QUORN PARK SOLAR FARM

SCOPING REPORT

PREPARED FOR:

RENEWABLE ENERGY DEVELOPMENTS

FEBRUARY 2018

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The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

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Site Details

1.1 LOCATION AND REGIONAL CONTEXT

The proposed solar farm development site is located off Back Trundle Road, approximately 8.5 km north-west of Parkes, NSW, within the Parkes Local Government Area (LGA). The development site is on Lot 508 DP750152 (covering 470 ha) and is owned by a single landowner.

The development site is accessible via Back Trundle Road or from the south from Condobolin Road (Henry Parkes Way) via McGraths Lane.

The site in a regional context is provided in **Figure 1** and the immediate site locality in **Figure 2**.

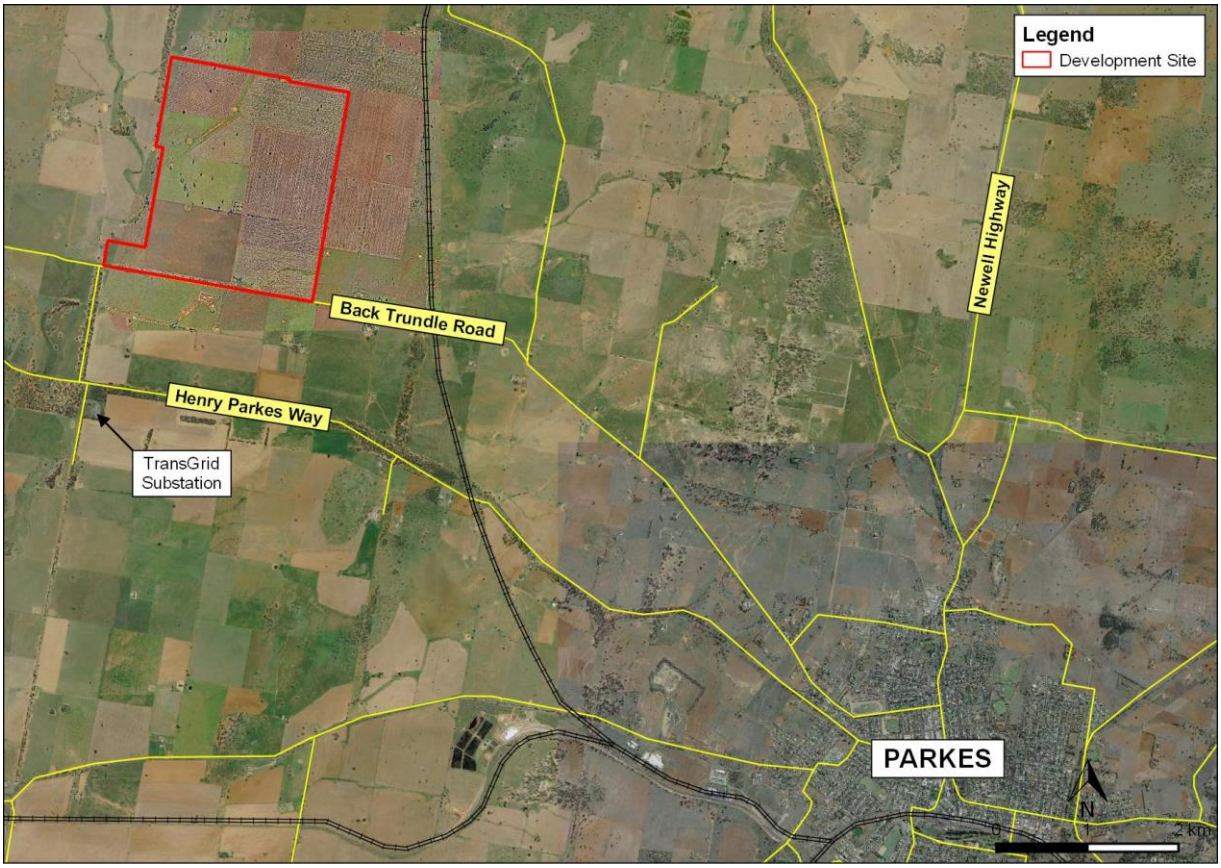

Figure 1: Site location regional context (Imagery: NSW Spatial Services / NearMap)

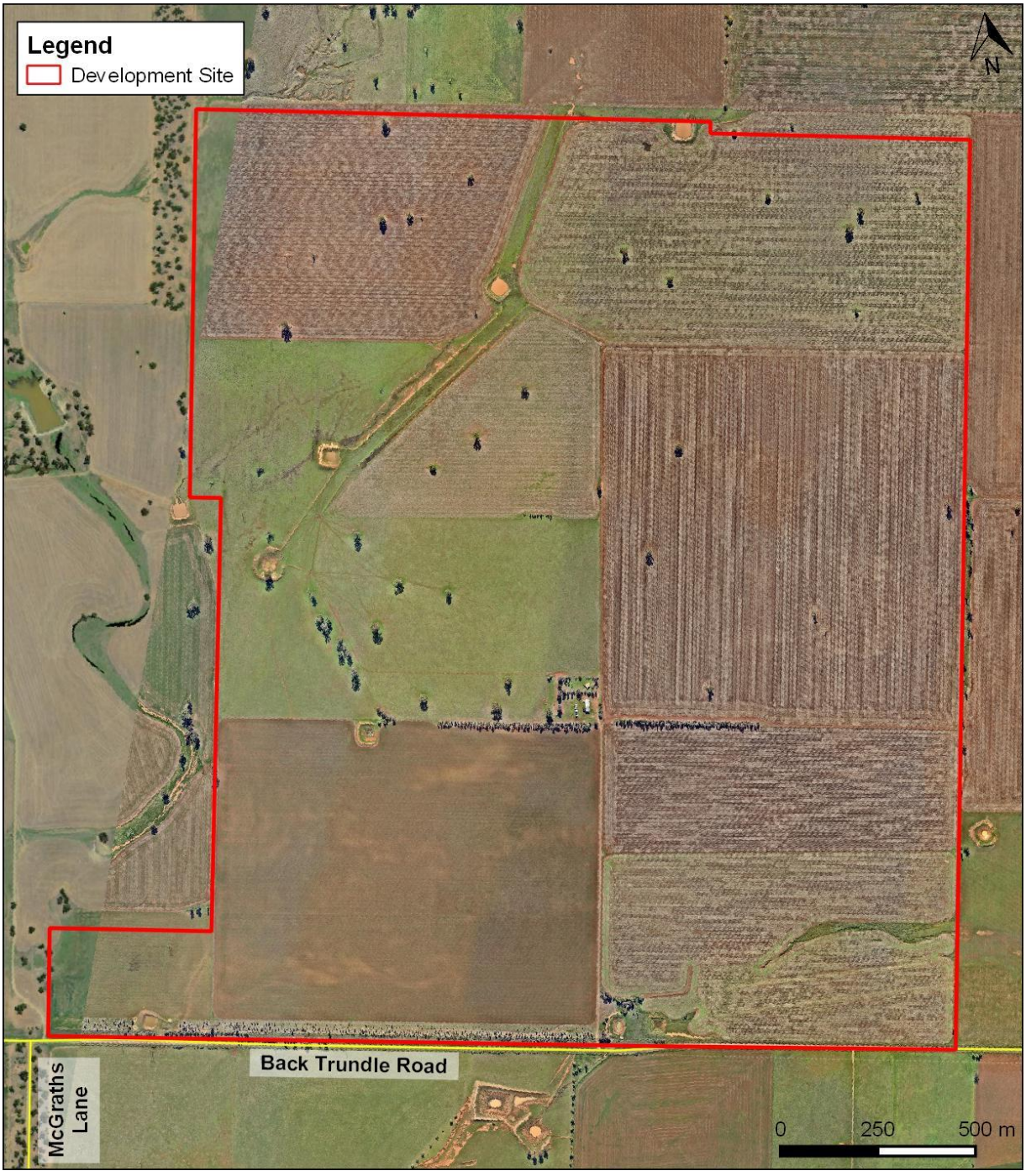

Figure 2: Immediate site locality (Imagery: NSW Spatial Services / NearMap)

1.2 SURROUNDING DEVELOPMENT

1.2.1 LAND USE

The development site mostly consists of cleared land with some patches of vegetation and several isolated trees. The site is currently used for agricultural purposes, such as cropping and grazing. Buildings on the site include a cottage and implement shedding.

A breakdown of land use within a 5 km radius is provided in **Table 1.1** and depicted in **Figure 3**.

Table 1.1 – Summary of land use within a 5 km radius of the site

Land Use	Area (ha)	%
Grazing	7699.8	59.87%
Cropping	4354.8	33.86%
Approved Solar Farms	467.5	3.64%
Conservation Area	160	1.24%
Transport & Other Corridors	149.4	1.16%
Urban	10.3	0.08%
Intensive Animal Production	8.3	0.06%
Power Generation	4.3	0.03%
Mining & Quarrying	3.9	0.03%
River & Drainage System	2.0	0.02%

Source: NSW OEH GIS Dataset – NSW Land Use 2007 (modified to include approved solar farm footprints)

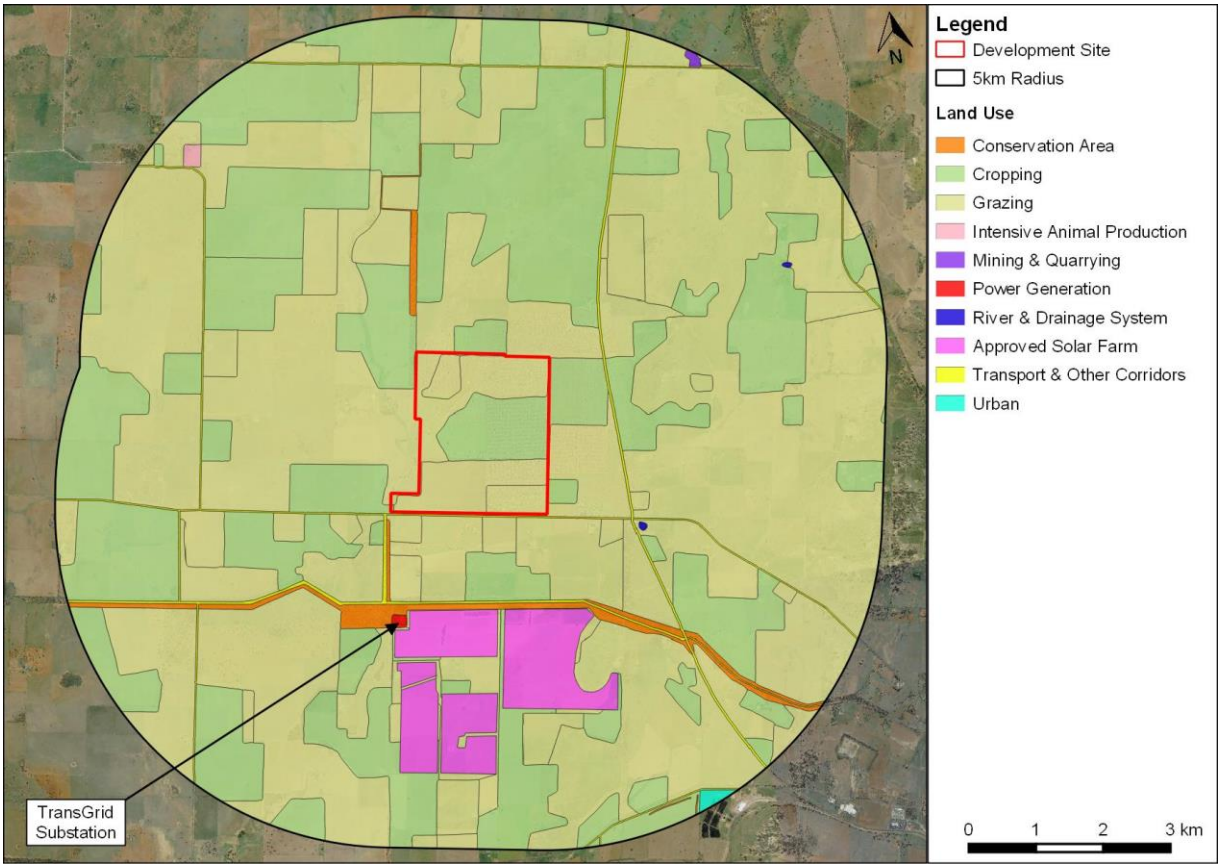

Figure 3: Land use within 5 km radius (Data: NSW OEH)

1.3 POTENTIALLY AFFECTED RECEPTORS

There are 10 sensitive receptors (residential dwellings) within 2 km, including 3 receptors within a 1 km radius of the development site (refer – **Figure 4**).

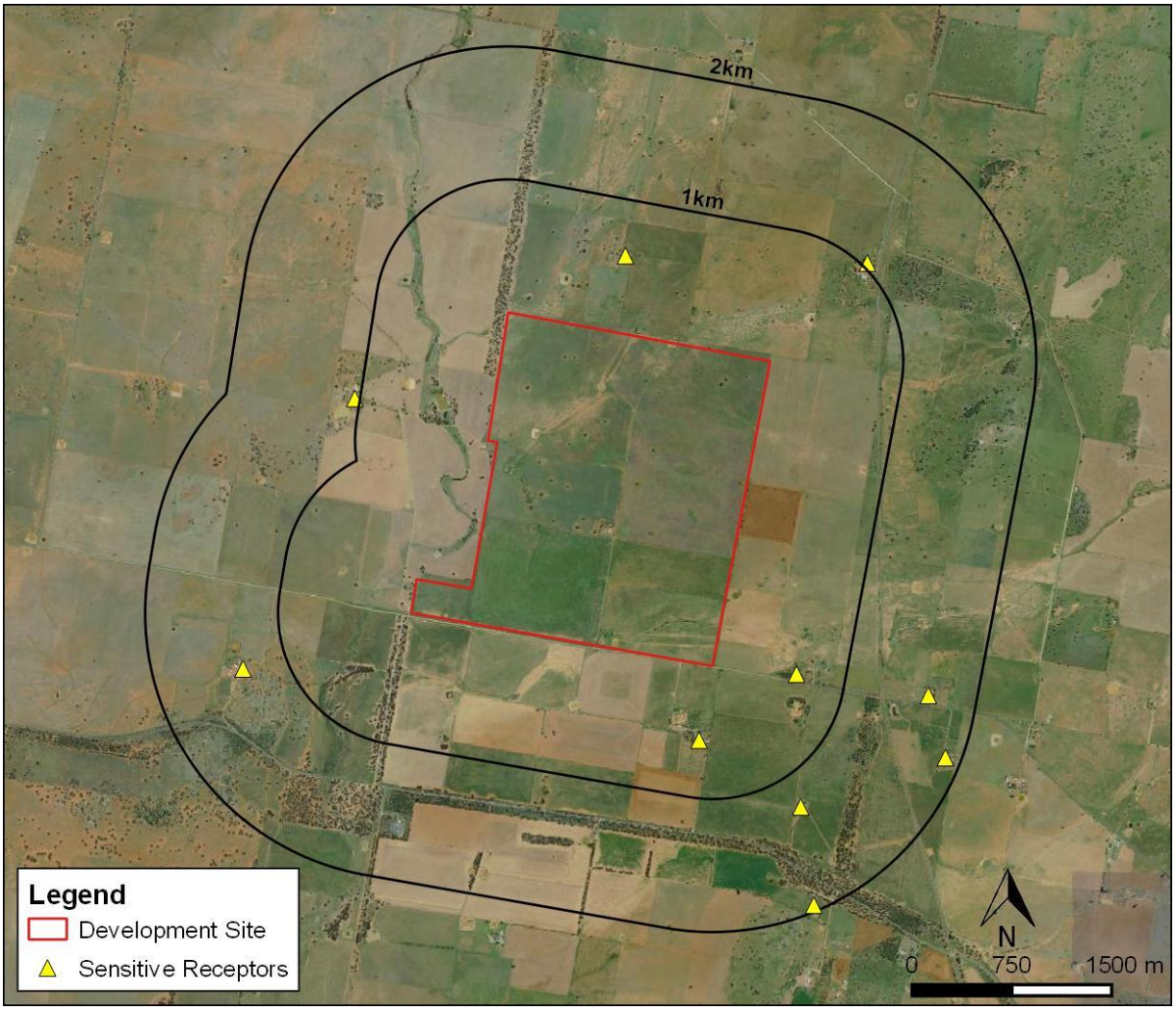

Figure 4: Potentially affected properties within a 2 km radius (Imagery: NSW Spatial Services)

1.4 KEY INFRASTRUCTURE

The development site fronts Back Trundle Road.

A 132kV transmission line runs NE-SW near the western boundary of the site as shown in **Figure 5**.

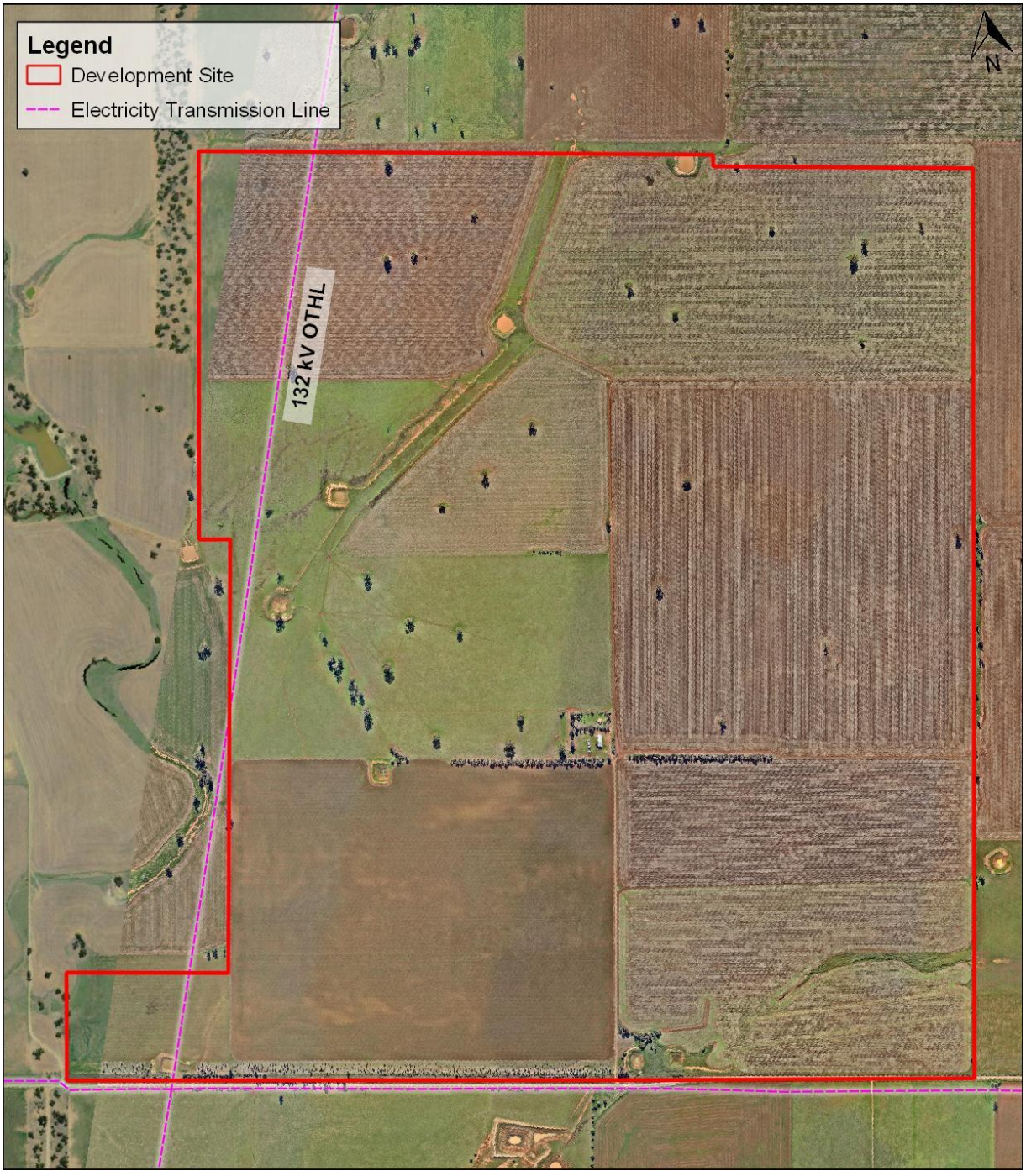

Figure 5: Existing Infrastructure (Imagery: NSW Spatial Services / NearMap)

1.5 ENVIRONMENTAL FEATURES

1.5.1 TOPOGRAPHY

The site is fairly flat, mostly cleared and has been cultivated. The site slopes very gently towards the west to Ridgey Creek.

1.5.2 VEGETATION

The 470 ha development site mostly consists of cleared land with some patches of vegetation and several isolated trees. The site does not appear to contain extensive connective stands of remnant native vegetation. There appears to be some planted areas within the development site.

It is noted that the development site is not within areas mapped as terrestrial biodiversity in the Parkes LEP and the site does not contain any mapped bushfire prone land.

1.5.3 WATER

1.5.3.1 Surface Water

There are eight (8) farm dams scattered across the site and most are connected to mapped drainage lines. First, second and third order drainage lines are mapped across the site and connect to a fourth order watercourse (Ridgey Creek) west of the development site.

Some watercourses are also mapped as Key Fish Habitat by the NSW Department of Primary Industries (Fisheries)

Surface water features at and surrounding the site are depicted in **Figure 6**.

1.5.3.2 Groundwater

As reported in the QPSF Desktop Assessment (Geolyse, June 2017), a review of the NSW Department of Primary Industries (DPI) – Office of Water *All Groundwater Map* confirms that there are no registered groundwater bores within the development site and that there are four (4) registered groundwater bores within a 1 km radius. One of those bores had a recorded water bearing zone (WBZ) at depth of 37 m. It is unlikely that groundwater would be intersected by the proposed development.

1.5.3.3 Flooding

There is no Flood Prone Land mapped in the Parkes LGA.

A sign-posted floodway does exist on Back Trundle Road approximately 20 m east of the site access point. Water appears to drain from a dam approximately 40 m north of the floodway.

The EIS will consider flood risks.

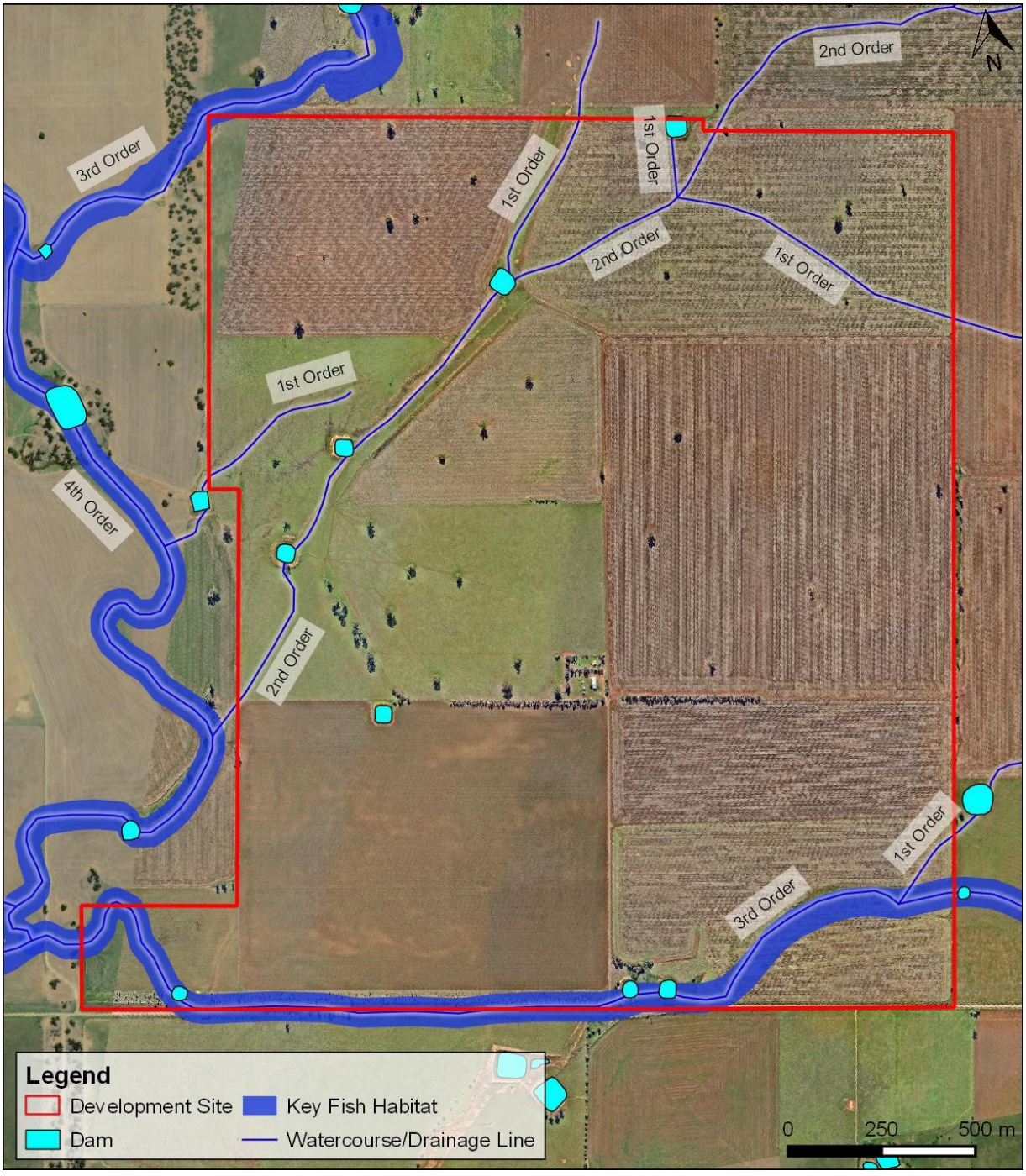

Figure 6: Surface water features (Source: NSW Spatial Services / NearMap)

Development Description

2.1 SOLAR FARM

The QPSF will use solar PV panels to convert sunlight into electrical current, with grid compliant energy then delivered to the TransGrid substation located to the south. Electricity will be sold into the National Electricity Market (NEM) and Large Generation Certificates (LGC's) will be sold to liable entities under the *Renewable Energy Act 2000*.

The final footprint of the solar farm infrastructure will be refined through consideration of findings as a result of further site investigations and identification of constraints and opportunities mapped through the environmental impact assessment process. The intent, however, is to maximise the built footprint over the development site which, at this stage, includes an area of approximately 450 ha.

Solar PV technology will be either crystalline silicone or thin film. The solar PV modules will be connected together via a direct current (dc) collection system consisting of cables mounted on the module support structure. The support structure will be east-west tracking. A tracking system tracks the daily movement of the sun and a motorised system rotates the panels constantly towards the sun to maximise energy output performance.

Inverters and transformers will be located in an array within the footprint to convert the dc current to alternating current (ac). Inverter and transformer assemblies will be mounted on a steel platform or slab at ground level and generally covered. The ac collection system will consist of underground cabling at 22kV or 33kV to connect to each inverter assembly and deliver the electricity to the site substation. The site substation will consist of a transformer to increase voltage to 132kV. The site substation will be enclosed securely.

A connection from the site substation to TransGrid's substation will be made via overhead or underground high voltage cables.

Battery storage may be incorporated into the facility design. Storage would provide the capacity to deliver electricity to the transmission network on demand and more closely follow demand fluctuations. This will ensure the electricity is most valuable to the market. If battery storage is included at the development site battery banks will be housed in containers or a shed. The structures will provide shelter and security and will incorporate services to control temperature etc. Concrete footings are likely to be laid to support the structures. The storage facility would be located near the site substation and will be connected via underground or overhead cables.

A control room with associated parking area will be located on the site. This will be a relatively small structure which will provide amenities for a limited number of site staff as well as facilities to enable monitoring of the performance of the solar farm and communications connections to the electricity market operator. Once operational the solar farm will require minimal site based maintenance. It will be monitored remotely and only attended to rectify faults and for occasional scheduled maintenance.

Construction is estimated to take up to 18 months. The site is expected to require minimal preparation in advance of installing the PV panel system as it is flat and largely devoid of vegetation. A security fence will be installed on the site boundary and construction tracks will be laid down. Construction will require the use of bull dozers, water trucks, graders, flatbed trucks, skid steers, front end loaders, roller compactors, trenchers, backhoes, gravel trucks, water tankers, cranes, and aerial lifts. Deliveries of modules and other equipment will be made via flatbed trucks on the approved route and site entrance.

2.2 GRID CONNECTION

The transmission line that will connect QPSF to TransGrid's substation may be owned and operated by TransGrid (an electricity transmission operator/distributor under the *Electricity Supply Act 1995*) or by the operator of the QPSF.

The Infrastructure SEPP makes development for the purpose of an electricity transmission or distribution network permissible without consent when carried out by or on behalf of an electricity supply authority or a public authority. Such development may be assessed under Part 5 of the EP&A Act.

The environmental impacts of transmission or distribution lines required for QPSF (a solar energy SSD project) will still be considered in the assessment of the application for the development, even though they may be assessed separately under Part 5 of the EP&A Act.

Consistent with DPE's *Draft – Large Scale Solar Energy Guideline* (November 2017), Renewable Energy Developments will provide information in the Environmental Impact Statement about the necessary transmission lines, including the proposed location, timing of decision-making, interaction with the timelines of the solar energy project and relevant stakeholders, to assist in the consideration of all aspects of the project.

Permissibility and Strategic Planning

3.1 STRATEGIC PLANNING DOCUMENTS

3.1.1 NSW 2021 PLAN & RENEWABLE ENERGY ACTION PLAN

The NSW 2021 plan, released in 2011, sets state-wide priorities for action and also guides resource allocation. Goal 22 of this plan seeks to protect the natural environment and includes a specific target to increase renewable energy. The plan states:

> *We will contribute to the national renewable energy target by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources. Specific initiatives include:*
>
> - *Building the Moree solar power plant in partnership with the Commonwealth Government under the Solar Flagship Program*
> - *Establishing a Joint Industry Government Taskforce to develop a Renewable Energy Action Plan for NSW to identify opportunities for investment in renewable energy sources.*

Since release of the 2021 plan, the NSW Government has overseen the development of the NSW Renewable Energy Action Plan (REAP). The vision of the plan is a '*secure, affordable and clean future for NSW*'. Goal 1 of the REAP is to attract renewable energy investment, including to *'support mid-scale solar PV to enable an uptake of solar technologies where they are most cost effective'*.

The proposed QPSF sits comfortably with this state led objective and is consistent with the goal and intent of the REAP.

3.1.2 CENTRAL WEST AND ORANA REGIONAL PLAN

The solar farm development would be consistent in achieving the *Central West and Orana Regional Plan* (DP&E, June 2017) direction for increasing renewable energy generation. The Plan provides three actions supporting this direction and the following supporting statements:

- *The Plan promotes further development of the renewable energy, mining, health and education sectors to unlock economic potential and drive diversification across the Central West and Orana.*
- *Renewable energy generation will also create a more sustainable energy future for the region.*
- *Growth in wind energy, solar energy and bioenergy generation will promote local jobs in smaller communities and development opportunities for associated industries'*
- *…the large open plains of the Orana provide the best access for solar energy generation.*
- *TransGrid's NSW Connection Opportunities identifies Parkes and Wellington as having capacity for renewable energy generation.*
- *Innovative ways to manage water, harness renewable energy and prepare for natural hazards will build regional resilience and improve adaptation.*
- *The challenge of providing cost-effective extensions and upgrades to some remote areas creates opportunities for stand-alone alternative energy generation such as renewable wind and solar energy generation.*

3.1.3 PARKES SHIRE LAND USE STRATEGY 2012

A solar farm contributes to some of Parkes Shire Council's broader goals around land use for the region. Specifically, a solar farm development would meet a key objective of the *Parkes Shire Land Use Strategy* (2012) for the RU1 Primary Production zone:

> *To provide for other types of development that are appropriate within a rural zone and that do not compromise the future productivity of the land, including …. Employment generating development that is well located within a rural area, for example solar power electricity farms.*

3.1.4 PARKES SHIRE 2030+ COMMUNITY STRATEGIC PLAN

The *Parkes Shire 2030+ Community Strategic Plan* (CSP) identifies the community's main priorities and aspirations for the future. It contains the vision for the Parkes Shire and the 8 key Future Directions in achieving this vision by 2022, including:

1. Develop education and lifelong learning opportunities
2. Improve health and wellbeing
3. Promote, support and grow our communities
4. **Grow and diversify the economic base**
5. Develop Parkes as a national logistics hub
6. Enhance recreation and culture
7. **Care for the natural and build environment in a changing climate**
8. **Maintain and improve the Shire's assets and infrastructure**

The proposed QPSF would assist in achieving the key Future Directions highlighted above by diversifying Parkes' economic base and infrastructure by providing a new industry, and investment in renewable energy to reduce climate change.

3.2 ENVIRONMENTAL PLANNING INSTRUMENTS

3.2.1 NSW LEGISLATION

3.2.1.1 Environmental Planning and Assessment Act 1979

The proposed QPSF would be assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

3.2.1.2 State Environmental Planning Policy

State Environmental Planning Policy (State and Regional Development) 2011

Clause 8 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) provides that development is declared to be State Significant Development (SSD) for the purposes of the EP&A Act if:

1. *The development is not permissible without consent under Part 4 of the EP&A Act; and*
2. *The development is specified in Schedule 1 or 2 of the SRD SEPP.*

Clause 20 of Schedule 1 of the SRD SEPP provides:

> *"Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, bio-fuel, distillate and waste and hydro, wave, solar or wind power), being development that:*
>
> *(a) has a capital investment value of more than $30 million, or*
>
> *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance."*

The proposed development is not located in an environmentally sensitive area of State Significance, but does have a capital investment value in excess of $30 million.

Accordingly, the proposed solar energy system is declared to be SSD for the purposes of the EP&A Act.

State Environmental Planning Policy (Infrastructure) 2007

By virtue of Clause 34 of Division 4 of Part 3 of the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) the development of solar energy systems are permitted with consent on any land by any person.

A solar energy system is defined by the ISEPP as:

> *solar energy system means any of the following systems:*
>
> *(a) a photovoltaic electricity generating system,*
>
> *(b) a solar hot water system,*
>
> *(c) a solar air heating system.*

The proposed development satisfies the above definition and is therefore permissible with consent.

By reference to Schedule 3 or the ISEPP, the development is not a traffic generating development and therefore does not require referral to Roads and Maritime Services.

State Environmental Planning Policy No 55 – Remediation of Land

A review of the NSW EPA Contaminated Land Record and List of NSW contaminated sites notified to the EPA confirms there are no known contaminated sites at or near the site.

Based on the historical agricultural use of the site, it is unlikely that significant contamination exists at the site. Assessment of contamination risk will be undertaken as part of the EIS.

Construction and operation of the proposal is unlikely to pose a significant contamination risk. A CEMP would address management of contamination if identified during construction.

State Environmental Planning Policy No. 44 – Koala Habitat Protection

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44) applies to the Parkes LGA, and therefore an assessment of core koala habitat at the site is required.

3.2.1.3 Parkes Local Environmental Plan 2012

The site is located within the Parkes LGA and is therefore subject to the provisions of the *Parkes Local Environmental Plan 2012* (LEP). The site is located on land zoned RU1 – Primary Production.

The objectives of the RU1 – Primary Production 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 eco-tourism enterprises that minimise any adverse effect on primary industry production.*
- *To permit non-agricultural uses that support the primary production purposes of the zone.*
- *To permit small scale rural tourism uses associated with primary production and environmental conservation with minimal impact on primary production and the scenic amenity of the area.*
- *To encourage the provision of tourist accommodation in association with agricultural activities.*
- *To provide opportunities for employment-generating development that adds value to local agricultural production and integrates with tourism.*

The proposed QPSF would impact on the availability of land for primary production during the life of the project. The project involves minimal ground disturbance and is reversible, allowing the return to primary production land use. It is also noted that the proposed QPSF would not fragment or alienate primary production land.

A solar energy system is a form of electricity generating works. Electricity generating works are not expressly prohibited and are therefore permitted with consent.

3.2.1.4 Roads Act 1993

The development would utilise the existing local road connecting to a classified state road, Condobolin Road (Henry Parkes Way). Therefore, consent from Roads and Maritime Services is not required under section 138 of the *Roads Act 1993*.

3.2.1.5 Biodiversity Conservation Act 2016

The potential impacts to threatened species listed under the *Biodiversity Conservation Act 2016* will be considered in the EIS.

3.2.1.6 National Parks and Wildlife Act 1974

The potential impacts to Aboriginal heritage pursuant to the *National Parks and Wildlife Act 1974* will be considered in the EIS.

3.2.1.7 Heritage Act 1977

There are no known items of heritage significance at or near the site.

3.2.1.8 Water Management Act 2000

The development may require a controlled activity approval under s. 91 of the *Water Management Act 2000* (WM Act) if development is to be located on waterfront land, as defined in the WM Act. This will be addressed in the EIS.

Pursuant to Section 89J(1)(g) an activity approval required under the WM Act, other than an aquifer interference approval, is not required for SSD. Aquifer interference is not anticipated in relation to this site.

3.2.1.9 Fisheries Management Act 1994

The development site does contain watercourses mapped as key fish habitat (refer – **Section 1.5.3**). If dredging or reclamation works are required or fish passage will be blocked in key fish habitat, a permit under the *Fisheries Management Act 1994* will be required. This will be addressed in the EIS.

3.2.2 COMMONWEALTH LEGISLATION

3.2.2.1 Environment Protection and Biodiversity Conservation Act 1999

A search of the online Protected Matters Search Tool (PMST) identified matters of national environmental significance or other matters protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) likely to occur at or near the area. The only matter reported that is considered applicable to the site is the potential for threatened flora and fauna species to occur. The EPBC Act will be considered in the EIS.

3.2.2.2 Native Title Act 1993

A review of National Native Title Tribunal's Native Title Register did not identify any Native Title claims or applications, or Indigenous Land Use Agreements at or near the site.

Impact Identification and Assessment

4.1 PRELIMINARY RISK ASSESSMENT

A preliminary risk assessment based on a desk-top review of available data (completed in June 2017), consideration of other known solar farm developments south of the site (the proponent's Goonumbla Solar Farm and Neoen's Parkes Solar Farm), an initial site inspection, and review of SEARs issued by the Department for other solar farms, have all been considered to identify potential impacts associated with the development.

It is noted, however, that these impacts are identified and prioritised on the basis of preliminary research alone and their significance (or otherwise) will ultimately be determined following completion of further specialist studies, investigation and assessment.

4.2 KEY ISSUES

4.2.1 CUMULATIVE IMPACT

Two solar farms are approved to the south of the site, including the proponent's Goonumbla Solar Farm and Neoen's Parkes Solar Farm. The proposed development is located approximately 1.4 km from the closest approved solar farm (Goonumbla Solar Farm).

The relationship between the proposed developments and approved solar farms is shown on **Figure 7**.

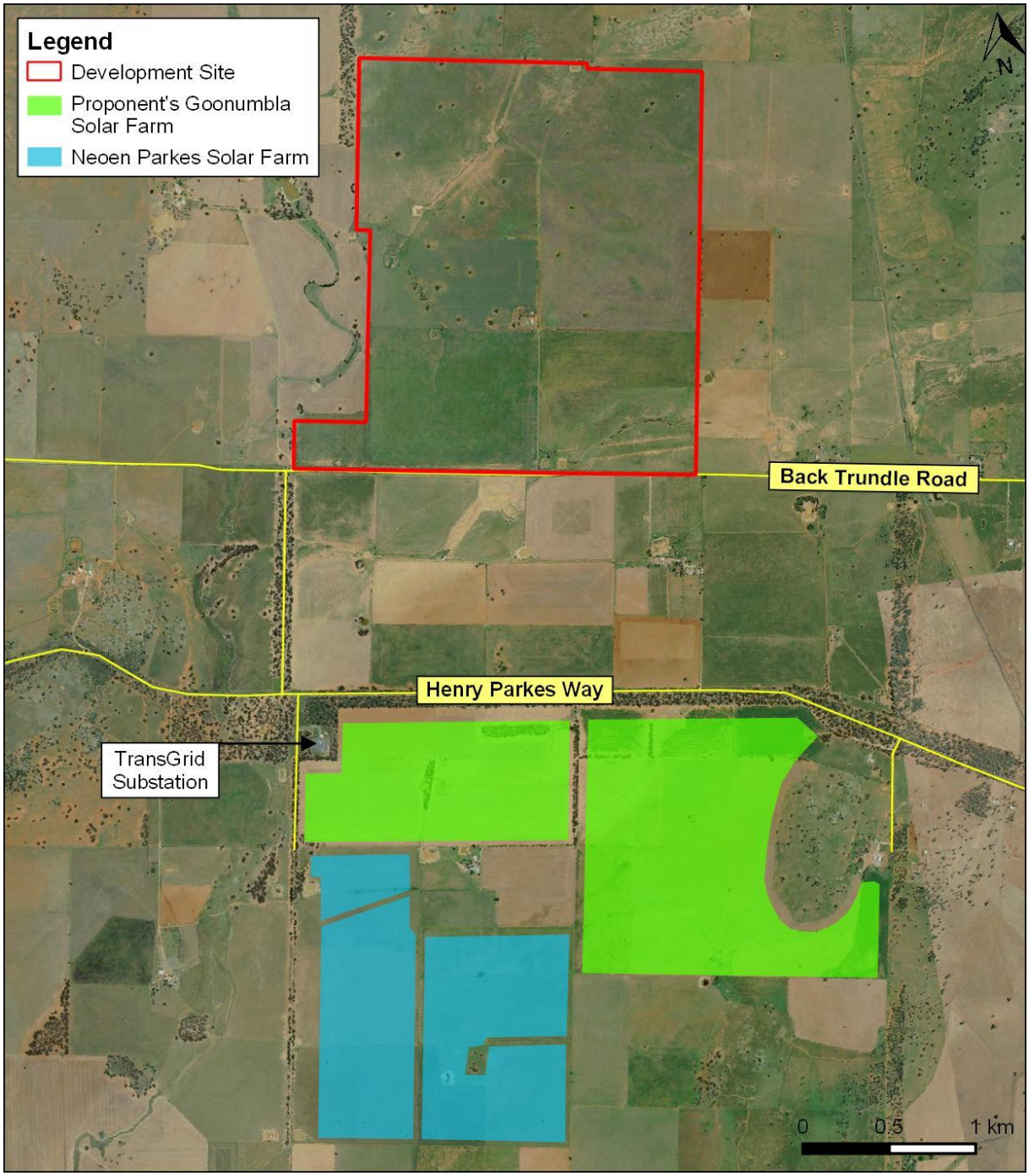

Figure 7: Development site relative to approved solar farms (Imagery: NSW Spatial Services / NearMap)

4.2.2 BIODIVERSITY

The development will involve clearing of native vegetation. Whilst the extent of the proposed clearing has yet to be determined, there are known occurrences of Endangered Ecological Communities in the locality and existing records of threatened species sightings near the site (as recorded in the NSW Atlas of Wildlife). There is also the potential for species and ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999* to occur at or near the site, as reported using the Department of Environment's online Protected Matters Search Tool (PMST).

As reported in the QPSF Desktop Assessment, a search of the Bionet Atlas of NSW Wildlife within a 5 km radius of solar farm site identified one threatened flora species and seven threatened fauna species (all birds).

As reported in the QPSF Desktop Assessment, a search of the EPBC Act Protected Matters Search Tool (5 km radius) identified that 19 threatened species, three threatened ecological communities and 11 listed migratory species (some of which are included within the threatened bird species) are either known to occur or have potential to occur in this area. Four Wetlands of International Importance (Ramsar) were identified but are not relevant to the site or proposal. No other matters of national environmental significance or other matters (as reported by the PMST) protected by the EPBC Act were considered applicable to the site.

As reported in the QPSF Desktop Assessment, a review of the Bureau of Meteorology (BOM) National Atlas of Groundwater Dependent Ecosystems (GDE) confirms that there are no GDEs (surface or subsurface dependent) within the development site.

4.2.3 ABORIGINAL HERITAGE

A basic search of the online Aboriginal Heritage Information Management System (AHIMS) did not identify any Aboriginal sites or places at the development site or within a 200 m radius.

Potential impacts of the proposal may include disturbance of unknown Aboriginal heritage sites. It is proposed that as part of the EIS a specialist Aboriginal Heritage Assessment would be undertaken to identify potential impacts, and necessary management and mitigation measures.

4.2.4 VISUAL AMENITY

The site is located adjacent and north of Back Trundle Road which, adjacent to the site, is unsealed and likely subject to local traffic only. There are some plantings along the southern boundary of the development site but elsewhere Back Trundle Road users would have views towards the site. No other public roads border the site. Visibility from Condobolin Road (1.3 km to the south) would be restricted by vegetation along the northern side of the road corridor.

Elevation data from Geoscience Australia's Elevation Information System (ELVIS) confirms that all residential receptors within a 2 km radius of the development site are located at higher elevations than the development site, and are therefore likely to have views towards the solar farm. However, it is noted that the surroundings are not very high relief. Stands of vegetation restrict views towards the site for some receptors. However, views may be possible from neighbouring properties without intervening topography or vegetation. Visual impact is likely to be a key issue for neighbours.

Potential impacts to surrounding sensitive receptors may include changes to existing rural views and solar glint and glare from the solar panels. It is proposed that as part of the EIS a Visual Impact Assessment would be undertaken to identify potential impacts, and necessary management and mitigation measures.

4.2.5 CONSTRUCTION NOISE

Noise impacts would mostly be associated with construction activities and include noise generated by preparatory earthworks, delivery and assembly of the solar panel infrastructure, grid connection, and operation of vehicles.

Operational noise impacts may include the operation of a solar tracking system (optional feature to be confirmed), transformer station and switchgear, and maintenance works. Operational noise impacts are expected to be negligible. It is proposed that as part of the EIS a specialist Construction and Operational Noise and Vibration Assessment would be undertaken to identify potential impacts, and necessary management and mitigation measures.

4.2.6 OTHER ENVIRONMENTAL ISSUES

Other environmental issues that they considered less likely to affect the project are identified in **Table 4.1**. These issues are considered to be manageable due to the availability of appropriate management and mitigation measures.

Table 4.1 – Assessment of Other Environmental Issues

Issue	Potential Impacts	Strategies
Access and traffic	Potential impacts (increased traffic volumes) during construction for the Condobolin Road, McGraths Lane and Back Trundle Road.	• Consultation with Roads and Maritime Services and Parkes Shire Council. • Traffic impacts would be assessed in the EIS. • Management of traffic impacts would be addressed in a Construction Environmental Management Plan (CEMP).
Air quality	Potential impacts during construction may result from dust generation and vehicle emissions.	• Air quality impacts would be assessed in the EIS. • Management of air quality impacts would be addressed in a CEMP.
Bushfire risk	The site is not located on or near land mapped as bushfire prone land and lacks significant woodland vegetation. The closest bushfire prone land is mapped approximately 1.2 km south-west of the site. There are no patches of woodland vegetation on site connective with larger patches of woodland in the surrounding locality. Therefore, it is considered unlikely that the site would pose a significant bushfire risk.	• Potential bushfire risk and appropriate management/mitigation measures would be addressed in the EIS. • Bushfire risk management would be addressed in a CEMP.
EMF hazard and risk	Impacts from an electromagnetic field (EMF) may be generated by transmission lines and underground cables. EMF risks are expected to be below the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines (adopted by the Australian Radiation Protection and Nuclear Safety Agency, ARPANSA).	Potential EMF hazards and risks will be assessed in the EIS, including calculation of EMF levels associated with proposed infrastructure.
Groundwater	Impacts to groundwater are considered unlikely due to the depth of groundwater bearing zones.	The existing groundwater environment and potential impacts would be addressed in the EIS.
Land use	The development would result in a change in land use from agriculture to electricity generation.	Impacts to land use will be assessed in the EIS.
Loss of resources	The proposal has the potential to impact on the viability of the site as an agricultural resource. By reference to the *Draft Large-Scale Solar Energy Guideline* (DP&E, 2017), the site is not located on important agricultural lands such as: • Biophysical Strategic Agricultural Land (BSAL). The closest BSAL is approximately 39 km south east of the site, and is associated with Waterhole Creek. • Land with soil capability classes 1, 2 or 3. The proposal is located on land with Class 4 (Moderate) capability. The proposal also has the potential to affect exploration and future mining of potential mineral resources. The site is covered by the following leases: • Modeling Resources Pty Ltd hold EL7676 and is due to expire January 2018. The lease was first granted in January 2011 and was last renewed in August 2015. • CMOC Mining Pty Ltd hold EL5323 and is due to expire July 2018. The lease was first granted in July 1997 and was last renewed in March 2014.	• Impacts to existing land resources would be assessed in the EIS. • Consultation with title holders of EL7676 and EL5323 will be undertaken.

Table 4.1 – Assessment of Other Environmental Issues

Issue	Potential Impacts	Strategies
Social and economic	Construction is expected to generate positive economic impacts by creating employment opportunities. Increased employment opportunities may attract more people to Parkes, increasing pressure on accommodation and services.	Impacts to the social and economic environment would be assessed in the EIS.
Soils and water	Potential impacts to soils and surface water may occur during construction, such as erosion and sedimentation. Impacts are expected to be minimal and manageable.	• Impacts to soil and water would be assessed in the EIS. • Management of soil and water impacts would be addressed in a CEMP.
Geology	As reported in the QPSF Desktop Assessment, there is a geological unit mapped at the northern extent of the site with a 'low' potential for naturally occurring asbestos (NOA).	Geotechnical investigations will be completed and reported in the EIS.
Historic Heritage	A search of the NSW Planning Portal (Heritage), inclusive of items listed under the Parkes LEP, the NSW Office of Environment and Heritage State Heritage Register and Department of the Environment Australian Heritage Database indicates that there are no known heritage items at or near the site.	Impacts to historic heritage would be assessed in the EIS.
Waste management	Potential impacts may include generation of waste during construction. Operation of the project is not expected to generate waste.	• Potential wastes generated by the proposal would be addressed in the EIS. • Waste management would be addressed in a CEMP.

Justification

5.1 DEVELOPMENT SUITABILITY

Benefits from this project will contribute to the Parkes region, the state and the nation.

QPSF will particularly benefit the Parkes region which has the potential to become a hub for utility scale solar projects due to its good solar resource, suitable land use and good network connection opportunities. Parkes is a thriving regional centre with a number of growth prospects which will increase demand for electricity, including new mining projects, the intermodal transport hub and inland railway will all contribute to demand. New clean generation will be an ideal complement to these growth industries and contribute to the sustainability of the town.

Local economic benefits include employment, particularly during construction, together with the provision of services and components and training of local contractors. The project will introduce new capabilities to the region which will benefit later projects. Local companies will be able to win project work around the country as the solar industry grows. The project benefits the state because it ensures that renewable energy which is consumed in NSW is also generated here. Without local renewable generation projects in NSW, NSW electricity consumers will have to import renewable generation from projects in other states.

The project will generate significant clean energy which will contribute to the Federal government's 33,000 GWh Renewable Energy Target for 2020. The energy generated will also avoid transmission losses from centrally located fossil fuel generators. The annual carbon emissions avoided through generation of clean energy will be significant. Solar projects are a relatively new development in Australia despite being well established in overseas markets. QPSF will contribute to reducing the cost of large scale solar in Australia by adding to the experience base of the local supply chain.

5.2 SITE SUITABILITY

Renewable Energy Developments identified the QPSF site during a thorough screening program to identify suitable large scale solar sites in New South Wales. The site was selected after a number of alternatives were discarded due to sub-optimal performance against screening criteria. The proposed site has a strong high voltage transmission network with significant available capacity to connect. The solar resource is good. The land is zoned rural which allows for solar generation with consent.

The development site is largely devoid of significant biodiversity constraints and flat, with little or no civil works required to prepare for construction. Further, whilst the land is currently used for farming and grazing the site is not located on or near any Biophysical Strategical Agricultural Land (BSAL). There is also a natural vegetation screen to the main road to the south (Condobolin Road) and due to the overall flat terrain of the region, visual impact will be low. The site landowner is interested and has committed to supporting the project. The site has good overall fundamental parameters that will generate electricity at a competitive rate.

5.3 JUSTIFICATION FOR PREFERRED DESIGN

The proposed site is ideally suited for a solar PV facility. Its proximity to the nearby transmission network minimises the connection infrastructure required and minimises the associated cost burden. The nearby transmission network has been assessed to have spare capacity to accept the connection. The solar resource at this location is comparatively high due to the generally hot and dry environmental conditions. Therefore, the facility will be highly efficient and operate at a high capacity factor. The site terrain is ideally suited as it is relatively flat and almost completely devoid of native vegetation. Therefore, very little site preparation will be required prior to installing the facility. There is minimal flooding risk. Site access is also excellent from the adjacent highway and local roads.

Consultation

6.1 SITE SELECTION CONSULTATION

The proponent knows the region well. Renewable Energy Developments has successfully obtained approval for the nearby Goonumbla Solar Farm. Through the development approval process for Goonumbla Solar Farm, Renewable Energy Developments consulted extensively with the project's neighbours, local MPs, state government departments, the mayor of Parkes Council and several council officers. The opportunities and areas of risk have been explored with stakeholders during these consultations.

6.2 SCOPING STAGE CONSULTATION

Targeted consultation has commenced and Renewable Energy Developments has sent letters to all residents within 2 km of the development site to initiate local community engagement.

The letter to each landowner:

- provided an introduction to Renewable Energy Developments;
- informed them of the Quorn Park solar farm proposal (RED) and provided a location map in relation to their property;
- extended an open offer to meet with them;
- explained why the Quorn Park site was being considered;
- clarified that before a final decision to proceed could be made Renewable Energy Developments would need to obtain a number of approvals;
- affirmed that community engagement is important to Renewable Energy Developments and made a commitment to provide accurate and up to date information about the project and the approval processes involved;
- advised that as a neighbour, Renewable Energy Developments is keen to hear their thoughts, draw on local knowledge and answer any questions they may have about the solar farm; and
- provided contact details for Renewable Energy Developments and an invitation to be contacted at any time to discuss the status of the project.

A similar letter has also been sent to Parkes Shire Council.

6.3 EIS CONSULTATION

Consultation will be undertaken in accordance with the following guidelines:

- *Draft Large-Scale Solar Energy Guidelines for State Significant Development* (DP&E, 2017).
- *Guideline for Engaging Stakeholders* (DP&E, 2017)
- *Community Consultative Committee Guidelines* (DP&E, 2016) – if a Community Consultative Committee is required.

Parkes Shire Council

Parkes Shire Council will continue to be informed of the proposal and a face to face meeting will be scheduled with the planning officers and elected officials.

Neighbours

Neighbours will continue to be consulted through information posted directly and face to face meetings as requested to inform them of project details and progress and to obtain their input. This will continue through the development approval process and construction.

Community

The community will be informed of the project through notices in the local newspaper and through Parkes Shire Council. Consultation will be considered depending on the amount of local interest for an information day. Contact numbers and an email address will be provided for people who wish for more details.

Special Interest Groups

Special interest groups will be informed of the project to the extent they are affected by the project. The process of identifying affected groups has not commenced. As the development progresses and the construction schedule becomes clearer, local businesses will be advised via notices and media and will be invited to provide proposals for construction equipment, goods and services.

State and Federal Government

State and Federal government authorities will be informed of the project to the extent they are affected. The NSW Department of Industry and Regional Development Australia will be advised to ensure any opportunities to coordinate with the proposed infrastructure developments in Parkes are captured. Elected representatives, State and federal elected members and the relevant ministers for Energy, Environment and Regional Development will be advised of the project as it progresses to ensure it is recognised for its contribution to state and federal clean energy development targets.

Other

Consultation will also be undertaken with the following stakeholders:

- Members of the local Aboriginal community;
- Organisations representing local, regional, State, national and international interests regarding business, community, indigenous and environmental issues; and
- Affected utility providers.

6.4 POST-APPROVAL CONSULTATION

If approved, the following consultation would be undertaken:

- Ongoing consultation with affected landholders and the community to manage issues regarding construction noise and disturbance; and
- Comply with any requirements to publish performance results.

Capital Investment Value

Table 7.1 provides a preliminary breakdown of the capital cost of the project.

The overall cost of equipment and construction will be approximately $168 million assuming the final capacity is 160.0 MWpeak.

Table 7.1 –Capital Cost (Preliminary Estimate)

Project Components	$ (million)
Solar PV module equipment including installation	50
Mounting structure equipment including installation	25
Inverters and LV transformer equipment including installation	25
Civil works including piling, foundations, tracks, site entrance, fencing, compound, control room, site preparation	34
Electrical and communications cabling and equipment including installation and commissioning	34
TOTAL	**168**

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