

COUNCIL ASSESSMENT REPORT

Panel Reference	2017STH034
DA Number	DA17/0679
LGA	Wagga Wagga
Proposed Development	Electricity Generating Works – Solar Farm
Street Address	157 Windmill Road
Applicant/Owner	Applicant: Terrain Solar Pty Ltd Owner: Andrew & Melissa Lowe
Date of DA lodgement	17 November 2017
Number of Submissions	Twenty six
Recommendation	Approve with conditions and GTAs
Regional Development Criteria (Schedule 7 of the SEPP (State and Regional Development) 2011	Development that has a capital investment value of more than \$20 million.
List of all relevant s4.15(1)(a) matters	Wagga Wagga Local Environmental Plan 2010 Wagga Wagga Development Control Plan 2010 s92 Water Management Act – integrated approval s90 National Parks and Wildlife Act 1974 – integrated approval
List all documents submitted with this report for the Panel's consideration	<ul style="list-style-type: none"> plans Statement of Environmental Effects Visual Amenity Assessment and Plans Biodiversity Assessment Noise and Vibration Assessment Additional information
Report prepared by	Amanda Gray
Report date	11 September 2018

Summary of s4.15 matters

Have all recommendations in relation to relevant s4.15 matters been summarised in the Executive Summary of the assessment report?

Yes

Legislative clauses requiring consent authority satisfaction

Have relevant clauses in all applicable environmental planning instruments where the consent authority must be satisfied about a particular matter been listed, and relevant recommendations summarized, in the Executive Summary of the assessment report?

Yes

e.g. Clause 7 of SEPP 55 - Remediation of Land, Clause 4.6(4) of the relevant LEP

Clause 4.6 Exceptions to development standards

If a written request for a contravention to a development standard (clause 4.6 of the LEP) has been received, has it been attached to the assessment report?

Not Applicable

Special Infrastructure Contributions

Does the DA require Special Infrastructure Contributions conditions (S7.24)?

Not Applicable

Note: Certain DAs in the Western Sydney Growth Areas Special Contributions Area may require specific Special Infrastructure Contributions (SIC) conditions

Conditions

Have draft conditions been provided to the applicant for comment?

Yes

Note: in order to reduce delays in determinations, the Panel prefer that draft conditions, notwithstanding Council's recommendation, be provided to the applicant to enable any comments to be considered as part of the assessment report

Executive Summary

- The proposed development is for the installation of a 30 mega-watt (MW) solar farm with an estimated 1,295 trackers across the site. Each tracker will have approximately 90 modules, so there would be a total of 116,550 panels.
- In addition to the solar panels the development includes electrical transformers and inverters with associated electrical cabling, an operations and maintenance building, a site sub-station and internal access routes between the solar installations. A single access to the site is proposed from East Bomen Road.
- A 10 metre wide landscape buffer is proposed to the East Bomen Road boundary with a 5 metre landscape buffer to the western and southern sides of the site. Inside of the landscape buffer there will be a 10 metre wide Asset Protection Zone (APZ) around the whole of the proposed installation area.
- The application is an integrated development requiring referral from both Office of Environment and Heritage (OEH) and Department of Primary Industries (DPI) Water. OEH have issued General Terms of Approval associated with the disturbance of Aboriginal objects on the site. DPI Water have issued General Terms of Approval associated with the installation of panels within proximity of the bank and bed of an existing waterway.
- The proposal requires the removal of vegetation from the site including hollow and non-hollow bearing trees and groundcover. A biodiversity assessment has concluded that there are no significant impacts associated with the vegetation removal on either flora or fauna present on the site and in the locality.
- Noise associated with the installation will predominantly be associated with construction activities and will be subject to standard and specific mitigation measures as detailed in the report.
- The subject land is zoned as RU1 Primary Production under the WW Local Environmental Plan and is currently in use as grazing and cultivation land. The proposed use is permitted with consent in this zone.
- The site is undulating and visible from many different viewpoints, visually this development will have an impact on the existing character of the land but this is balanced against the regional and state demands for achieving energy targets.
- The demand for sustainable energy has seen solar farms emerge and compete with more traditional agricultural land uses and landscapes within rural areas. This issue will continue to emerge as it is balanced against factors associated with the growing importance of renewable energy targets.
- A number of submissions (26) have been received from local and neighbouring properties in objection to the development.
- The capital investment value of the project is \$29,249,456 and the total development value is \$32,174,401.
- The development is recommended for approval, subject to conditions as detailed in the report.



Report of Development Application

Pursuant to Section 4.15 of the Environmental Planning and Assessment Act 1979

APPLICATION DETAILS

Application No.:	DA17/0679
Modification No.:	N/A
Council File No.:	D/2017/0679
Date of Lodgement:	17/11/2017
Applicant:	Terrain Solar Pty Ltd Po Box 1113 MANLY, NSW 2095
Proposal:	Electricity Generating Works - Solar farm (Integrated Development)
Development Cost:	\$32,174,401
Assessment Officer:	Amanda Gray
Description of Modification:	N/A
Type of Application:	Development Application
Other Approvals:	Office of Environment and Heritage - integrated approval under s90 of the National Parks and Wildlife Act 1974. NSW Office of Water - integrated approval under s91(2) of the Water Management Act 2000.
Concurrence Required:	No
Referrals:	Internal Office of Environment and Heritage DPI Water Essential Energy Transgrid Department of Primary Industry (Agriculture)
Adjoining Owners Notification:	28 November 2017 - 8 January 2018 2-16 March 2018 12-26 July 2018
Advertising:	28 November 2017 - 8 January 2018
Determination Body:	Southern Region Planning Panel
Reason:	The development has a capital investment value of greater than \$20 million.
Meeting Date:	11 September 2018
Owner's Consent Provided:	14 November 2017

Location: Land on the western side of Windmill Lane and to the southern side of East Bomen Road.

SITE DETAILS

Subject Land: 157 Windmill Rd BOMEN NSW 2650
Lot 15 DP 1108978

Owner: AMG Lowe & MJK Lowe

PLANNING CONTROLS / STATUTORY CLASSIFICATION

Pursuant to Part 4

Environmental Planning Instrument:	Wagga Wagga Local Environment Plan 2010
Zoning:	RU1 Primary Production
Land Use Definition:	Electricity Generating Works
Statement of Permissibility:	Permissible with Consent

DESCRIPTION OF DEVELOPMENT

The application is for the installation of a 30 mega-watt (MW) solar farm. The development works consist of the placement of photovoltaic panels onto steel racking with piled supports, electrical transformers and inverters with associated electrical cabling. There will be an operations and maintenance building, a site sub-station and internal access routes between the solar installations. A 10 metre wide landscape buffer is proposed to the East Bomen Road boundary with a 5 metre landscape buffer to the western and southern sides of the site. Inside of the landscape buffer there will be a 10 metre wide Asset Protection Zone (APZ) around the whole of the proposed installation area. A 2.4 metre high perimeter fencing will be installed between the landscape buffer and the APZ.

The solar farm is proposed to be arranged in a linear pattern with the solar panel modules fixed to a single axis tracking system which follows the sun during the course of the day. The panels will be fitted via a cabling system to a support structure, these structures are supported by steel piles that are driven into the ground. The height of each panel installation will be up to 2.6 metres depending on the angle of the tracker, again the distance between each will vary from 2.5m to 4.5 m depending on the angle of the tracker.

Subject to final detailed design there are an estimated 1,295 trackers across the development area of 70ha. Each tracker would have approximately 90 modules, so there would be a total of 116,550 panels. Power generated within the solar farm connects to a series of inverter stations that will convert the direct current (DC) energy into grid compatible alternating current (AC) energy. There are 12 proposed invertors across the site which are stand alone structures similar in size to a shipping container.

The capacity of the solar farm is 30MW and will generate approximately 67,500 MW hours of electricity each year. Based on average household usage this would be sufficient to service approximately 11,600 homes. The yield from the panels will be maximised by the fact that the trackers follow the sun throughout each day.

A new sub-station is proposed on site comprising a transformer, switch gear and protection equipment. The generated electricity will be exported into the network by an overhead 66Kv

transmission line into the existing Transgrid substation located adjacent to the development site. The sub-station will be within a secure enclosure with dimensions of 14m by 69m and be sited in the south-west corner of the subject site.

The solar farm includes one maintenance building that is to be sited adjacent to East Bomen Road, the building has dimensions of 22m by 12m and will be used on occasion by visiting personnel required to diagnose faults or monitor performance of the installations. The building will house equipment that will be connected to Transgrid and the operations team that can be remotely accessed as necessary. This building will also include amenities for staff use. There will be one new vehicular access established from East Bomen Road which will be adjacent to this building and include a secure access gate.

It is proposed to remove 8 hollow bearing trees and 3 mature non-hollow bearing trees across the site that are all scattered paddock trees. All areas of planted vegetation are to be retained. The proposed landscape buffers will be planted with native trees and shrubs and the dry creek beds on site will be vegetated with a similar mix of shrubs and trees and grasses.

The ongoing use of the solar farm will be managed via an Operational Management Plan that as a minimum will include general maintenance and operation of the site e.g. vegetation management, emergency contact details of the site manager/maintenance staff, addressing complaints relating to the operation of the premise, access arrangements to the site, safety and security.

The construction stage for the development will be approximately 12 months and the estimated life span for the facility is 25-30 years. It is proposed that the solar farm will be decommissioned and the land will be rehabilitated to be used for agricultural and/or rural purposes in accordance with the land zoning. Decommissioning would be expected to comprise dismantling of the solar modules and all associated electrical infrastructure and site buildings with the subsequent removal of all infrastructure from above and below ground.

SITE AND LOCALITY

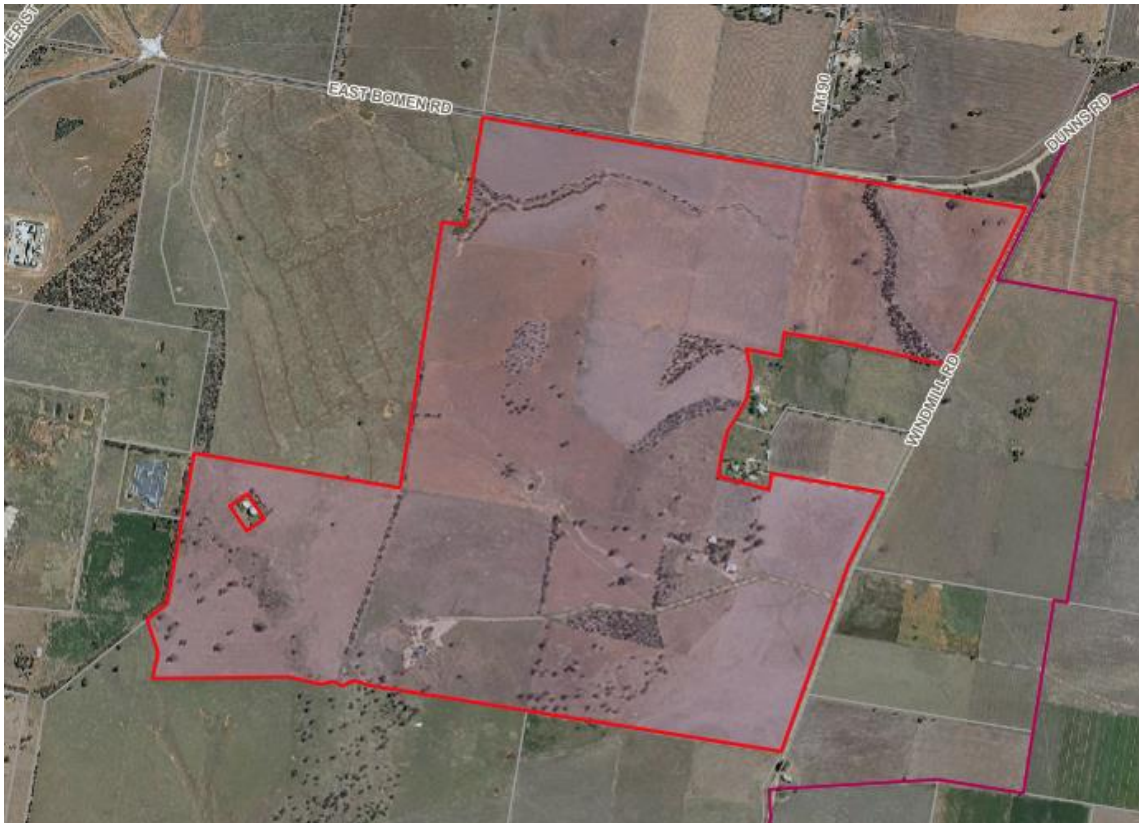
The subject site is legally identified as Lot 15 DP1108978 and is known as 157 Windmill Road. The site is located at the south-western corner of the junction of Windmill Road and East Bomen Road and extends to an area of 269ha. The proposed developable area of the site is 70ha. There is an existing dwelling on the site that is located towards the south-western corner of the site, there is an access driveway from Windmill Road to the dwelling. This part of the site is not impacted by the development.

The frontage of the site to East Bomen Road is approximately 1631metres, the whole of the site is visible from this road which is sealed for the whole frontage. Windmill Road to the eastern boundary of the site is an un-sealed road.

The site is sloped and the solar panels are proposed on the slope of the land including towards the highest part of the site. The land rises approximately 40 metres from east to west. There are three identified drainage lines across the site, one of which is partly identified as a waterway on the WWLEP mapping layer.

The land is predominantly clear and covered in grasses with an historic use of grazing and cultivation agricultural practices. There are established areas of planted vegetation, to the

east of the site, to the south of the proposed development and along a dry creek bed. All of these areas are to be retained. The remainder of the site that is not to be used for the solar farm will remain as grazing/cultivation land.



Adjoining and neighbouring land uses are generally rural in nature. There are two residential properties to the south of the proposed installation that front onto Windmill Road and one residential property directly opposite the site on East Bomen Road. An existing electricity sub-station adjoins the site to the west and Riverina Water infrastructure is contained within the site boundaries on a separate lot. The Bomen Industrial area is to the north west of the site.

Easements and Covenants

There are a number of existing easements on the site as follows:-

- ☐ 20 metre wide easement for transmission lines
- ☐ 30 metre wide easement for overhead lines
- ☐ 45 metre easement for transmission lines
- ☐ 5m and 10m wide easements for water supply

The development does not encroach into any of the identified easements.

Referral replies from Transgrid and Essential Energy indicate no objection to the development subject to conditions.

Previous Development Consents

DA07/0601 - Rural Dwelling. Approved 2.6.08.

DA06/0350 - Proposed Rural Subdivision (3 lots) and Dwelling permit. Approved 15.6.06.

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979

The following matters pursuant to the provisions of *Section 4.15(1) of the Environmental Planning and Assessment Act 1979*, have been taken into consideration.

(a)(i) - The provisions of any environmental planning instrument (EPI)

Wagga Wagga Local Environmental Plan 2010

2.3 Zone objectives and Land Use Table

Under the provisions of the Wagga Wagga Local Environmental Plan, the subject site is zoned as RU1, Primary Production.

The objectives of the RU1, Primary Zone are:

- ☐ *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*

The land is zoned for rural use and the agricultural land class of the land, based on Department of Primary Industries, Agriculture classifications, is 2. Class 2 is summarised as being arable land suitable for cultivation of crops but not suited to continuous cultivation.

The site is currently being used for grazing and whilst the development will not encourage sustainable primary industry production on the site, the development will not impact significantly on the natural resource base within the wider locality as the majority of the site is retained in agricultural use and following a programme of decommissioning and site restoration the whole of the site will be returned to agricultural use. The proposal area has been subject to historical disturbance, mostly associated with large scale clearing, cultivation and pasture improvement for agriculture. The groundcover is predominantly exotic.

- ☐ *To encourage diversity in primary industry enterprises and systems appropriate for the area.*

The proposed development is for a non-rural use which will not encourage diversity of primary industry enterprises or systems for the locality. However the use of the land for a solar farm is diversification into an alternative land use that is considered suitable within the rural zone.

- ☐ *To minimise the fragmentation and alienation of resource lands.*

The proposed development does not result in the fragmentation of land but will minimise the ability for the land to be used for agriculture. The value of current resources on the land for agricultural purpose is not considered to be significant as the land parcel is not being subdivided and the intention is to return the land to agricultural use in 25-30 years.

- ☐ *To minimise conflict between land uses within this zone and land uses within adjoining zones.*

The proposed development has the potential to conflict with other land uses in terms of visual and environmental impacts. If the facility is managed and operated in an appropriate manner the impacts on existing industrial, rural and residential land uses in the locality can

be reduced. The potential impacts of the development and proposed mitigation methods are discussed in more detail later in this report. The suitability of the use being located away from densely populated areas and upon an expanse of open rural land is considered appropriate.

- *To foster strong, sustainable rural community lifestyles.*

Rural communities are characterised by a diverse culture with different perceptions and expectations of the rural landscape. It is the differences in people's perceptions and expectations that lie at the root of most amenity conflicts and these vary significantly within rural communities and between different communities. Apart from agriculture, there are many other land uses that are allowed in a rural setting which can cause conflict, but at the same time also contribute to a sustainable rural lifestyle, including quarries and rural industrial activities.

Consideration of the effect of the proposed development on the lifestyle of the local community has been undertaken, and it is considered that the proposed development has the potential to have an impact on the amenity of the existing landscape and land use practices in the locality. However, there are also positive impacts associated with the proposed development such as contributing towards energy efficiency and renewable energy targets.

- *To maintain the rural landscape character of the land.*

The proposed development will change the existing character of the rural landscape by the introduction of a significant array of solar panels. The existing character of gently sloping, open land will take on a very different appearance through the introduction of the solar farm. However the facility is one that is permissible in this locality and the large open area is exactly the terrain required for such an installation. The planting of vegetation to the site boundaries along East Bomen Road and to the south will assist in maintaining the rural landscape by screening the panels from certain views. It is acknowledged that vegetation will not be able to completely screen the solar farm but will assist in the softening of the development site.

- *To allow tourist and visitor accommodation only where it is in association with agricultural activities.*

The development does not propose any tourist and visitor accommodation.

The RU1 zone objectives provide for agricultural and other land uses to co-exist. The zone purpose and provisions support the continuation and growth of farming but also provide the opportunity for non-farming uses to be considered in appropriate locations. A wider range of uses may be considered in this zone due to the general larger size of the land, the proximity to the industrial area and its locality further away from more sensitive receivers including densely populated areas. Other non-rural uses that are identified as being consistent and permitted within this zone include Extractive Industries, Hardware and Building Supplies and timber yards.

The project lifespan for the facility is approximately 25 years after which the facility may be upgraded with new technology or will be decommissioned and the land be made available for another land use consistent with the rural zoning of the land.

The installation of the solar farm would not inhibit the future potential of the land to be developed for rural purposes in accordance with the zone objectives. The LEP does not prohibit this type of development and the investment into the alternative energy supplies is consistent with the NSW Climate Change Policy Framework and the Riverina Murray Regional Plan. The Regional Plan lists renewable energy as a priority growth sector and has a listed direction within the plan to “*promote the diversification of energy supplies through renewable energy generation.*”

Part 2 Permitted or prohibited development

Electricity generating works are defined in the WWLEP as follows:

a building or place used for the purpose of making or generating electricity.

The use is permitted with consent in the RU1 zone being “any other development not specified in item 2 or 4” of the land use table.

Part 3 Exempt & Complying Development

The proposed development is not Exempt or Complying Development. The application is seeking consent.

Part 4 Principal development standards

There are no principal development standards applicable to this application.

Part 5 Miscellaneous Provisions

5.10 Heritage conservation

The applicable objectives of this clause are :

- (a) to conserve the environmental heritage of Wagga Wagga,*
- (c) to conserve archaeological sites,*
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.*

Development consent is required for:

- (a) demolishing or moving*
 - (ii) an Aboriginal object,*
- (c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
- (d) disturbing or excavating an Aboriginal place of heritage significance,*
- (e) erecting a building on land:*
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,*

A detailed search of the Aboriginal Heritage Management System (AHIMS) register showed 49 Aboriginal sites and 2 Aboriginal places recorded within 10km of the subject area including culturally modified trees, artefact scatters, isolated artefacts and quarries. Within 1.5 km of the site there are 18 previously recorded sites and one Aboriginal Place. The previous recordings in the area dictated the need for a full assessment to be made on the land where the proposed solar farm is to be developed.

A field survey was completed across the study area. In selecting the excavation areas it was agreed that the landscape was highly modified and that the results from the samples were both representative and appropriate. Two archaeological sites and two isolated artefacts were recorded during the field survey and two potential archaeological deposits were identified.

A total of 103 stone artefacts were noted of which 86% were quartz material. The density of archaeological material found varied significantly across the site with the dominant finds being to the east of the site to the west of the creek line. Following the initial survey further detailed test pits were excavated within the areas where artefacts had been recorded and the findings analysed in detail.

The objects recorded in the study area were found to have moderate scientific heritage significance, forming a small part of the wider archaeology of the Wagga Wagga area. The archaeological landscape is not anticipated to be significantly altered if the study area is developed.

The development is proposed across locations where artefacts were located and therefore there will be a degree of harm afforded to those Aboriginal objects. The development includes pylons supporting the solar panels, trenching to run power cables, site office compound, access roads and transformer. The two most widespread impacts will be from the support pylons and the trenching however both of these are considered as a low impact in comparison to the whole site area. It is noted that the whole site has been subject to disturbance through agricultural practices and it can be argued that the solar farm will assist in conserving the Aboriginal objects on the land as the cycle of cultivation and grazing is stopped.

The proposed development will not diminish social or cultural values of any site located partially or wholly on the subject site. The Aboriginal Cultural Heritage Assessment has been forwarded to the Office and Environment Heritage as an integrated approval referral and General Terms of Approval have been issued and included as recommended conditions of consent. An AHIP will be required to be in place prior to works commencing on site.

The reporting and assessment is consistent with the objectives of this clause as both archaeological sites and Aboriginal objects are conserved on site without significant harm or impact.

5.11 Bush Fire Hazard reduction

Although the site is not mapped as being prone to bushfire, a bush fire risk exists as a result of potential ignition and combustion inherent with certain infrastructure (such as transmissions lines and substations). Appropriate bush fire hazard reduction works will be ongoing on site in particular to limit the growth of grass.

Furthermore as part of the site installation work an Asset Protection Zone of 10 metres in width is proposed around the whole perimeter of the site to minimise the risk of fire spreading and to allow for management of the landscaping on site. These measures will be included in an Operational Management Plan as recommended under condition 38.

Submissions have been raised regarding increased localised ground temperatures from the installation and the associated risk to bush-fire. An analysis of ambient temperatures within

proximity of an existing solar farm showed that there is no significant impact on temperatures in the local area. It is therefore unlikely that heat radiating from the proposed solar farm will impact temperatures or have any subsequent impact upon bush fire risks.

Part 6 Urban release areas

The subject site is not within the Bomen urban release area. Land to the north and north-west of the subject site is within the urban release area and is zoned for industrial purposes. The siting of a solar farm in the subject location is not anticipated to impact on the objectives for development within the Bomen area.

Part 7 Additional Local Provisions

7.1A Earthworks

(1) The objectives of this clause are as follows:

- (a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,*
- (b) to allow earthworks of a minor nature without requiring separate development consent.*

(2) Development consent is required for earthworks unless:

- (a) the work is exempt development under this Plan or another applicable environmental planning instrument, or*
- (b) the work is ancillary to other development for which development consent has been given.*

Some earthworks will be required to construct the solar farm. Required earthworks will be associated with the levelling of the undulating landscape to ensure that appropriate ground clearance is provided for the tracker systems. The internal access tracks may also require earthworks which would be limited to stripping topsoil to expose the natural subgrade, to then be infilled with a compacted road base gravel finished at grade. Alternatively, a contractor may opt to provide a layer of graded quarry rubble on top of the natural soil to assist vehicle movements during construction in wetter months

The work is all ancillary to the development for which consent is sought and no separate approval is required for these earthworks.

7.2 Flood Planning

The south eastern corner of the subject site is identified as prone to flooding. This part of the site is not impacted in any way by the development. The proposed solar farm is not anticipated to contribute to or be affected by any flooding to this part of the site that fronts onto Windmill Road to the east.

7.5 Riparian lands and waterways

A small part of the subject site is covered by the Water Resource Map and is identified as a waterway. The proposed solar installation is clear of the identified waterway which is on the north western corner of the site. The dry creek bed associated with this waterway has riparian plantings along its length that are not affected by the proposal. Towards the eastern

end of the stream associated with this waterway the solar installation crosses the bed and bank.

The application was referred to DPI Water to assess the impacts of the proposal upon the waterway. General Terms of Approval have been issued in relation to measures that must be followed during site works.

7.6 Environmentally Sensitive Land Groundwater

A small part of the subject site is covered by the groundwater layer and as such this clause is applicable. The layer covers the south-eastern corner of the site, this area is not affected by the proposed solar farm development. The development is not one of the land uses listed as applicable to this control.

Accordingly the objectives of this clause are deemed to have been satisfied.

7.9 Primacy of Zone B3 Commercial Core

Clause 7.9 states that development consent must not be granted to development on any land unless the consent authority is satisfied that the development maintains the primacy of Zone B3 Commercial Core as the principal business, office and retail hub of Wagga Wagga. The development is for a solar farm in a rural zone and will not detract from the ongoing primacy of the CBD.

There are no other relevant additional local provisions.

State Environmental Planning Policies

State Environmental Planning Policy (Infrastructure) 2007

By virtue of Clause 34 of Division 4 of Part 3 of the SEPP the development of electricity generating works, including solar energy systems, are permitted with consent on any land in a prescribed rural, residential or special use zone, by any person. The RU1 zone is a prescribed rural zone.

A solar energy system is defined by the ISEPP as: *any of the following systems:*

- (a) a photovoltaic electricity generating system,*
- (b) a solar hot water system,*
- (c) a solar air heating system.*

As the SEPP is a State document the legislation within it overrides any legislation within a Local Environmental plan with which it may conflict. The solar farm is permitted with consent under both the SEPP and the LEP.

Clause 45 of the SEPP relates to the determination of a development application which has the potential to affect an electricity transmission line. Before determining a development application which meets the relevant criteria provided by Clause 45, the consent authority must first notify the relevant electricity supply authority and give consideration to any comments made by this authority within 21 days of the notice.

There is a Transgrid sub-station and associated infrastructure directly adjacent to the site on the south-western boundary and various transmission line easements running across the

site to the sub-station. Pre- DA discussions between the electricity supply company and the applicants have occurred regarding the connection of the solar farm to the adjacent sub-station.

Referral replies received from both Transgrid and Essential Energy reference the proximity of existing infrastructure to the proposed development. Requirements from both companies have been included as recommended conditions of consent.

The required consultation has occurred in accordance with the SEPP. There are no other aspects of SEPP Infrastructure relevant to this development.

State Environmental Planning Policy No 55-Remediation of Land (SEPP 55)

Clause 7 of SEPP 55 states that:

(1) A consent authority must not consent to the carrying out of any development on land unless:

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The subject site is within a rural area and it is not identified as potentially contaminated land on Council's mapping system. Whilst agriculture is listed as a land use that has the potential to lead to contamination the historical agricultural practices on site have been grazing and arable cultivation. There is no evidence on site of contamination and the land is considered to be in a suitable state for a solar farm. It is not considered necessary to request any investigation reports on the subject site prior to determination of the application.

State Environmental Planning Policy (State and Regional Development) 2011

Under Section 4.5(b) of the Act a regional planning panel is identified as the consent authority for development of a kind that is declared by an environmental planning instrument as regionally significant development.

Development specified in Schedule 7 of the SEPP is declared to be regionally significant development for the purposes of the Act and includes (of relevance to this application):-

Development that has a capital investment value of more than \$20 million.

It is noted that the threshold for regionally significant development is presently listed as \$30 million, however at the time that the Development Application was lodged with Wagga City Council in November 2017 the Act listed \$20 million as the threshold and this continues to apply to undetermined applications such as the subject application that is presented to the Panel. The Capital Investment Value of the proposal is \$29,249,456.

State Environmental Planning Policy (Rural Lands) 2008

The applicable rural planning principles listed in the SEPP are

- *the 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 and*
- *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,*
- *in planning for rural lands, to balance the social, economic and environmental interests of the community,*

It is considered that the proposal will generally support the principles of the SEPP as the development is part of the changing rural landscape that identifies alternative and renewable sources of energy as an acceptable land use. The land use proposed is one that results in the short term loss of primary production land but does allow for the remainder of the site to continue in agriculture use without the need for any fragmentation of land.

The development will impact upon the rural landscape and will effect the visual amenity of surrounding properties. Despite the visual impact this is a type of development that no matter where it is sited will have a visual impact and with appropriate mitigation measures the impacts are manageable and acceptable.

Section 4.15(1)(a)(ii) - The provisions of 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 (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved)

No relevant planning instrument under this clause is currently the subject of public exhibition or comment.

Section 4.15(1)(a)(iii) - The provisions of any development control plan

Wagga Wagga Development Control Plan 2010 (DCP)

The proposed development complies with the development standards of the Wagga Wagga Development Control Plan 2010 as follows:

Section 1 - General

1.10 Notification of Development Application

Pursuant to this provision, notification and advertising of the application are required. Notification was conducted to properties surrounding the development and an advertisement was placed on the site and in the local newspaper.

The original application was notified and advertised between 28 November 2017 and 8 January 2018. This resulted in 26 letters of objection to the development.

Additional information was requested in response to the objections raised and on receipt of the additional information this was again notified between 2-12 March 2018.

The site was visited by members of the Southern Regional Planning Panel on 7 June 2018. The visit raised a number of questions and issues that were presented to the applicant for action. The response to the matters raised by the Panel saw changes to the development and additional information that required notification. The final period of notification to

neighbours was between 12 and 26 July 2018. This resulted in 15 letters of objection.

Referral to the two integrated approval bodies (OEH and DPI Water) also occurred each time additional information was received. Copies of all submissions were provided to the referral bodies in accordance with legislation.

The details of the objections are discussed in detail later in this report under S4.15(1)(d).

Section 2 - Controls that Apply to All Development

2.1 Vehicle access and movements

C1 Access should be from an alternative secondary frontage or other non-arterial road where possible.

The site has frontage to both East Bomen Road and Windmill Road. It is proposed to access the site from East Bomen Road which is a non-arterial road. The existing dwelling on the site will maintain access as existing from Windmill Road.

C2 A Traffic Impact Study may be required where adverse local traffic impacts may result from the development. The traffic impact study is to include the suitability of the proposal in terms of the design and location of the proposed access, and the likely nature, volume or frequency of traffic to be generated by the development.

A traffic impact assessment was not required for this development. Other than during construction the number of vehicles travelling to and from the solar farm will be minimal. Details of the vehicles movements during construction will be included as part of the Construction Management Plan that will be secured by condition.

C3 Vehicles are to enter and leave in a forward direction unless it can be demonstrated that site conditions prevent it.

The site is large enough and has sufficient manoeuvring capacity that allows for any vehicles to enter and leave the site in a forward direction.

The access roads between the rows of solar panels are 4 metres wide with turning areas of 20 metre width also provided across the site.

C4 Provide adequate areas for loading and unloading of goods on site. The loading space and facilities are to be appropriate to the scale of development.

After the installation of the solar farm is complete the development is not one that will require any significant loading and unloading of goods. Any maintenance vehicles can enter and access the site easily with any required materials or infrastructure.

C5 Access driveways are to be located in accordance with the relevant Australian Standard at the time of lodgement of an application.

The final details of the access point and crossover requirements will be secured by condition to ensure compliance with Council's engineering guidelines.

C6 Ensure adequate sight lines for proposed driveways.

Sightlines in and out of the site onto East Bomen Road are satisfactory.

2.2 Off-street parking

This section requires developments to provide off-street parking to meet anticipated demands. The DCP outlines minimum parking standards for different identified land uses.

Traffic generation associated with the ongoing operation of the solar energy system is considered to be negligible as it would be for maintenance purposes only. There are no staff members on site and therefore there is no requirement for any off street parking to be provided. An informal area for parking is identified adjacent to the operations and maintenance building.

Sufficient access-ways between the blocks of panels allow for vehicle access if required.

2.3 Landscaping

The proposed solar installation is within close proximity to East Bomen Road and has the potential to impact upon this road frontage with the degree of infrastructure that is included. As a result it is proposed to plant a 10 metre wide landscape buffer for the full length of this road frontage to assist in softening the impact of this development.

Additional landscaping buffers of 5 metres in width are proposed to the west and south of the site to also assist in softening the impact of development to existing residential properties to the south. All landscaping must be planted prior to operation of the solar farm. The size of the pots/trees will be secured via condition.

The presence of landscaping within close proximity to solar panels can have some negative impact with both the risk of over-shadowing and also the risk of bush-fire. As a result of these risks a 10 metres wide asset protection zone is proposed between all landscape buffers and solar panels. A concept landscape plan has been included as part of the visual amenity assessment, a condition of consent will require a detailed landscape plan to be provided prior to construction works commencing.

It is acknowledged that the site will undergo considerable visual changes because of the physical works required in establishing the solar farm and the subsequent visibility of the installation. The proposed landscaping will not and is not proposed to completely screen the development but will assist in softening and screening the solar farm when viewed from within close proximity.

2.4 Signage

No signage requiring consent is proposed as part of this application.

2.5 Safety and Security

The site will be secured by a new 2.4 metres high perimeter fence around the area that is to be developed. The fence will be placed behind a 10 metres wide landscape buffer which will reduce the impact of the new, required fence in the rural landscape.

The maintenance building and the sub-station within the site will be further enclosed within secure compounds. The ongoing use of the solar farm will be managed via an Operational Management Plan that will include site safety and security measures.

The applicant is required to apply to connect to the electricity network through Essential Energy. Essential Energy's approval would also be subject to the implementation of various safety measures during the construction, ongoing operation and decommission phase.

2.6 Erosion and Sediment Control Principles

Site works associated with the development will include the clearance of groundcover and the establishment of access driveways through the site. In general site drainage will be designed to maintain and improve surface run-off and ponding adjacent to any building footings or adjacent to access roads. The earthworks required will be localised, subject to detailed design and submitted to Council for approval as part of the Construction Management Plan before works can commence. With these checks in place there is no likelihood of disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality. Standard sediment and erosion control conditions will be applied.

2.7 Development adjoining open space

The development does not adjoin land that is zoned as public open space. The proposed landscape buffer to the boundary of the site assists in softening the impact of the solar farm from the adjacent roads.

Section 3 - Heritage Conservation

The site is not within the heritage conservation area.

As noted under the LEP section the site is within an area of known Aboriginal objects and an Aboriginal Cultural Heritage Assessment has been prepared in support of the development application. The findings of the assessment noted a number of stone artefacts across the site that will be harmed by the solar farm and therefore it will be necessary for the applicants to obtain an Aboriginal Heritage impact permit prior to any works commencing. OEH have issued GTAs for the development as proposed.

The proposed development will not diminish social or cultural values of any site located partially or wholly on the subject site and it can be further argued that the solar farm will assist in conserving the Aboriginal objects on the land as the cycle of cultivation and grazing is stopped.

Section 4 - Environmental Hazard and Management

A small part of the subject site is identified as prone to riverine flooding. This part of the site is not affected by the solar farm development in any way and therefore flood controls in this section of the DCP are not applicable to this development.

As mentioned elsewhere in the report, although the site is not mapped as being bushfire prone, a bush risk exists as result of potential ignition and combustion inherent with the solar energy system. It is recommended that a bush fire protection plan be prepared and appropriate bush fire management measures be included as part of the Operational Management Plan for the site. This is secured via conditions.

Section 5 - Natural Resources and Landscape Management

The development application proposes the removal of trees and ground vegetation from the site. A biodiversity assessment was completed and submitted with the application.

The aims of the assessment were to firstly identify all vegetation communities and fauna habitats and determine their extent and condition and secondly to determine the potential

impacts of the proposal on the identified vegetation, habitats and species. In addition there was a specific survey of hollow trees and a targeted amphibian survey (Sloane Froglet).

Remnant vegetation in the locality consists of scattered paddock trees and disturbed grasslands and the native vegetation consists of isolated grassy woodlands. There were 72 flora species identified of which 29 were native including 12 shrub varieties within the planted areas. The planted vegetation areas are along the central drainage line and the eastern boundary. There are no areas of remnant native vegetation on the subject site impacted by the proposal, the remaining vegetation is generally in unproductive and inaccessible areas and this is associated with the historical cultivation of the land.

There were not any endangered ecological communities or endangered fauna populations or threatened flora species identified in the survey results. Two priority weeds were identified on site.

The spread of priority weeds may occur during the construction period from moving plant and equipment. Each species requires specific treatment to be successfully managed and this will form part of the Construction Management Plan which is secured by condition.

The fauna survey identified 21 bird species, 1 reptile and 3 mammals. The planted vegetation provides moderate to good habitat quality for protection, food and breeding habitat. In addition the isolated paddock trees provide moderate to good quality habitat for roosting, foraging and breeding habitat and the hollow bearing trees provide an important nesting and sheltering habitat for nocturnal species.

The flame robin was the only species recorded that is listed as vulnerable, this is a highly mobile species that is wide ranging in the Wagga area. Other threatened species with the potential to occur in the study area such as the superb parrot and barking owl are also highly mobile with abundant habitat available within the locality.

Grassland will be removed as part of the site establishment works. The grassland is abundant across the site and will re-establish across the solar farm area to maintain the presence of foraging habitat. The removal of limited fallen timber and rocky outcrops will have limited impact as these areas have limited habitat value. Equivalent habitat exists and will be retained within the planted vegetation areas.

It is proposed to remove 8 hollow bearing trees and 3 mature non-hollow bearing trees, five hollow bearing trees will be retained. The trees are a valuable resource and the impact has been minimised as far as possible, however the isolation of the existing trees from existing watercourses makes it unlikely that any native species are reliant upon the hollow bearing trees. The loss of these trees results in a loss of habitat and this is further considered in the assessment of significance.

In accordance with the legislation a seven part test was completed to determine the significance of the impacts of development upon threatened ground birds, threatened canopy birds and threatened bats. The removal of habitat is unlikely to impact upon the life cycles of the identified species such that the local population would be at risk of extinction, the retention of planted vegetation areas provides appropriate and suitable habitats with local connectivity. The test concluded that the proposal is not likely to significantly affect the threatened species that occur or are likely to occur in the study area either directly or indirectly. There is no requirement for a Species Impact Statement to be prepared.

The biodiversity assessment includes recommended mitigation measures such as the pre-survey of all hollow bearing trees for nests, installation of nest boxes, staged removal of vegetation and weed management. The recommendations will form part of the Construction and Operational Management Plans which are secured by condition.

5.4 Environmentally sensitive land

As mentioned under part 7 of the LEP a part of the site is identified as groundwater on the Water Resources Map. The impacts have been assessed as acceptable.

Section 6 - Villages

The proposal is for a solar farm in the rural zone. Section 6 is not applicable to this development.

Section 7 - Subdivision

The proposal is for a solar farm in the rural zone. Section 7 is not applicable to this development.

Section 8 Rural Development.

8.1 Development in rural areas

Development in rural areas can raise a variety of issues depending on the development, site context and potential for impacts on the character and amenity of the area. Typical issues are impacts on adjoining uses (especially dust, noise and odour), traffic, land degradation and erosion, and operational and management issues.

The following controls apply to developments in rural areas:-

C1 Uses are to be compatible with the character of the locality in terms of buildings, structures and the nature of operations.

The proposal is unique in its scale and form and different to other types of rural development in the locality. For that reason there will be a change in the character of the land as a solar farm is developed in this location.

Solar installations of this scale (and much larger) are being developed across the state predominantly in rural locations where there is access to large areas of land close to transmission infrastructure. The demand for sustainable energy has seen them begin to emerge and compete with more traditional agricultural land uses and landscapes. This issue will continue to emerge as it is balanced against factors associated with the growing importance of renewable energy targets.

The local landscape will be impacted visually but within the context of a location that is close to an industrial area and existing electricity infrastructure the use is one that can be considered as compatible and acceptable in this location.

C2 Provide adequate buffer areas and setbacks to minimise potential conflicts with adjoining lawful land uses. Where there is potential for a conflict between land uses, priority will be given to the existing productive use.

The solar farm will be developed across existing agricultural land that has the potential to cause impact on neighbouring residential properties. Dwellings within neighbouring lots are set-back over 150m to ensure that the impacts of adjoining land uses are minimised and the proposal includes landscape buffers to soften and screen the installation to neighbouring properties.

C3 Use landscaping and other screening options to help integrate new uses and developments into the rural landscape.

The proposed landscape buffers will assist in integrating the solar farm into the rural landscape in certain locations and from certain views, it is acknowledged that vegetation will not be able to completely screen the solar farm but will assist in the softening of the development site. The proposed development will change the existing character of the rural landscape by the introduction of a significant array of solar panels. The existing character of gently sloping, open land will take on a very different appearance through the introduction of the solar farm which will be clearly visible from many different locations and from existing properties across the local area .

However the facility is one that is permissible in this locality and the large open area is exactly the terrain required for such an installation as well as the fact that it is adjacent to an electricity sub-station to which connection can be made.

C4 Uses must be capable of operating within capacities of available existing services.
The proposed development will generate electricity and be connected to existing infrastructure on an adjacent land parcel.

C5 Provide adequate facilities for additional traffic in terms of vehicle access and movements, parking areas, and loading and unloading of goods.

On-site parking and access tracks are available for the occasional maintenance visits that will occur on site. There are no permanent staff members and therefore no need to provide marked, sealed car-parking spaces. Arrangements during construction will be secured in the Construction Management Plan.

C6 In the case of larger projects Council may require the applicant to demonstrate that the roads in the locality are of satisfactory construction and condition to accommodate the size, weight and volume of vehicles that could be generated by the use, and that the local traffic conditions are suitable.

As noted above there are no permanent staff members and no public access to the site. Vehicle movements during construction have been discussed elsewhere in the report consent and arrangements regarding deliveries and manoeuvring of large plant to and from site will be secured within the Construction Management Plan.

C7 Provide satisfactory arrangements for storage and disposal of waste.
The Construction Management Plan is required to include details regarding waste management during works as well as appropriate disposal details.

Section 9 - Residential Development

The proposal is for a solar farm in the rural zone. Section 9 is not applicable to this development.

Section 10 - Business Development

The proposal is for a solar farm in the rural zone. Section 10 is not applicable to this development.

Section 11 - Industrial Development

The proposal is for a solar farm in the rural zone. There are no relevant controls within Section 11 applicable to this development.

Section 12 - Specific Uses and Developments

The proposal is for a solar farm in the rural zone. There are no specific use or development controls applicable to this development.

Section 13 - Bomen Urban Release Area

The development is not within the Bomen urban release area. Section 13 is not applicable to this development.

Section 14 - Boorooma Urban Release Area

The proposal site is not within the Boorooma urban release area. Section 14 is not applicable to this development.

Section 15 - Lloyd Urban Release Area

The development is not within the Lloyd urban release area. Section 15 is not applicable to this development.

Section 16 - Gobbagombalin Urban Release Area

The development is not within the Gobbagombalin urban release area. Section 16 is not applicable to this development.

Section 4.15(1)(a)(iia) - any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4.

There are no planning agreements in place for this proposal.

(a)(iv) - any matters prescribed by the regulations

Matters prescribed by the *Environmental Planning and Assessment Regulation 2000* have been satisfied.

Section 733 of the Local Government Act 1993

Section 733 of the *Local Government Act 1993* provides that Councils will not incur liability for decisions or omissions concerning flood liable land or land subject to the risk of bushfire. Where required, a risk assessment has been completed and Council will be able to demonstrate that it has acted appropriately in its decision making when defending claims in liability or in circumstances where administrative decisions are challenged.

Flooding Risk Assessment

The development has been considered against the relevant provisions of the WWLEP2010 and DCP2010. The risk of flood to the development site is not assessed as significant as the area of land identified as flood prone is not affected by the proposed solar farm.

Bush Fire Risk Assessment

The development has been considered against the relevant provisions of the WWLEP2010 and DCP2010. Although the subject site is not mapped as being on Bushfire Prone Land the risks associated with the type of development necessitate the need for bush fire protection measures to be considered. The preparation of a plan will be secured by condition.

(b) - The likely impacts of the development

Context and setting

The site is located within a rural area with the predominant surrounding land uses being agricultural in nature. There are residential properties to the south and north of the subject site fronting both Windmill Road and East Bomen Road, respectively. To the north west of the subject site is the Bomen Industrial area consisting of both established industrial land uses and vacant land zoned for future industrial investment.

Approximately 950 metres to the north of the subject site is land that is currently the subject of a major project application with the Department of Planning. The development, on the eastern side of Byrnes Road is for a 120MW large-scale photovoltaic (PV) generation facility and associated infrastructure with a value of \$138 million. The southern part of this block of land already has an existing development approval for a 26MW solar farm that was approved by the Southern Joint Regional Planning Panel in May 2016.

The use of the site as a solar farm would not lead to any ongoing impacts that would detrimentally impact on the operations of nearby properties and does not prohibit or limit future redevelopment opportunities for surrounding sites. It is considered that from a long term sense the proposal will be consistent with the character of the area and compatible with adjacent land uses.

The solar farm will have an impact on the landscape but it is one that is becoming more common and appropriate within a rural landscape and one that causes an acceptable degree of impact when balanced against other factors associated with the importance of renewable energy targets.

Access, transport and traffic

Access to the site will be from East Bomen Road via a single access point that will be secured with a gate. The final design of this driveway will be subject to condition.

Traffic generation associated with the solar energy system is considered to be negligible as it would be for maintenance purposes only. There will be no permanent, sealed, marked parking spaces laid out but there is room within the proximity of the maintenance building for parking and an informal area for the parking of vehicles will be established. There are 4

metres wide access routes provided through the site allowing access to the panels for maintenance purposes. There are also turning circles of 22 metres in width provided as necessary. The access roads will be required to be an all-weather material but there is no requirement for sealing as they are not open to the public.

Construction is expected to be completed over a 12 month period with an expected peak period of six months, during this peak it is anticipated that up to 100 workers will be on site daily dropping to 20 during the other six months. Employee vehicles during this time could number up to 70 although the use of a shuttle bus is also proposed/predicted.

Heavy vehicle movements to and from the site will be via Byrnes Road, this detail will be contained in the required Construction Management Plan. Over the construction period a total of 703 heavy vehicles will be required to access the site including infrastructure deliveries (panels, inverters, piles etc), sub-station equipment, concrete, gravel and sand trucks. There could be up to a maximum of 20 heavy vehicles per day during the peak period generating 40 vehicle movements.

There is sufficient capacity on the site to accommodate a construction compound and parking for construction staff and plant, again the details of which will be secured within the Construction Management Plan.

Visual amenity and glare

The proposed solar farm is surrounded by predominantly rural land uses. The two closest sensitive receptors (residential properties) are approximately 40 metres to the south of the subject site. Views to the subject site and from the subject site to these residences are currently open in nature. It is proposed to mitigate the open vista by the introduction of landscaped buffers to the south eastern boundary of the installation that will assist in softening views of the development. As noted elsewhere in the report the main views from the closest dwelling house are to the east away from the solar farm however the panels will certainly be visible from this property.

A visual amenity assessment has been prepared that considers the potential visual influence of the proposal on the surrounding landscape.

Firstly, the assessment identifies a 'zone of visual influence' (ZVI) which creates a theoretical area from which the proposal may be visible. It is created using topographic data and the height of the proposal elements. To illustrate the visibility of different portions of the site, a series of viewsheds from selected points on the site were prepared, these viewsheds have informed the location of screening vegetation in the landscape concept plan. No screening vegetation has been proposed for the southern site boundary as the existing vegetation and landform provides adequate screening for the southern areas of the site.

Secondly the assessment determines the 'visual absorption capacity' which is the ability for a landscape to accommodate change without the loss of its valued attributes. The attributes of this landscape are the undulating hills, areas of vegetation and rocky outcrops, scenic views across the rural landscape, and views to the middle-distance ridgelines to the east and west, and distant views across the Murrumbidgee River floodplain to distant ranges in the south. Scattered trees and blocks of vegetation within the fields, along field boundaries and roads, and on the ridgelines contain and break-up views to and from the site. The site and surrounding landscape includes a mix of built form with small clusters of farm buildings and homesteads accessed by gravel and sealed roads. The land use transitions into light

industrial development on the outskirts of Bomen, along Byrnes Road and west. The assessment considers that the site has a medium visual absorption capacity due to the undulating landform, scattered vegetation cover and the mix of built form.

An assessment of visual impact is based on sensitivity and magnitude of change where sensitivity refers to the susceptibility of a view to accommodate change without losing valued attributes and magnitude of change refers to the extent of change that would be experienced by receptors. This change can be adverse or beneficial and will be influenced by factors such as the proportion of the view which is affected and the size and scale of the change.

Detailed assessments from different viewpoints were completed with the following conclusions being presented:

In distant views to the site from the north and northwest, there would be negligible visual impacts as the site is located below the ridgeline to the west of the site, and the low profile solar arrays and inverters would not rise above the treeline. The proposed native vegetation screening would also visually enclose the site and partially screen the site. In views from the south, on Windmill Road there would be negligible visual impacts due to intervening landform to the south of the site. The proposed native vegetation screening would also visually screen the visible, lower areas of the site.

There would be a minor adverse visual impact experienced in views from adjacent rural areas to the north and east, where the project would be seen in the middle and foreground of views. The proposed native vegetation screening along the west, north and eastern property boundaries would screen these views over time and allow for the visual integration of the project. The solar arrays and inverters would be a new built feature in these views and would cover several fields. However, several factors mitigate the potential impact of the solar farm.

The proposed solar farm would be seen within the patchwork of agricultural fields and blocks of vegetation. In this landscape there are other built elements such as other residences, sheds, power lines and heavy industrial development to the north of the site. The landform is undulating, which allows for landform to obstruct and visually enclose views to the lower slopes of the site in views from some locations. The existing vegetation on the site, and proposed for around the perimeter of the site, would screen the edges of the proposed solar farm, reducing the overall visible area. The revegetated dry creek corridor, proposed to extend east from the existing area of revegetation, would also visually separate the proposed solar farm into two fields, in views from the north, and further integrate the proposal into the surrounding landscape.

Due to the low height of the panel arrays (approximately 2.6 metres tall) the proposal would not obstruct views to the rural landscape beyond in middle and long-distance views. The panels and inverters would sit well below the ridgeline and adjacent vegetation. The substation is located on the south western corner of the site, on the upper slopes of the site. Whilst it would be visible in some views, rising above the adjacent proposed native screening vegetation it would not be a solid visual element, and blend somewhat into the background of the view. It would also be seen in the context of other transmission facilities. The operations and maintenance building would be visible in views from East Bomen Road, however, this building would be consistent in character with other rural sheds and buildings which are scattered across the rural landscape, and the proposed native screening vegetation would screen this building over time.

In concluding, whilst the proposed solar farm will have a visual impact, the visual impact when viewed at a broader scale is one that is acceptable in this mixed rural landscape.

Glare will be minimised by the fact that the panels are on single axis tracking modules following the line of the sun. This allows the angle of incident to be generally perpendicular and less likely to result in glare than when the angle is greater on fixed modules.

The amount of light reflected by a solar panel depends on the amount of light hitting the surface and the surface reflectivity. The low reflectivity design of the panels maximises the absorption of solar energy and therefore minimises the extent of solar energy reflected. The glass used in the panels can reflect just 2% of the light received which is significantly lower than other materials such as concrete and aluminium.

Noise and vibration

The impact of noise from the development relates to predominantly construction noise with limited ongoing operational noise associated with the solar farm. The increased noise levels during construction could adversely affect the amenity of properties and residents within proximity of the site.

A Noise and Vibration Impact Assessment has been prepared in accordance with relevant legislation and guidelines to assess the impacts of the construction and operation of the installation. Seventeen sensitive (residential) receptors were identified within a 1.7km radius of the site one of which is on the subject site. The two closest receptors are 40m to the south.

The construction period is expected to last approximately 12 months starting with site clearing and preparation, then civil works, trenching and piling, installation of solar modules and finally commissioning.

The Interim Construction Noise Guidelines (2009) include construction noise criteria against which noise from the works should be measured. During standard construction hours the noise management level is the rating background level (RBL) +10dB. Background noise monitoring determined that the RBL was 35dB(A) which results in a noise affected limit of 45dB(A) for construction during standard hours.

In assessing noise impacts it is noted that works will progress across the site and not be contained within one specific area for a considerable length of time. The site preparation activities and the driving of posts into the ground are the works most likely to result in adverse impacts. Predictive noise modelling was carried out separately for these two activities and both sets of results showed compliance with the noise management levels provided in the Interim Construction Noise Guidelines during standard construction hours. An analysis of these same works outside of standard construction hours showed compliance at all receptors except at the two dwellings directly to the south of the site for both activities and also at the house to the north of East Bomen Road during site works due to the proximity to the road. It is not anticipated that there will be any works outside of standard construction hours. A standard hours condition will be included.

The two residences to the south of the site will be most exposed to the proximity of piling activities and the acoustic assessment recommends mitigation measures that should be taken to minimise the disturbance. These measures include consultation with residents, use of quieter piling rigs and reduced hours of piling activities in this area. The recommendations of the acoustic assessment are to be included in the Construction Management Plan and this will be secured by condition.

As noted earlier in the report anticipated vehicle movements to and from the site during construction periods are considerably higher than existing as well as the number of construction workers travelling to and from the site. The increased noise from the additional heavy and light vehicle movements was modelled against criteria contained in the NSW Road Noise Policy and found to be compliant. Any impacts associated with increased vehicle movements along East Bomen Road will be short term and subject to details contained in the Construction Management Plan.

In terms of operational noise the assessment used criteria contained in the Industrial Noise Policy to determine the acceptable noise levels within a rural area. It is paramount that these levels are maintained to protect the existing amenity of the area. The solar farm is comprised of single axis tracking panels that rotate with the sun throughout the day, these are linked to inverters and a single transformer.

Noise emissions from the tracking motors of the solar modules occur approximately every 15 minutes which allows for a five degree rotation per hour during sunlight hours. The predicted noise from this infrastructure was modelled, the modelling factors in differing meteorological conditions. The modelling found that operational noise levels associated with the trackers are predicted as 20dB(A) at the closest receptors. The lowest acceptable noise criteria (during the night period) is 35dB(A) and therefore any noise associated with the trackers falls well within acceptable noise assessment guidelines.

Vibration impacts associated with the site preparation and construction works have been assessed in accordance with technical guidelines (*Assessing Vibration: A technical Guide [2006] DECCW*) and found to be compliant with both the nuisance criteria and the building criteria.

Flora and fauna

A Biodiversity Assessment was prepared and submitted as part of the Development application supporting information. This has been discussed elsewhere in the report. The proposed removal of vegetation (hollow bearing trees, mature trees and grasses) is not anticipated to significantly affect any threatened species, population or ecological community, or its habitat.

The subject land is characterised by isolated paddock trees and grasses with planted vegetation evident to the eastern boundary and the dry creek bed. There are also two additional vegetated areas to the south of the development area. These existing vegetation areas will not be impacted by the development and will continue to provide a range of flora and fauna consistent with the existing site characteristics.

Landscape buffers of 10metres and 5 metres in width are proposed to the boundaries of the installation. The vegetated buffer will consist of trees and shrubs extending to 5 metres in height. The species mix proposed within the buffers includes Silver Wattle, Golden Wattle and silver banksia. Shrubs proposed elsewhere include a mix of acacias, wattle and other native vegetation.

All of the species that have been selected are suitable for the Wagga Wagga climate with the majority included on the 'recommended plant species' contained within Council's landscape guidelines.

Natural Hazards

A small part of the site is identified as flood prone but the development does not impact upon this part of the site.

As mentioned elsewhere in the report, although the site is not mapped as being bushfire prone, a bush risk exists as a result of potential ignition and combustion inherent with the solar energy system. It is recommended that a Bushfire Protection Plan be prepared as well as forming part of the ongoing Operational Management Plan for the site.

Man Made Hazards

The site is not identified as contaminated and shows no history or evidence of any previous land use that may contribute toward contamination of the site.

Risks to the environment in respect of the use of solar technologies are considered to be very low. Materials used in the construction of solar modules have the potential to be recycled following the decommissioning of the site. All infrastructure will be removed from site reducing any risk to human health and/or the local environment.

Heritage

The application is accompanied by an Aboriginal Cultural Assessment report which was discussed in detail earlier in the report.

The impacts are considered acceptable due to the substantially disturbed nature of the land from historical agricultural practise. The development will assist in protecting undisturbed objects as there will be no ongoing cultivation for the life of the solar farm.

The details of the assessment were forwarded to the Office of Environment and Heritage who have issued GTAs. An Aboriginal Heritage Impact Permit will be required prior to works commencing on site due to identified objects being disturbed.

Stormwater and drainage management

The site has a gentle slope towards the central gully that runs east-west through the site. Limited impervious areas are created as a result of the solar farm installation with the only compacted hard surfaces being associated with the maintenance building, sub-station and access roads. The ability for the natural ground to infiltrate rainwater will be largely similar to the existing scenario on the land and increased run-off from the site is not anticipated. Notwithstanding the above detailed stormwater management plans will be required prior to construction and/or works commencing to validate pre and post development flows across the site. This will be secured by condition.

Soil

The ongoing maintenance of groundcover over the site will assist in minimising soil erosion, and the procedures for monitoring and maintaining groundcover are therefore critical. This could include measures such as regular inspections across the site to identify any localised scouring, and undertaking remedial works if required.

A Soil and Water Management Plan is required to be submitted for approval prior to works commencing which will detail the controls and measures to be employed during construction to prevent erosion. Furthermore, an Operational Management Plan is required to be submitted for approval prior to the solar farm becoming operational that will detail the measures that will be implemented on an ongoing basis to manage groundcover and prevent erosion.

It is not anticipated that the soil resource will be degraded whilst the solar farm exists and there is no associated impact that would compromise its ability to return to cropping or pasture. The productivity and health of the soil resource will not be subject to any additional pressures. To the contrary, there will be less soil compaction which can only protect soil structure. Grazing and farming is an active land use that draws on the soil resource, while a solar farm is a passive land use that will effectively rest the soil resource. Removal of infrastructure and access to a rested soil resource will enable the land to be farmed in the future.

Services

The proposed development is not anticipated to have any significant impact on services other than providing a renewable energy source to the benefit of the City's power supply. The applicant has been referred to both Transgrid and Essential Energy for comment who indicated support of the proposal, subject to final negotiations and contract agreements with the applicant.

Waste

Waste generated through the construction phase would be removed from the site and either recycled or disposed of at an appropriate waste disposal facility. A Waste Management Plan is conditioned to be included as part of the Construction Management Plan. The ongoing operation of the solar farm is not expected to create waste. The decommissioning of the site will require the removal of all infrastructure associated with the development to a suitable waste facility.

Air Quality

There is the potential for dust to be generated during the construction phase, but the operation of the facility is not anticipated to create any dust pollution. A Dust Management Plan is required under the recommended conditions of consent which must be implemented as part of the Construction Management Plan.

Socio - Economic Impact

The installation of the solar farm will provide employment opportunities and new skills and expertise during the construction phase. There may be also be opportunities for local labour and goods and materials to be supplied for the installation of this development. There are no ongoing employment opportunities other than required maintenance work.

The development is of a nature that is compatible with the long term vision of the nearby Bomen Master Plan that has a strong focus on enabling renewable energy in the locality.

On a broader social scale the proposed development contributes to achieving increased renewable energy outputs and investment into the local area.

Decommissioning

The decommission of the solar farm will be carried out in accordance with an approved plan that will include but not be limited to, all relevant measures outlined within this report and the recommended conditions of consent. There will be a requirement for site restoration works at the completion of decommission works, including revegetation of disturbed ground, weed management and control of any erosion and sedimentation.

Operational and land management

As there will be no permanent staff members on site the equipment will be monitored remotely with personnel coming to site for routine maintenance and repair work only. The management of groundcover will also be included as part of the Operations Management Plan. This could include the use of selective grazing by livestock, mechanical slashing and the establishment and maintenance of a suitable vegetative groundcover that provides effective competition for weeds, maintained through regular inspection.

The Principles of Ecologically Sustainable Development

1 The precautionary principle

Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The principle requires decision-making to give the environment the benefit of the doubt.

The redevelopment proposal is not considered to cause serious or irreversible damage to the environment as the solar farm will be subject to a decommissioning process that will restore the land back to full agricultural capability.

2 Intergenerational equity

The present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations (that is, a partnership among all of the generations that may use or expect to benefit from the nation's resources).

The proposed land use does not limit the future development of the site for future generations.

3 Conservation of biological diversity and ecological integrity

Conservation of biological diversity and ecological integrity should be a fundamental consideration.

The findings of the biodiversity assessment were that there was no significant impact to flora and fauna given the remaining vegetation and habitats that are not impacted by the proposal.

The proposed development will not result in any anticipated irreversible environmental damage. Accordingly the principles of ESD are considered to have been followed.

(c) - The suitability of the site for the development

The land is appropriately zoned for the land use that is permissible under the provisions of SEPP Infrastructure and the Wagga Wagga LEP. The proposed land use does differ to the historical use of the land for agricultural purposes but is one that can be suitably located and managed on this land with an acceptable degree of impact.

The site has been selected as a site for a solar farm due to its predominantly cleared, undulating nature within close proximity to existing electricity infrastructure and which is also easily accessible. The character of farmland throughout the country is transitioning to include solar energy production as an alternative to traditional agricultural production where suitable infrastructure and locations exist, in order to support additional renewable energy sources and provide alternative sources of rural income.

The site is of a sufficient size to accommodate the use and is located away from densely populated areas. There are no site constraints that would render the site unsuitable for the proposed development.

(d) - Any submissions made in accordance with this Act or the Regulations

Referrals

Office of Environment and Heritage (OEH)

On receipt of the initial application further details were requested from the applicant on both 21 December 2017 and 23 March 2018 as there was insufficient information to meet the requirements to determine an AHIP.

General Terms of Approval were issued for Aboriginal cultural heritage matters on 1 May 2018 - an AHIP will be required prior to works commencing on site and this will be the subject of a separate application to OEH. GTAs are included as recommended conditions of approval.

With regard to biodiversity matters OEH commented as follows:-

“OEH concurs with the conclusion that the proposed development is unlikely to have a significant impact on biodiversity, including threatened species. We support the use of native species of local conservation significance in the proposed screen plantings. It is appropriate for hollowed limbs removed from trees being felled to be placed in the existing planted areas to provide ground habitat, as is the relocation of fallen timber and bush rock into the planted areas.”

DPI Water

General Terms of Approval were issued for a controlled activity on waterfront land on 17 May 2018 - a Controlled Activity Approval will be required prior to works commencing on site and this will be the subject of a separate application to DPI Water. GTAs are included as recommended conditions of approval. As part of the referral process the Riparian Protection Measures were updated and amended and the revised plan is listed in the consent conditions.

DPI Agriculture

Options for not siting some of the development on agricultural land should be considered; a draft rehabilitation plan should be prepared and if the land has a cropping history infrastructure should be buried to a depth of greater than 800mm.

In response to these matters the subject site is all zoned as RU1 primary production land and historically none of the site has any other land use. Conditions will secure a rehabilitation plan as well as the removal of all infrastructure (not just to a certain depth).

Transgrid and Essential Energy have confirmed no objection to the development subject to conditions and contractual agreements regarding clearance from easements and connection to the adjoining sub-station.

Notification and Advertising

In accordance with the Council's advertising and notification provisions outlined in Section 1.10 of the *Wagga Wagga Development Control Plan 2010* the application was originally notified and advertised between 28 November 2017 and 8 January 2018. Following the receipt of additional information and responses to matters raised in submissions the application was further notified between both 2-16 March 2018 and 12-26 July 2018.

Public Submissions

Twenty-six submissions were received in response to the first round of notification and ten and fifteen to the following rounds respectively. The same persons responded to each round of notification.

The grounds of objection can be summarised as follows:-

1. Rural land should not be used when so much land to the north has recently been re-zoned as industrial.

Comment: The land use is one that is permissible within the rural zone under the provisions of both SEPP Infrastructure and the WWLEP 2010.

2. There will be significant glare from the panels towards existing residential properties and towards users of East Bomen Road.

Comment: An assessment of the glare associated with the solar panels is included earlier in the report. The tracking nature of the installation reduces the incidence of glare. The vegetation buffer will minimise any glare towards vehicles on East Bomen Road.

3. Noise disturbance from the motors that are used to rotate the panels towards the sun throughout the day. How can off-site assessments be indicative of site conditions? Why have noise measurements not been taken from the noted receptors?

Comment: An assessment of the noise associated with the panels is included earlier in the report and found to be acceptable. The noise modelling used does incorporate different meteorological conditions such as wind speed, temperature and cloud cover to determine worst case scenarios. Ambient noise levels were taken from noise monitoring reports prepared for another development that was potentially impacted by noise from the Bomen Industrial park.

4. The treatment of this land with chemicals to prevent vegetation and weed growth over the 25 year life span of the development will render the land unsuitable for future agricultural enterprise; Concern about the management of priority weeds not just during construction but for the life of the operation.

Comment: The details of groundcover management across the site will be secured in the Operational Management Plan. The long term aim is that the land will be restored to agricultural use; Two priority weeds have been identified on site and specific mitigation measures are proposed during works which are secured by a recommended condition of consent. In addition the Operational Management Plan will include ongoing weed management measures for both general and priority weeds.

5. The visual impact across the Eunony Valley will be significant, not only the panels but also the high security fence making it look like a jail. It is completely out of character with the area.

Comment: The fencing will be behind the landscape buffer and therefore have no visual impact. The view of the site from many views will change but not to an extent that is deemed unacceptable.

6. Tree cover is minimal and there is no screening because of the need to prevent overshadowing. Any trees planted as part of the development would take the full 25 years to have any desired impact.

The landscape buffer is not wide enough, will take time to take effect and includes non-native varieties.

Comment: Landscape buffers have been included in the plans for development, as noted in the report the trees are proposed to soften not screen the development. A mix of trees and shrubs are proposed to provide a denser vegetation buffer. The use of minimum pot sizes as opposed to tubestocks will allow the impact of vegetation to take effect quicker as the trees and shrubs will be of a more established size at planting stage.

7. There is a history of Aboriginal heritage and findings on this land and in the locality. The development should not impact upon any such artefacts or relics.

Comment: All due diligence required has been followed in the preparation of the cultural assessment report and an Aboriginal Heritage Impact Permit is required prior to works commencing.

8. This development is an extension of the industrial area by stealth, residents have already objected (and lost) to the rezoning of nearby land for industrial purposes and this brings those impacts even closer.

Comment: The land use is not defined as industrial and is one that is permitted with consent in a rural area.

9. Loss of agricultural land that could be used for arable purposes, the loss of prime agricultural land is a poor outcome.

Comment: The solar farm has a twenty-five years life span after which the land will have the ability to be returned to agricultural use. There is a plentiful supply of agricultural land across the LGA and the use of a 70ha area for a short- term land use is in this case considered acceptable.

10. Negative impact upon local wildlife and the whole ecological balance of the land; destruction of superb parrot habitat

Comment: The biodiversity assessment has demonstrated that the impact upon habitats, ecology, vegetation and wildlife is not significant. It is acknowledged that limited surveys were completed at only certain times of the year which may result in some species not being recorded. However due to the disturbed nature of the ground the likelihood of significant omissions occurring is low.

11. The installation uses many hazardous material which if not handled and disposed of correctly could pose serious environmental or public health threats; what if the land ownership changes? Who will complete the decommissioning?

Comment: The decommissioning plan is required to include detail about the removal of all infrastructure from site. By ensuring that all infrastructure is safely removed and disposed of the risk to both human health and the environment is minimised. Any consent issued for a

solar farm is tied to the land not the owner, therefore a new owner would take on all responsibility for the site including any conditional requirements attached to the consent.

12. There are much better sites across the Riverina that could be used for a development of this scale.

Comment: There are many other sites across the Riverina that are subject to similar development applications including others within the Wagga Wagga LGA. The requirement of the determining planning authority is to assess the details of the development application before them as opposed to suggesting alternative sites. The suitability of the subject site and impacts associated with its development are discussed throughout the report.

13. Ambient temperature - question relevance of research from Queensland.

Comment: The Queensland research was based on a solar site with groundcover which is comparable to that proposed. Previous ambient temperature examples available were from a site in Arizona with no groundcover. Given the minimal extent to which this data is relied upon the comparison is appropriate.

14. Risk of fire from the development.

Comment: Acknowledging the risk of fire associated with the development a bush fire protection plan must be prepared in association with the ongoing operation of the site.

15. Increased hard-surfaces will increase the flow of water along the gully in the middle of the site; increased run-off to the flood-plain; Impacts on winery and vineyards from weeds, water and chemical wash.

Comment: There is a limited amount of impervious area associated with the solar farm and therefore the risk of increased run-off from the site is minimal. Notwithstanding this comment conditions of consent will require the preparation of soil and management plans as well as stormwater management plans to ensure that the retention of groundcover is managed during operations.

16. This will be a blight on the landscape that will not impact the owners of the land, why can the panels not be sited closest to the house on the land and away from others.

Comment: The assessment report demonstrates that the impacts of the development are acceptable. The interpretation of the impact on the landscape is a subjective one that will be viewed differently by different persons depending on a variety of factors. The panels have been sited based on numerous factors including the topography of the land.

17. Lack of community consultation; the timing of the notification over Christmas period made it very difficult to obtain professional advice on this matter.

Comment: The degree of consultation to be undertaken by an applicant is not prescribed in the Planning legislation and is not a requirement. There are requirements for the local planning authority to notify development applications and this has been carried out on three occasions to ensure that interested parties have access to all updated and /or amended information associated with the proposal. The initial period of notification was extended to take into account the close down period between Christmas and New Year.

18. Photographs across the site and the valley highlight the visual impact

Comment: The overall conclusions of the visual impact assessment have been discussed earlier in the report. Dependent on the sensitivity of the landscape and the magnitude of change the visual impact ranges from minor adverse to negligible.

19. The proximity of the dwelling to south.

Comment: The closest dwelling to the south has a northern boundary that is approximately 40 metres from the proposed solar farm installation. There will be a landscape buffer to the southern side of the solar farm of 10 metres in width to soften the impact towards the south. The actual dwelling is setback 150m from the northern boundary with the closest elevation of the dwelling containing the garage doors and bedroom windows. When the dwelling was approved in 2007 there was a requirement for 150m minimum setback from land in agricultural production to minimise impacts to future residents. This secured setback will assist in minimising the impacts from the solar farm. The main living area looks out predominantly towards the east and whilst the installation of the panels will undoubtedly be visible from this property the impacts are considered acceptable.

20. Negative impact upon house prices in the area. Submissions seek further time for a property valuer to prepare a full financial assessment.

Comment: Property values are not a matter that can be considered under planning legislation. It is not considered necessary to offer or allow additional time for the preparation of such information as it holds no weight when determining applications.

21. The application has not followed the NSW Government Large Scale Solar Energy Guideline.

Comment: The document referenced in submissions is in draft form only and was released in November 2017 at the same time that the application was first lodged with Council. The document is intended to provide guidance for State Significant developments which the current proposal is not classified as and therefore the significance of this document is limited.

22. The siting of the maintenance building by the road creates a further visual eyesore for the locals but not for the landowners.

Comment: The building is sited close to the road for ease of access by visiting maintenance and operations staff. It is behind the landscape buffer and will therefore be predominantly screened from the road.

23. The proposed solar farm would get priority feed into the grid meaning that those with existing roof-top solar panels may lose out on credits and the benefit of the investment.

Comment: This is a private investment matter and not one that is controlled by planning legislation.

24. Lighting of the facility especially at night will disturb residences and potentially attract wildlife.

Comment: The proposed lighting is for security purposes only and will not spread outside of the site onto residential properties. A recommended condition of consent is proposed to ensure that there is no light-spill outside of the site.

25. Lack of any permanent employees at the site is concerning as to how efficient the maintenance will be and not good for employment in the city.

Comment: The equipment within the operations building will be remotely accessed to ensure that there is an ongoing awareness of operations at the site and the need for any maintenance can be easily monitored and arranged.

26. There should be rules about near they can be to residences and how many of them in one area.

Comment: At this point in time the legislation does not include limitation on the number of panels and/or solar farms in any one area nor are they any parameters about distances from

identified land uses.

(e) - The public interest

The public interest is best served by the consistent application of the requirements of the relevant planning controls and by Council ensuring that any adverse effects on the surrounding area and the environment are avoided.

The proposed development contributes to federal, state and local goals of promoting the development of renewable energy and reducing greenhouse gas emissions.

Taking into account the full range of matters for consideration under Section 4.15(1) of the Environmental Planning and Assessment 1979 (as discussed within this report) it is considered that approval of the application is in the public interest.

Other Legislative Requirements

In November 2017, the Biodiversity Conservation Act 2016 commenced with new requirements relating to biodiversity assessments and approvals under the Environmental Planning and Assessment Act 1979. As the subject application was lodged with Council prior to the new Act commencing, the former provisions as noted below will continue to apply.

The Environment Protection and Biodiversity Conservation Act (1999) and New South Wales Threatened Species Conservation Act (1995)

Under Section 5A of the Environmental Planning and Assessment Act 1979 a Seven Part Test is required to determine “whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats” listed on Schedules 1 or 2 of the Threatened Species Conservation Act 1995, and consequently, whether a Species Impact Statement is required.

The following factors must be taken into account in making a determination under this section:

- (a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,*
- (b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,*
- (c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:*
 - (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
 - (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*
- (d) in relation to the habitat of a threatened species, population or ecological community:*
 - (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
 - (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
 - (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the*

long-term survival of the species, population or ecological community in the locality,
(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),
(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,
(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

In accordance with the legislation a seven part test was completed to determine the significance of the impacts of development upon threatened ground birds, threatened canopy birds and threatened bats. The removal of habitat is unlikely to impact upon the life cycles of the identified species such that the local population would be at risk of extinction, the retention of planted vegetation areas provides appropriate and suitable habitats with local connectivity. The test concluded that the proposal is not likely to significantly affect the threatened species that occur or are likely to occur in the study area either directly or indirectly. There is no requirement for a Species Impact Statement to be prepared.

As noted earlier in the report recommended mitigation measures will be enforced via condition to minimise impacts on biodiversity.

NATIONAL PARKS & WILDLIFE ACT 1974

Under the Act it is illegal to harm Aboriginal objects and/or places without appropriate permission being in place. Individuals and corporations can be prosecuted for such harm if there is no defence in place. A person or corporation may have a defence against such prosecution if they have an Aboriginal Heritage Impact Permit (IHIP) authorising harm (section 87(1)) or can demonstrate that due diligence has established that Aboriginal objects will not be harmed (section 87(2)).

In terms of the subject application an IHIP is required to be in place prior to any works commencing on site and this will be secured by condition.

In accordance with section 80 of the National Parks and Wildlife Regulations consultation with Aboriginal stakeholders has been undertaken during the process of the heritage assessment. The consultation included a notification period seeking interested parties, a period of information gathering, field inspections and review of findings.

The findings of the report and the impacts associated with the development have been discussed in greater detail in the report.

Council Policies

Not applicable.

Comments by Council's Officers and/or Development Assessment Team

Council's other relevant officers have reviewed the application in accordance with Council's processing procedures and are in support of the application, subject to conditions.

Contributions

Section 7.11/7.12 of the Environmental Planning and Assessment Act 1979 and the City of Wagga Wagga's Section 94 Contributions Plan 2006-2019 / Levy Contributions Plan 2006 enables Council to levy contributions towards identified works across the LGA.

A Section 7.12 contribution applies to this development that is calculated as 1% of the development cost. The cost of development is \$32,174,401.60 equating to a contribution of \$321,744.02.

Section 64 of the Local Government Act 1993, Section 306 of the Water Management Act 2000 as well as the City of Wagga Wagga's Development Servicing Plan for Stormwater 2007 and/or City of Wagga Wagga Development Servicing Plan for Sewerage 2006 enable Council to levy developer charges based on the increased demands that new development will have on sewer and/or stormwater.

No Section 64 contribution is payable for this development as the development does not require connection or have any impact on Council sewer or stormwater networks.

Conclusion

An assessment of the application has resulted in this application being supported based on the following grounds:

- The application is for a use which is permitted with consent in the RU1- Primary Production zone and under the provisions of SEPP Infrastructure.
- The development is consistent with the controls contained in the WW DCP 2010 as outlined in this assessment report
- Whilst the solar farm will have an impact on the landscape it is one that is becoming more common and appropriate within a rural landscape and one that causes an acceptable degree of impact when balanced against other factors associated with the importance of renewable energy targets.
- The suitability of the use being located away from densely populated areas is considered appropriate and there are no site constraints that would render the site unsuitable for the proposed development.
- The proposed development can be managed through the proposed conditions of consent in a way to reduce potential environmental impacts and accordingly the assessment of the application has concluded the impacts associated with the development are acceptable.
- The development complies with the requirements of the Environmental Planning and Assessment Act 1979.

RECOMMENDATION

It is recommended that DA17/0679 for Electricity Generating Works - Solar farm (Integrated Development) be approved, subject to the following conditions:-

CONDITIONS

Approved Plans and Documentation

1. The development must be carried out in accordance with the approved plans and specifications as follows.

Plan/Doc No.	Plan/Doc Title	Prepared by	Issue	Date
	Statement of Environmental Effects	Geolyse		Nov. 2017
	Additional Information 1 (including glare and acoustic details)	Geolyse		No date
	Aboriginal Cultural Heritage Assessment	Access Archaeology & Heritage		April 2018
	Biodiversity Assessment	ngh Environmental		Oct. 2017
	Noise & Vibration Impact Assessment	amg		Nov. 2017
EV03	Development Locality	Geolyse	B	4.7.2018
EV04	Site Analysis Plan	Geolyse	B	4.7.2018
EV05	Concept Site Plan	Geolyse	B	4.7.2018
EV06	Detail Views	Geolyse	B	
EV07	Riparian Protection Measures	Geolyse		7.5.2018
EV08	Grid Connection	Geolyse	B	4.7.2018
	Visual Amenity Assessment	IRIS Visual Planning & Design		July 2018
	Response Package	Terrain Solar		6.7.2018
	Written Correspondence	Terrain Solar		6.7.2018
	Temperature Monitoring Overview	amg		3.7.2018

The Development Application has been determined by the granting of consent subject to and as amended by the conditions of development consent specified below.

NOTE: Any modifications to the proposal shall be the subject of an application under Section 4.55 of the Environmental Planning and Assessment Act, 1979.

REASON: It is in the public interest that work is carried out in accordance with the approved plans. Section 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

2. **Approval is granted for the use of the site as a solar farm, within the Wagga Wagga LEP 2010 definition of ‘electricity generating works’ and will include the following works/components:**

- ☐ **Construction of solar energy modules on single axis trackers generating no more than 30 MW.**
- ☐ **Above and underground electrical conduits and cabling, inverters and substation.**
- ☐ **Maintenance building.**
- ☐ **Internal access driveway.**
- ☐ **Security fencing and gate of 2.4metres in height.**
- ☐ **Landscaping buffers and tree removal.**
- ☐ **Decommissioning of the solar energy system**

REASON: It is in public interest that proposed development be limited to the works/uses listed as above. Section 4.15(1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

3. **Prior to any works commencing a copy of the required Aboriginal Heritage Impact Permit must be provided to Council. The attached General Terms of Approval (GTA) do not form the required permit. Application must be made for the relevant approval after consent has been issued by Council and before the commencement of any work or activity on the land.**

Application forms for the Aboriginal Heritage Impact Permit are available from the Office of Environment & Heritage website.

REASON: It is in the public interest that the development complies with all legislative requirements. Section 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

4. **Prior to any works commencing a copy of the required Controlled Activity Approval must be provided to Council. The attached General Terms of Approval (GTA) do not form the required approval. Application must be made for the relevant approval after consent has been issued by Council and before the commencement of any work or activity on the land.**

Finalisation of a controlled activity approval can take up to 8 weeks from the date that Department of Primary Industries (DPI) Water receives all documentation (to its satisfaction.) Application forms for the controlled activity approval are available from DPI Water’s website.

REASON: It is in the public interest that the development complies with all legislative requirements. Section 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

Prior to release of Construction Certificate

5. Pursuant to s7.12A of the *Environmental Planning and Assessment Act 1979* and the *City of Wagga Wagga Section 94A Levy Contributions Plan 2006*, a levy in the amount of \$321,744.02 must be paid to Council prior to the issuing of the Construction Certificate unless, before the time due for payment, the applicant and the Council enter into a legally binding agreement for the applicant to provide works-in-kind or any other material public benefit(s) to the Council in part or full satisfaction of the levy. This amount is to be adjusted in accordance with clause 25J(4) of the *Environmental Planning and Assessment Regulation 2000* and clause 11 of the *City of Wagga Wagga Section 94A Levy Contributions Plan 2006*. A copy of the *City of Wagga Wagga Section 94A Levy Contributions Plan 2006*, is available for inspection at Council Chambers, corner Baylis and Morrow Streets, Wagga Wagga.

NOTE 1: Clause 11 of the *City of Wagga Wagga Section 94A Levy Contributions Plan 2006* provides for Section 94 contributions to be indexed in accordance with the Consumer Price Index - All Groups (Sydney) published by the Australian Bureau of Statistics.

NOTE 2: The figures outlined in this consent are based on the applicable rate of CPI at the time of consent which is September 2018. Please be advised that CPI changes on a regular basis and you are advised to contact Council prior to payments being made, to ensure no further CPI increases/decreases have occurred since the date of this consent.

REASON: Section 7.12A of the *Environmental Planning and Assessment Act 1979* and the *City of Wagga Wagga Section 94A Levy Contributions Plan 2006*, authorise the imposition of this condition in relation to the development the subject of this consent.

6. Prior to the issue of a Construction Certificate stormwater drainage shall be designed to limit post development flows from the site to pre-developed flows for all storms up to and including the 100 Year ARI event. Full plan details of any proposed On-Site Detention (OSD) system and supporting calculations shall be provided.

REASON: To prevent the proposed development having a detrimental effect on the developments existing on the adjoining lands. Section 4.15(1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

7. Prior to the issue of a Construction Certificate a detailed stormwater management plan across the subject site shall be provided to the satisfaction of Council.

REASON: To prevent the proposed development having a detrimental effect on the developments existing on the adjoining lands. Section 4.15(1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

8. A detailed landscape plan and legend shall be submitted and approved prior to the release of the Construction Certificate. The plan shall:

- (1) Be prepared in accordance with Council's Landscape Guidelines and Landscape Application Checklist.
- (2) Include a plant schedule that indicates all plant species, pot sizes, spacings and numbers to be planted within the development. Plant species are to be identified by full botanical name.
- (3) Identify the replacement of species *Carex tereticaulis* and *Juncus filicaulis* with *Carex appressa* and *Juncus filiformis*, respectively.
- (4) Reference new plantings with minimum pot size of 150mm not tubestocks.

REASON: To ensure that effective landscaping buffers are provided on the subject land. Section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979, as amended.

Prior to Commencement of Works

9. Prior to works commencing on site, toilet facilities must be provided, at or in the vicinity of the work site on which work involved in the erection or demolition of a building is being carried out, at the rate of one toilet for every 20 persons or part of 20 persons employed at the site. Each toilet provided must be:

- a) a standard flushing toilet connected to a public sewer, or
- b) if that is not practicable, an accredited sewage management facility approved by Council, or
- c) if that is not practicable, any other sewage management facility approved by Council.

NOTE 1: The provision of toilet facilities in accordance with this condition must be completed before any other work is commenced and the toilet facility must not be removed without the prior written approval of Council.

NOTE 2: "Vicinity" in this condition is defined to mean within 50 metres of the subject building site.

NOTE 3: The toilet facilities are to comply with all WORK COVER NSW requirements.

REASON: To provide adequate sanitary facilities during the construction phase. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

10. A CONSTRUCTION CERTIFICATE pursuant to Section 109C of the *Environmental Planning and Assessment Act 1979*, as amended from either Council or an accredited certifying authority certifying that the proposed works are in accordance with the Building Code of Australia PRIOR to any works commencing.

NOTE 1: No building, engineering, excavation work or food premises fitout must be carried out in relation to this development until the necessary Construction Certificate has been obtained.

NOTE 2: YOU MUST NOT COMMENCE WORK UNTIL YOU HAVE RECEIVED THE CONSTRUCTION CERTIFICATE, even if you made an application for a Construction Certificate at the same time as you lodged this Development Application.

NOTE 3: It is the responsibility of the applicant to ensure that the development complies with the provision of the Building Code of Australia in the case of building work and the applicable Council Engineering Standards in the case of subdivision works. This may entail alterations to the proposal so that it complies with these standards.

REASON: To ensure the design of the proposed work may be assessed in detail before construction commences and because it is in the public interest that the development complies with the appropriate construction standards. Section 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 11. Prior to works commencing a container must be erected on site for the enclosure of all building rubbish and debris, including that which can be wind blown. The enclosure shall be approved by Council and be retained on site at all times prior to the disposal of rubbish at a licenced Waste Management Centre.**

Materials and sheds or machinery to be used in association with the construction of the building must not be stored or stacked on Council's footpath, nature strip, reserve or roadway.

NOTE 1: No building rubbish or debris must be placed, or be permitted to be placed on any adjoining public reserve, footway, road or private land.

NOTE 2: Weighbridge certificates, receipts or dockets that clearly identify where waste has been deposited must be retained. Documentation must include quantities and nature of the waste. This documentation must be provided to Council prior to application for an Occupation Certificate for the development.

NOTE 3: The suitable container for the storage of rubbish must be retained on site until an Occupation Certificate is issued for the development.

REASON: To ensure that the building site and adjoining public places are maintained in a clean and tidy condition so as not to interfere with the amenity of the area. Section 4.15(1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 12. Prior to the commencement of works erosion and sediment control measures are to be established and maintained to prevent silt and sediment escaping the site or producing erosion. This work must be carried out and maintained in accordance with Council's:-**

- a) Development Control Plan 2010 (Section 2.6 and Appendix 2)**
- b) Erosion and Sediment Control Guidelines for Building Sites; and**
- c) Soils and Construction Volume 1, Managing Urban Stormwater**

Prior to commencement of works, a plan illustrating these measures shall be submitted to, and approved by, Council.

NOTE: All erosion and sediment control measures must be in place prior to earthworks commencing.

REASON: To ensure the impact of the work on the environment in terms of soil erosion and sedimentation is minimised. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

13. Prior to any works commencing on site, a Construction Management Plan shall be prepared and submitted for approval by the Manager City Development or delegate. The approved plan shall be implemented during construction of the solar farm. The plan shall include a range of management controls as outlined in the approved SEE and other conditions listed in this consent. The plan shall include, but not be limited to:

- ☐ **Construction Traffic Management including required access routes to and from the subject site, access and egress arrangements for all construction related vehicles to and from the site, deliveries of materials and parking arrangements for contractors.**
- ☐ **Details of, and vehicular movement diagrams for, the largest vehicle to access the site to show that such vehicles can enter and leave the site in a forward direction and details of the frequency and timing of vehicle movements to and from site.**
- ☐ **Timing for construction of the works across the site demonstrating any proposed staging of works across the site and including operational hours.**
- ☐ **Site layout during construction - including storage of materials, plant and equipment, site office and amenities, hoardings and any proposed traffic control devices,**
- ☐ **Waste management plan including the type and location of waste storage containers onsite and proposed method of removal and disposal.**
- ☐ **Tree Protection, habitat and species protection and methodology for vegetation removal including mitigation measures. (see condition 17)**
- ☐ **Noise Management - include recommendations from noise report (refer to condition 29)**
- ☐ **Aboriginal Heritage Management**
- ☐ **Bush Fire Management**
- ☐ **Dust Management**
- ☐ **Soil and Water Management including any required earthworks**
- ☐ **Integrated Site Restoration**
- ☐ **Requirements and conditions of Transgrid and Essential Energy (refer to conditions 18 and 19).**
- ☐ **Details of what method will be used to ensure that the plan is adhered to including appropriate signage and fencing is to be installed and maintained to effect the plan.**
- ☐ **Security Management including details of relevant project manager and/or site foreman contact details.**

REASON: To ensure development does not reduce the amenity of the area during construction. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 14. Prior to any works commencing on site, a Bush Fire Protection Plan indicating compliance with the provisions of Planning for Bush Fire Protection Manual 2006, must be prepared in consultation with Rural Fire Services and submitted to Council for approval by Manager City Development, or delegate. The proposed 10 metre wide asset protection zone that extends around the solar farm and is wholly within the subject property must be maintained at all times as part of the Operational Management Plan for the site (refer to condition 38).**

REASON: It is in the public interest that the development be protected from bush fire. Section 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 15. Prior to any works commencing on site, a dilapidation report is to be undertaken. This shall include clear photos and descriptions of all existing Council infrastructure adjacent to the subject site. A copy of the dilapidation report shall be submitted to and approved by Council.**

REASON: It is in the public interest that the development works do not damage existing Council infrastructure and accordingly a record of existing conditions is required.

- 16. Prior to works commencing the recommendations of the Aboriginal Cultural Heritage Assessment dated April 2018 (Section 12) shall be implemented and completed.**

REASON: To ensure that Aboriginal sites are protected in accordance with the *National Parks and Wildlife Act 1974*. Section 4.15(1)(b) and (d) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 17. Prior to works commencing on site the recommended mitigation measures of the Biodiversity Assessment dated October 2017 (Section 6) shall be implemented in consultation with a suitably qualified ecologist. Evidence of compliance with this condition shall be provided to the satisfaction of the Manager of City Development or delegate.**

REASON: To ensure that biodiversity impacts are minimised during construction works. Section 4.15(1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 18. Prior to the commencement of any works, confirmation in writing from Transgrid shall be provided to Council that identifies satisfaction of the following issues:-**

- 1. Unimpeded access to Transmission lines either through an access arrangement or similar especially during construction.**
- 2. The location of the security fencing not presenting any clearance or induction issues.**
- 3. Any metallic fencing proposed within the transmission line easement is earthed in accordance with 'Transgrid Fencing Guidelines.'**

REASON: To ensure safe clearances are maintained from electrical powerlines and

fencing is installed in accordance with representations to this effect from Transgrid. Section 4.15(1)(b) and (d) of the *Environmental Planning and Assessment Act 1979*, as amended.

19. Prior to the commencement of any works, confirmation in writing from Essential Energy shall be provided to Council that identifies satisfaction of the following issues:-

- 1. All development a minimum of 15 metres from Essential Energy's powerlines.**
- 2. The control of any hazards associated with induced voltage and transferred earth voltages.**
- 3. No fencing within proposed within 15 metres of Essential Energy's powerlines.**
- 4. Compliance with '*ISSC20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure.*'**

REASON: To ensure safe clearances are maintained from electrical powerlines and fencing is installed in accordance with representations to this effect from Essential Energy. Section 4.15(1)(b) and (d) of the *Environmental Planning and Assessment Act 1979*, as amended.

20. The existing trees and planted areas to be retained situated within the property of the proposed development shall be protected from all construction works.

All care must be taken to protect existing trees to be retained from damage, including street trees and trees located adjacent to the proposed development. The developer shall identify all trees to be retained prior to commencement of construction works.

A Tree Protection Zone (TPZ) shall be constructed for all existing trees to be retained within the development in accordance with Australian Standards - AS 4970-2009 Protection of Trees on Development Sites.

Construction of Tree Protection Zone's, shall be completed and inspected by Council's Supervisor of Tree Planning and Management, prior to the commencement of any site works. Contact can be made by phoning 1300 292442 during normal business hours.

Removal, relocation or disruption of the Tree Protection Zone fencing will be considered as a breach of this consent. TPZ fences shall remain in place until the end of construction.

If damage of any sort should occur to any protected trees / vegetation within the development, contact shall be made with Council's Supervisor of Tree Planning and Management to determine what remedial action should be taken. Throughout the construction period regular inspections of protected trees shall be carried out to ensure trees retained are of good health and vigour.

REASON: Because it is in the public interest that the subject trees are protected. Section 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

21. A Section 68 Approval must be obtained from Council prior to any sewer or stormwater work being carried out on the site.

The licensed plumber must submit to Council, at least two (2) days prior to the commencement of any plumbing and drainage works on site a “Notice of Works”.

NOTE: A copy of the Notice of Works form can be found on Council’s website.

REASON: It is in the public interest that plumbing and drainage work is carried out with the relevant approvals required under the Local Government Act 1993 and the Plumbing Code of Australia. Section 4.15(1)(e) of the Environmental Planning and Assessment Act 1979, as amended.

22. Prior to works commencing, a sign must be erected in a prominent position on any work site on which work involved in the erection or demolition of a building is being carried out:

- a) stating that unauthorised entry to the site is prohibited, and**
- b) showing the name of the person in charge of the work site and a telephone number at which that person may be contacted outside work hours**
- c) the development consent or complying development consent number, the name and contact details of the Principal Certifying Authority.**

Any sign must be removed when the work has been completed.

NOTE: This condition does not apply to:

- a) building work carried out inside an existing building, or**
- b) building work carried out on premises that must be occupied continuously (both during and outside work hours) while the work is being carried out.**

REASON: To ensure the development complies with the requirements imposed under Clause 98 of the Environmental Planning and Assessment Regulations 2000, as amended, and Section 4.17(11) of the *Environmental Planning and Assessment Act 1979*, as amended.

23. **A soil and water management plan for the site shall be submitted in accordance with Wagga Wagga City Council's Engineering Guidelines for Subdivision and Developments. No building, engineering, or excavation work, or topsoil stripping or vegetation removal, is to be carried out in relation to this development until such time as a compliance certificate pursuant to Section 109C of the *Environmental Planning and Assessment Act 1979*, as amended has been issued by Council or an accredited certifying authority confirming that the plan is in accordance with Council's Engineering Guidelines for Subdivision and Developments and Soils and Construction Volume 1, Managing Urban Stormwater. Once approved, the measures in the Soil and Water Management Plan are to be implemented during the course of the development.**

REASON: To minimise the risk of soil erosion and water pollution, and because of representations about these matters from the Soil Conservation Service and the Department of Environment and Conservation. Section 4.15(1)(b) and (d) of the *Environmental Planning and Assessment Act 1979*, as amended.

24. **Prior to the carrying out of any works on site, a geotechnical study must be submitted with the "Application to Install an On-Site Sewage Management System" to determine the suitability of the site with respect to the on-site disposal of waste water. An On-Site Sewage Management System Application together with the geotechnical report shall be assessed and approved by Council prior to carrying out any works on the site.**

This study must be carried out by an appropriately qualified geotechnical Soil Consultant, with associated testing being conducted by a NATA registered laboratory. Matters such as geology, stratigraphy (in particular, soil profile and permeability) must be addressed.

The study must also state whether or not the maintenance/amenity building and the proposed waste water disposal area are located in a position and are of a design and capacity to ensure that all waste water generated from the activities carried out on site can be disposed of on the site without causing nuisance and/or pollution, both in the short and the long term.

NOTE 1: Alterations/modifications to the premise or replacement of disposal areas and or the On-site Sewage Management Systems require a geotechnical soil report to determine if the current system can manage additional loads and/or if the current disposal areas are adequately sized to effectively treat waste water generated by the activities on the premise.

NOTE 2: As a site investigation will need to be undertaken in order to determine the design of the floor slab and/or footings, it is suggested that the required geo-technical study with respect to on-site disposal of effluent be carried out at the same time. This should minimise investigation time and costs.

NOTE 3: The final location of the maintenance/amenity building on the land may be determined by the findings and recommendations of the required geo-technical study.

REASON: To ensure that the site can cope with waste water disposal. Section 4.15(1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 25. Prior to the carrying out of any works on site it must be demonstrated that the On-Site Sewage Management System and its associated disposal area situated more than 40m away from drainage channels, 100m away from rivers, lakes, water body, etc and 250m away from domestic ground water wells.**

REASON: To comply with the Local Government Act 199 and the Local Government (General) Regulation 2005. To ensure that no nuisance is created by the disposal of wastewater. Section 4.15(1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

During works

- 26. A 4.0 metre wide all-weather vehicular access from the property entrance through the site in accordance with the approved site layout plan shall be constructed. This access roadway must be appropriately formed and contain suitable measures for the prevention of soil erosion, including mitre drains and piped culverts where necessary. All such works are to comply with Council's Engineering Guidelines for Subdivisions and Developments.**

REASON: To minimise the impact of the development on the environment, and to provide access for emergency vehicles. Section 4.15(1)(b) and (c) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 27. The permitted construction hours are Monday to Friday 7.00am to 6.00pm and Saturday 7.00am to 5.00pm, excepting public holidays. All reasonable steps must be taken to minimise dust generation during the construction process. Demolition and construction noise is to be managed in accordance with the Office of Environment and Heritage Guidelines.**

REASON: To ensure that works do not have adverse effects on the amenity of the area. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 28. During all site works reasonable steps must be taken to suppress dust by regular watering until such time as the soil is stabilised to prevent airborne dust transport. Where excessive dust generation is occurring due to high winds and/or dry conditions it may be necessary to temporarily cease operations.**

REASON: To ensure that works associated with the development of the solar farm do not have adverse effects on the amenity of the area. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 29. During construction works the following noise mitigation measures as outlined in the Noise and Vibration Impact Assessment prepared by amg dated November 2017 shall be implemented:-**

- i) For piling activities, the following approach is to be adopted:
Stage 1: Undertake consultation with the residents;
Stage 2: If possible procure piling rigs with a maximum SWL of 107 dB(A);
Stage 3: Where quieter piling rigs are unable to be sourced and**

- consultation with Receptors 1 and 2 confirms unacceptable noise levels, piling activities should be managed such that when piling within 500 m of the boundary, only one rig is operational at any one time and piling must not occur for more than three (3) hours at any one time, with a minimum of one (1) hour break during standard construction hours.
- ii) Consultation with R1 and R2 landholders throughout the construction process to inform them on the duration and timing of potentially noisy activities;
 - iii) Using broad-band reversing alarms on all mobile plant and equipment;
 - iv) Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine;
 - v) Select quieter items of plant and equipment where feasible and reasonable;
 - vi) Operating plant in a quiet and efficient manner;
 - vii) Reduce throttle setting and turn off equipment when not being used; and
 - viii) Regularly inspect and maintain equipment to ensure it is in good working order. Also check the condition of mufflers

REASON: To minimise the impacts of noise disturbance to neighbouring residential properties. Section 4.15(1)(c) of the *Environmental Planning and Assessment Act 1979*, as amended.

30. During works the following mitigation measures as outlined in the Biodiversity Assessment prepared by ngh Environmental dated October 2017 shall be implemented at all times:-

- ☐ Declared priority weeds shall be managed according to the requirements stipulated by the Biosecurity Act, and recommendations made by the local control authority (MLLS) and the Noxious and Environmental Weed Handbook (DPI, 2011), which contains details as to the management of specific noxious weeds.
- ☐ Regular targeted control of priority weeds shall take place for a minimum of 24 months following rehabilitation of disturbed areas.
- ☐ All weed material containing seed heads, weeds that contain toxins, and weeds that are able to reproduce vegetatively should be disposed of at an appropriate waste management facility or otherwise properly treated to prevent weed growth.
- ☐ All herbicides shall be used in accordance with the requirements on the label. Any person undertaking pesticide (including herbicide) application should be trained to do so and have the proper certificate of completion/competency or statement of attainment issued by a registered training organisation.

REASON: To prevent the spread of priority weeds and minimise the impact upon the local environment. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 31. All activities including, loading and unloading associated with this development are to take place within the subject development site to remove interference with vehicles and pedestrian movement on public roads. Appropriate loading/unloading facilities and required storage areas for materials are to be provided on site particularly during construction and in accordance with the details approved in the Construction Management Plan (Condition 13).**

REASON: To ensure that suitable loading and delivery facilities are provided on site. Section 4.15(1)(c) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 32. Vehicular access within the road reserve must be constructed to Council standards, at full cost to the developer, by a licensed Council approved contractor. Driveway design and grades shall comply with AS2890.1: 2004 (or as amended) and Council's Engineering Guidelines for Subdivisions and Developments.**

Note: The driveway construction shall take into consideration any drainage requirements; the driveway shall not impede any stormwater within the existing road reserve.

REASON: To ensure that the proposed access is constructed by an approved Council Contractor. Section 4.15(1)(c) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 33. The developer is to maintain all adjoining public roads to the site in a clean and tidy state, free of excavated "spoil" material.**

REASON: To ensure that building and development works do not have adverse impact on the amenity of the area. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 34. If any Aboriginal object is discovered and/or harmed in, on or under the land, all work must cease immediately and the area secured so as to avoid further harm to the Aboriginal object. The Office of Environment and Heritage shall be notified as soon as practicable on 131 555, providing any details of the Aboriginal object and its location, and no work shall recommence at the particular location unless authorised in writing by Office of Environment and Heritage.**

REASON: To ensure that Aboriginal sites are protected. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

- 35. Trees indicated on the submitted plans for removal, shall be removed from the site in accordance with the proposed development. Consent under Council's Tree Preservation Order is not required for removal of the subject trees.**

The approved works shall be executed so as to comply with the NSW Work Cover Code of Practice - amenity tree industry 1998 No. 034. Any works associated with tree removal shall be carried out in Accordance with Australian Standards - AS 4373-2007, Pruning of Amenity Trees.

All tree stumps shall be removed below ground level and the surface area reinstated to prevent potential injury.

All waste material from the subject tree/s shall be removed from site in conjunction with clearing.

REASON: Because it is considered that the subject trees are prejudicial the successful implementation of the development. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

36.A Compliance Certificate for the plumbing and drainage work identified in Column 1 at the times specified in Column 2 must be obtained from Council.

COLUMN 1	COLUMN 2
Stormwater Drainage	When all external stormwater drainage work is installed and prior to concealment.
Final	Prior to occupation of the building or structure.

REASON: It is in the public interest that plumbing work is certifying as complying with AS/NZS 3500.2015 and Plumbing Code of Australia.

37.All building work must be carried out in accordance with the requirements of the Building Code of Australia (as in force on the date the application for the relevant Construction Certificate was made).

REASON: To ensure the development complies with the requirements imposed under Clause 98 of the Environmental Planning and Assessment Regulations 2000, as amended, and Section 4.17(11) of the *Environmental Planning and Assessment Act 1979*, as amended.

Prior to release of Occupation Certificate / Prior to Operation

38.Prior to the use of the solar farm an Operational Management Plan shall be prepared and submitted for approval by the Manager of City Development or delegate. The plan shall be prepared in consultation with nearby landowners within a 1.5km radius. The approved plan shall be implemented for the lifetime of the development on the subject site and must include a range of measures which include, but are not limited to:

- a) **General maintenance and operation of the site e.g. contact details of the site manager/maintenance staff; emergency protocols, safety and security measures**
- b) **Addressing complaints relating to the operation of the premise;**
- c) **Access arrangements to the site including parking and maintenance of access roads;**
- d) **Bushfire management including annual inspection of the site prior to the bushfire danger period;**
- e) **Management of water run-off and erosion**
- f) **Maintenance and inspection of groundcover**
- g) **Dust mitigation measures**
- h) **Weed management (including specific measures for priority weeds) in accordance with the recommendations of the biodiversity assessment.**
- i) **Waste management**

- j) **Future site decommissioning (refer condition 39)**
- k) **Reviews, amendments and updates to the plan.**

REASON: To ensure development does not reduce the amenity of the area. Section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979, as amended.

39. **The solar energy system shall be decommissioned within 12 months of terminating operations. Prior to operation of the approved solar farm, a Decommissioning Plan shall be prepared and submitted for approval by Manager City Development, or delegate. The plan shall include, but not be limited to expected timeline for the rehabilitation program, decommissioning of all solar panels, above and below the ground infrastructure, inverter stations, fencing and any other structures or infrastructure relating to the approved development and a programme of site restoration to return the land back into agricultural production.**

All works shall follow the same management principles outlined in the Construction Management Plan (refer to condition 13).

REASON: To ensure that the future rehabilitation of the land is appropriately planned and implemented in accordance with the development and does not reduce the amenity of the area. Section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979, as amended

40. **Prior to operation of the approved development the landscaped areas and tree planting shall be established on site in accordance with the amended landscape plan referenced under condition 8.**

The ongoing maintenance of all landscaping proposed is the responsibility of the developer and must be to the satisfaction of the Manager City Development or delegate.

REASON: To ensure that adequate landscaping is provided and maintained on the subject land. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

41. **An Occupation Certificate, must be obtained pursuant to Section 109C of the *Environmental Planning and Assessment Act 1979*, from either Council or an accredited certifying authority, prior to occupation of the building.**

In order to obtain this, the “Final Occupation Certificate” form must be completed and submitted to Council with all required attachments - failure to submit the completed Occupation Certificate Application form will result in an inability for Council to book and subsequently undertake Occupation Certificate inspection.

NOTE: The issuing of an Occupation Certificate does not necessarily indicate that all conditions of development consent have been complied with. The applicant is responsible for ensuring that all conditions of development consent are complied with.

REASON: It is in the public interest that an Occupation Certificate be issued prior to occupation of the building. Section 4.15 (1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

42. **A final inspection must be carried out upon completion of plumbing and drainage work and prior to occupation of the development, prior to the issuing of a final plumbing certificate Council must be in possession of Notice of Works, Certificate of Compliance and Works as Executed Diagrams for the works. The works as Executed Diagram must be submitted in electronic format in either AutoCAD or PDF file in accordance with Council requirements.**

All plumbing and drainage work must be carried out by a licensed plumber and drainer and to the requirements of the Plumbing and Drainage Act 2011.

NOTE: Additional fees for inspections at the Plumbing Interim Occupancy / Plumbing Occupation stage may apply. This will depend on the number of inspections completed at this stage of the work/s.

REASON: To ensure compliance with the relevant provisions of the *Plumbing and Drainage Act 2011* and Regulations.

General

43. **All exterior lighting associated with the development must be designed and installed so that no obtrusive light will be cast onto any adjoining property.**

NOTE: Compliance with Australian Standard AS4282.1997 “Control of the Obtrusive Effects of Outdoor Lighting” will satisfy this condition.

REASON: To prevent the proposed development having a detrimental effect on the developments existing on adjoining land. Section 4.15 (1)(b) and (e) of the *Environmental Planning and Assessment Act 1979*, as amended.

44. **The solar energy system shall be decommissioned within 12 months of terminating operations in accordance with the details approved under Condition 39.**

REASON: To ensure that the land is restored to its original condition to enable future agricultural use. Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979*, as amended.

45. **The works must be undertaken in accordance with the attached General Terms of Approval issued by both Office of Environment and Heritage and DPI Water.**

REASON: It is in the public interest that the development is carried out in accordance with all legislative requirements. Section 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979*, as amended.

General Terms of Approval - Office of Environment & Heritage

Administrative conditions

Except as expressly provided by these general terms of approval (GTA), works and activities must be carried out in accordance with the proposal contained in:

- i. The integrated development application DA 17/0679 submitted to Wagga Wagga City Council and received by OEH on 23 November 2017.
- ii. The Statement of Environmental Effects prepared by Geolyse and titled 'Statement of Environmental Effects Wagga Wagga Solar Farm'. Prepared for Terrain Solar. Dated November 2017 and received by OEH on 23 November 2017.
- iii. The revised Aboriginal Cultural Heritage Assessment Report prepared by Doug Williams,
- iv. Access Archaeology & Heritage and titled 'Aboriginal Cultural Heritage Assessment Report - Proposed Wagga Wagga Solar Farm, Bomen, NSW. Report to Terrain Solar Pty Ltd. Dated April 2018 and received by the OEH on 23 April 2018.

General Terms of Approval for Aboriginal cultural heritage

- i. No harm can occur to any Aboriginal objects within the development area unless an Aboriginal Heritage Impact Permit (AHIP) has been issued by OEH.
- ii. The applicant must comply with the conditions of any AHIP that is issued by OEH.
- iii. The applicant must ensure that all persons involved in actions or works covered by an AHIP (whether employees, contractors, sub-contractors, agents and invitees) are made aware of, and comply with, the conditions of any AHIP.
- iv. The AHIP application and supporting documentation is to be consistent with the recommendations 1-5 in the Aboriginal Cultural Heritage Assessment Report (Access Archaeology 2018), except with the provision of:
- v. Further impact assessment will be required prior to the AHIP application to determine whether site WWSF-4 can be conserved and protected within the development or not. Table 13 and 14 state this site will be not be impacted by works but it is recommended for surface collection. As part of the impact assessment, consideration should be given to indirect impacts from possible changes in stream flow, run off and erosion from the development as the site is located near a lower order drainage line.
- vi. Site NWSF IF 1 must be included in the recommendations at the time of the AHIP application, noting it states in Table 13 this site will be harmed and on page 30 it states NWSF IF 1 is incorporated within the larger site WWSF-5 which is proposed for surface collection and salvage.
- vii. Where an Aboriginal object/site will be avoided by the proposed works then the boundary of the site must be fenced or avoided through other suitable protective measures, with a qualified archaeologist present, and marked as a 'no-harm area' to ensure they are not inadvertently impacted during development activities.
- viii. No human remains in, on or under the land may be harmed. If any human remains are discovered and/or harmed in, on or under the land, the proponent or AHIP holder must:
 - a) not further harm these remains
 - b) immediately cease all work at the particular location
 - c) secure the area so as to avoid further harm to the remains
 - d) notify the local police and OEH's Environmental Line on 131 555 as soon as practicable and provide any available details of the remains and their location
 - e) not recommence any work at the particular location unless authorised in writing by OEH.

General Terms of Approval

for proposed development requiring approval under s89, 90 or 91 of the Water Management Act 2000

Reference Number: IDAS1104506
Issue date of GTA: 17 May 2018
Type of Approval: Controlled Activity
Description: Electricity Generating Works - Solar Farm
Location of work/activity: 157 Windmill Road BOMEN
DA Number: DA17/0679
LGA: Wagga Wagga City Council
Water Sharing Plan Area: Murrumbidgee Unregulated and Alluvial Water Sources

The GTA issued by DPI Water do not constitute an approval under the Water Management Act 2000. The development consent holder must apply to DPI Water for the relevant approval after development consent has been issued by Council and before the commencement of any work or activity.

Condition Number	Details
Design of works and structures	
GT0009-00001	Before commencing any proposed controlled activity on waterfront land, an application must be submitted to DPI Water, and obtained, for a controlled activity approval under the Water Management Act 2000.
GT0013-00001	A. Any proposed controlled activity carried out under a controlled activity approval must be directly supervised by a suitably qualified person. B. A copy of this approval must be: i) kept at the site where the controlled activity is taking place, and ii) provided to all personnel working on the controlled activity
GT0019-00001	Any proposed excavation on waterfront land must be undertaken in accordance with a plan submitted as part of a controlled activity approval, to be approved by DPI Water.
Erosion and sediment controls	
GT0014-00001	A. The consent holder must ensure that any proposed materials or cleared vegetation, which may: i. obstruct water flow, or ii. wash into the water body, or iii. cause damage to river banks, are not stored on waterfront land, unless in accordance with a plan held by DPI Water as part of a controlled activity approval. B. When the construction of the controlled activity has been completed, surplus materials must be removed from waterfront land.
Plans, standards and guidelines	
GT0002-00330	A. This General Terms of Approval (GTA) only applies to the proposed controlled activity described in the plans and associated documents found in Schedule 1 relating to Development Application 170679 provided by Council to DPI Water. B. Any amendments or modifications to the proposed controlled activity may render the GTA invalid, if the proposed

	controlled activity is amended or modified, DPI Water, Albury Office, must be notified in writing to determine if any variations to the GTA will be required.
GT0003-00073	The application for a controlled activity approval must include the following document(s): - site plan, map and/or surveys; Works Schedule; structural design and specifications; Soil and Water Management Plan; monitoring plan
GT0005-00136	A. The application for a controlled activity approval must include the following plan(s): - Laying pipes and cables, Riparian Corridors, Vegetation Management Plans and Watercourse crossings. B. The plan(s) must be prepared in accordance with DPI Water's guidelines located on the website http://www.water.nsw.gov.au/water-licensing/approvals/controlled-activity
GT0010-00001	All documents submitted to DPI Water as part of an application for a controlled activity approval must be prepared by a suitably qualified person.
GT0012-00001	Any proposed controlled activity must be carried out in accordance with plans submitted as part of a controlled activity approval application, and approved by DPI Water.
Rehabilitation and maintenance	
GT0011-00001	A rehabilitation plan for the waterfront land must be provided as part of a controlled activity approval application.
Reporting requirements	
GT0016-00001	The consent holder must inform DPI Water in writing when any proposed controlled activity carried out under a controlled activity approval has been completed.

Schedule 1

The plans and associated documentation listed in this schedule are referred to in general terms of approval (GTA) issued by DPI Water for integrated development associated with DA17/0679 as provide by Council:

- Statement of Environmental Effects Report
- Statement of Environmental Effects Drawings

Note drawing Riparian Protection Measures issued 26/014/2018 has been changed after consultation with the proponent. The modified drawing is Riparian Protection Measures issued 03/05/2018.