walbundrie Road | Lot 7003, DP 1057087; Lots 7300 and 7301, DP 1144089; Lot 1, DP 1144898; Lot 1, DP 1144906 | Local | I68 |
| Henty | Police station | Allan Street | Lot 1, DP 1155039 | Local | I83 |
| Henty | Shop (former) | 2–8 Allan Street | Lot 1, DP 1063795 | Local | I86 |
| Henty | Henty Central Hotel (and stables) | 20 Allan Street | Lots 8 and 9, Section 5, DP 758514 | Local | I76 |
| Henty | Presbyterian Manse (former) | 40 Allan Street | Lot 9, Section 9, DP 758514 | Local | I84 |
| Henty | Catholic convent (former) | 7 Day Street | Lot 2, DP 577991 | Local | I70 |
| Henty | Catholic Presbytery (former) | 13A Day Street (Corner Allan Street) | Lots 9 and 10, Section A, DP 3990 | Local | I71 |
| Henty | Henty General Cemetery | Grubben Road | Lot 7015, DP 1025259; Lot 7304, DP 1140232 | Local | I77 |
| Henty | Government dam | Henty Pleasant Hills Road | Lot 1, DP 1112743 | Local | I74 |
| Henty | Henty Showground, stables and gate | Henty Pleasant Hills Road | Lots 208, 239 and 247, DP 753741 | Local | I79 |
| Henty | Thomas Smyth Memorial | Henty Pleasant Hills Road | | Local | I90 |
| Henty | Methodist Church (later Uniting Church) | Ivor Street | Lots 11 and 12, Section A, DP 5282 | Local | I82 |

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|----------|---|--|---|-------|------|
| Henty | St Barnabas Anglican Church | 36 Ivor Street | Lots 11 and 12, Section 10, DP 758514 | Local | I87 |
| Henty | Masonic Hall | 45 Ivor Street | Lot 17, Section A, DP 5282 | Local | I81 |
| Henty | Brick house | 4 Keightley Street | Lot 13, Section 6, DP 758514 | Local | I69 |
| Henty | Shop (former) | 5 Keightley Street | Lot 5, Section 7, DP 1078460 | Local | I85 |
| Henty | St Patrick's Catholic Church and belfry | Keirath Street | Lot 91, DP 542468 | Local | I88 |
| Henty | Christian Brothers' Monastery (former) | 10 Keirath Street | Lots 13 and 14, Section A, DP 3990; Lot 1, Local DP 1090249 | Local | I72 |
| Henty | Headlie Taylor, header shed and blacksmith shop | Wattlegrove, 99 Kendalls Road | Lot 140, DP 753741 | Local | I75 |
| Henty | St Paul's Lutheran School | 30 Lyne Street | Lot 179, DP 665536 | Local | I89 |
| Henty | Henty Railway Station and yard group | Main Southern Railway | Lot 1, DP 878288 | State | I78 |
| Henty | Horse trough | Henty Bicentennial Park, Railway Parade | Lot 1, DP 878288 (ARTC Lease No 86-1188) | Local | I80 |
| Henty | Doodle Cooma Arms Hotel | 2 Sladen Street | Lot 1, DP 946953 | Local | I73 |
| Holbrook | Police station | 62 Albury Street | Lot 3, Section 2, DP 758522; Lot 12, DP 2325 | Local | I108 |
| Holbrook | Courthouse (former post office) | 64 Albury Street | Lot 3, Section 2, DP 758522 | Local | I94 |
| Holbrook | CBC Bank (former) | 68 Albury Street | Lot 2, DP 560948 | Local | I93 |
| Holbrook | Ross Buildings | 70-74 Albury Street | Lots Z and Y, DP 101975; Lot 32, DP 566695 | Local | I112 |
| Holbrook | Mackie & Son stores | 76 Albury Street (corner Hay Street) | Lot 31, DP 566695 | Local | I104 |
| Holbrook | Gold assay office | 79 Albury Street | Lot 1, DP 997504 | Local | I96 |
| Holbrook | Shop | 81A Albury Street | Lot 12, DP 551397 | Local | I113 |
| Holbrook | Horse and dog trough | 83 Albury Street (footpath in front of Woolpack Inn) | | Local | I101 |
| Holbrook | Woolpack Inn Museum (former Criterion Hotel) | 83 Albury Street | Lot 11, DP 551397; Lot 1, DP 971953 | Local | I125 |
| Holbrook | Knox Presbyterian Church and Hall | 108 Albury Street | Lots 74, 75 and 274, DP 753340 | Local | I102 |
| Holbrook | Presbyterian Church (former) | 108 Albury Street | Part Lot 74, DP 753340 | Local | I109 |
| Holbrook | Timber shop and cottage | 113 Albury Street | Lot F, DP 3633 | Local | I119 |
| Holbrook | Peter Pan Building | 123-129 Albury Street | Lot 2, DP 204191 | Local | I107 |
| Holbrook | Riverina Hotel | 131-133 Albury Street | Lot 3, DP 716164 | Local | I111 |
| Holbrook | Holbrook Hotel | 144 Albury Street | Lot 1, DP 543149 | Local | I98 |
| Holbrook | Our Lady of Sorrows Catholic Church | 145 Albury Street | Lots 1 and 2, Section E, DP 4843; Lot 1, DP 335174 | Local | I106 |
| Holbrook | St Clare's Catholic Convent | 145 Albury Street | Lots 1 and 2, Section E, DP 4843; Lot 1, DP 335174 | Local | I114 |

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|----------|---|--|---|-------|------|
| Holbrook | St Patrick's Catholic School | 145 Albury Street | Lot 1, DP 956575; Lots 7 and 8, DP 4045; Lot 2, DP 500773 | Local | I115 |
| Holbrook | Holbrook Stores | 155 Albury Street | Part Lot 13, DP 827736 | Local | I100 |
| Holbrook | William Bros Saddlery | 155 Albury Street | Part Lot 13, DP 827736 | Local | I124 |
| Holbrook | HMS Otway (submarine display) | 159 Albury Street | Lot 2, DP 831081 | Local | I117 |
| Holbrook | Submarine, scale model | 163 Albury Street | Lot 10, DP 571557 | Local | I118 |
| Holbrook | Holbrook General Cemetery | Bath Street | Lots 7008 and 7009, DP 1025562 | Local | I97 |
| Holbrook | Presbyterian manse (later public hospital) | Bowler Street | Lot 12, DP 1055714 | Local | I110 |
| Holbrook | Log Cabin Scout Hall | 63 Bowler Street | Lot B, DP 441663 | Local | I103 |
| Holbrook | Germanton Courier | 2 Hay Street | Lot 2, DP 212947 | Local | I95 |
| Holbrook | Anglican Rectory (former) | 78 Jingellic Road | Lot 1, DP 995361 | Local | I91 |
| Holbrook | "Annandayle", homestead | 590 Jingellic Road | Lot 4, DP 668631 | Local | I92 |
| Holbrook | Masonic Hall (former) | 19-21 Nyhan Street | Lots 1 and 2, Section 14, DP 758522 | Local | I105 |
| Holbrook | St Paul's Anglican Church | 38 Young Street | Lot 11, DP 736838 | Local | I116 |
| Holbrook | Holbrook Shire Hall | 40 Young Street | Lots 2 and 4, Section 7, DP 738522; Lot 13, DP 736838 | Local | I99 |
| Holbrook | Weatherboard cottage | 55 Young Street | Lot 227, DP 753340 | Local | I120 |
| Holbrook | Weatherboard cottage | 57 Young Street | Lot 228, DP 753340 | Local | I121 |
| Holbrook | Weatherboard cottage | 59 Young Street | Lot 229, DP 753340 | Local | I122 |
| Jindera | St John's Lutheran Church | 148-150 Adams Street (corner Jindera Street) | Lot 1, DP 852943 | Local | I137 |
| Jindera | Police stables | Creek Street | Lot 22, DP 1101212 | Local | I135 |
| Jindera | Jindera General Cemetery | Corner Drumwood Road and Hannah Lane | Lot 7300, DP 1150454 | Local | I131 |
| Jindera | "Drumwood" (homestead and outbuildings) | 234 Drumwood Road | Lot 102, DP 791421 | Local | I128 |
| Jindera | St John's Lutheran Cemetery | 52 Luther Road | Lot 1, DP 515629 | Local | I136 |
| Jindera | Bethlehem Lutheran Cemetery | Pioneer Drive | Lot 1, DP 562571 | Local | I127 |
| Jindera | Elm Park (homestead, garden and outbuildings) | 1633 Urana Road | Lot 143, DP 753345 | Local | I129 |
| Jindera | "Westerndale" | 1787 Urana Road | Lots 1 and 2, DP 1011953 | Local | I139 |
| Jindera | Government dam | Urana Street | Lot 7001, DP 1069408 | Local | I130 |
| Jindera | Blacksmiths shop | Urana Street | Lot 2, DP 850928 | Local | I126 |
| Jindera | Police residence (former) and outbuildings | 79 Urana Street | Lot 21, DP 1101212 | Local | I134 |
| Jindera | Jindera School of Arts | 109 Urana Street | Lot 2, DP 359059; Lot 1, DP 919200; Lot 1, DP 187641; Lot 10, DP 331967 | Local | I132 |

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|----------------|--|---|---|-------|------|
| Jindera | St Paul's Anglican Church | 102–112 Urana Street | Lot 4, Section 10, DP 758544 | Local | I138 |
| Jindera | Pioneer Museum (Wagners Store) and outbuildings | 114–116 Urana Street | Lots 2 and 8–10, Section 10, DP 758544 | Local | I133 |
| Moorwatha | St Mary's Church (ruin) | Howlong- Burrumbuttock Road | Lot 91, DP 753749 | Local | I141 |
| Moorwatha | Moorwatha General Cemetery | 951 Howlong- Burrumbuttock Road | Lots 1 and 2, DP 1124774 | Local | I140 |
| Morebringer | "Burnside" (homestead and outbuildings, pine log barn and dairy) | 1009 Howlong- Balldale Road | Lot 88, DP 753745 | Local | I142 |
| Morven | Morven Hall (ruin) | Brownrigg Street | Lot 5, Section 3, DP 758711 | Local | I144 |
| Morven | Round Hill Hotel and stable (Cobb & Co staging post) | 38–40 Brownrigg Street | Lots 9 and 10, Section 32, DP 758711; Lots 9 and 10, DP 112808 | Local | I143 |
| Morven | Timber Slab Anglican Church | 39 Mate Street | Lot 2, Section 11, DP 758711 | Local | I145 |
| Mountain Creek | "Mountain View" | 1737 Mountain Creek Road | Lot 2, DP 222074 | Local | I146 |
| Mullengandra | Mullengandra General Cemetery | Hume Highway | Lots 7301 and 7302, DP 1159453; Lot 7004, DP 1081896; Lots 10–12, DP 112032 | Local | I147 |
| Mullengandra | "Mullengandra" (homestead and outbuildings) | 329 Mountain Creek Road | Lot 6, DP 602985 | Local | I148 |
| Mullengandra | St Luke's Anglican Church | Shea Road | Lot 1, DP 997081 | Local | I151 |
| Mullengandra | Royal Oak Hotel (former) | 19 Shea Road | Lot 1, DP 770488 | Local | I150 |
| Mullengandra | "Mullengandra" (station and outbuildings) | 35 Sweetwater Road | Lot 20, DP 1132237 | Local | I149 |
| Table Top | "Table Top Station" (homestead and outbuildings) | 115 Burma Road | Lot 3, DP 1070024 | Local | I152 |
| Walbundrie | Walbundrie Hotel | Billabong Street | Lots 3 and 4, Section 3, DP 759034 | Local | I155 |
| Walbundrie | Church of The Good Shepherd, Catholic Church | Corner Billabong Street and Queen Street | Lot 2, Section 14, DP 759034 | Local | I153 |
| Walbundrie | Walbundrie School (former) | Corner Queen Street and Billabong Street | Lot 1, Section 13, DP 759034 | Local | I156 |
| Walbundrie | Walbundrie General Cemetery | Urana Road | Lots 1–6, DP 115149; Lot 7303, DP 1142406 | Local | I154 |
| Walla Walla | German pioneer wagon | Commercial Street | Lot 121, DP 871068 | Local | I158 |
| Walla Walla | Zion Lutheran Church and manse | Commercial Street | Lot 1222, DP 1140009 | Local | I164 |
| Walla Walla | First Lutheran School and cottage | 23 Commercial Street | Lot 1, DP 6587 | Local | I157 |
| Walla Walla | Walla Walla Literary Institute and Memorial Hall | 72 Commercial Street | Lot 2, DP 6177; Lot A, DP 411520 | Local | I163 |
| Walla Walla | St Mary's Catholic Church | 10 Market Street | Lot 26, DP 2551 | Local | I160 |
| Walla Walla | Walla Walla General Cemetery | Walla Cemetery Road | Lot 2, DP 344975 | Local | I161 |
| Walla Walla | "Walla Walla" homestead | 28 Walla Road (corner Culcairn-Walbundrie Road) | Lot 104, DP 753764 | Local | I162 |


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|-------------|---|-----------------------------------|--|-------|------|
| Walla Walla | Morgan's Lookout | Walla Walla Road | Lot 104, DP 753764 | Local | I159 |
| Wantagong | Yarra Yarra Cemetery | 633 Yarra Yarra Road | Part Lots 5 and 10, DP 23436 | Local | I173 |
| Wantagong | "Yarra Yarra" (homestead and outbuildings) | 633 Yarra Yarra Road | Part Lots 5 and 10, DP 23436 | Local | I174 |
| Woomargama | St Mark's Anglican Church | 2–4 Hay Street | Lots 1 and 2, Section 5, DP 759118 | Local | I165 |
| Woomargama | Woomargama General Cemetery and town common | Hume Highway | Lot 7006, DP 1027381 | Local | I166 |
| Woomargama | Woomargama Hotel | Hume Highway | Lot 2, DP 1080671; Lot 3, Section 2, DP 759118 | Local | I167 |
| Woomargama | Woomargama Public School (former) | Melbourne Street | Lot 2, Section 7, DP 759118 | Local | I168 |
| Wymah | Isolated grave | "Warragai", 1949 Bowna-Wymah Road | Lot 1, DP 527212 | Local | I169 |
| Wymah | Wymah Cemetery | "Warragai", 1949 Bowna-Wymah Road | Lot 7007, DP 1023686 | Local | I170 |
| Wymah | Wymah Ferry | Wymah Ferry Road, Murray River | | Local | I171 |
| Wymah | Wymah Public School (former) | 2444 Wymah Road | Lot 209, DP 47547 | Local | I172 |

Part 2 Heritage conservation areas

| Name of Heritage Conservation Area | Identification of Heritage Map | Significance |
|------------------------------------|--|--------------|
| Nil | | |

Part 3 Archaeological sites

| Locality | Item name | Address | Property description | Significance | Item No |
|------------|-----------------------------|-----------------------------------|----------------------|--------------|---------|
| Brocklesby | Brocklesby General Cemetery | Balldale Road | Lot 209, DP 753724 | Local | A1 |
| Bulgandry | Gold mines | 207 Fullers Road | Lot 2, DP 789670 | Local | A2 |
| Jindera | Hawthorn Cottage (ruin) | Hawthorn Road (corner Urana Road) | Lot 12, DP 791220 | Local | A3 |



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Contaminated land

- + Management of contaminated land
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- NEPM amendment
- + Further guidance
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 - About the record
 - Search the record
 - Search tips
 - Disclaimer
- List of NSW contaminated sites notified to EPA
- Frequently asked questions
- Forms
- + Other contamination issues
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Search results

Your search for: LGA: Greater Hume Shire Council

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the [planning process](#).

More information about particular sites may be available from:

- The [POEO public register](#)
- The appropriate planning authority; for example, on a planning certificate issued by the local council under [section 149 of the Environmental Planning and Assessment Act](#).

See [What's in the record and What's not in the record](#).

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed. This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the [POEO public register](#).

[Search Again](#)
[Refine Search](#)

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

[... more search tips](#)

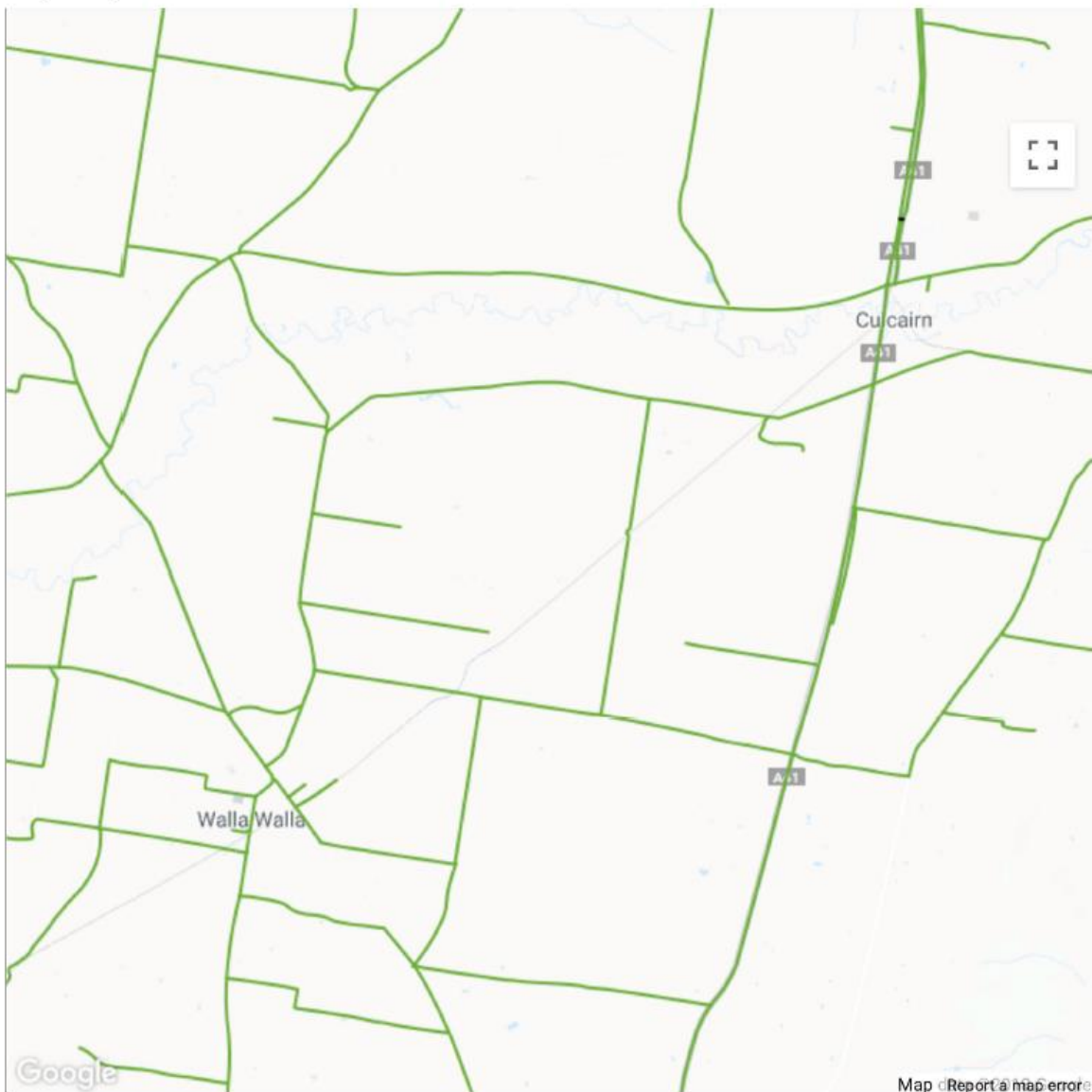
5 December 2018

NSW Combined Higher Mass Limits (HML) and Restricted Access Vehicle (RAV) Map

Map last updated: 14/11/2018



Transport
Roads & Maritime
Services



Legend

GML and CML networks

- | | | |
|---|--|---|
| 19m B-double Routes (over 50 tonnes) | Approved Routes With Travel Conditions | Exception Routes (not approved) |
| Approved Areas | Approved Areas with Travel Conditions | Restricted Structures - Bridges |
| Restricted Structures with Conditional Access - Bridges | Restricted Structures - Intersections | Restricted Structures - Intersections with Conditional Access |
| Low Clearance Bridge (< 4.3m) - Through Traffic on Bridge | Low Clearance Bridge (< 4.3m) - Through Traffic under Bridge | |

Network Disclaimer

The networks are available for short combinations (up to 19 metres long) and B-doubles that comply with the requirements contained in the Heavy Vehicle National Law (HVNL); the [National Class 2 Heavy Vehicle B-double Authorisation \(Notice\)](#) and the [adjoining NSW Schedule](#) and for Higher Mass Limits (HML) the [New South Wales Higher Mass Limits Declaration 2015](#). These networks are based on a maximum vehicle width of 2.5 metres and are subject to sign-posted restrictions.

Provide feedback

[Contact Roads and Maritime Services](#) | Phone: 131 782

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<http://www.lpi.nsw.gov.au>

DISCLAIMER ACCEPTED

APPENDIX C AGENCY CONSULTATION



Planning &
Environment

16 November 2018

Sarah Hillis
Senior Environmental Consultant
NGH Environmental
PO Box 5464
Wagga Wagga NSW 2650

Emailed: sarah.h@nghenviromental.com.au

Dear Ms Hillis,

**Culcairn Solar Farm Project – NGH Environmental
Pre-Secretary's Environmental Assessment Requirements**

I refer to your email dated 7 November 2018 inviting NSW Department of Planning & Environment – Division of Resources & Geoscience to provide comments on the Culcairn Solar Farm Project proposal.

The Division appreciates the opportunity for early consultation on this State Significant Development proposal for a large scale solar farm in the Greater Hume LGA. The Division provides project specific requirements to supplement the Secretary's Environmental Assessment Requirements (SEARs), issued by Department of Planning and Environment – Planning Services, for the preparation of Environmental Impact Statements (EIS) accompanying State Significant Development applications for renewable energy proposals.

Resources specific SEARs for renewable energy projects require an assessment of the impact of the development on existing land uses, including the compatibility of the development with the existing land uses on the site and adjacent land (e.g. operating mines, extractive industries, mineral or petroleum resources, exploration activities), during operation and after decommissioning.

This requires the proponent to identify any of the above in the EIS and consult with the operators and or titleholders to establish if the proposal is likely to have a significant impact on current or future extraction of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and any way the proposed development may be incompatible with any existing or approved uses, or current or future extraction or recovery under the land use compatibility requirements of Part 3 (13) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

In fulfilling these requirements, a search of current mineral, coal and petroleum titles must be undertaken through the Division's MinView application, with the results shown on a map, in drafting of the EIS. Additionally, the EIS must identify whether there are adjacent mines or quarries for land use compatibility considerations.

NSW Department of Planning and Environment
DIVISION of RESOURCES & GEOSCIENCE
PO Box 344 Hunter Region Mail Centre NSW 2310
Tel: 02 4063 6500 Fax: 02 4931 6726
ABN 38 755 709 681

Current mining, and exploration titles and applications can be viewed at:
<https://resourcesandgeoscience.nsw.gov.au/miners-and-explorers/geoscience-information/services/online-services/minview>

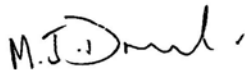
According to current departmental databases, the Division has identified that there are no current mineral, coal or petroleum titles over the site or adjacent lands.

The Division has identified that the 'Hurricane Hill' hard rock quarry operated by Boral Resources Pty Ltd is located approximately <1.5km to the southeast of the project site (refer to Figure 1). Consideration should be given to the impacts the project may have on the quarry's operations. The Division recommends consultation with Boral during the preparation the EIS.

Queries regarding the above information, and future requests for advice in relation to this matter, should be directed to the Division of Resources & Geoscience - Land Use team at landuse.minerals@geoscience.nsw.gov.au.

Yours sincerely

Malcolm Drummond
Senior Geoscientist – Land Use

A handwritten signature in black ink, appearing to read 'M. J. Drummond', with a stylized flourish at the end.

for Paul Dale
Director – Land Use & Titles Advice

Figure 1: Culcairn Solar Farm Proposal

