OVERLAND
SUN FARMING

Volume 1

Main Report
and Appendices A to C

Limondale Sun Farm
Environmental Impact Statement

Prepared for Overland Sun Farming Pty Ltd
April 2017

Volume 1

Main Report

Appendices A to C

Appendix A	Secretary's Environmental Assessment Requirements
Appendix B	Landholder's consent
Appendix C	Consultation material

Certification

For submission of an environmental impact statement (EIS) under Part 4, Division 4.1 of the NSW Environmental Planning and Assessment Act 1979

EIS prepared by

David Richards

Bachelor of Environmental Science and Management

EMM Consulting Pty Limited

Ground Floor, Suite 01

20 Chandos Street

St Leonards NSW 2065

PO Box 21

St Leonards NSW 1590

Kate Cox

Bachelor of Science

Duncan Peake

Bachelor of Science (Hons), Applied Economic Geography

Applicant

Overland Sun Farming Pty Ltd

PO Box 589 Burwood Vic 3125

Level 1, 23 Milton Pde Malvern Vic 3144

Proposed development

Limondale Sun Farm

Refer to Chapter 3 of this EIS for a description of the proposed development

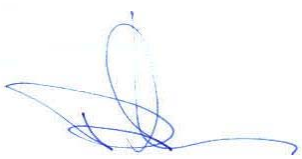
Land to be developed

Land to the west of Yanga Way, approx 14km south of the town of Balranald, described as:

Deposited plan (DP)	Lot number
751179	4, 12, 13, 15, 21 and 71
751173	11 and 12
1017111	2
1190069	1 and 2
1158277	7306
1158277	7307

Certification

We certify that we have prepared this EIS in accordance with the Schedule 2 of the Environmental Planning and Assessment Regulation 2000 and Secretary's environmental assessment requirements issued for the Limondale Sun Farm on 4 November 2016. To the best of our knowledge, it contains all available information that is relevant to the environmental assessment of the development to which the statement relates. The information contained in this EIS is neither false nor misleading.



David Richards
10 April 2017

Kate Cox
10 April 2017

Duncan Peake
10 April 2017

Limondale Sun Farm Environmental Impact Statement

Report J16155RP1 | Prepared for Overland Sun Farming | 10 April 2017

Prepared by	**David Richards**	**Kate Cox**	**Approved by**	**Duncan Peake**
Position	Environmental Scientist	Associate Environmental Scientist	**Position**	Director
Signature			**Signature**	
Date	10 April 2017	10 April 2017	**Date**	10 April 2017

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

Document Control

Version	Date	Prepared by	Reviewed by
V1	27 March 2017	D. Richards K. Cox	D. Peake
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Approved by Overland Sun Farming Pty Ltd

Approved by	Brett Thomas
Position	CEO & Managing Director
Signature	
Date	11 April 2017

T +61 (0)2 9493 9500 | F +61 (0)2 9493 9599

Ground Floor | Suite 01 | 20 Chandos Street | St Leonards | New South Wales | 2065 | Australia

www.emmconsulting.com.au

Executive Summary

ES1 Project overview

OVERLAND Sun Farming Pty Ltd (OVERLAND) proposes to develop the Limondale Sun Farm, a large-scale solar photovoltaic (PV) generation facility and associated infrastructure in south-western NSW (the project). The project will have an estimated nominal capacity in the order of 250 megawatts (MW) and once operational will provide enough electricity to power up to 100,000 homes each year (AEMC 2016).

The project is State significant development (SSD) which requires development consent under Part 4, Division 4.1 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) from the Minister for Planning, or his delegate. This environmental impact statement (EIS) accompanies a development application (DA) for the project.

OVERLAND proposes to develop the project on a site within the Balranald Shire local government area (LGA), approximately 14 kilometres (km) south of the township of Balranald. The site encompasses an area of approximately 2,049 hectares (ha), of which 1,103 ha will be developed. The site has been highly modified by previous and current land uses, including land clearing, cropping, and livestock grazing. The development footprint (1,103 ha) within the site boundary has been refined through the project design process to site project infrastructure to avoid environmental constraints as much as possible.

The project will connect to the Transgrid 220 kilovolt (kV) electricity distribution network that originates at the Balranald Substation. The site is in close proximity to the Balranald Substation, and there is a range of connection infrastructure in the vicinity, most notably Transgrid's 220 kV transmission line, which traverses the site. The project will use the existing cleared easement for the Transgrid 220 kV transmission line to connect to the Balranald Substation.

ES2 Project need

Under the guidance of the NSW Renewable Energy Action Plan (REAP), renewable energy is predicted to grow and make important contributions to the NSW economy. An important benefit of the project is its contribution to cleaner electricity generation in Australia and subsequent reductions in greenhouse gas emissions. The project is consistent with the objectives of the REAP. It will also contribute to achieving the Commonwealth Government's National Renewable Energy Target, which specifies targets for energy generated by renewable sources by 2020 (DoI-DRE 2016a).

The project will also contribute to continued growth in the total installed capacity of solar PV in both NSW and Australia. The NSW Department of Industry – Division of Resources and Energy (DoI-DRE) has identified potential for large-scale solar energy developments in the central, northern and western regions of NSW (NSW DoI-DRE 2016d). DoI-DRE (2016d) identifies ideal characteristics for large-scale solar energy as: low population densities; large, flat open spaces; and high average global solar exposure. The development footprint for the project is characterised by all of these features, which will allow the project to maximise the efficiency of electricity production, while minimising and avoiding disturbance of identified environmental constraints.

The project will also support two of the NSW Premier's priorities, namely creating jobs and building infrastructure (Department of Premier and Cabinet 2017). The project will create employment opportunities within the local region, including an average of 90 full-time equivalents (FTEs) during construction and four to seven FTEs during the operational stage of the project.

ES3 Site selection

Overland identified the site as a potential solar development in 2015 and was the first developer in the area to secure land with local landowners; selecting land adjacent to the existing Balranald substation to minimise environmental impacts and maximise the efficiency of existing easements and infrastructure. The site location, capacity of the project, design and layout of infrastructure and connection to the electricity grid have been selected through consideration of key factors including:

- availability of high solar radiation;
- proximity to, and capacity of the electricity grid. Transgrid has confirmed that the project can the existing Transgrid transmission line easement to avoid vegetation removal within the TSR and minimise impacts to land within the TSR;
- the development footprint is predominantly cleared of native vegetation and requires limited site preparation and civil works. The proximity of the regional road network enables delivery of the infrastructure required for the project; and
- placement of infrastructure to minimise land use conflicts with the landholder and other projects.

ES4 Environmental assessment

ES4.1 Biodiversity

A biodiversity assessment report has been completed in accordance with the NSW *Biodiversity Offsets Policy for Major Projects* (OEH 2014a) and the *Framework for Biodiversity Assessment* (FBA) (OEH 2014b).

Measures to avoid and minimise impacts to vegetation were considered during the design and planning stage of the project, with the objective of significantly minimising impacts on native vegetation. This included the fundamental site selection adjacent to the Transgrid substation, thereby avoiding impacts on vegetation and heritage within the TSR. The impact of the project will be limited to removal of 5.32 ha of native vegetation. A number of scattered trees will also be removed, none of which are likely to provide key habitat for any listed threatened species.

Residual impacts to native vegetation will require retirement of 158 biodiversity credits. Impacts will be offset in accordance with a biodiversity offset strategy and processes outlined in the relevant government policies (OEH 2014a and OEH 2014b).

ES4.2 Aboriginal heritage

An Aboriginal cultural heritage assessment report (ACHAR) assessed the Aboriginal cultural heritage values of the site through field survey and consultation with registered Aboriginal parties identified during the consultation process. The field survey identified 11 previously unrecorded Aboriginal sites within the site boundary, and five AHIMS sites within and near the site boundary.

The project design has avoided impacts to eight of the 11 newly identified Aboriginal sites, and three of the five AHIMS sites. A total of five sites will be impacted; of these, two are of low scientific significance and three are of moderate scientific significance. A combination of archaeological salvage (three sites) and subsurface investigation (two sites) is proposed prior to disturbance.

ES4.3 Historic heritage

A desktop assessment of the potential impact of the project on historic heritage was completed. The project will not impact any items of local, State, National or World heritage significance identified on the State Heritage Register, Balranald Local Environmental Plan 2010 or Australian Heritage Database.

During an archaeological field survey as part of the ACHAR, the ruins of a house were identified within the site boundary. The house is not listed on any heritage register or database. The ruins will be not be impacted by the project. The ruins have been excluded from the development footprint and a buffer of at least 20 m will be maintained around the ruins for the life of the project.

ES4.4 Land

The project has been developed to avoid and minimise land disturbance and overall impacts on agricultural land where possible. The land and soil capability (LSC) classes within the development footprint are mapped as approximately 1,072 ha of Class 6 land (very severe limitations), and 31 ha of Class 4 land (moderate to severe limitations). The development footprint will be removed from agricultural production for the life of the project (in the order of 30 years). Soil resources will be managed with consideration of the future viability of the site for agricultural production. Land management protocols and measures will be incorporated into an environmental management plan (EMP) that will be implemented to mitigate the potential impacts of the project on soil resources and land use.

One mineral tenement encompasses a portion of the site; an EL issued under the NSW *Mining Act 1992* (EL7626) held by Iluka Resources Limited. The project will not sterilise extractable resources in EL7626. Exploration activities will be able to continue within areas of EL7626 that are outside the site boundary.

The site's eastern boundary is adjacent to a parcel of Crown land approximately 1.5 km wide, which forms part of a travelling stock reserve (TSR) that extends to the north and south. The site access road and transmission line corridor for the project traverse the TSR. The project will result in the disturbance of a total area of approximately 2.8 ha of Crown land. The project will not adversely impact the ongoing management and operation of this Crown land or the TSR in its entirety.

ES4.5 Visual

A visual impact assessment was conducted from a number of representative viewpoints surrounding the site. Representative views close to private residential properties and road corridors (ie Yanga Way and Windomal Road) nearest to the site were assessed.

The project design, development footprint and placement of infrastructure have minimised, and in some cases, avoided visual impacts. Due to existing mature vegetation, undulation in the landscape, and the relatively low height of the dominant project infrastructure, the project's infrastructure will be relatively shielded from view at the majority of the viewpoints assessed as part of the visual impact assessment. Of the viewpoints assessed, infrastructure may be visible from some locations on Yanga Way and Windomal Road. The distance of the development footprint from these viewpoints ranges from 0.9 km to 5.3 km. Based on the presence of vegetation and topography, combined with the relatively low height of the project's infrastructure and distance, visual impacts will be minimal.

Based on the findings of previous assessments prepared for PV solar energy facilities, glint and glare from the project's PV solar panels are not expected to significantly impact sensitive receptors, surrounding land uses, motorists or air traffic in the vicinity of the site.

ES4.6 Noise and vibration

A noise and vibration impact assessment for the project predicted that potential construction and operation noise levels will be below relevant criteria at all assessment locations (namely the six sensitive receptors that were identified within a radius of approximately 6 km from the site boundary). Road traffic noise levels inclusive of project-related traffic are predicted to achieve the relevant noise goals at the nearest sensitive receptors to the site boundary.

Vibration associated with the proposed construction works is unlikely to generate impacts at the nearest vibration-sensitive receivers. Additional noise management and mitigation measures are not predicted to be required to achieve the relevant operational or construction noise criteria.

ES4.7 Traffic and transport

A traffic impact assessment predicted that the project will not adversely impact on the surrounding road network. Additional traffic generated by the project will not cause the future daily traffic volumes on the Sturt Highway, Yanga Way or Stony Crossing Road, to exceed the relevant design standards that would necessitate road widening improvements.

A new intersection is proposed for site access, approximately 150 m south of the existing intersection between Yanga Way and Balranald Road. The new intersection design will be developed in consultation with NSW Roads and Maritime Services. Right and left turn sealed shoulder widening is proposed for both the northbound and the southbound traffic approaches on Yanga Way.

Internal site roads and car parking will be constructed to serve the project's access and car parking needs during construction and operation.

ES4.8 Water

An assessment of the potential impacts of the project on flooding, groundwater and surface water resources was completed.

Flooding was a consideration in the site selection and project design process. Available flood mapping indicates the site is not subject to inundation from a 100 year average recurrence interval flood event. The infrastructure to be established within the development footprint is unlikely to have a significant impact on local or regional flooding, as it will not require significant earthworks or changes to the general topography of the site. Therefore, existing flow paths are expected to be maintained.

The project is not likely to impact groundwater during construction, operation and decommissioning due to the estimated depth to groundwater within the site boundary and the limited amount of subsurface disturbance activities required during the installation and decommissioning of project infrastructure. The project will not require access to groundwater resources and will not impact licensed water users within the vicinity of the site.

At its closest point, the site is approximately 6.5 km south-east of the Murrumbidgee River point and approximately 12 km north-east of the Wakool River, respectively. At these distances, the project will have negligible impacts on these surface water resources.

An erosion and sediment control plan will be prepared in consultation with Balranald Shire Council and will be implemented during the life of the project to minimise potential impacts to water resources.

ES4.9 Hazards

All project infrastructure will be designed in accordance with relevant industry standards. Once operational, the project infrastructure will be capable of generating electric and magnetic fields (EMFs). The degree of exposure to EMFs within the site boundary will vary depending on proximity to different components of the project infrastructure. Staff exposure during both the construction and operational stage of the project will be intermittent.

During the operational stage of the project, exposure to EMFs will be limited to exposure encountered during ongoing maintenance of the site and project infrastructure. The combination of low exposure rates and the intermittent exposure of staff to elements of the project infrastructure capable of generating EMFs indicate that adverse impacts from EMFs are unlikely as a result of the project.

Public access to the site will be restricted throughout the life of the project and surrounding landholders accessing the site or persons accessing the adjacent TSR will not be exposed to EMFs generated by the project infrastructure for extended periods of time.

Bushfire risks associated with the project have been assessed in accordance with *Planning for Bushfire Protection* (PBP) (RFS 2006). Measures to enable the project to comply with the objectives of PBP have been described within this EIS. Specifically, asset protection zones will be provided and managed to enable fire fighting vehicle access and to distance vulnerable structures from vegetation which represents a fire hazard. The risk of the project initiating a bushfire will be minimised through the implementation of appropriate management measures throughout the life of the project.

ES4.10 Air quality

Emissions to the atmosphere from the project during construction will be temporary in nature and will be restricted to dust caused by soil and surface disturbances and vehicle, plant and equipment exhaust emissions.

Ongoing maintenance of the site and project infrastructure will be required during operation. Maintenance activities will result in minor, localised vehicle emissions, and generation of dust from vehicles travelling along internal, unsealed access roads.

The implementation of the recommended mitigation measures will minimise air quality impacts during construction, operation or decommissioning.

ES4.11 Socio-economic

Based on the results of stakeholder engagement, there is a positive attitude and general community support for the project. The project will make important contributions to the production of renewable energy in NSW while creating employment opportunities, diversifying local revenue streams and generating direct and indirect benefits to the local economy throughout the life of the project.

Through the provision of additional economic stimulus, employment opportunities and investment in community infrastructure and services, the net community benefit of the project is considered to be positive. The implementation of the proposed management measures will mitigate potential adverse impacts from the project, such as impacts to the availability of local short-term accommodation during defined periods, such as during any of the region's major festivals and annual events.

ES4.12 Cumulative impacts

Cumulative impacts have been considered for the project in relation to the proposed Sunraysia Solar Farm adjacent to the site's southern boundary, goFARM Australia Pty Ltd who has agricultural operations north of the site, and the approved (but not constructed) Balranald Mineral Sands Mine (approximately 26 km north of the project).

There are no significant cumulative impacts expected, however the implementation of the management and mitigation measures described in this EIS will reduce the potential for cumulative impacts to be encountered during the concurrent construction and operation of the project and other operations.

ES4.13 Justification and conclusion

OVERLAND has leveraged off its experience leading benchmark renewable energy and infrastructure projects to implement a robust site selection and design process to minimise potential impacts from the project.

There is a sound justification for the project, founded on the following:

- The site is suitably located:
  - in a region with ideal climatic conditions for large scale solar energy generation, with ideal physical conditions;
  - within 500 m of infrastructure with adequate capacity to receive the energy proposed to be generated; and
  - proximate to land uses compatible with large scale solar energy generation at a capacity which matches the availability of the network.
- The project will not result in significant biophysical, social or economic impacts, and the project design has actively sought to avoid and minimise impacts, in particular to biodiversity, heritage, land use and visual amenity, through the siting and design of project infrastructure.
- The project will generate direct and indirect economic benefits, through the creation of employment opportunities and benefits to the local economy through income and expenditure during the life of the project.
- The production of renewable energy directly aligns with the objectives of the State's renewable energy targets and the objectives of the NSW Government's REAP, and will contribute to increased energy security through valuable contributions to a more diverse energy mix.

A suite of design, mitigation and management measures are proposed in this EIS to avoid, minimise and manage potential impacts of the project. The project satisfies the principles of ecologically sustainable development and will enable the orderly and logical use of natural, physical and human resources existing in the area and region. There will be economic investment and employment benefits for the local region and a realised opportunity for renewable energy generation, while minimising potential impacts.

The overall benefits of the project are considered to be in the public interest.

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1 Introduction

1.1 Project overview

OVERLAND Sun Farming Pty Ltd (OVERLAND) proposes to develop the Limondale Sun Farm, a large-scale solar photovoltaic (PV) generation facility and associated infrastructure in south-western NSW (Figure 1.1) (the project). OVERLAND proposes to develop the project on a site within the Balranald Shire local government area (LGA), approximately 14 kilometres (km) south of the township of Balranald.

The project is a State significant development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP). A development application (DA) for the project is required to be submitted under Part 4, Division 4.1 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The NSW Minister for Planning, or the Minister's delegate, is the consent authority.

The project is intended to provide benefits including:

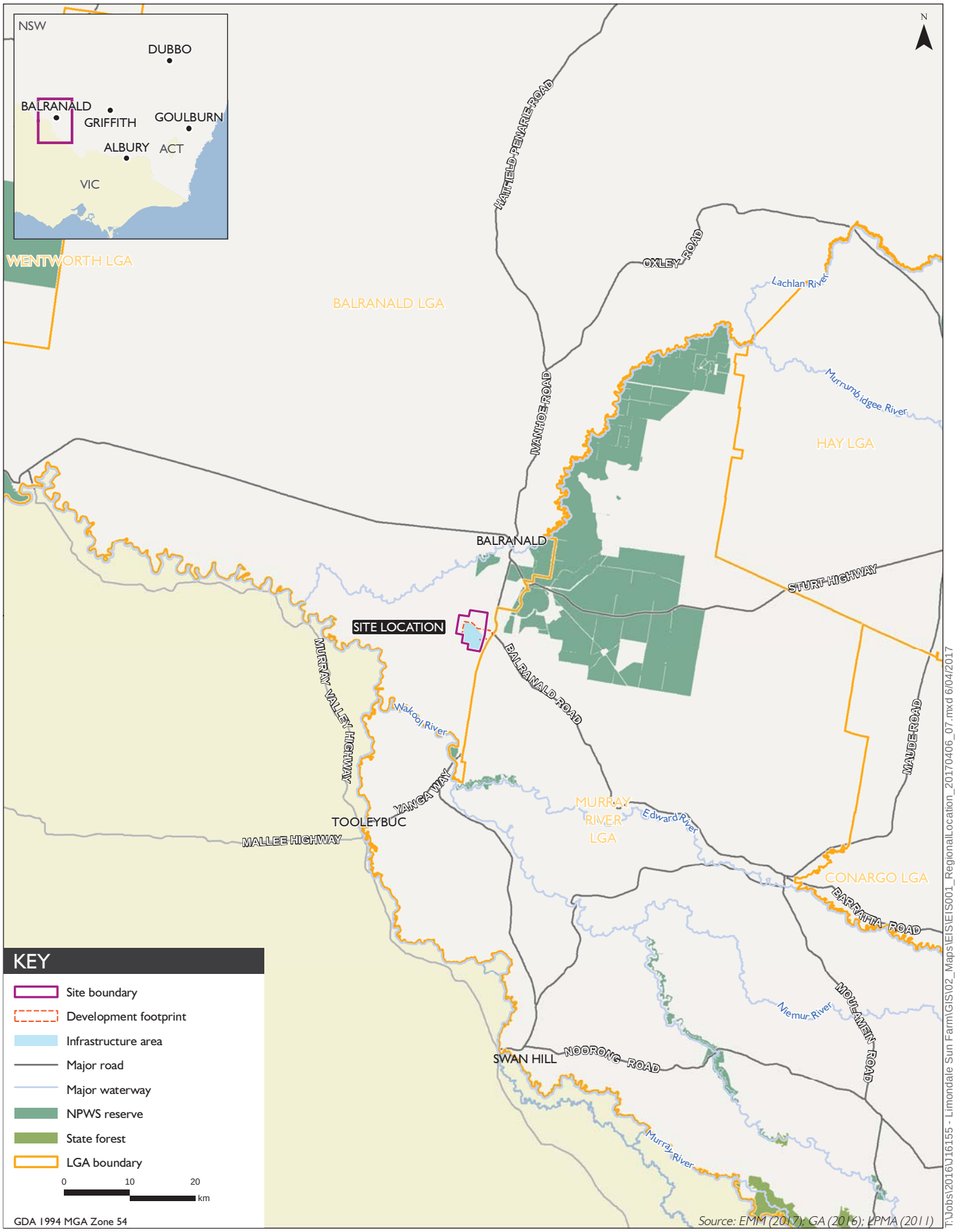
- production of renewable energy, directly contributing to the State's renewable energy targets and the objectives of the NSW Government's Renewable Energy Action Plan (REAP);
- creation of employment opportunities, including an average of 90 full-time equivalents (FTEs) during construction and up to seven FTEs during the operational stage of the project;
- direct and indirect benefits to the local economy during the life of the project;
- diversification of local revenue streams; and
- increased energy security through valuable contributions to a more diverse energy mix.

The project is consistent with the objectives of the NSW Government's REAP and will contribute to achieving the Commonwealth Government's National Renewable Energy Target of 33,000 gigawatt hours (GWh) of energy generated by renewable sources by 2020 (DoI-DRE 2016a). Further discussion of the Commonwealth and NSW Government policy framework is provided as part of the strategic justification of the project in Section 1.3 and the conclusion and justification in Chapter 8.

1.2 The applicant

OVERLAND is the applicant for the project. OVERLAND is an Australian-owned and operated business engaged in the development of a portfolio of solar energy sun farms on land across regional Australia. Guided by direct experience in the development and commercial delivery of large-scale renewable projects, OVERLAND works closely with landowners, electricity supply companies, councils and governments to develop solar energy sun farms that bring both environmental and economic benefits to regional Australia consistent with the goals and objectives of both the Commonwealth and NSW governments.

OVERLAND's personnel have successfully led benchmark renewable energy and infrastructure projects from start to finish and have a sound record that traverses early stage site identification, working with landowners and communities, obtaining consents and licences from government to build and operate, securing energy and grid connection contracts, arranging financing and managing construction and ongoing operations and power generation.



Regional project location

Limondale Sun Farm

Environmental impact statement

Figure 1.1

EMM

This experience includes responsibility for the development, financing, construction and operation of over 320 megawatt (MW) of renewable energy generation projects including the delivery of approximately 50 MW of renewable energy generation in NSW. During 2016, OVERLAND led the development and financing of two 20 MW solar PV plants in Queensland and recently announced the construction of a further 320 MW of large-scale solar PV projects in north-western Victoria. OVERLAND continues to progress these projects and has worked with landholders and local governments to secure land and electrical grid connections, with construction due to commence in 2017.

1.3 Strategic justification

Under the guidance of the NSW REAP, renewable energy is predicted to grow and make important contributions to the NSW economy. In 2015, approximately 14% of the state's energy came from renewable sources (DoI-DRE 2016b). In the same year, more than 3% of the total electricity generated in NSW was from solar PV systems, which include both residential-scale PV solar (less than 10 kW capacity) and commercial-scale PV solar (greater than 10 kW capacity) systems (DoI-DRE 2016d).

Many of the state's large-scale renewable energy projects are in regional areas. At present, operational large-scale PV solar developments in NSW include: the Broken Hill Solar Plant, the Moree Solar Farm and the Nyngan Solar Plant, which produce a combined capacity of more than 200 MW (DoI-DRE 2016c). Such projects are recognised by the NSW Department of Industry – Division of Resources and Energy (DoI-DRE) as providing ongoing economic benefits through both the diversification of regional income streams and provision of employment opportunities in regional NSW (DoI-DRE 2016a).

The Clean Energy Council's *Clean Energy Australia Annual Report* (Clean Energy Council 2016) noted that at the end of 2015there were 17 operational PV solar projects with a capacity greater than 1 MW in Australia, with the three largest PV solar projects located in NSW. In 2015, the cumulative installed capacity of solar PV in NSW was approximately 0.97 GW (Clean Energy Council 2016). When compared to 2014 statistics, this capacity reflects an increase of more than 23%. Similarly, the average size of solar PV systems in NSW continues to grow. However, substantial growth and continued investment in large-scale PV solar developments in NSW is required to achieve the State and Commonwealth Government's renewable energy targets. The Limondale Sun Farm will make important contributions to these targets and contribute to continued growth in the installed capacity of solar PV in NSW and Australia.

An important beneficial corollary of the project is its contribution to cleaner electricity generation in Australia and subsequent reductions in greenhouse gas emissions. On 10 November 2016, Australia ratified the Paris Agreement and the Doha Amendment to the Kyoto Protocol reinforcing its commitment to action on climate change and further reductions to greenhouse gas emissions. The Paris Agreement builds upon the United Nations Framework Convention on Climate Change and aims to strengthen the global response to the threat of climate change. Under the Paris Agreement, Australia has committed to reduce its emissions by 26–28% below 2005 levels by 2030 (DoEE 2016a). This emissions reduction target builds upon the country's 2020 target of reducing emissions by 5% below 2000 levels (DoEE 2016a). The target represents a 50–52% reduction in emissions per capita and a 64–65% reduction in the emissions intensity of the Australian economy between 2005 and 2030 (DoEE 2016a). In addition to the ratification of the Paris Agreement, the Commonwealth Government has demonstrated its ongoing commitment to greenhouse gas emission reductions through the implementation of a suite of national policies. These policies are already contributing to emissions reductions and encouraging both technological innovation and further expansions to the country's clean energy sector.

The project, in conjunction with similar large-scale investments in renewable energy, will also support two of the NSW Premier's priorities, namely creating jobs and building infrastructure (Department of Premier and Cabinet 2017). As noted in Section 1.1, the project will create employment opportunities within the Balranald Shire LGA, including an average of 90 FTEs during construction and four to seven FTEs during the operational stage of the project. The project will have an estimated nominal capacity in the order of 250 MW and once operational will provide enough electricity to power up to 100,000 homes each year (AEMC 2016). The electricity and associated environmental products generated from the project will be sold to one or more of a registered energy retailing organisation, large energy users (governmental or private) or to the National Electricity Market that is managed by the Australian Energy Market Operator (AEMO).

The DoI-DRE has identified potential for large-scale solar energy developments in the central, northern and western regions of NSW (NSW DoI-DRE 2016d). DoI-DRE (2016d) identifies ideal characteristics for large-scale solar energy as: low population densities; large, flat open spaces; and high average global solar exposure. The development footprint for the Limondale Sun Farm is characterised by all of these features, which will allow the project to maximise the efficiency of electricity production, while minimising and avoiding disturbance of identified environmental constraints (refer to Section 3.2) such as Aboriginal heritage items and remnant vegetation. The site selection and design process are described in Chapter 3.

Throughout the site selection and design process and technical assessments supporting this environmental impact statement (EIS), OVERLAND has consulted with relevant government agencies, Balranald Shire Council (BSC) and local landholders to communicate the aims and objectives of the project and the likely benefits that it will bring to the region.

OVERLAND has engaged with the NSW Renewable Energy Advocate and a number of NSW Government agencies regarding the Limondale Sun Farm and OVERLAND's ambitions to develop multiple solar farms in NSW. OVERLAND has had a continued dialogue with the NSW Department of Planning and Environment (DP&E) with the objective of integrating appropriate standards and guidelines into the development, construction and operation of the project.

1.4 Purpose of report

This EIS accompanies a DA for the project under Part 4 of the EP&A Act and NSW Environmental Planning and Assessment Regulation 2000 (EP&A Regulation), and addresses the Secretary's environmental assessment requirements (SEARs) (Appendix A) and matters raised during consultation with stakeholders.

This EIS has been prepared by EMM Consulting Pty Limited (EMM) on behalf of OVERLAND.

1.5 Secretary's environmental assessment requirements

As required under Section 78A of the EP&A Act, this EIS has been prepared to address the SEARs for the project which were issued on 4 November 2016 (reference SSD 8025) (Appendix A). The SEARs and where they are addressed in this EIS are summarised in Table 1.1.

Table 1.1 Secretary's environmental assessment requirements

Assessment requirements	Reference in EIS
General requirements	
The Environmental Impact Statement (EIS) for the development must comply with the requirements in Schedule 2 of the Environmental Planning and Assessment Regulation 2000.	This EIS.
• a full description of the development, including:	
– details of construction, operation and decommissioning;	Chapter 3
– a site plan showing all infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process); and	Figure 3.1
– a detailed constraints map identifying the key environmental and other land use constraints that have informed the final design of the development.	Figure 3.2
• a strategic justification of the development focusing on site selection and the suitability of the proposed site;	Section 1.3 Section 3.2
• an assessment of the likely impacts of the development on the environment, focusing on the specific issues identified below, including:	Chapter 6 and Chapter 7
– a description of the existing environment likely to be affected by the development;	
– an assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice;	
– a description of the measures that would be implemented to avoid, mitigate and/or offset the impacts of the development (including draft management plans for specific issues as identified below); and	
– a description of the measures that would be implemented to monitor and report on the environmental performance of the development;	
• a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS;	Chapter 7
• the reasons why the development should be approved having regard to the biophysical, economic and social costs and benefits of the development;	Chapter 8
• a signed report from a suitably qualified person that includes an accurate estimate of the capital investment value of the development; and	Provided separate to EIS
• the consent in writing of the owner of the land.	Appendix B
Biodiversity	
• an assessment of the likely biodiversity impacts of the development (particularly in relation to the Major Mitchell's Cockatoo, *Acacia melvillei* shrubland, a Spear Grass, Black Falcon, Little Eagle, Spotted Harrier and Bitter Quandong), having regard to the *NSW Biodiversity Offsets Policy for Major Projects*, and in accordance with the *Framework for Biodiversity Assessment*, unless otherwise agreed by the Department.	Section 6.2 Appendix D
Heritage	
• an assessment of the likely Aboriginal and historic (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community.	Section 6.3 Section 6.4 Appendix E
Land	
• an assessment of the impact of the development on agricultural land and flood prone land (including any Crown land, Travelling Stock Reserves, Stock Watering Place and Timber Reserve), paying particular attention to compatibility of the development with the existing land uses on the site and adjacent land (e.g. aerial spraying, dust generation, and risk of weed and pest infestation) during operation and after decommissioning, with reference to the zoning provisions applying to the land.	Section 6.5

Table 1.1 Secretary's environmental assessment requirements

Assessment requirements	Reference in EIS
Visual	
• an assessment of the likely visual impacts of the development (including any glare, reflectivity and night lighting) on surrounding residences, scenic or significant vistas, air traffic and road corridors in the public domain; and	Section 6.6 Appendix F
• a draft landscaping plan for on-site perimeter planting (particularly along Yanga Way), with evidence it has been developed in consultation with affected landowners.	Not considered necessary given the outcomes of the visual impact assessment (refer to Section 6.6 and Appendix F)
Noise	
• an assessment of the construction noise impacts of the development in accordance with the *Interim Construction Noise Guideline* (ICNG);	Section 6.7 Appendix G
• an assessment of sub-station noise impacts in accordance with the *NSW Industrial Noise Policy* (INP); and	Section 6.7 Appendix G
• a draft noise management plan if the assessment shows construction noise is likely to exceed applicable criteria;	Not considered necessary given the outcomes of the noise and vibration impact assessment (refer to Section 6.7 and Appendix G)
Transport	
• an assessment of the site access route, site access point, rail safety issues and likely transport impacts of the development on the capacity, condition [safety and efficiency of the local and State road and rail network];	Section 6.8 Appendix H
• a description of the measures that would be implemented to mitigate any impacts during construction; and	Section 6.8
• a description of any proposed road upgrades developed in consultation with the relevant road and rail authorities (if required).	Section 6.8
Water	
• an assessment of the likely impacts of the development on surface water and groundwater resources (including watercourses, wetlands, riparian land, groundwater dependent ecosystems and acid sulphate soils), related infrastructure, adjacent licensed water users, basic landholder rights, and measures proposed to monitor, reduce and mitigate these impacts;	Section 6.9
• details of water supply arrangements;	
• address any flooding impacts of changes to water courses; and	Section 6.9
• a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with *Managing Urban Stormwater: Soils & Construction* (Landcom 2004).	Section 6.9
Electromagnetic Interference	
• an assessment of the proposed transmission line and substation against the *International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*.	Section 6.10.1
Cumulative impacts	
• an assessment of the cumulative impacts with the proposed adjacent Sunraysia Solar Farm, including visual amenity, compatibility of land use, capacity of the electricity transmission network, traffic and construction noise impacts.	Section 6.13

Table 1.1 Secretary's environmental assessment requirements

Assessment requirements	Reference in EIS
Consultation	
• During the preparation of the EIS, consultation is required with relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups and affected landowners; • in particular, detailed consultation with affected landowners surrounding the development, the applicant of the proposed Sunraysia Solar Farm, Balranald Shire Council and Murray River Council must be undertaken; and • the EIS must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EIS.	Chapter 5

1.6 Report structure

This EIS consists of the main EIS document and supporting appendices and is structured as follows:

- Chapter 1 – Introduction

  Provides an introduction to the project, including an overview of the project, information about the applicant, the purpose of this EIS, and the SEARs.

- Chapter 2 – Site and surrounds

  Provides a description of the site and surrounds, including the project location, the biophysical environment, socio-economic factors, and other surrounding developments.

- Chapter 3 – Project description

  Provides a detailed outline of the project, including project details and objectives and alternatives considered during the site selection and project design process.

- Chapter 4 – Legislative framework

  Provides information on the legislative framework and approval process for the project under relevant Commonwealth and NSW legislation and environmental planning instruments.

- Chapter 5 – Stakeholder consultation

  Provides an overview of stakeholder consultation and engagement activities undertaken for the project and a summary of the consultation results.

- Chapter 6 – Impact assessment

  Provides an assessment of the likely impacts of the project, including consideration of management measures to be implemented.

- Chapter 7 – Summary of mitigation and management

  Provides a summary of the management and mitigation measures.

- Chapter 8 – Conclusion and justification

  Provides a justification for the project, including discussion of the suitability of the site.

- Appendices

  The appendices to the EIS which support the main document, including all technical assessments supporting the EIS.

  - Appendix A – SEARs;
  - Appendix B – Landholder's consent;
  - Appendix C – Consultation material;
  - Appendix D – Biodiversity assessment report (BAR);
  - Appendix E – Aboriginal cultural heritage assessment report (ACHAR);
  - Appendix F – Visual assessment;
  - Appendix G – Noise and vibration impact assessment; and
  - Appendix H – Traffic impact assessment.

It should be noted that this main EIS document provides a summary of all the technical assessments prepared to support the EIS. The technical studies provide a full and comprehensive assessment of the project relating to their respective technical area.

2 Site and surrounds

2.1 Site description

The site is approximately 14 km south of the township of Balranald. The site boundary encompasses an area of approximately 2,049 hectares (ha). The project also comprises approximately 2.8 ha of Crown land. The legal property description is given in Table 2.1.

Table 2.1 Legal description of the site

Deposited plan (DP)	Lot number
751179	4, 12, 13, 15, 21 and 71
751173	11 and 12
1017111	2
1190069	1 and 2
1158277	7306
1158277	7307

The development footprint is defined as the land area within the site where project infrastructure will be constructed and operate for the project life. The development footprint encompasses an area of 1,103 ha, which has been refined through the project design process to avoid environmental constraints (primarily remnant vegetation and Aboriginal heritage) (see Section 3.2). The conceptual infrastructure layout within the development footprint is discussed further in Section 3.

The site is zoned RU1 Primary Production under the Balranald Local Environmental Plan 2010 (Balranald LEP) (see Figure 2.2). It has been highly modified by previous and current land uses, including land clearing, cropping, and livestock grazing. It is currently used for broad acre cropping, most recently hay.

The site's eastern boundary is adjacent to a parcel of Crown land approximately 1.5 km wide, which forms part of a travelling stock reserve (TSR) that extends further north and south (Figure 2.1) (see Photograph 2.3 and Photograph 2.5). Yanga Way runs through this Crown land and provides access from the site to the regional road network including the Sturt and Murray Valley highways (see Figure 1.1).

Transgrid's Balranald Substation (Photograph 2.6) is within the TSR, approximately 500 m from the site's eastern boundary. Transgrid's 220 kV transmission line, which runs from Darlington Point to Broken Hill, traverses the site (see Figure 2.1 and Photograph 2.1). Photographs 2.1 to 2.5 illustrate the general condition of the site (Figure 2.2).

2.2 Surrounding land uses

The site is part of the Murrumbidgee catchment. Land use within this catchment is dominated by extensive agricultural operations with grazing occupying 64.4% of the total catchment area (Office of Water 2011). Dryland cropping and horticulture (15.5%); conservation (6.4%); and irrigation (5.1%) are also prevalent across the catchment area (Office of Water 2011).

The majority of land surrounding the site is zoned RU1 Primary Production under the Balranald LEP and the Wakool Local Environmental Plan 2013 (Wakool LEP) (Figure 2.2). Agricultural production activities undertaken in the Balranald Shire LGA and wider region are dominated by sheep, beef cattle and grain farming, namely cereals (BSC 2012a; WSC n.d.).

The site is part of a larger agricultural landholding which extends to the west and north to the Murrumbidgee River. The site is surrounded by several large farming properties, including a large-scale agricultural operation directly adjacent to the site's northern boundary, which is owned and operated by goFARM Australia Pty Ltd (goFARM) (refer to Figure 2.3). There is a forest logging business west of Windomal Road approximately 5 km north of the site. The land to the south of the site includes the proposed Sunraysia Solar Farm (SSD 7680) (refer to Section 2.6 and Figure 2.4).

The nearest sensitive receptors are dwellings. The nearest receptor, R1, is approximately 2.9 km north of the development footprint, with a further five receptors, R2, R3, R4, R5 and R6, within approximately 6 km (see Figure 2.1).

Yanga National Park (which is part of the Murrumbidgee Valley National Park) covers an area of approximately 76,000 ha (Figure 2.1). At its closest point, Yanga National Park is approximately 3 km east of the site, with additional areas north and north-east of the site. This area is zoned E1 National Parks and Nature Reserves under the Balranald LEP and the Wakool LEP (Figure 2.2). Murrumbidgee Valley State Conservation Area is approximately 10 km east of the site and covers an area of 34,579 ha (Figure 2.1). This area is also zoned E1 National Parks and Nature Reserves under the Wakool LEP.

2.3 Transport infrastructure

The site has good access to the regional road network from Yanga Way (also referred to, and signposted as Balranald-Tooleybuc Road), which provides access to the Sturt, Murray Valley and Mallee highways (Figure 1.1). Yanga Way is a State funded main road that provides an important link between Balranald and the Sturt Highway in the north and Stony Crossing Road, and the Murray Valley and Mallee highways in the south. The road extends over 50 km and crosses the border of NSW and Victoria close to its junction with the Murray Valley Highway.

At the site, Yanga Way is a single carriageway with a sealed surface. It is a designated B-double route and is also part of NSW Roads and Maritime Services (RMS) Livestock Loading Scheme, which provides increased mass limits for livestock loads (RMS 2016). This designation permits the use of Yanga Way for heavy vehicle movements including 19 m, 23 m and 25 m B-double vehicles. Current daily traffic estimates indicate that between 396 and 596 vehicles travel along Yanga Way per day, with the existing proportion of heavy vehicle traffic estimated to be approximately 29% of all vehicle movements (Appendix H).

Other transport infrastructure includes the Balranald Airport, approximately 16 km to the north (Figure 2.1). There is no active rail service supporting access to the area.

Photograph 2.1 **Photograph of the site taken from the northern extent of the development footprint looking south-east towards the Balranald Substation**

Photograph 2.2 **Photograph of the site taken from the north-western extent of the development footprint looking south-east**

Photograph 2.3 **Photograph of the site taken in the north-eastern corner of the development footprint looking south (the TSR is adjacent to the fence)**

Photograph 2.4 **Photograph of the site taken close to the proposed location of the transmission infrastructure looking north-west across the development footprint**

Photograph 2.5 **Photograph of the site taken from the south-eastern corner of the development footprint looking north (the TSR is adjacent to the fence)**

Photograph 2.6 **Transgrid's Balranald Substation**

2.4 Biophysical environment

2.4.1 Climate

The climate of the Murray Darling Depression Interim Biogeographic Regionalisation for Australia (IBRA) bioregion is distinctly hot and dry with some areas considered arid and others considered semi-arid (Biosis 2017). Climate data for the site has been obtained from the Australian Bureau of Meteorology's (BoM) weather station in Balranald township (Station number 049002), approximately 14 km north of the site. Mean monthly minimum and maximum temperatures range between 14.8°C to 33°C in summer and 3.5°C to 15.7°C in winter (BoM 2016a). The area experiences a mean annual rainfall of 323.4 millimetres (mm).

Climate data from the BoM indicates that the site's daily solar exposure ranges between 18–20 megajoules/m^2 (MJ/m^2), which equates to approximately 5–5.6 kWh/m^2 with an average of 7–8 hours of sunshine per day (BoM 2016b; BoM 2016c). Annual cloud cover statistics over a 41 year period indicate that the site receives an average of 64.9 cloudy days per annum (BoM 2016a). The Balranald Shire region experiences a consistently high availability of solar radiation, and is therefore ideal for large-scale solar development.

2.4.2 Topography and landform

The site is within the Murrumbidgee catchment's flat western plains, south of the Murrumbidgee River. Elevation across the site is more variable than the surrounding area, ranging between 62–70 m above sea level, with elevation generally increasing from north to south.

2.4.3 Geology and soils

The site is within the Murray Darling Depression IBRA bioregion, which is characterised by extensive undulating plains, linear and parabolic dunes, and lakes that date back to the Tertiary and Quaternary period. Within NSW, this bioregion is bounded by the Broken Hill Complex, Cobar Peneplain, Riverina and Darling Riverine Plains bioregions (NPWS 2003).

Dunefields, sandplains and undulating plains dominate the landscape of the Murray Darling Depression IBRA bioregion (NPWS 2003). The site is in a Mallee dune-swale landscape with grey to brown clay/loam soils prevalent in swales and brown to orange sandy/loam soils prevalent on dune crests. The soil landscapes present on the site include the Murrumbidgee scalded plains, Murrumbidgee depression plains and Mallee cliffs sandplains (Biosis 2017).

2.4.4 Water resources

The site is part of the Murrumbidgee catchment and is approximately 6.5 km south-east of the Murrumbidgee River at its closet point (see Figure 2.1). The Murrumbidgee catchment covers an area of 84,000 km^2 and supports a population of more than 500,000 people, including the township of Balranald. Within the catchment, the Murrumbidgee River stretches over 1,600 km, flowing westward toward its junction with the Murray River. At Balranald township, the river is characterised by a diminishing channel capacity due to the deposition of alluvium (Office of Water 2011).

The site is within the Lower Murrumbidgee Alluvium groundwater management area which is characterised by an inland alluvial aquifer. Groundwater within the inland alluvial aquifer is of poor quality and is affected by salinity (7,000-35,000 TDS mg/L) (Office of Water 2011). It is suitable for limited stock use and commercial and industrial uses (Office of Water 2011).

The Lowbidgee Floodplain, a nationally significant wetland recognised in the Directory of Important Wetlands in Australia (DoEE 2016b) is north-east of the site. The Lowbidgee Floodplain is the largest area of floodplain wetland remaining in the Murrumbidgee Valley, covering an area of over 2,000 km^2 (Office of Water 2011). Yanga Lake, which is part of the Yanga National Park and the Lowbidgee Floodplain, is the most significant surface water feature near the site, approximately 4.5 km to the north-east (Figure 2.1).

The site is not identified as land subject to flooding within the Flood Planning Area Map under the Balranald LEP and is outside the boundary of the Lower Murrumbidgee Floodplain Water Management Plan (Hardwick and Maquire 2012). The site is also outside the extent of inundation of this management plan's 1904 flood event (Hardwick and Maquire 2012).

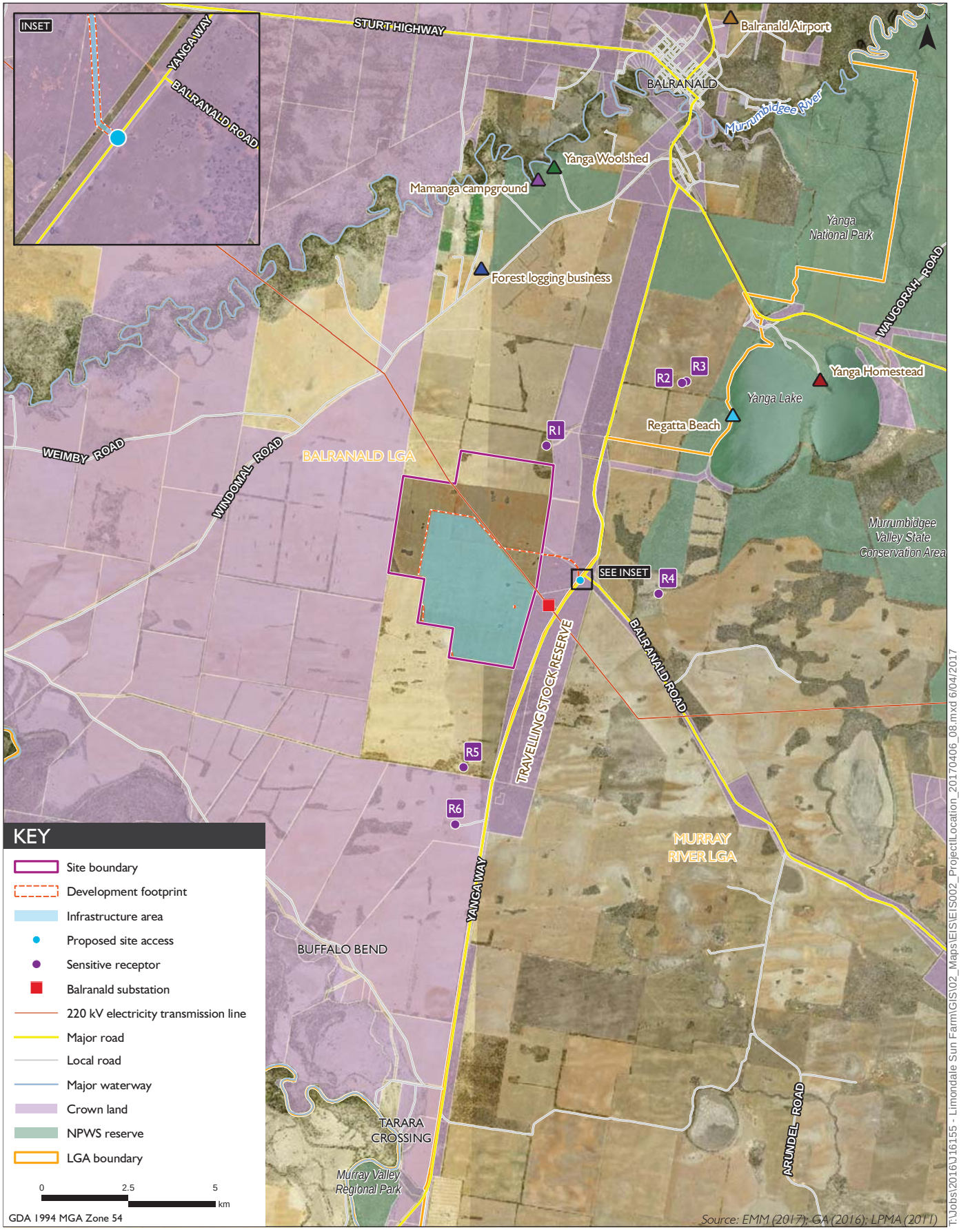
2.4.5 Biodiversity

The site is within the Murray Darling Depression IBRA bioregion and the South Olary Plain IBRA subregion. As noted by Morgan and Terrey (1992), vegetation within the South Olary Plain IBRA subregion is characterised by:

- diverse mallee on sands with; pointed mallee, congoo mallee, red mallee, lerp mallee, slender-leaf mallee, yorrell, white cypress pine, mallee cypress pine, belah, rosewood, with porcupine grass and diverse shrubs;
- belah, rosewood, black bluebush, pearl bluebush, old man saltbush, on sandplains and heavier soils;
- black box fringing depressions;
- halophytes on salinas; and
- chenopod shrublands on lunettes, sometimes with white cypress pine.

The site itself has been highly modified by previous and current land uses, including land clearing, cropping, livestock grazing and weed invasion. This disturbance history has resulted in a mosaic of modified areas and native vegetation communities (Biosis 2017).

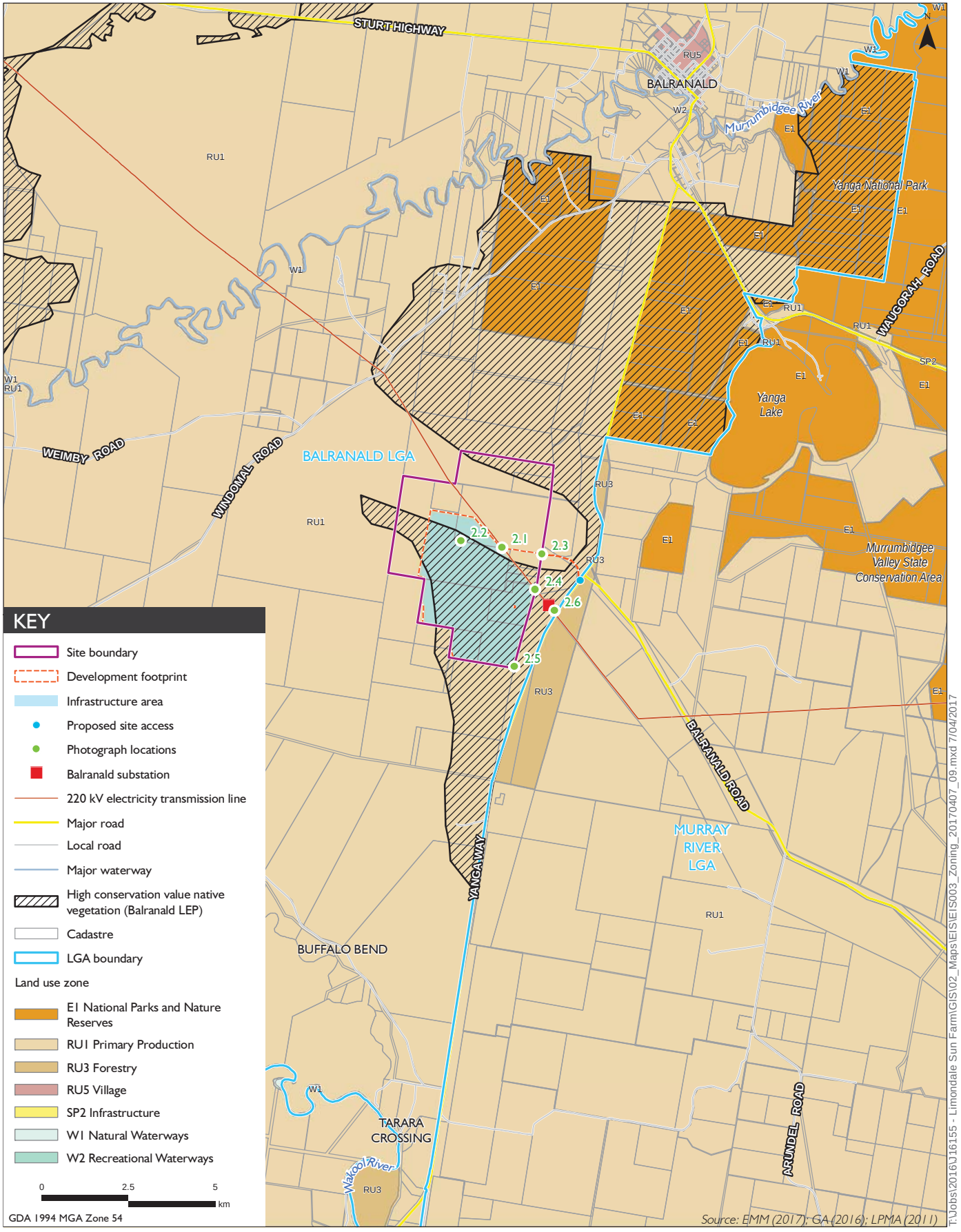
Areas of the site are identified in the Balranald LEP as having high conservation value. Within the Balranald LEP, these areas have been identified as significant due to their role in supporting the biological diversity of native flora and fauna and their habitats, as well as, supporting the ecological processes necessary for ecosystem health. This is discussed further in Section 6.2.



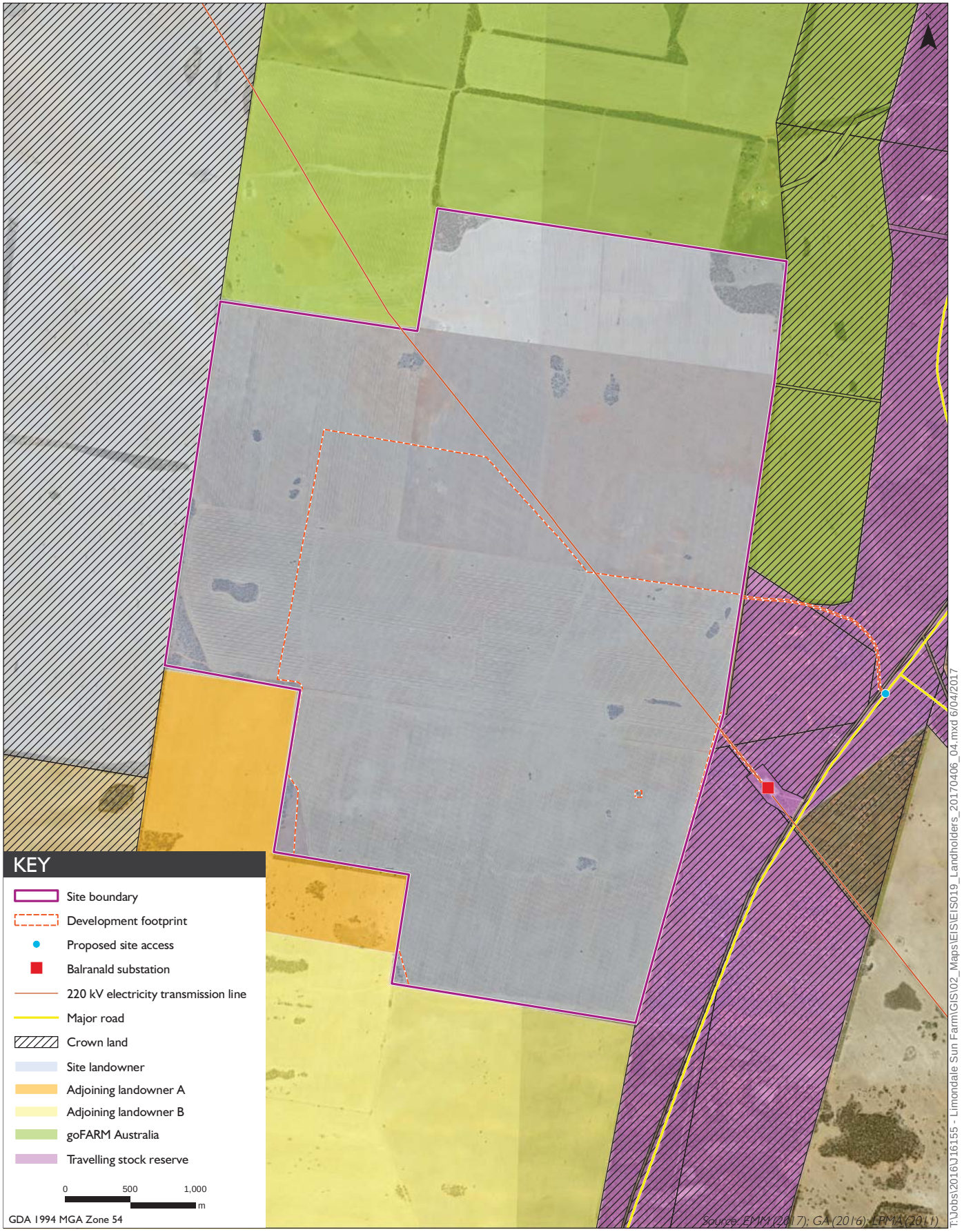
Location of the Limondale Sun Farm

Limondale Sun Farm
Environmental impact statement
Figure 2.1

EMM



Land use zoning
Limondale Sun Farm
Environmental impact statement
Figure 2.2



Surrounding landholders

Limondale Sun Farm

Environmental impact statement

Figure 2.3

2.5 Socio-economic factors

Balranald is the largest township in the Balranald Shire LGA with a population of 1,159. Significant developments implemented as part of the Balranald Shire Economic Development Strategy have fostered economic growth and diversification within the township. These significant developments, which include the construction of the Visitor and Interpretive Centre, Balranald Hospital and Balranald Central Trade School, have each provided additional employment opportunities for the township's population and resulted in varied improvements to the level of services available for locals and visitors alike (BSC 2016).

The population of the Balranald Shire LGA in 2011 was 2,283 compared to 2,441 in 2006, which reflects a decline of 158 people (or 6.47%) residing in the area (ABS 2007; ABS 2013). Similarly, the township of Balranald also experienced a decline in population over this period.

The Balranald Shire LGA's economy is dependent on primary production with sheep, beef cattle and grain farming the area's greatest employer, accounting for 16.5% of the area's employment (ABS 2013). Though traditionally reliant on dry-land and irrigated agricultural production, the economy has experienced significant diversification to encompass horticulture, viticulture and organic agricultural production. The area's employment profile illustrates this diversification, with fruit and nut trees the second-highest employer, contributing to 8.4% of the area's employment. Tourism has also become an important economic driver with domestic and international tourists attracted to the Yanga and Mungo National Parks, within the Balranald Shire LGA (BSC 2016). Unemployment within the Balranald Shire LGA (4.3%) is lower than both the NSW and Australian unemployment rates (ABS 2013).

2.6 Other projects

Other significant proposed and approved projects in proximity to the site are discussed below (see Figure 2.4). Where relevant, the technical assessments for the project have considered the cumulative impacts of these developments.

- Sunraysia Solar Farm (SSD 7680) – Sunraysia Solar Farm Two Pty Ltd proposes to develop a commercial scale solar PV farm with a capacity of around 200 MW. The proposed solar farm will be developed on Lots 9, 10, 11 and 14 of DP 751179, adjacent to the southern boundary of the site, and covers an area of approximately 1,000 ha (NGH Environmental 2017).

  The operation of the Sunraysia Solar Farm will require the construction of an overhead transmission line on Lot 7301 of DP 1157986 to connect the proposed solar farm to the Balranald Substation (NGH Environmental 2017). This connection infrastructure will traverse the TSR and will be adjacent to the project's eastern site boundary for a length of approximately 1.3 km.

  The EIS for the proposed Sunraysia Solar Farm was available on public exhibition from 4 February 2017 to 5 March 2017. OVERLAND has engaged with Sunraysia Solar Farm Two Pty Ltd as part of the consultation process for the project (refer to Section 5.3).

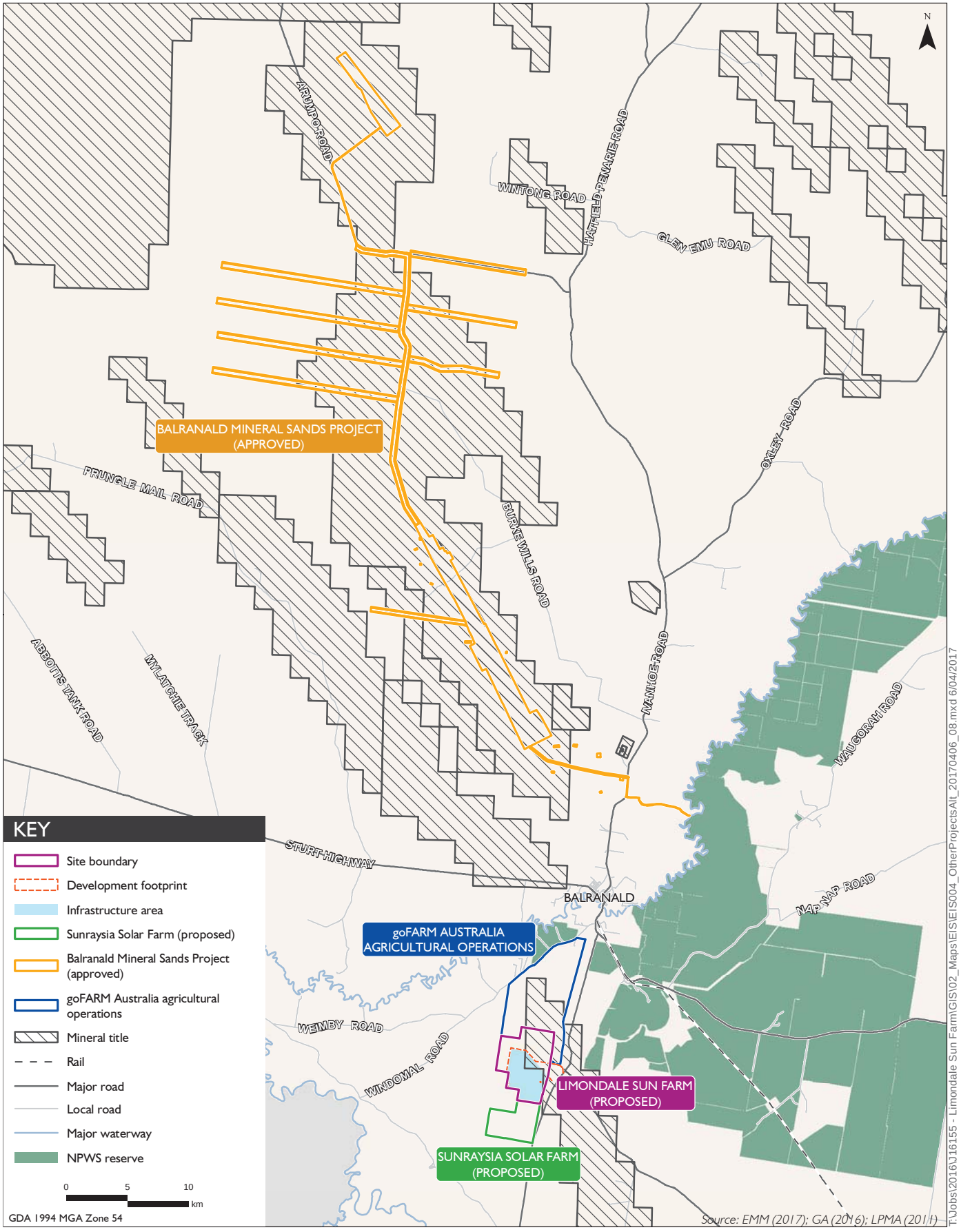
- Balranald Mineral Sands Mine (SSD 5285) – Iluka Resources Limited is approved to develop a mineral sands mine on two linear mineral sand deposits, known as the West Balranald and Nepean deposits, approximately 12 km and 66 km north-west of the township of Balranald, respectively. This development includes construction, mining, primary processing and rehabilitation. The mine has a potential life of up to 15 years.

  The Minister for Planning issued development consent on 5 April 2016. Outcomes of consultation with Iluka Resources Limited are presented in Section 5.3.

- goFARM temporary accommodation facility and expanded agricultural operations – goFARM is seeking consent from BSC to expand its agricultural operation on the property immediately north of the site. The DA involves the construction of a temporary accommodation camp for the goFARM Maffra Almond Orchard project, on Lot 21 DP 751173, adjacent to the site's northern boundary. The civil works for the project are expected to occur in 2017. If approved, the facility will accommodate up to 40 people who would be involved in the development of a large almond and pistachio crop (approximately 7,000 ha). Any additional workers would likely be accommodated in Balranald township.

  OVERLAND has engaged with goFARM as part of the consultation process for the project (refer to Section 5.3). Receptor R1 is located on the property 'Maffra', and is part of goFARM's operations (see Figure 2.1).

A mineral tenement partially overlies the north-eastern corner of the site, an exploration licence (EL) issued under the NSW *Mining Act 1992* (EL7626) held by Iluka Resources Limited (refer to Figure 2.4). A submission made by DoI-DRE on the Sunraysia Solar Farm (dated 7 March 2017) noted that the site for the Limondale Sun Farm is coincident with EL7626 and the Odessa Deposit. Within this submission, DoI-DRE raised concerns regarding the cumulative impact of multiple solar farm proposals (ie the project and the Sunraysia Solar Farm) on Iluka Resources Limited's ability to comprehensively complete their exploration program, and consequently on the subsequent assessment and development of the economic potential of the in-situ heavy mineral sands resource contained within EL7626. Consultation with Iluka Resources Limited regarding potential interactions between the project and this tenement is discussed in Section 5.3.



Other developments in the region

Limondale Sun Farm
Environmental impact statement
Figure 2.4

EMM

3 Project description

3.1 Overview

The project includes the development, construction and operation of a solar PV electricity generation facility, which comprises the installation of PV solar panels and associated infrastructure on the site. The objectives of the Limondale Sun Farm are to:

- develop a large-scale PV solar development project that avoids and minimises environmental, community and landholder impacts;
- contribute to the strategic objectives and targets of the NSW and Commonwealth governments for renewable energy generation;
- contribute to increased energy security through valuable contributions to a more diverse energy mix for NSW and Australia; and
- provide ongoing economic benefits for regional NSW through both the diversification of regional income streams and provision of employment opportunities during construction and throughout the operation of the project.

The project will connect to the Transgrid 220 kV electricity distribution network that originates at the Balranald Substation (see Figure 2.1). The electricity and associated environmental products that are generated from the project will be sold to one or more registered energy retailing organisations, large energy users (governmental or private) or to the National Electricity Market that is operated by the AEMO.

The project will have an estimated nominal capacity in the order of 250 MW and once operational will provide enough electricity to power up to 100,000 homes each year.

The project comprises the following key components:

- a network of PV solar panel arrays;
- electrical collection systems, switchyard and control room;
- a management hub, including demountable offices and amenities and equipment sheds;
- parking and internal access roads; and
- connection infrastructure to the Balranald Substation.

The project may also include the installation of battery and energy storage devices within the development footprint, depending on technologies available.

The conceptual infrastructure layout is illustrated in Figure 3.1. The infrastructure associated with the project will cover an area within the development footprint (Figure 2.1). During the preparation of the EIS, the development footprint within the site boundary has been refined on the basis of detailed technical studies including grid connection studies, environmental constraints identification and the design of project infrastructure with the objective of developing an efficient project that avoids and minimises environmental, community and landholder impacts. The site selection and design process is described below.

3.2 Site selection and project design

OVERLAND has leveraged off its experience leading benchmark renewable energy and infrastructure projects to implement a robust site selection and design process to minimise potential environmental impacts. This experience includes the development and financing of two 20 MW solar PV plants in Queensland. In addition, OVERLAND have also recently announced the construction of a further 320 MW of large-scale solar PV developments in north-western Victoria. The site location, capacity of the project, design and layout of infrastructure and connection to the electricity grid have been refined through an evaluation process both prior to and during preparation of the EIS. The evaluation process has considered a range of factors. Key factors include:

- Availability of solar radiation – the Murray Darling Depression IBRA bioregion of NSW experiences a consistently high availability of solar radiation. As noted in Section 2.4.1, climate data from the BoM indicates that the site's daily solar exposure, average hours of sunshine per day and number of cloudy days per annum make it ideal for a large-scale solar development (BoM 2016a; BoM 2016b; and BoM 2016c).

- Proximity to, and capacity of the electricity grid – the site is within 500 m of the Balranald Substation, owned and operated by Transgrid (Figure 2.1). The site's proximity to the Balranald Substation avoids road crossings and minimises impacts on vegetation within the TSR. Further, the project will use the existing cleared easement for the Transgrid 220 kV transmission line to connect to the Balranald Substation, which will also minimise impacts on vegetation and Aboriginal heritage within the TSR. The use of the existing easement will also minimise impacts to land within the TSR, which is available for public purposes. OVERLAND has been proactive in liaising with Transgrid regarding the grid connection and capacity of the Balranald Substation, which has directly influenced the capacity of the project, and informed the project design and infrastructure layout.

- Availability of sufficient land area with suitable physical characteristics – the development footprint is predominantly cleared of native vegetation, would require minimal ground preparatory works and has good access to the regional road network and regional centres. The relatively flat terrain within the development footprint and predominantly cleared landscape mean that limited site preparation and civil works will be required. The proximity of the regional road network enables delivery of the infrastructure required for the project.

- Identification and avoidance of environmental constraints – OVERLAND has actively sought to identify and avoid environmental constraints as part of the project development, which has resulted in continual refinement of the site boundary and the development footprint, and infrastructure layout (Figure 3.1). This process has involved OVERLAND's team working with environmental specialists and landholders to:

  - complete site inspections, surveys and desktop review to map potential environmental and land use constraints;

  - assess the significance of potential constraints; and

  - identify opportunities to avoid constraints where required.

  Detailed technical environmental investigations have identified environmental and land use constraints which have informed the site selection process, development footprint and infrastructure layout. These identified constraints are provided in Figure 3.2 and Figure 3.3 with further detail on environmental constraints presented in Table 3.1.

- Placement of infrastructure to minimise land use conflicts with the landholder and other projects – the parcels of land which comprise the development footprint, and the placement of infrastructure including PV solar panels, inverters, electrical collection system and switchyard and easement and connection infrastructure have been identified through detailed consultation with the landholder, to minimise land use conflicts and enable agricultural production and land management practices to continue on surrounding land. As shown on the site features plans (Figure 3.2 and Figure 3.3), a number of identified constraints influenced the placement of infrastructure and PV solar panel layout for the project.

A summary of some of the key matters considered during the site selection and project design process is provided in Table 3.1.

Table 3.1 Key matters considered during the site selection and project design process

Aspect	Matters considered
Biodiversity	Remnant vegetation is present within the site boundary. Mapping of constraints early in the site selection and project design stage has enabled remnant vegetation to be avoided within and surrounding the development footprint and infrastructure layout, including: • 0.27 ha of threatened ecological community *Acacia melvillei shrubland in the Riverina and Murray-Darling Depression bioregions*; • 39.5 ha of remnant vegetation plant community type *Chenopod sandplain mallee woodlands/shrublands of the arid and semi-arid (warm) zones;* • 32 hollow bearing trees; and • remnant vegetation with the TSR, avoided through the use of the existing cleared easement for the Transgrid 220 kV transmission line to connect to the Balranald Substation.
Heritage	Aboriginal and historic heritage sites. Mapping of potential constraints and their likely significance early in the site selection and project design stage has enabled the identification and avoidance of heritage items (Figure 6.2), including: • eight of the eleven Aboriginal heritage items within the site boundary recorded during the site survey; • three of the five Aboriginal heritage items recorded on the Aboriginal Heritage Information Management System (AHIMS) database; and • the ruins of a house, which have been excluded from within the development footprint (see Figure 3.2 and 3.3).
Land use	Engagement with the landholder has enabled consideration of a range of potential land uses over the life of the project, and consideration of the value of agricultural production on the land to the landholder, compared to utilising the land for solar power generation. Other land uses include: • electricity transmission infrastructure – the site is in close proximity to the Balranald Substation, and there is a range of connection infrastructure in the vicinity, most notably Transgrid's 220 kV transmission line, which traverses the site. The development footprint has been designed to minimise the need for crossing beneath this infrastructure, by locating the majority of project infrastructure to the south of the transmission line. The project will use the existing cleared easement for the Transgrid 220 kV transmission line to connect to the Balranald Substation. This will minimise impacts on vegetation within the TSR. Extensive consultation with Transgrid has been undertaken during this process (refer to Section 5.3 and Appendix C); and • mining tenements – one mining tenement partially overlies the site (EL7626). The development footprint and infrastructure area have been designed to avoid the area covered by the tenement as much as practical, and consultation with the tenement holder (Iluka Resources Limited, see Section 5.3) has been completed to confirm that the project will not prevent exploration, or cause sterilisation of potential mineral resources. The final site boundary and development footprint have been selected to avoid fragmenting the landholder's residual agricultural land

Table 3.1 Key matters considered during the site selection and project design process

Aspect	Matters considered
Visual	Proximity to surrounding residences and passing motorists and potential impacts (if any) from glint and glare.
Noise	Potential noise impacts during construction and operation and proximity to surrounding residences.
Transport	Proximity to, and capacity of, the local and regional road network and ability to transport the necessary infrastructure to the site, and resource the workforce demand during construction.
Water	Proximity to, and interaction with, surface water and groundwater resources.
Electromagnetic interference	The *Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields* (ICNIRP 1998) were considered in the placement of electrical infrastructure, including the inverters, electrical collection system and switchyard and easement and connection infrastructure.

In addition to the environmental aspects described above, the selection process has also been informed by the technical requirements of the PV solar panels (ie spacing requirements between panels and shading limitations) and the economic feasibility of the project.

3.3 Project alternatives

i 'Do nothing' option

The site is currently used for broad acre cropping, most recently hay. The 'do nothing' scenario would allow for the continued use of the site for agricultural production. However, as noted in consultation with the landholder, the history of agricultural production on the site has been primarily opportunistic cropping due largely to considerable fluctuations in both rainfall and evaporation rates. There are no additional agricultural services dependent on agricultural production within the site boundary.

Although the 'do nothing' scenario would allow the site's continued use for agricultural production, it would also forego the benefits of the project listed in Section 1.1, namely:

- production of renewable energy;
- creation of employment opportunities;
- direct and indirect benefits to the local economy;
- diversification of local revenue streams; and
- increased energy security.

The 'do nothing' scenario would result in a lost opportunity for the development of a large-scale renewable energy project on an ideally located site (adjacent to the Balranald Substation) with limited significant environmental constraints. Further, the 'do nothing' scenario would also result in a lost opportunity for the landholder to diversify their revenue stream. Given the historically opportunistic nature of cropping within the site boundary, the 'do nothing' scenario would also result in the loss of a more regular revenue stream for the landholder.

The 'do nothing' scenario would avoid the potential environmental impacts associated with the construction, operation and decommissioning of the project, which include construction noise, traffic and visual impacts, as well as impacts to biodiversity and heritage. However, through the implementation of the management and mitigation measures described in Chapter 7, these potential impacts would not result in any significant impacts to the environment.

The project satisfies the principles of ecologically sustainable development (ESD) (refer to Section 8.3.7) and given its limited impact on the environment and considerable benefits, the 'do nothing' scenario is considered inappropriate.

ii Alternative solar technology

Under the guidance of the NSW REAP, renewable energy is predicted to grow and make important contributions to the NSW economy. As noted within the REAP, NSW has excellent renewable energy resources and is suitable for a number of different renewable energy technologies, including, hydroelectricity, wind, PV solar, solar thermal, bioenergy, geothermal and wave and tidal energy projects (NSW Government 2013).

As noted in Section 1.3, DoI-DRE has identified potential for large-scale solar energy developments in the central, northern and western regions of NSW (NSW DoI-DRE 2016d). DoI-DRE (2016d) identifies ideal characteristics for large-scale solar energy as: low population densities; large, flat open spaces; and high average global solar exposure. The development footprint for the Limondale Sun Farm is characterised by all of these features, making it ideal for a large-scale solar energy development.

OVERLAND's experience in the development of a portfolio of solar energy sun farms on land across regional Australia, supports the decision to develop the site into a large-scale solar PV energy development. Solar PV technology is considered to be more economically viable and also requires less supporting infrastructure than a similar scale solar thermal energy development.

iii Alternative site locations

Throughout the site selection and design process, OVERLAND considered a number of different site locations. There is an additional parcel of land suitable for the development of a large-scale solar energy development (due to its flat topography and availability of solar radiation) on the eastern side of Yanga Way, south of the intersection of Yanga Way and Balranald Road. This parcel of land was identified in the request for SEARs document submitted to DP&E, however, it has since been excluded from the site boundary as part of the project design process due to the presence of environmental constraints. For example, there are a number of stands of remnant vegetation on this parcel of land that would need to be cleared prior to construction, thereby increasing the potential impact of the project on biodiversity.

Further, the position of this parcel of land would also mean that the construction of the necessary connection infrastructure to connect the project to the Balranald Substation would need to cross Yanga Way and would also result in the disturbance of a greater area of the TSR. Consequently, during the site selection and design process, OVERLAND has excluded this parcel of land from the site boundary. This parcel of land is no longer required at this point in time.

As noted in Section 3.2, the site location, capacity of the project, design and layout of project infrastructure and connection to the electricity grid have been refined through an evaluation process both prior to and during preparation of the EIS. The development footprint and infrastructure layout within the site boundary have been refined on the basis of environmental constraints identification with the objective of developing an efficient project that avoids and minimises environmental impacts.

As noted in Section 3.2, the site's proximity to the Balranald Substation avoids the need for road crossings and minimises impacts on vegetation and heritage items within the TSR.

The site has also been selected to avoid and minimise land disturbance and overall impacts on agricultural production in the Balranald Shire LGA where possible. The final site boundary and development footprint have been selected to avoid fragmenting the landholder's residual agricultural land. As noted in Section 6.5.4, access tracks to and from the site will remain accessible to the landholder to avoid any impacts to the operation and sustainability of agricultural production on land adjacent to the site boundary. Further, relevant agencies have been consulted in respect of the site access road, which is also used to access the TSR adjacent to the site (refer to Section 5.3).

3.4 Project components

3.4.1 PV solar panels

The project involves the installation of PV solar panels, arranged in a series of rows positioned to maximise the use of the solar resource available at the site (refer to Photograph 3.1). PV solar panels will be constructed in a single axis tracking configuration, which will allow the PV solar panels to rotate from east to west during the day tracking the sun's movement. Panels will be fixed to and supported by ground-mounted framing (refer to Photograph 3.2). The average height of the PV solar panel rows will be approximately 1.2 m. During the early morning and late afternoon tracking periods, the maximum height of the PV solar panel rows will be approximately 2 m.

The typical dimensions of the PV solar panels are 1.7 m by 1 m, which provides a surface area of approximately 1.65 square metres (m^2) per PV solar panel. PV solar panels will be constructed of solar glass with an anti-reflective surface treatment.

Approximately 868,000 PV solar panels could be accommodated at the site, providing an estimated nominal capacity in the order of 250 MW. The final number of PV solar panels within the development footprint will be dependent on detailed design, availability and commercial considerations at the time of construction.

Photograph 3.1 **Example of the proposed PV solar panel array layout**

Photograph 3.2 **Example of the steel frame structures used to support PV solar panels**

3.4.2 Electrical collection system and switchyard

The PV solar panels will be connected in series and the electricity generated by the project will be directed via underground electrical collection systems to the inverters (refer to Photograph 3.1). The inverters will connect to a project electrical switchyard and substation, which will use the connection infrastructure to export electricity to the grid network. All electricity generated by the PV solar panels will pass through the Balranald Substation and then be transmitted into the grid network.

The on-site electrical collection systems will be placed underground in standard electrical conduit trenches of between 600 to 1,200 mm in depth. The electrical cabling necessary to connect the PV solar panels in series will be positioned in cable trays mounted underneath the panels. It is estimated that 100, 2.5 MW inverters will be required; however, this will be dependent on the final detailed design.

3.4.3 Management hubs

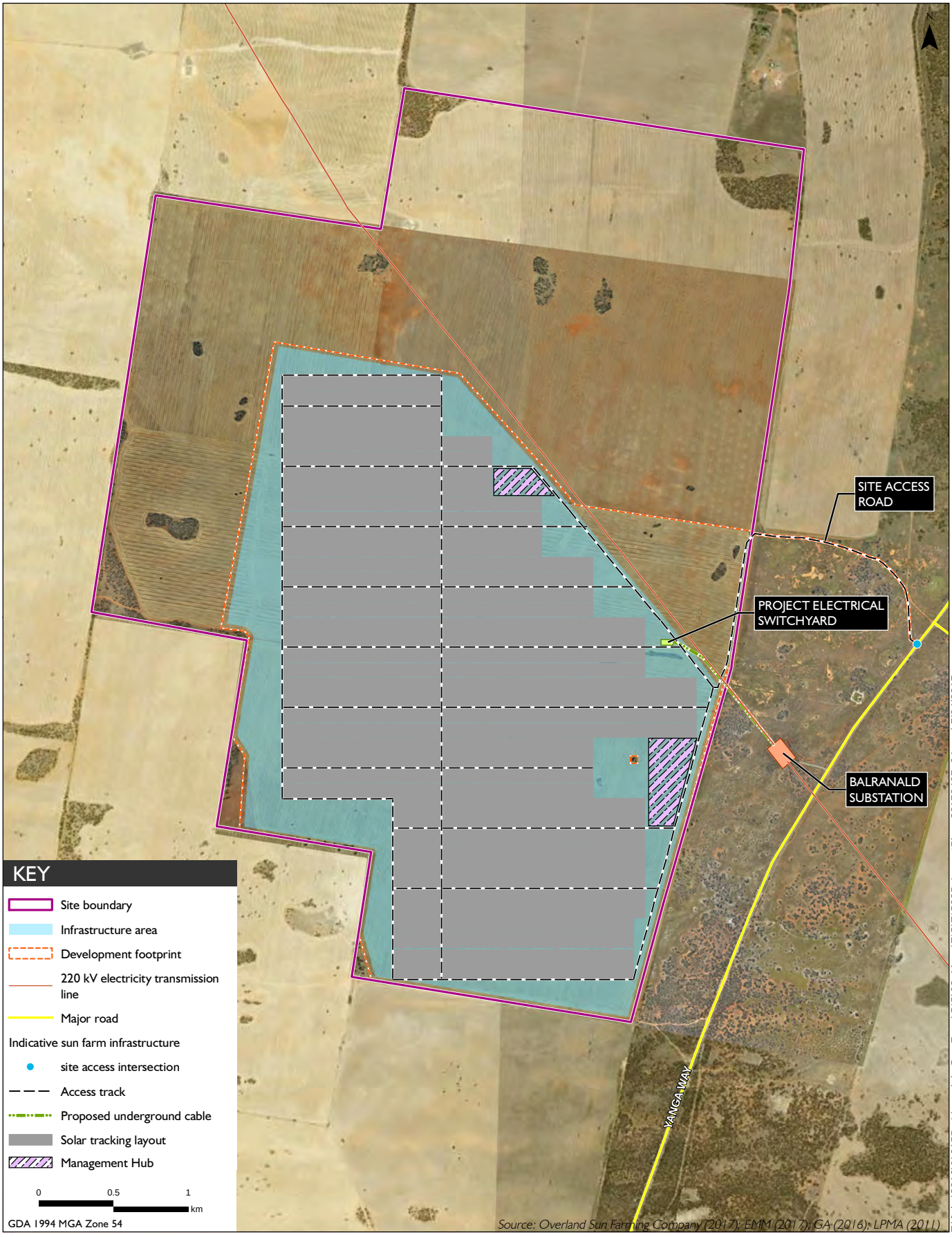
The project includes the development of two management hubs, from which operation of the infrastructure will be managed. Structures will include a demountable office control building, including staff amenities, and equipment storage sheds. These will be the receival point for all equipment delivery during construction and all management activities during the project's operational period.

3.4.4 Access, parking and security

Access to the site will be from Yanga Way, largely utilising an existing cleared access track through the TSR (Figure 2.1). The existing access track is currently accessed from Yanga Way at its intersection with Balranald Road. A new intersection will be constructed approximately 150 m south of the intersection of Balranald Road and Yanga Way, and a short section of new access road will be required from the new intersection to the existing access track (see Figure 3.1). Further details on the intersection design are discussed in Section 6.8 and Appendix H.

Internal unsealed access roads of approximately 4–6 m width will be constructed to accommodate construction and operational traffic movements throughout the site. The indicative location of the access roads is illustrated in the detailed infrastructure layout plan (Figure 3.1). Parking will be provided within the management hubs (Figure 3.1).

The site will be fenced off by a chain mesh fence, which will be approximately 1.8 – 2.4 m high. Fencing will restrict public access to the site.



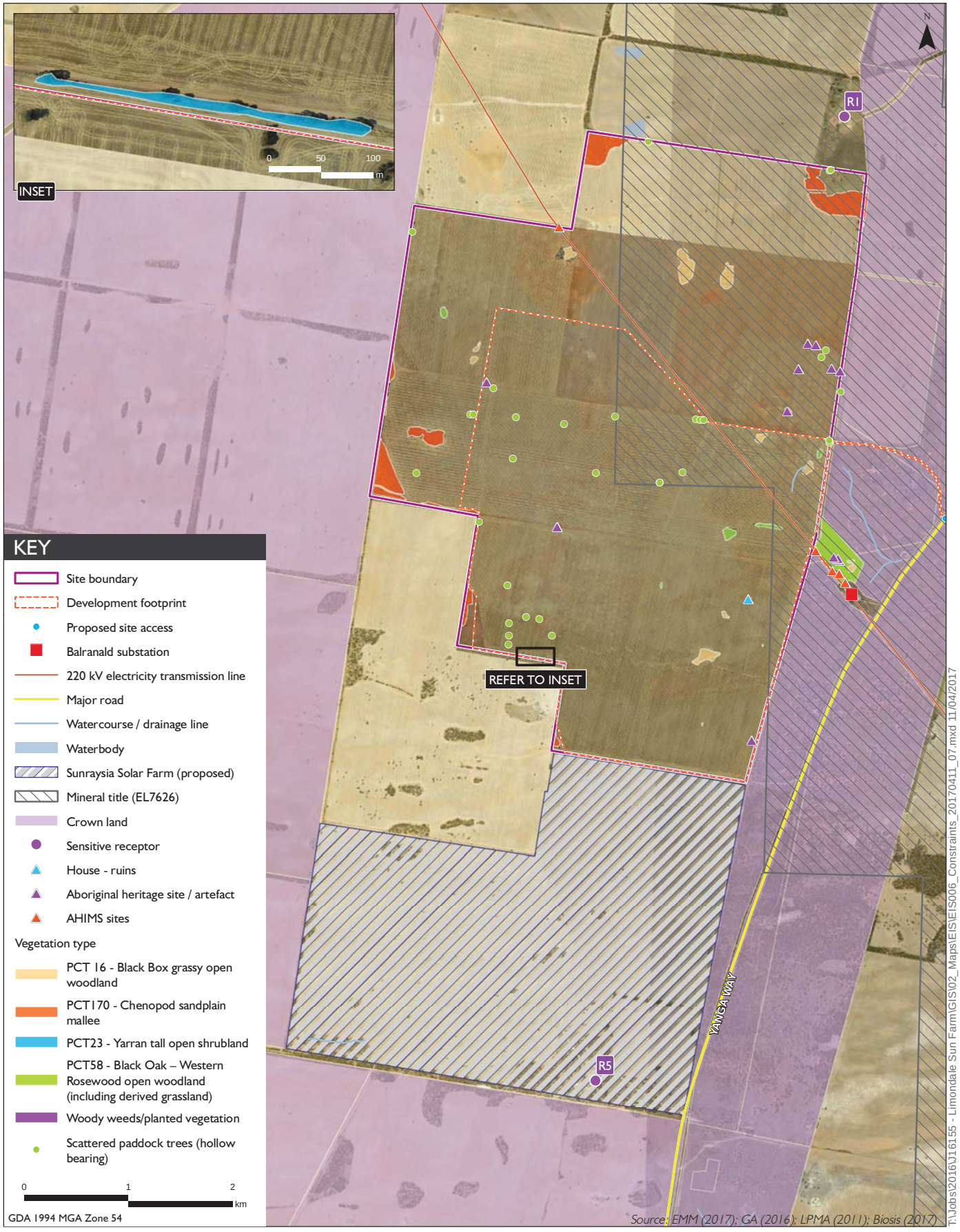
Infrastructure layout plan

Limondale Sun Farm

Environmental impact statement

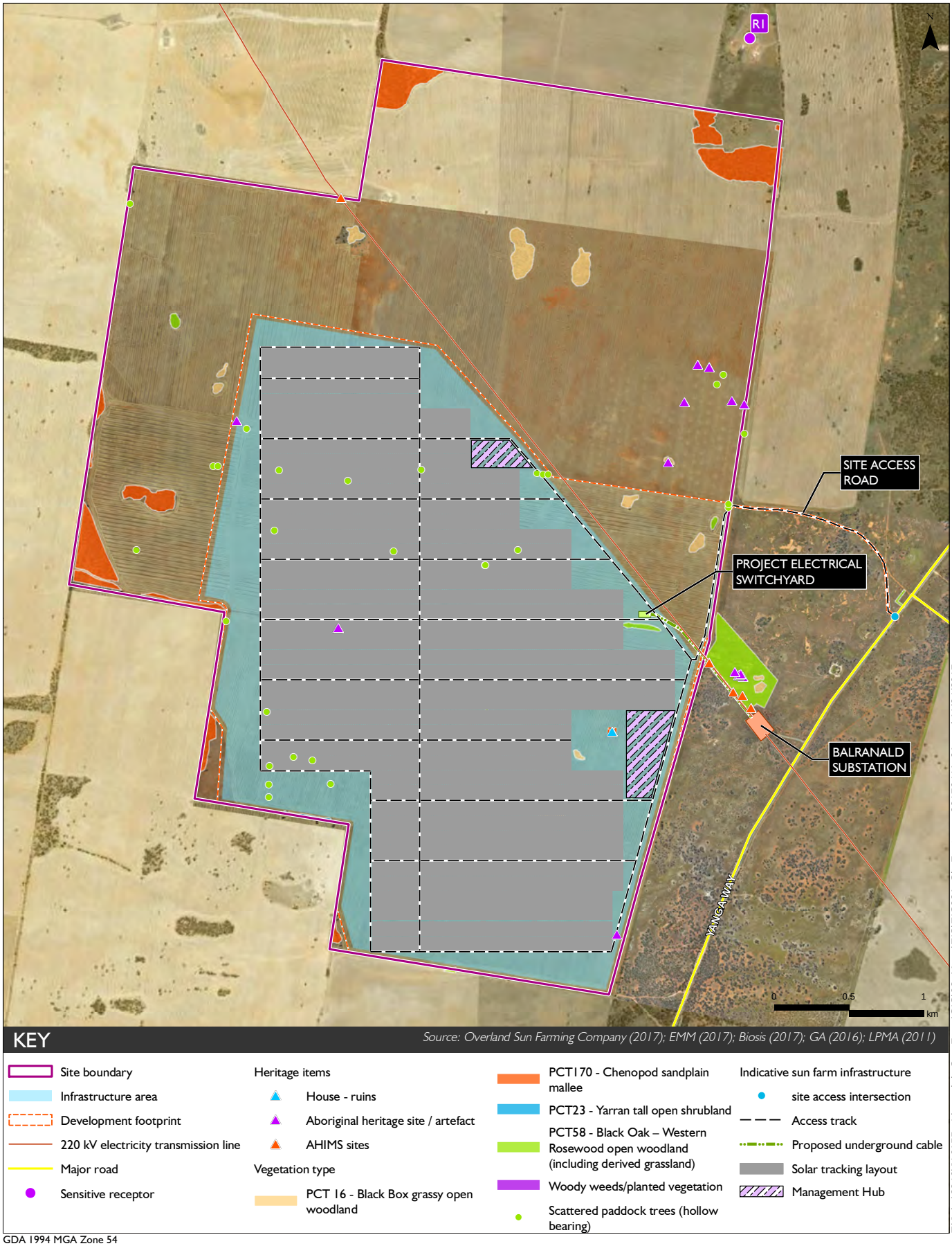
Figure 3.1

EMM



Site features

Limondale Sun Farm
Environmental impact statement
Figure 3.2

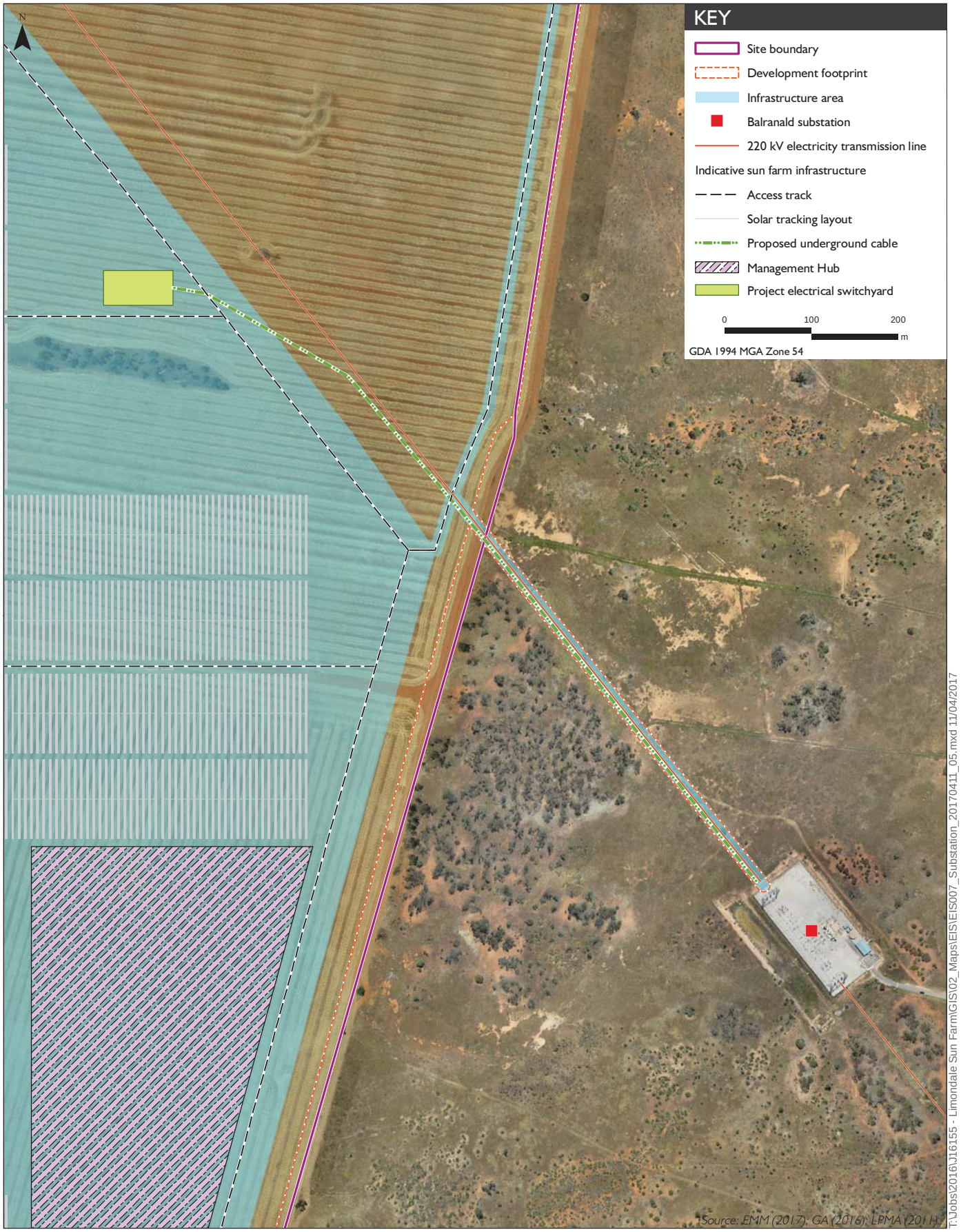


GDA 1994 MGA Zone 54

Site features within the infrastructure area and development footprint

Limondale Sun Farm
Environmental impact statement
Figure 3.3

EMM



Transmission line and substation location

Limondale Sun Farm

Environmental impact statement

Figure 3.4

3.4.5 Connection infrastructure

A transmission line to the Balranald Substation will be constructed to export electricity produced at the site to the electricity grid. The Balranald Substation is approximately 500 m from the site's eastern boundary within the TSR (Figure 2.1). Within the site boundary, transmission infrastructure will originate from the project electrical switchyard and onsite substation (see Figure 3.1 and Figure 3.4). The transmission line will be buried underground and located wholly within the existing easement of Transgrid's 220 kV transmission line (Figure 3.4).

3.5 Construction

3.5.1 Site preparation

Due to the development footprint's relatively flat terrain and predominantly cleared landscape, limited site preparation and civil works will be required. Site establishment works and preparation for construction will include:

- the establishment of a temporary construction site compound in a fenced off area within the development footprint including:
  - a site office;
  - containers for storage; and
  - parking areas;
- construction of access tracks and boundary fencing;
- site survey to confirm infrastructure positioning and placement; and
- where necessary, additional geotechnical investigations to provide information specific to the selected tracking system, mountings, and foundation pile arrangement.

3.5.2 Construction stages

Upon completion of the site establishment and pre-construction activities described above, construction will typically be as follows:

- posts will be driven or screwed into the ground to provide support for the mounting framework required for the PV solar panels;
- foundations for the inverter blocks, switchyard and management hub structures will be prepared;
- underground cabling will be installed between the PV solar panels and the collection circuit (this cabling will carry power throughout the site, between the inverters and central electrical switchyard, which will be located in the management hub);
- PV solar panel frames will be assembled and mounted on top of the piles;
- PV solar panels, inverters, the onsite substation and switchgear units will be installed;
- transmission infrastructure will be constructed between the project electrical switchyard and the Balranald Substation;
- the management hub will be constructed;

- permanent fencing and security will be constructed; and
- the temporary construction site compound will be removed.

3.5.3 Construction plant and equipment

The plant and equipment required for the construction of the project will include:

- earthmoving machinery and equipment for site preparation;
- cable trenching and laying equipment;
- post-driving equipment;
- assisted material handling equipment (forklifts and cranes);
- machinery and equipment for connection infrastructure establishment; and
- water trucks for dust suppression.

3.5.4 Delivery of construction materials and infrastructure

Construction materials and infrastructure will likely be transported to the site via road. Consistent with the vehicle length allowances of the designated B-Double route for Yanga Way, heavy vehicles up to 19 m in length will require access to the site. Construction materials and infrastructure delivered to the site will include:

- PV solar panels;
- piles, mounting structures and frameworks;
- electrical equipment and infrastructure including cabling, inverters, switchgear, and the onsite substation (or transformer);
- construction and permanent buildings and associated infrastructure; and
- earthworks and lifting machinery and equipment.

Oversized vehicle movements may be required for the delivery of the 33 kV/220 kV onsite substation (or transformer) that will be located at the project electrical switchyard. The construction traffic and transportation of materials is further discussed in Section 6.8.

3.5.5 Construction duration and hours

Construction of the project will take approximately 12-15 months from the commencement of site establishment works. Construction activities will be undertaken during the standard daytime construction hours of:

- 7 am–6 pm Monday to Friday; and
- 8 am–1 pm Saturday.

In general, no construction activities will occur on Sundays or public holidays. Exceptions to these hours may be required on limited occasions. The local council, NSW Environment Protection Authority (EPA) and surrounding landholders will be notified of any exceptions prior to any works being undertaken.

3.5.6 Construction workforce

It is anticipated that the average construction workforce throughout the 12–15 month construction period will be approximately 90 people. During the peak construction period, a workforce of approximately 200 people will be required on site.

3.6 Operation

Following construction, the project will begin operating with the production of electricity for contribution to the grid network. The PV solar panels will operate during daylight hours, seven days per week, 365 days per year. The operational lifespan of the project may be in the order of 30 years, depending on the nature of solar PV technology and energy markets.

An operational workforce of between four and seven FTEs will be required to maintain the project once construction has been completed and the operational stage of the project commences.

Throughout the operational stage of the project, ongoing maintenance of the site and project infrastructure will be required. This will include the following ongoing tasks:

- site maintenance including:
  - vegetation maintenance;
  - weed and pest management;
  - fence and access road management; and
  - landscaping;
- infrastructure maintenance including:
  - panel cleaning;
  - panel repair (if required); and
  - equipment, cabling, substation and communications system inspection and maintenance.

To ensure the optimal electricity production output from the project, the PV solar panels may need to be washed periodically to remove dirt, dust and other matter. Water for panel cleaning will be transported to the site via water trucks. Washing will not require any detergent or cleaning agents.

The operational workforce will also be responsible for ongoing security monitoring of the site and project infrastructure.

3.7 Decommissioning

Once the project reaches the end of its investment and operational life, the project infrastructure will be decommissioned and the site returned to its pre-existing land use, or other land use in consultation with the landholder, as far as practicable.

Decommissioning of the site will involve the removal and recycling of the materials on site including:

- PV solar panels and mounting frames;

- metals from posts and cabling; and
- all other equipment including inverters and the onsite substation.

During decommissioning, all above ground facilities will be removed from the site.

Information about the management and mitigation measures that will be implemented during decommissioning is provided in Section 6.5.4 and Table 7.1.

3.8 Environmental management

An environmental management strategy will be implemented to provide the strategic framework for environmental management of the project. The strategy will:

- incorporate a project environmental management plan (EMP), all other required plans, protocols, management and mitigation measures proposed in this EIS;
- identify all relevant statutory approvals;
- establish roles, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
- establish procedures for consulting with the local community and relevant agencies about the operation and environmental performance of the development; and
- establish procedures for handling of complaints, disputes, non-compliances and emergency response.

Chapter 7 provides a consolidated summary of the management measures that would be implemented during the construction and operation of the project to manage, mitigate and/or monitor potential impacts identified within this EIS.

4 Regulatory framework

4.1 NSW Environmental Planning and Assessment Act 1979

4.1.1 Approval process

The EP&A Act and the EP&A Regulation provide the framework for environmental planning and assessment in NSW. Part 4 of the EP&A Act relates to development assessment; Part 4, Division 4.1 relates to the assessment of development deemed to be significant to the State (or SSD).

Section 89C(2) of the EP&A Act states that a:

> … State environmental planning policy may declare any development, or any class or description of development, to be State significant development.

The project is declared to be SSD by the provisions of the SRD SEPP (see Section 4.1.4.i for further details).

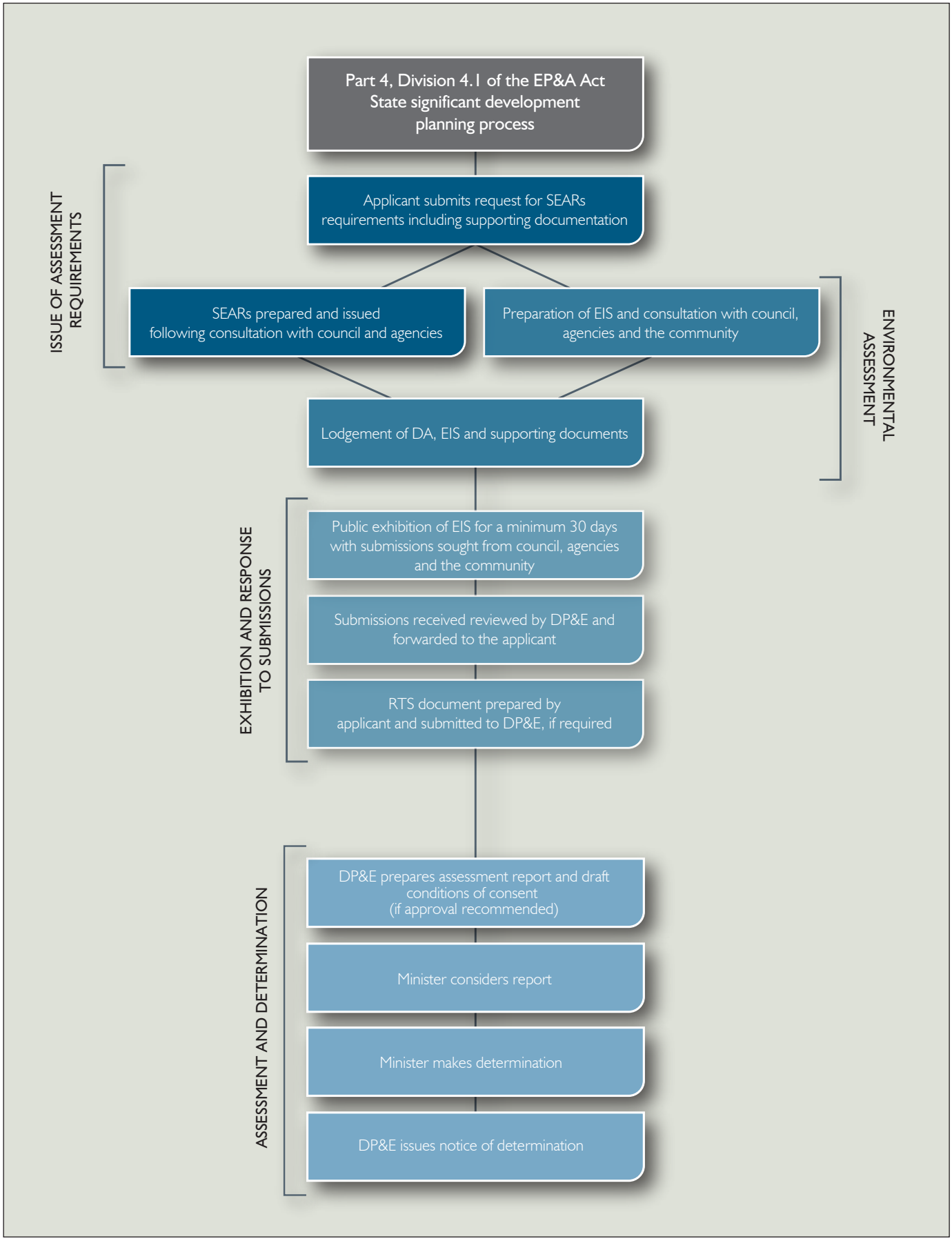
Under section 89D of the EP&A Act, the NSW Minister for Planning is the consent authority for SSD. However, pursuant to section 23 of the Act, the Minister may delegate the consent authority function to the Planning Assessment Commission (PAC), the Secretary or to any other public authority.

A DA for SSD must be accompanied by an EIS, prepared in accordance with the EP&A Regulation. Before preparing an EIS, an applicant must request SEARs which specify what must be addressed in an EIS. The SEARs for the project, issued on 4 November 2016, are included with this EIS in Appendix A.

The EIS will be placed on public exhibition for a minimum of 30 days by DP&E and submissions will be sought from local and NSW Government agencies and the community. Any submissions received by DP&E will be reviewed and forwarded to the applicant to consider and respond to (via a response to submissions (RTS) report).

Following receipt of the RTS report, DP&E will prepare its assessment report considering this EIS, all submissions received during the exhibition process and the RTS report. This report is forwarded to the consent authority for consideration before determining the DA.

The planning approval process for SSD (under division 4.1 of Part 4 of the EP&A Act) can be seen in Figure 4.1.



Planning approval process for SSD
Limondale Sun Farm
Environmental impact statement
Figure 4.1

EMM

4.1.2 Matters for consideration

When assessing a DA for SSD, the consent authority is required to take into consideration the matters outlined in section 79C of the EP&A Act. These matters are addressed in Table 4.1.

Table 4.1 Matters for consideration – Section 79C of the EP&A Act

Provision	Consideration
Any environmental planning instrument	Relevant planning instruments are addressed in Section 4.1.4.
Any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority	There are no proposed instruments relevant to the project.
Any development control plan	Clause 11 of the SRD SEPP states that development control plans do not apply to SSD.
Any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F	There are no planning agreements relevant to the project.
The regulations (to the extent that they prescribe matters for the purposes of this paragraph)	
Any coastal zone management plan (within the meaning of the *Coastal Protection Act 1979*)	The project is not within the coastal zone as defined under the *Coastal Protection Act 1979.*
The likely impacts of that development, including potential environmental impacts on both the natural and built environments, and potential social and economic impacts in the locality	This EIS comprehensively describes the likely impacts of the project based on the SEARs, including potential environmental impacts on both the natural and built environments, and social and economic impacts in the local area, region and State. It also describes commitments proposed by the applicant to mitigate and manage these impacts. These descriptions are based on technical studies prepared by specialists, which are appended to this EIS and summarised in Chapter 6. The technical studies were prepared using the most recent and accurate scientific data relevant to the project in consideration of current policies and legislation. In addition, the technical studies adopted conservative assumptions to enable the upper limit of likely impacts to be assessed.
The suitability of the site for the development	The suitability of the site is detailed in Chapter 3.
Any submissions made in accordance with this Act or the regulations	This EIS will be placed on public exhibition for a minimum of 30 days by DP&E and submissions will be sought from local and NSW Government agencies and the community. Any submissions received by DP&E will be reviewed and forwarded to the applicant to consider and respond to (via a RTS report). Following receipt of the RTS report, DP&E will prepare its assessment report considering this EIS, all submissions received during the exhibition process and the RTS report
The public interest	To assist the consent authority in determining whether the project is in the public interest, this EIS provides a justification for the project (refer to Section 1.3 and Chapter 8), taking into consideration its potential environmental impacts, and the suitability of the site. It also considers the project against the principles of ESD. The consent authority will also be required to consider all submissions received during the public exhibition of the EIS.

4.1.3 Approvals not required or which cannot be refused

Under section 89J of the EP&A Act, the following authorisations are not required for SSD:

(a) the concurrence under Part 3 of the *Coastal Protection Act 1979* of the Minister administering that Part of that Act;

(b) a permit under Section 201, 205 or 219 of the *Fisheries Management Act 1994*;

(c) an approval under Part 4, or an excavation permit under Section 139, of the *Heritage Act 1977*;

(d) an Aboriginal heritage impact permit under Section 90 of the *National Parks and Wildlife Act 1974*;

(e) an authorisation referred to in Section 12 of the *Native Vegetation Act 2003* (or under any Act repealed by that Act) to clear native vegetation or State protected land;

(f) a bush fire safety authority under Section 100B of the *Rural Fires Act 1997*; and

(g) a water use approval under Section 89, a water management work approval under Section 90 or an activity approval (other than an aquifer interference approval) under Section 91 of the *Water Management Act 2000*.

Further, section 89K of the EP&A Act lists authorisations which cannot be refused and are to be substantially consistent with a development consent for SSD. Relevant to the project, consent under section 138 of the NSW *Roads Act 1993* may be required for the connecting the access road to Yanga Way. Should the project obtain development consent, approval under the NSW *Roads Act 1993* cannot be refused and will be consistent with conditions of approval.

4.1.4 Environmental planning instruments

The following environmental planning instruments are relevant to the project:

- SRD SEPP;
- State Environmental Planning Policy (Infrastructure) 2007 (the Infrastructure SEPP);
- State Environmental Planning Policy No 33–Hazardous and Offensive Development (SEPP 33);
- State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55);
- State Environmental Planning Policy (Rural Lands) 2008 (rural lands SEPP); and
- Balranald LEP.

The relevant provisions of the above instruments to the project are discussed in the following sections.

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

The SRD SEPP identifies development that is SSD. Clause 8 of the SRD SEPP states:

> (1) Development is declared to be State significant development for the purposes of the Act if:
>
> > (a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and
> >
> > (b) the development is specified in Schedule 1 or 2.

Schedule 1 of the SRD SEPP defines the following as SSD:

> Electricity generating works and heat or co-generation
>
> Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:
>
> > (a) has a capital investment value of more than $30 million.

The project is a development for the purpose of electricity generation using a solar energy source, and will have a capital investment value of more than $30 million.

Permissibility of the project is given under clause 34 (7) of the Infrastructure SEPP as detailed further below.

The project meets both the requirements of clause 8 of the SRD SEPP as it is not permissible without development consent and is development specified in Schedule 1. Therefore, the project is SSD for the purposes of the EP&A Act.

ii State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP provides development controls for infrastructure and services. Clause 34 (7) of the SEPP provides provisions for development that is permitted with consent. It states:

> (7) Solar energy systems
>
> Except as provided by subclause (8), development for the purpose of a solar energy system may be carried out by any person with consent on any land.

Subclause (8) limits the use of photovoltaic electricity generating systems in residential zones. The site is not within a residential zone and, therefore, is not affected by this subclause.

Therefore, the project is permissible with development consent.

iii State Environmental Planning Policy No 33—Hazardous and Offensive Development

Under SEPP 33 a preliminary hazard assessment (PHA) prepared in accordance with the current circulars or guidelines must be submitted for potentially hazardous or offensive development. The guideline *Applying SEPP 33* (DoP 2011) includes a checklist and a risk screening procedure to determine whether a development is potentially hazardous or offensive.

A review of *Applying SEPP 33* has identified that the project is not potentially hazardous, as it will not exceed the screening threshold for any of the hazardous material identified in *Applying SEPP 33*. Further, the project will not pose a significant risk to or have a significant adverse impact on human health, life, property or the biophysical environment (see Chapter 6). The project is not a potentially hazardous or offensive industry and therefore, a PHA is not required.

iv State Environmental Planning Policy No 55 – Remediation of Land

SEPP 55 was enacted to provide a state wide planning approach to the remediation of contaminated land, and aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human and environmental health.

Clause 7 of SEPP 55 requires that a consent authority take into consideration whether the land is contaminated. The contaminated land planning guidelines *Managing Land Contamination Planning Guidelines: SEPP 55 – Remediation of Land* (Department of Urban Affairs and Planning 1998) identifies activities with the potential to cause contamination. These guidelines list 'agricultural/horticultural activities' as an activity which potentially causes contamination.

A search of the EPA's contaminated land public record of notice and list of sites notified to the EPA under Section 60 of the NSW *Contaminated Land Management Act 1997* did not return any information on reported contamination or any regulatory notices issued for the site (EPA 2017a; EPA 2017b). There is one site under assessment within the Balranald Shire LGA (EPA 2017a). This site is the location of the Caltex Service Station on the Sturt Highway approximately 10 km north of the site. A search of the contaminated land record of notices did not reveal any records for the Balranald Shire LGA (EPA 2017b).

v State Environmental Planning Policy (Rural Lands) 2008

The rural lands SEPP aims to, among other objectives, facilitate the orderly and economic use and development of rural lands for rural and related purposes, to identify rural planning principles so as to assist the proper management of rural lands, reduce land use conflicts and identify State significant agricultural land to ensure its ongoing viability.

Clause 7 of the rural lands SEPP identifies rural planning principles as follows:

> (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.

The project is considered to be an orderly use of the rural lands encompassed by the site, for the reasons outlined in Section 3.2. Potential impacts to biodiversity, heritage, land use and water resources are considered in Chapter 6. The project will not impact State significant agricultural land.

On balance, the project is considered to be an acceptable use of rural lands, in consideration of the social, economic and environmental interests of the community.

vi Balranald Local Environmental Plan 2010

Under the Balranald LEP, the site's western portion is zoned RU1 Primary Production. The objectives of this zone are:

- to encourage sustainable primary industry production by maintaining and enhancing the natural resource base;
- to encourage diversity in primary industry enterprises and systems appropriate for the area;
- to minimise the fragmentation and alienation of resource lands;
- to minimise conflict between land uses within this zone and land uses within adjoining zones;
- to encourage development that is in accordance with sound management and land capability practices, and that takes into account the environmental sensitivity and biodiversity of the locality;
- to support rural communities; and
- to ensure the provision of accommodation for itinerant workers.

The project will harness a natural resource, namely solar energy. Whilst the development of this project will impact the availability of land for other primary production, it will allow for and encourage diversity in the area's land use, and will provide economic stimulus and support to rural communities.

Development for the purpose of electricity generation works is prohibited in the RU1 zone under the Balranald LEP; however, the project is permissible by virtue of clause 34(7) of the Infrastructure SEPP.

4.1.5 Environmental Planning and Assessment Regulation 2000

As previously stated, a DA for SSD must be accompanied by an EIS, prepared in accordance with the EP&A Regulation. Schedule 2 of the EP&A Regulation stipulates:

- requirements of the Director-General and approval bodies in relation to EISs (ie the SEARs); and
- general provisions relating to EISs.

The general provisions specify the form (clause 6) and the content (clause 7) of an EIS. The clause 6 and 7 requirements and where they are addressed in the EIS are set out in Table 4.2 below.

Table 4.2 Schedule 2 requirements for an EIS

Requirement	Where contained in the EIS
Name, address and professional qualifications of the person(s) who prepared the EIS	Certification page at the front of this EIS
Name and address of the responsible person (the applicant)	Certification page at the front of this EIS
Address of land	Table 2.1
Description of development	Chapter 3
Assessment of the environmental impact	Chapter 6
Declaration that the EIS has been prepared in accordance with this Schedule, contains all available information that is relevant to the environmental assessment of the development and that the information contained in the statement is neither false nor misleading	Certification page at the front of this EIS
Summary of the EIS	Executive summary
A statement of the objectives of the development	Section 3.1
An analysis of feasible alternatives, having regard to its objectives, including the consequences of not carrying out the development	Section 3.3
A full description of the development	Chapter 3
A general description of the environment likely to be affected by the development	Chapter 2
The likely impact on the environment of the development	Chapter 6
A full description of the measures proposed to mitigate any adverse effects of the development	Chapter 6 Chapter 7
A list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out	Table 4.4
A compilation (in a single section of the environmental impact statement) of the measures referred to in item (d) (iv) (a full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure on the environment)	Chapter 7
The reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development	Section 1.3 Section 8.3.7

4.2 Other State legislation

4.2.1 Crown Lands Act 1989

The NSW *Crown Lands Act 1989* (CL Act) sets out how Crown land is to be managed. In particular, specific use of Crown land generally needs to be authorised by a lease, licence or permit. The NSW Department of Industry – Lands (DoI-Lands) is responsible for administering the CL Act. The project will require access through a TSR, which is Crown land, to both access the site, and to access the Balranald Substation from the site. Clause 34 of the CL Act sets out the powers of the Minster (for Lands and Forestry). Subclause (1)(b) enables the Minister to:

> grant easements or rights-of-way over, or licences or permits in respect of, Crown land, on behalf of the Crown.

DoI Lands has provided advice regarding the process to obtain easements and licences. OVERLAND will continue to consult with DoI Lands in respect of easement/licence arrangements within the TSR for the site access road and connection infrastructure. It is noted that Transgrid has confirmed that connection infrastructure for the project can be co-located within Transgrid's existing 220 kV transmission line easement to connect the project to the Balranald Substation (refer to Section 5.3 and Appendix C).

4.2.2 Protection of the Environment Operations Act 1997

The NSW *Protection of the Environment Operations Act 1997* (POEO Act) is the principal NSW environmental protection legislation and is administered by the NSW EPA. Section 48 of the POEO Act requires an environment protection licence (EPL) to undertake scheduled activities at a premise. Scheduled activities are defined in Schedule 1 of the POEO Act and include the following premise-based activities that apply to the project:

> 17 Electricity generation
>
> (1) ...general electricity works, meaning the generation of electricity by means of electricity plant that, wherever situated, is based on, or uses, any energy source other than wind power or solar power.
>
> (2) Each activity referred to in Column 1 of the Table to this clause is declared to be a scheduled activity if it meets the criteria set out in Column 2 of that Table.

The project involves the generation of electricity from solar energy. Therefore, it is not a scheduled activity and an EPL is not required.

4.2.3 Water Management Act 2000

The NSW *Water Management Act 2000* (WM Act) regulates the use and interference with surface and groundwater in NSW where a water sharing plan has been implemented. A number of water sharing plans apply to the region in which the site is located.

The WM Act provides for basic landholder rights, which enable landholders to extract water from an aquifer underlying their properties for domestic and stock purposes without the need for a licence. A water use approval under Section 89 of the WM Act is not required for the project by virtue of Section 89J of the EP&A Act. Should water be extracted under these provisions for stock watering purposes, the relevant water supply work approvals would be sought under the WM Act.

The WM Act also contains provisions relating to harvestable rights. Harvestable rights allow landholders to collect a proportion of the runoff from their property. Any runoff harvested from the site would be within the volume permitted under harvestable rights.

As described in Chapter 3 and Section 6.9, the water needs of the project will be met via water trucked to the site. The project has access to general security unit shares from the Murrumbidgee Regulated River Water Source, held by the landowner of the site. In principle agreement has been provided by the landholder to meet the water supply requirements of the project.

4.2.4 Roads Act 1993

The NSW *Roads Act 1993* is administered by either RMS, local government or NSW Land and Property Information (NSW LPI).

The RMS has jurisdiction over major roads, local government over minor roads and NSW LPI over Crown roads. The NSW *Roads Act 1993* sets out the rights of the public in regard to access to public roads.

Under section 138 or Part 9, Division 3 of the NSW *Roads Act 1993*, a person must not undertake any works that impact on a road, including connecting a road (whether public or private) to a classified road, without approval of the relevant authority, being either RMS or local council, depending upon classification of the road.

The project will require intersection improvements at the site access road intersection on Yanga Way (see Section 6.8). RMS is the relevant road authority for this road. Under the provisions of the EP&A Act, an approval under section 138 or Part 9, Division 3 of the NSW *Roads Act 1993* cannot be refused if it is necessary for carrying out a SSD authorised by a development consent (see Section 4.1.3).

4.2.5 Rural Fires Act 1997

The NSW *Rural Fires Act 1997* (RF Act) aims to prevent, mitigate, and suppress bush and other fires in local government areas of the State. Section 63(2) of the RF Act requires the owners of land to prevent the ignition and spread of bushfires on their land. Under Section 89J of the EP&A Act, a bush fire safety authority under Section 100B of the RF Act is not required for SSD that is authorised by a development consent.

The NSW Rural Fire Service (RFS) Bush Fire Prone Land online mapping tool indicates that the site is not bush fire prone. An assessment of bush fire risk is presented in Section 6.10.2.

4.2.6 National Parks and Wildlife Act 1974

The NSW *National Parks and Wildlife Act 1974* (NPW Act) provides for nature conservation in NSW including the conservation of places, objects and features of significance to Aboriginal people and protection of native flora and fauna. A person must not harm or desecrate an Aboriginal object or place without an Aboriginal heritage impact under section 90 of the NPW Act. However, a section 90 permit is not required for SSD approvals by virtue of section 89J of the EP&A Act.

The project design has avoided impacts to Aboriginal heritage sites as far as practicable. The project design has avoided impacts to eight of the 11 newly identified Aboriginal sites, and three of the five AHIMS sites. A total of five sites will be impacted; of these, two are of low scientific significance and three are of moderate scientific significance. A combination of archaeological salvage (three sites) and subsurface investigation (two sites) is proposed prior to disturbance.

Further discussion of the potential impacts to Aboriginal heritage sites resulting from the project are detailed in Section 6.3 and Appendix E.

4.2.7 Threatened Species Conservation Act 1995

The NSW *Threatened Species Conservation Act 1995* (TSC Act) aims to conserve biological diversity in NSW through the protection of threatened flora and fauna species and endangered ecological communities (EECs).

One TSC Act listed EEC, *Acacia melvillei Shrubland in the Riverina and Murray-Darling Depression bioregions,* has been mapped in the study area but will be avoided by the development footprint. The project will not result in any impacts to this community. No other EECs were mapped in the study area. The project will not result in removal of habitat for threatened species and populations.

Further discussion of the potential impacts of the project on threatened species and EECs listed under the TSC Act is provided in Section 6.2 and Appendix D.

4.2.8 Native Vegetation Act 2003

The NSW *Native Vegetation Act 2003* (NV Act) provides for the promotion, improvement and protection of native vegetation in NSW. Approval to clear native vegetation in NSW is required under the NV Act. Under section 89J of the EP&A Act, SSD is exempt from an authorisation to clear native vegetation under section 12 of the NV Act.

Consultation has been undertaken with Local Land Services – Western Region (LLS-Western) to confirm that there are no existing property vegetation plans (PVP) under the provisions of the NV Act that would be affected by the project.

The impact of the project will be limited to removal of 5.32 ha of native vegetation. Measures to avoid and minimise impacts to vegetation were considered during the design and planning stage of the project, resulting in significant minimisation of impacts on native vegetation. Residual impacts to native vegetation will require retirement of 158 biodiversity credits. Impacts will be offset in accordance with the biodiversity offset strategy and processes outlined in the relevant government policies (OEH 2014a and OEH 2014b).

Further discussion of the potential impacts of the project on native vegetation is provided in Section 6.2 and Appendix D.

4.2.9 Heritage Act 1977

The NSW *Heritage Act 1977* (Heritage Act) aims to protect and conserve the natural and cultural history of NSW, including scheduled heritage items, sites and relics. Approvals under Part 4 or an excavation permit under section 139 of the Heritage Act are not required for SSD by virtue of section 89J of the EP&A Act.

The project will not impact any items of local, State, National or World heritage significance identified on the SHR, Balranald LEP or Australian Heritage Database. The house ruins identified within the site boundary will be not be impacted by the project.

Further discussion of the potential heritage impacts of the project are detailed in Section 6.4.

4.2.10 Local Land Services Act 2013

The *Local Land Services Act 2013*, among other functions, sets out the governance for land under the control and management of LLS. This includes the management and regulation of TSRs. One of the functions of LLS is to issue permits for activities within the TSR. Consultation with LLS Western has confirmed that there may be existing uses in the TSR which require consideration. As at 10 April 2017, OVERLAND was waiting on a response from LLS Western to confirm permitted uses within the TSR.

4.3 Commonwealth legislation

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) aims to protect matters of national environmental significance (MNES) including:

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

A search of the Commonwealth Protected Matters Search Tool indicates that there are no World Heritage Properties or National Heritage Places within the vicinity of the site. The Commonwealth Protected Matters Search Tool and preliminary ecological investigations indicate that there is potential for listed threatened species and listed migratory species to occur within the vicinity of the site.

If an action would, or is likely to, have a significant impact on any MNES, it is deemed to be a 'controlled action' and requires approval from the Commonwealth Environment Minister or the Minister's delegate. To determine whether a proposed action will or is likely to be a controlled action, a Referral or Proposed Action is submitted to the Commonwealth Department of the Environment and Energy (DoEE – formerly Department of the Environment).

The Biodiversity Assessment Report (BAR) for the project (see Section 6.2 and Appendix D) demonstrates that the project is not likely to have an impact on any MNES, as summarised in Table 4.3.

Table 4.3 Assessment of the project against the EPBC Act

Matters of MNES	Occurrence	Potential for significant impact
Threatened species	Four flora species and 15 fauna species have been recorded or are predicted to occur in the locality. The majority of these species are considered unlikely to occur within the study area.	Significant impact unlikely.
Threatened ecological communities	No Threatened Ecological Community were mapped in the study area.	Significant impact unlikely.
Migratory species	Two migratory species have been recorded or are predicted to occur in the locality. The study area does not provide important habitat for an ecologically significant proportion of any of these species.	Significant impact unlikely.
Wetlands of international importance (Ramsar sites)	The study area does not flow directly into a Ramsar site and the development is not likely to result in a significant impact.	Significant impact unlikely.

4.4 Strategic policies

4.4.1 NSW 2021

The *NSW 2021: A Plan to Make NSW Number One* (NSW Government 2011) aims to guide policy and budget decisions over the ten year period to 2021. The plan is based around the following strategies:

- rebuild the economy;
- return quality services;
- renovate infrastructure; and
- strengthen the local environment and communities.

Work has been undertaken to localise NSW 2021 through consultation with local communities to identify local priorities for action at the regional level. A regional action plan for the Murray-Lower Darling, in which Balranald LGA and Balranald township is located, was prepared in December 2012 (the Murray-Lower Darling Regional Action Plan).

The Regional Action Plan was underpinned by community consultation which included holding regional forums to hear directly from communities. These forums were aimed at identifying regional issues and priorities how the State Government could assist in delivering those priorities. The key priorities identified by communities within the Murray-Lower Darling Regional Action Plan include:

> Prosperous and economically diverse – The Murray-Lower Darling will use its competitive advantages in location, workforce availability, climate, education and training opportunities, agribusiness and infrastructure to grow and diversify the economy. The region will be recognised as a place for new and innovative business concepts, products and services and for nurturing new high-value export-orientated industries in agriculture, manufacturing, mining, transport, arts and culture.

Providing quality education and training opportunities – The Murray-Lower Darling region will continue to be home to quality education and research institutions. Industry and educational institutions will partner to promote lifelong learning and provide people with more education, training and employment options.

Recognised for its strong communities – The Murray-Lower Darling will be recognised for its resilient communities and effective regional leadership to adapt to the challenges of water management, climate change and the ever changing nature of agriculture production in inland NSW.

Well-connected – The Murray-Lower Darling will be well-connected with increased access to transport services within our region and to other regions and major airports. Roads will be upgraded to continue to support the critical transport and logistics industry. Improvements and increased access to new technologies will link the Murray-Lower Darling region to high quality reliable mobile and internet services.

Specifically in relation to growth and diversification of the economy, the Murray-Lower Darling Regional Action Plan states

> The Murray-Lower Darling region has a strong economy based on agriculture, forestry, the services sector, tourism and the training sector. There are further opportunities to grow the economy and increase regional business investment through the expansion of manufacturing, food processing, logistics industries and the new mineral sand mining industry in the west of the region.
>
> Expansion of these industries will increase local employment opportunities, including for young people. Delivery of education and training services to support these industries will be required to ensure local people have the skills required to take advantage of new employment opportunities.

Furthermore, Murray-Lower Darling Regional Action Plan states the following as a priority action:

> **Support businesses and industries that have a competitive advantage**
>
> NSW Trade & Investment will work with the Murray Regional Development Australia, local businesses and other stakeholders to support businesses and industries in the region that have a competitive advantage and will drive future job growth in agriculture, tourism, mining and related industries.

The project is consistent with this strategy, because its development will generate employment during both construction and operation, and will take advantage of the benefits of the project's geographical location identified in Section 3.2. Employment generated by the project, direct and indirect, will assist the NSW Government achieve other strategies for the region, including growth in employment, skills and business investment. The project will also lead to increases in the production of renewable energy within NSW, directly contributing to the State's renewable energy targets and the objectives of the NSW Government's REAP.

4.4.2 Western Region Local Strategic Plan

The *Western Region Local Strategic Plan 2016-2021* (the plan) was prepared in 2016 by LLS-Western. The plan details actions and strategies that will be implemented to achieve the vision of strong communities, resilient landscapes and competitive agriculture over the five year period 2016-2021.

The plan focuses its strategies for land management in the Western Region on three long term goals for LLS. The strategies outlined in the plan directly address these long term goals.

Goal 1 - Self-reliant, adaptive and prepared communities

LLS will support land managers and collaborate with stakeholders to: improve land management and agricultural productivity; improve innovation, productivity and sustainability; create opportunities for Aboriginal people to connect to Country and share traditional land management knowledge; prevent, prepare, respond to and recover from biosecurity and natural disaster events; and adapt to the impacts of climate change.

Goal 2 - Productive, biosecure and sustainable primary industries operating in resilient landscapes

LLS will support land managers and collaborate with stakeholders to: manage threats to, and improve biodiversity outcomes; improve management of terrestrial and aquatic environments for landscape resilience; implement practices that increase enterprise productivity and sustainability; identify, contain and manage pest, disease and weed risks to reduce impacts on landscapes and agriculture; and maintain the integrity and traceability of plant and animal product to ensure containment of risks and market security of agricultural enterprises in the Western Region.

LLS will also: deliver consent, compliance and enforcement activities that educate and protect Western communities and industries from biosecurity risks; and care for, control and manage Crown land vested in LLS-Western for environmental, social and economic outcomes.

Goal 3 - Effective, efficient, integrated service delivery and local decision making

LLS will: understand customer and investor needs; involve local people in decision making; identify and act on opportunities to create value for customers and investors through integrated service delivery; Strengthen partnerships with customers, stakeholders and industry; and ensure ongoing improvement in service delivery by using an adaptive approach.

The project is consistent with the goals of the Local Land Services Western Local Strategic Plan and will contribute to the plan's strategies. The development of a large-scale solar energy facility will improve the innovation, productivity and sustainability of land management in the Western Region which will contribute to strategies and key performance indicators targeting self-reliant, adaptive and prepared communities. The project will also deliver positive economic outcomes and employment opportunities in the region with low environmental impact. This will contribute to the strategies for productive, biosecure and sustainable primary industries, including supporting land manager capacity to increase enterprise productivity and sustainability.

4.5 Summary of licences approvals and permits

Table 4.4 contains a summary of the licences, approvals and permits that are likely to be required for the project.

Table 4.4 Summary of required licenses approvals and permits

Legislation	Authorisation	Consent or approval authority
EP&A Act	Development consent	Minister for Planning or delegate
	Construction certificate required prior to construction of certain structures	BSC or private certifier
	Occupation certificate required prior to use of certain buildings	BSC or private certifier
Roads Act 1993	Section 138 permit for road and intersection improvements for site access road intersection with Yanga Way	RMS
CL Act	Licence or easement for ongoing access/use of TSR	DoI Lands