Response to Submissions

YANCO SOLAR FARM

SEPTEMBER 2019

Document Verification

Project Title: Response to Submissions – Yanco Solar Farm

Project Number: 17-326

Project File Name: 190905_Response to Submissions_Yanco SF_Final

Revision	Date	Prepared by (name)	Reviewed by (name)	Approved by (name)
Draft V1.1	22/08/19	Sarah Hillis / Nicola Smith	Erwin Budde	Erwin Budde
Final	05/09/19	Nicola Smith	Erwin Budde	Erwin Budde

www.nghenvironmental.com.au e: ngh@nghenvironmental.com.au

Sydney Region
18/21 mary st
surry hills nsw 2010 (t 02 8202 8333)

Canberra - NSW SE & ACT
8/27 yallourn st (po box 62)
fyshwick act 2609 (t 02 6280 5053)

Brisbane
suite 4, level 5, 87 wickham terrace
spring hill qld 4000 (t 07 3129 7633)

Newcastle - Hunter and North Coast
2/54 hudson st
hamilton nsw 2303 (t 02 4929 2301)

Wagga Wagga - Riverina and Western NSW
suite 1, 39 fitzmaurice st (po box 5464)
wagga wagga nsw 2650 (t 02 6971 9696)

Bega - ACT and South East NSW
89-91 auckland st (po box 470)
bega nsw 2550 (t 02 6492 8333)

CONTENTS

TABLES

FIGURES

1 INTRODUCTION

1.1 BACKGROUND

A 72-megawatt (MW) (DC) photovoltaic (pv) solar farm is proposed to be developed approximately 1 km west of Yanco and on the south-western outskirts of Leeton. The Yanco Solar Farm (the proposal) would have a development footprint of around 183 hectares (ha).

The proposal is classified as State Significant Development under the NSW *Environmental Planning and Assessment Act 1979* and requires consent from the NSW Minister for Planning. An Environmental Impact Statement (EIS), describing the proposal and assessing its potential environmental impacts was prepared by NGH Environmental and submitted to the NSW Department of Planning, Industry and Environment (DPIE). The EIS was placed on public exhibition between 24 April 2019 and 22 May 2019.

Key environmental issues investigated in the EIS, based on the requirements of the Secretary's Environmental Assessment Requirements (SEARs), included:

- Biodiversity (flora and fauna).
- Visual impacts.
- Land use and resources.
- Noise impacts.
- Traffic impacts.
- Socioeconomic and community.

These issues were investigated via specialist assessments. Lower risk issues were investigated primarily by desktop assessment.

Amendments have been made to the proposed design of the solar farm to achieve a reduction in impacts to the nearest residential sensitive receptors. These changes include an increased setback of solar panels from the site's northern boundary, increased landscape planting, access point relocation, a proposed subdivision, an increase in the number of inverter units and an update to the noise and vibration assessment. All amendments are within the previously surveyed solar farm footprint. Therefore, no further assessments were required for the Aboriginal Cultural Heritage Assessment Report (ACHAR) and Biodiversity Development Assessment Report (BDAR). The maps within the ACHAR and BDAR have been updated to reflect the changes in the design of the proposal. These amendments are detailed in the Yanco Solar Farm Amendment Report.

1.2 PURPOSE OF THIS REPORT

NGH has prepared this Response to Submissions (RTS) on behalf of ib vogt GmbH (the proponent) in response to the DPIE's letter dated 25 May 2019 and to fulfil the requirements of Section 85A of the *Environmental Planning and Assessment Regulation 2000*. The purpose of the RTS is to:

- Consider and respond to the matters raised in the submissions for the proposal.
- Describe any changes to the proposal, including a revised set of proposed mitigation measures.

1.3 PROPOSAL SUMMARY

1.3.1 Site location

The proposal is in the Leeton Local Government Area (LGA), approximately 1 km west of the township of Yanco (Figure 1-1). The subject land occupies 187 ha of freehold land and comprises Lots 142, 145 – 152, 287, Lot 572 DP 751745, Lot 1770 DP 118161 and Lot 6650 DP 1197165 (Figure 1-2). Of this, approximately 183 ha makes up the development footprint (or area of disturbance), contained within Lots 142, 145 – 152, 287, Lot 572 DP 751745 and Lot 6650 DP 1197165, with the transmission line on the Ronfeldt Road reserve, Lot 1770 DP 118161, and the Houghton's Road reserve. The proposed transmission lines would connect to the existing TransGrid Yanco Substation adjacent to the proposal area, around 1km to the south-east.

Toorak Road runs north-south through the development site, with Research Road running east-west through the southern end of the site (Figure 1-1).

The majority of the development site is primarily irrigated cropping, used as orange orchards and grapevines. The paddocks have been deep ripped and cultivated in past management practices and most of the native vegetation has been removed. Some planted vegetation occurs along fence lines as windbreaks. Several irrigation canals are present in the development site, with Gogeldrie Branch Canal bordering the development site. Four storage dams are also located within the development footprint. Several farm buildings and dwellings also occur in the development site.

There are no residences within the development footprint. The subject land and most adjoining properties are used for agriculture, including grazing and cropping. 23 sensitive receptors are located directly adjacent the proposal, with an additional approximate 250 residences/receptors location within 1 km of the site.

1.3.2 Key components of the proposal

The proposed Yanco Solar Farm would have a total installed capacity of up to 72 MW (DC), and would include:

- Single axis tracker PV solar panels, up to 2.2m high, mounted on steel frames over most of the site.
- Battery storage units.
- Electrical cables and conduits.
- Inverter/transformer units.
- Switching station.
- Site office, parking, access tracks and perimeter fencing.
- Electrical transmission infrastructure and overhead or underground transmission line to connect the proposal to the Yanco substation.
- Internal access tracks.
- Communications tower.
- Upgrade to existing roads.
- On-site vegetative screening.
- Upgrades at the Yanco TransGrid substation (including standard support structures, footings, connections, fittings etc.).

The development area is bound by Amato Road, Toorak Road, Hume Road, River Road, Yale Road and the Gogeldrie Branch Canal, and intersected by Research Road, Ronfeldt Road, Houghton's Road and the Junee – Hay railway line. The development site would be accessed from Toorak Road, which runs north-south

through the development site, and Research Road, which runs east-west. Toorak Road connects to Main Street (Irrigation Way) via Canal Street and is the main access to and from Yanco/Leeton.

The proposal would connect into the Yanco Substation either via overhead or underground transmission line, that would run northof Houghton's Road.

An internal road system would be established for the construction and maintenance of the solar farm infrastructure.

The proposal is expected to operate for 30 years. The construction phase of the proposal is expected to take 10 months and will commence in early 2020. After the operating phase, the proposal would either be decommissioned, removing all above ground infrastructure and returning the site to its pre-work land capability, or upgraded with new photovoltaic equipment (which will be subject to a new development application).

The updated constraints maps are included in Figure 1-5 and Figure 1-6.

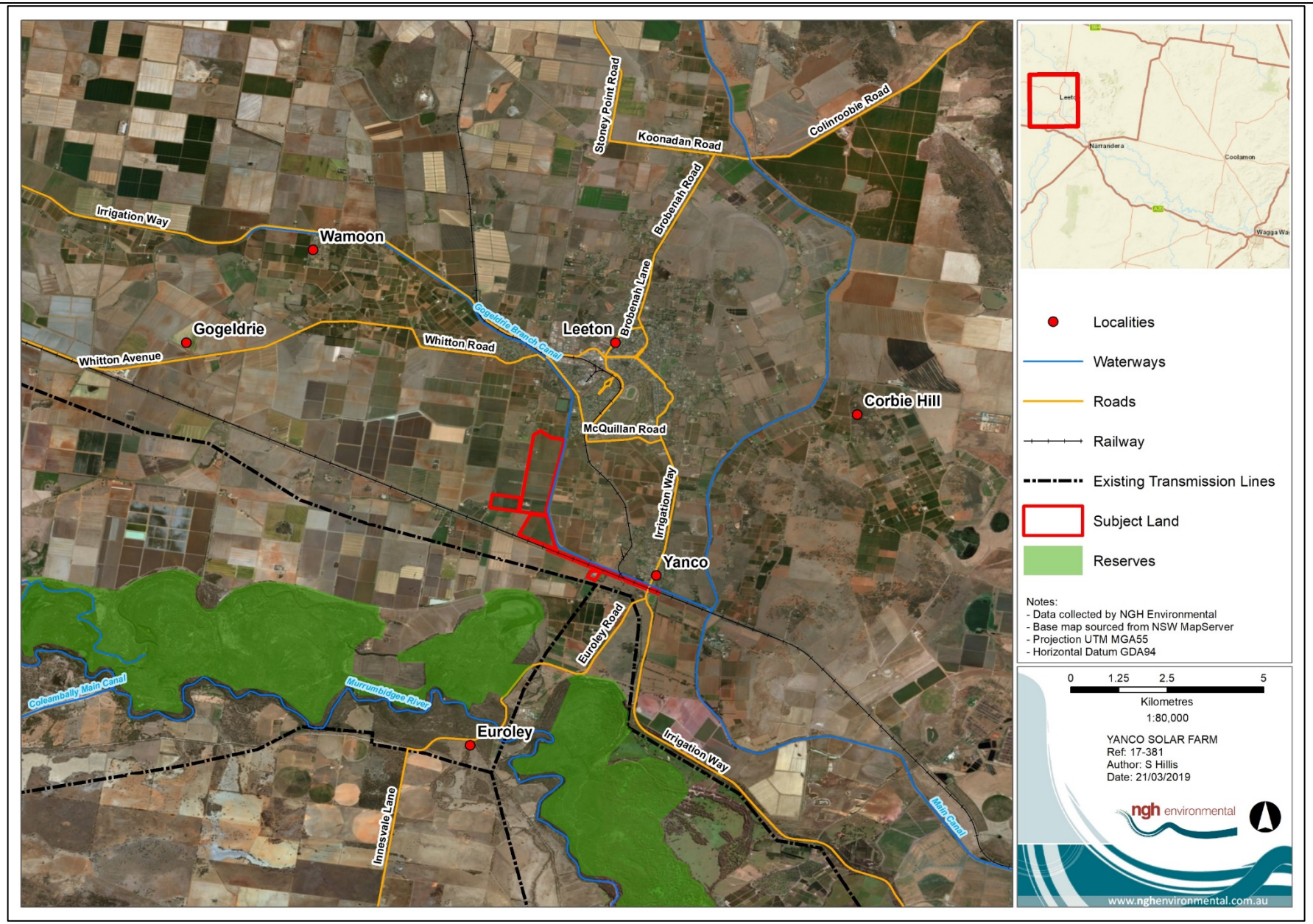


Figure 1-1 Location of the proposal

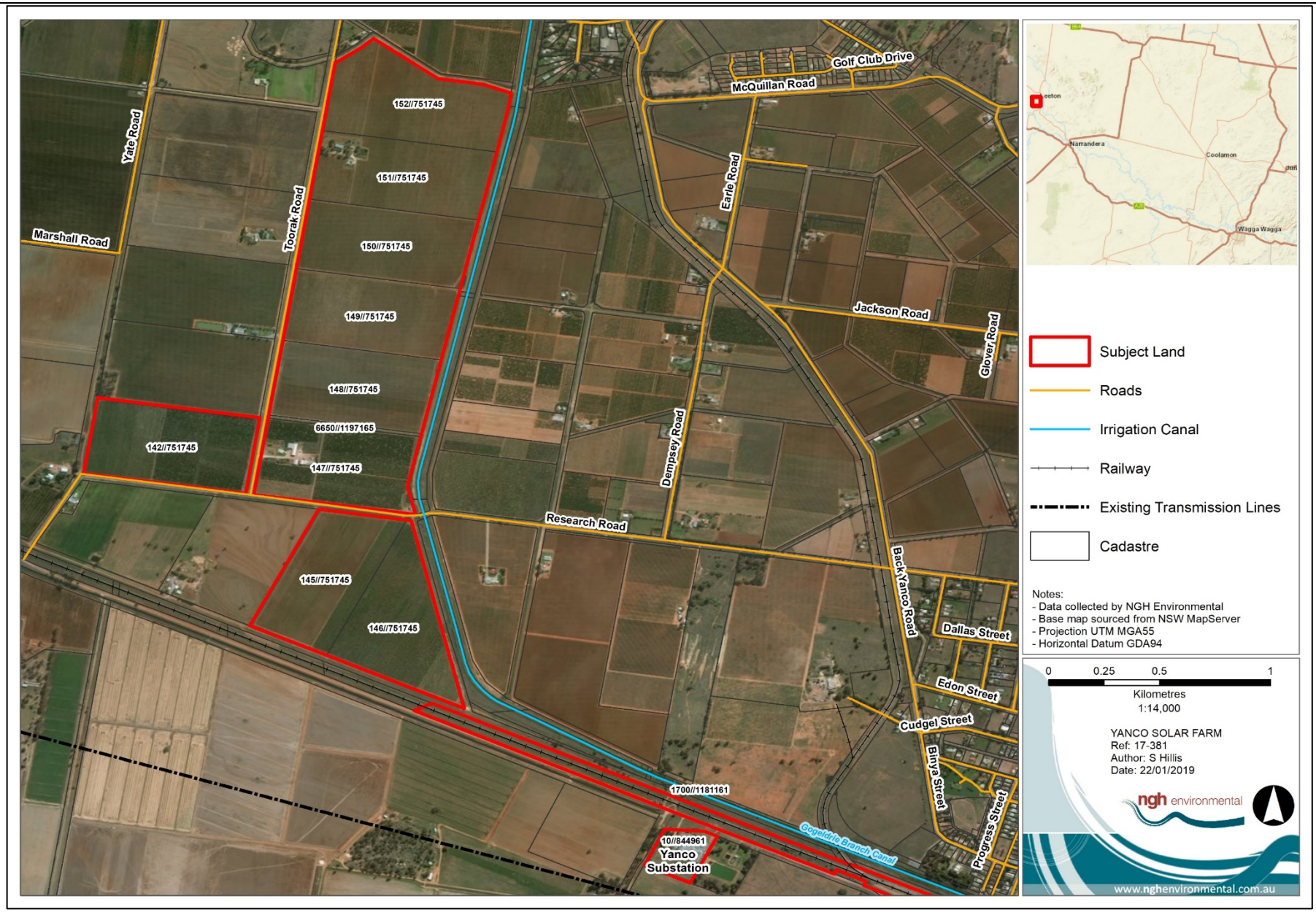


Figure 1-2 Proposed subject land.

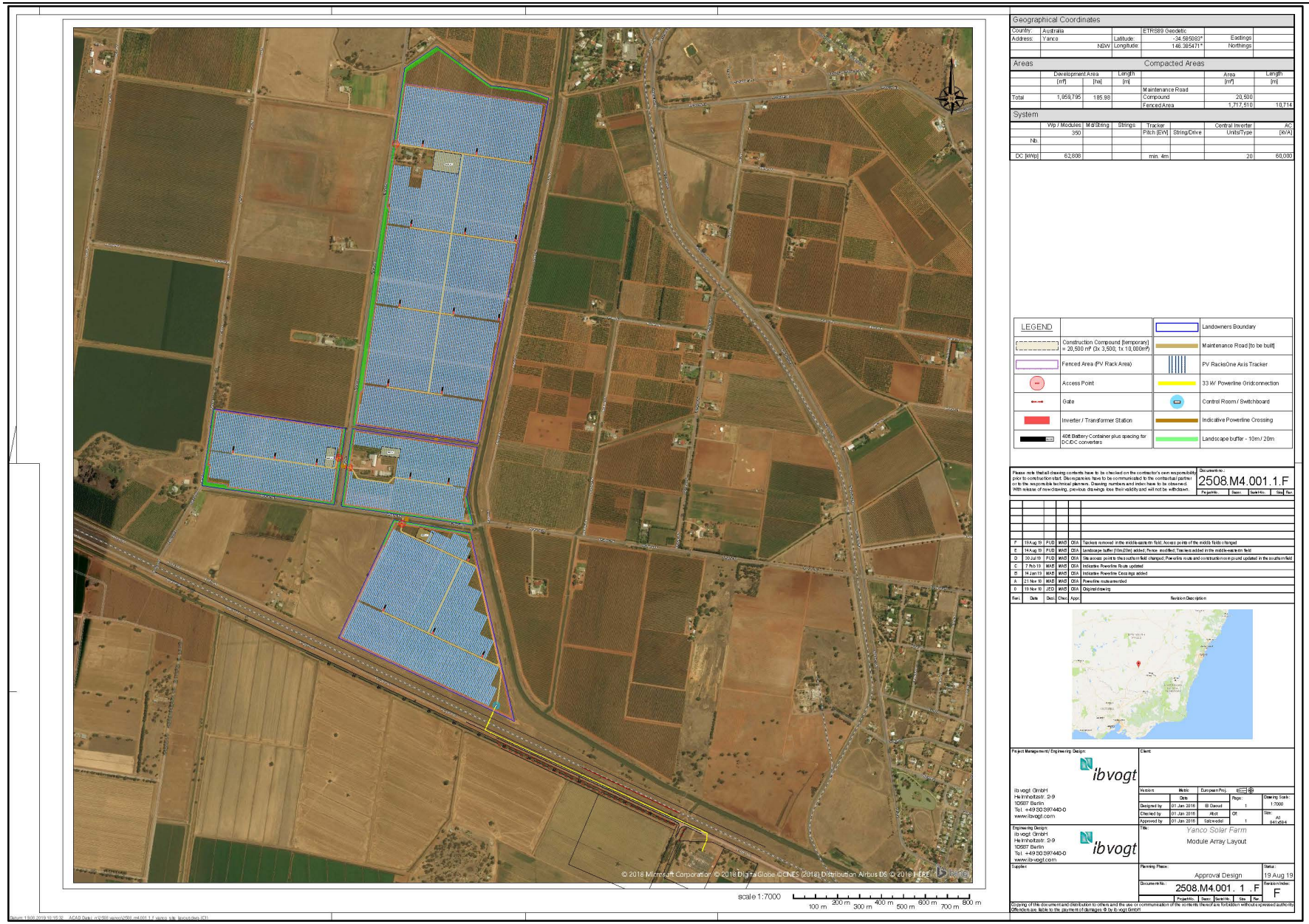


Figure 1-3 Proposed infrastructure layout.

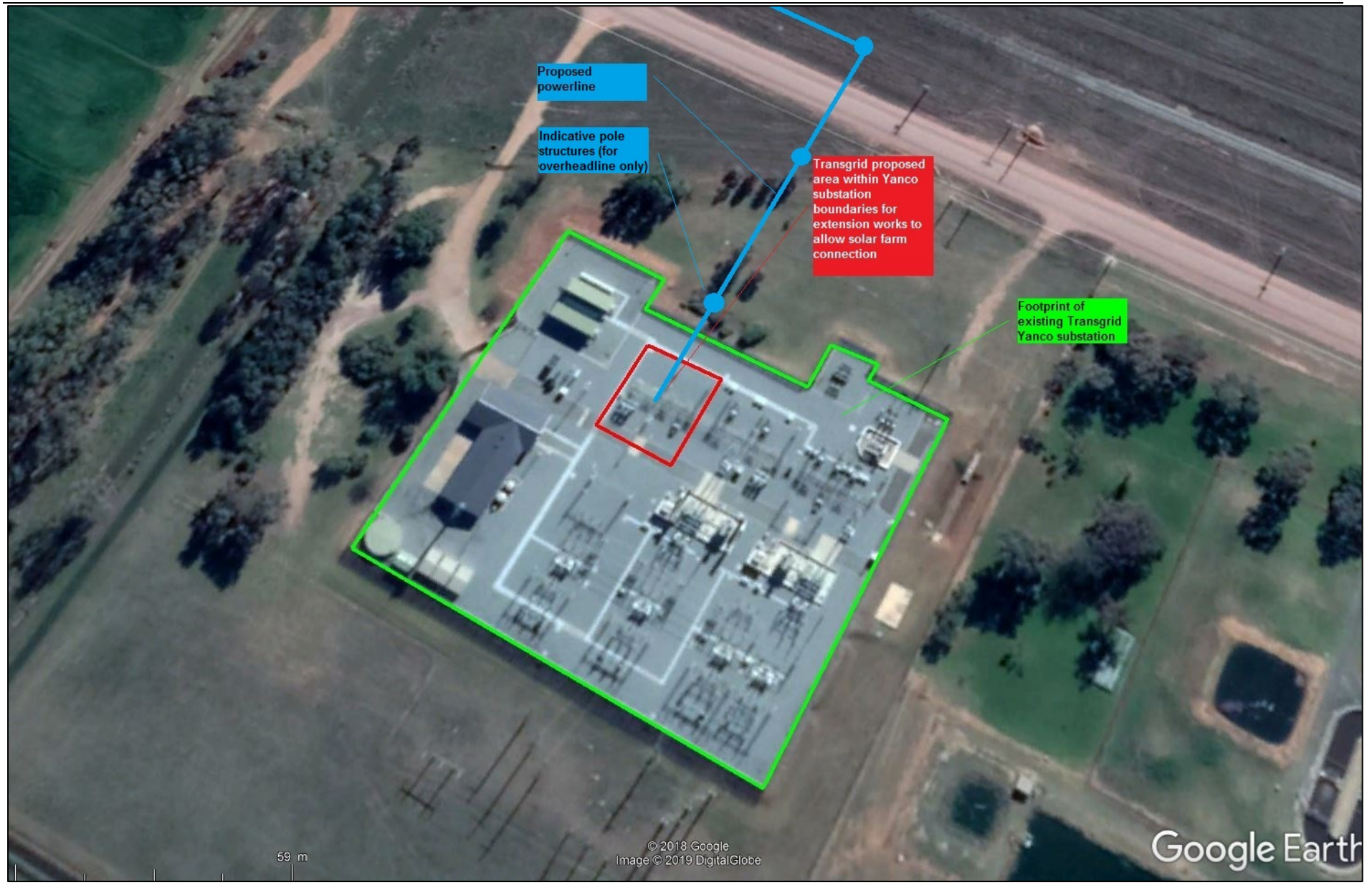


Figure 1-4 Proposed infrastructure layout at the Yanco substation (TransGrid 2019).

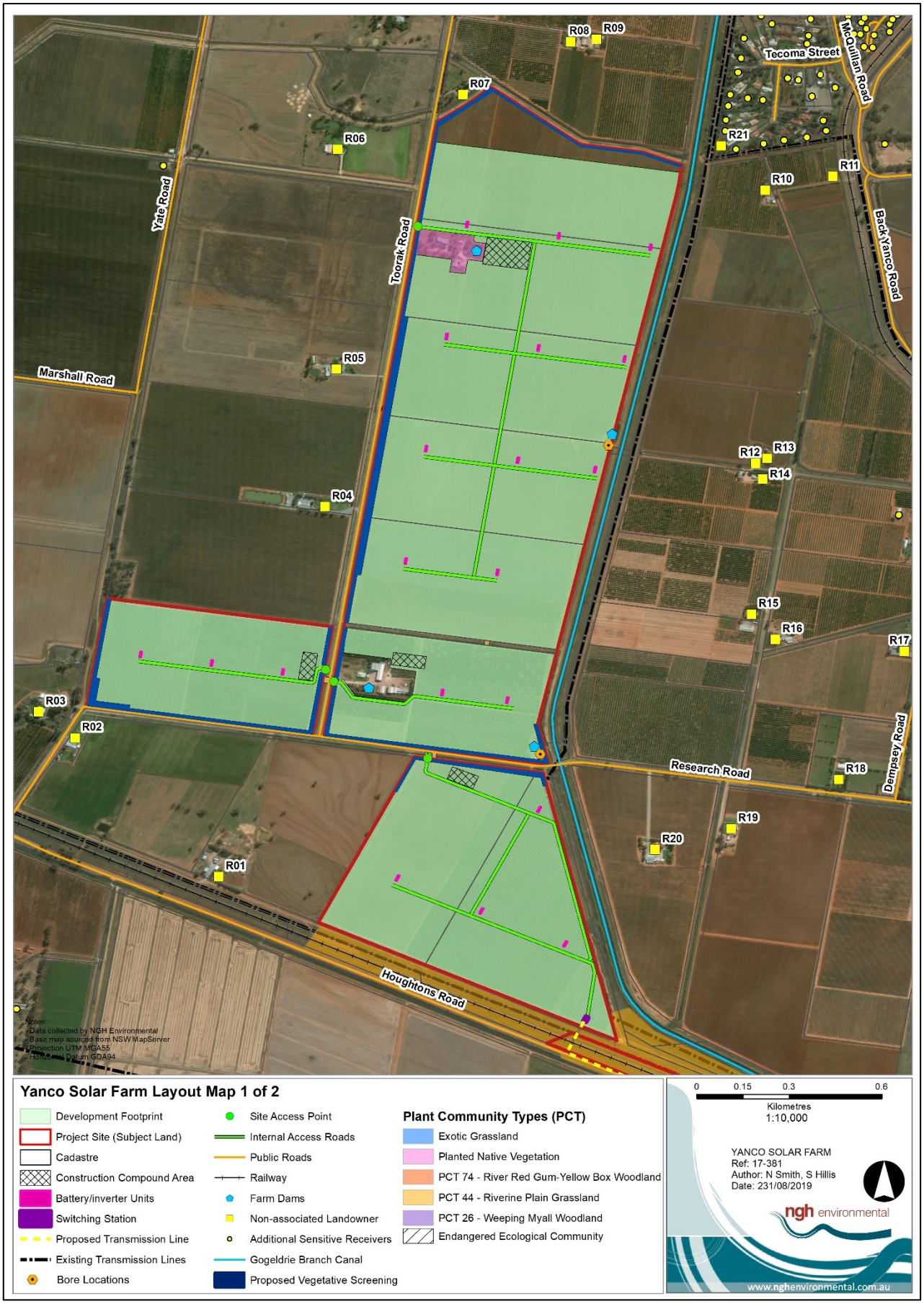


Figure 1-5 Updated constraints map of the proposal.

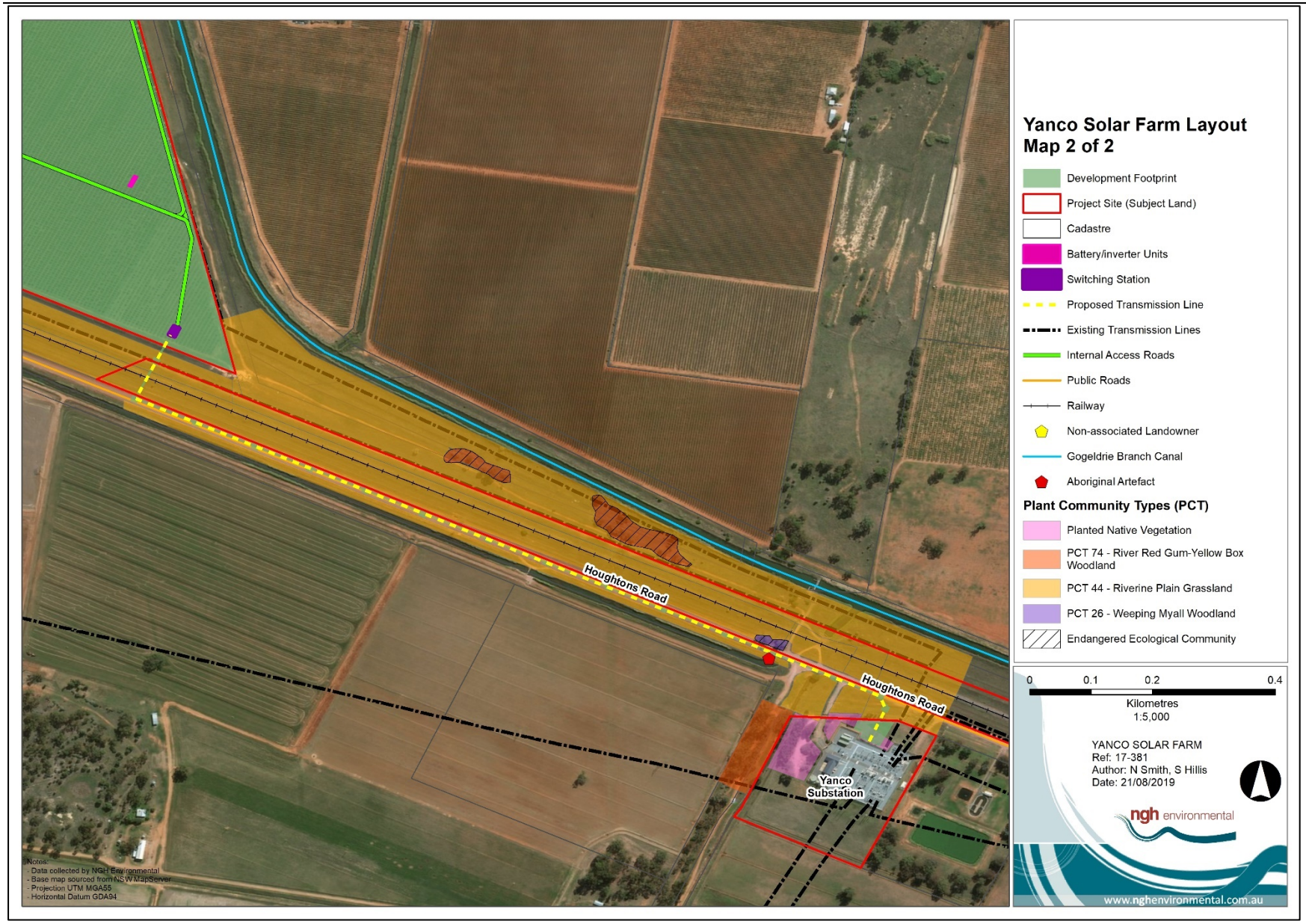


Figure 1-6 Constraints map of transmission line and substation.

1.3.3 Indicative timeline

An indicative timeline for the proposal is outlined in Table 1-1.

Table 1-1 Indicative timeline.

Phase	Approximate commencement	Approximate duration
Construction	Early 2020	10 months
Operation	Early 2021	30 years
Decommissioning	Early 2051	6 months

1.4 EXHIBITION PERIOD AND LOCATION

The EIS was placed on public exhibition for a period of 4 weeks from 24 April 2019 to 22 May 2019, and was available on-line at: https://www.planningportal.nsw.gov.au/major-projects/project/9391

Two hard copies were available at two locations:

- Leeton Shire Council: 23-25 Chelmsford Place, Leeton.
- Leeton Shire Major Dooley Library: Sycamore Street, Leeton.

1.5 PROJECT BENEFITS

In addition to reduced greenhouse gas (GHG) emissions and meeting government energy policies, local social and economic benefits that would be associated with the construction and operation of the proposal include:

- Direct and indirect employment opportunities during construction and operation of the solar farm. This includes up to 120 employees for the 3- to 4-month peak of construction and three operational staff for the life of the project. Maintenance contracts for panel cleaning, fence repair, road grading, etc. would also be required and would likely be met by local contractors.
- Direct business volume benefits for local services, materials and contracting (e.g. accommodation, food and other retail).

The proposal would have an estimated capital investment of $75 million. An independent economic impact assessment by Essential Economics Pty Ltd estimated that $560,000 in wage spending (2018 dollars) would likely be directed to local and regional businesses and service providers during the construction period.

60% of the construction jobs are likely to be sourced from the local area and will benefit the community of the Leeton LGA and surrounds. This is estimated to equate to $1.0 million in wages (2018 dollars).

To minimise the environmental costs of achieving the above benefits, the proposal would respond appropriately to the environmental constraints of the site. It would be designed to:

- Preserve biodiversity features through minimising native vegetation removal.
- Minimise impacts to items of Aboriginal significance.
- Minimise impacts to soil and water resources through pile driven panel mounts rather than extensive soil disturbance and excavation.
- Retain existing site topography.
- Minimise visual impacts to neighbours, incorporating vegetation screenings located in consultation with any highly impacted neighbours.
- Retain some agricultural production value through managed stock grazing during operation.

- Preserve future agricultural production values, being highly reversible at the end of the project's life.

1.6 PROJECT JUSTIFICATION

Yanco Solar Farm would meet the proposal objectives, principally the development of a commercial scale solar electricity power station. Broad benefits that would be associated with the operation of the proposal include:

- Reduced GHG emissions, assisting the transition towards cleaner electricity generation.
- Provision of a renewable energy supply that would assist the Federal and NSW Governments to reach Australia's Large-scale Renewable Energy Target and other energy and carbon mitigation goals.
- Embed electricity generation supply into the Australian grid closer to identified consumption centres.

Specifically, the proposal would:

- Generate approximately 154,000 MWh of renewable electricity per year.
- Supply enough power each year to service approximately 36,500 households (assuming average household consumption of 4,215 kWh p.a).
- Save around 51,000 tonnes of carbon dioxide (CO_2) per year, assuming generation would otherwise use brown coal with a carbon factor of 0.33372 tonnes per MWh (DOEE 2017).
- A solar energy facility that displaces 51,000 tonnes of CO_2 per annum is the equivalent of taking about 22,500 cars off the road each year, based on an average car in NSW travelling 14,000 km per year with CO_2 emissions of 162 g/km (DIT, 2011).

2 CONSIDERATION OF SUBMISSIONS

2.1 RESPONSES RECEIVED

During the exhibition period, DPE received submissions from a total of 11 agencies, 2 organisations/special interest groups and 7 members of the public. Six of these submissions were objections, including one from Leeton Shire Council. The submissions are provided in full in Appendix A and are summarised in Section 2.2.

2.2 PROPONENT'S RESPONSE SUBMISSIONS

2.2.1 Agency Submissions

Agency submissions have been paraphrased and addressed in the following sections.

Department of Industry (DoI)

Issue	Response
Water and Natural Resources	
Prior to the project determination, confirmation that the proposed groundwater source for the construction period can meet the necessary demand and that there is a commitment from the existing license holder to make the water available is required.	The landowner of the site is the licence holder of: • Groundwater bore WAL number 11905. The approval is for Water Supply Woks, approval number 40WA405022 with an expiry of 11th March 2028. It is drawn from the Lower Murrumbidgee Shallow Groundwater Source and has an annual allocation of 100 ML. • Domestic groundwater bore with an annual allocation of 2 ML. The landowner has confirmed that the water required for the construction of the project, approximately 38 ML over a 10-month period, would be able to be sourced from the groundwater bore WAL number 11905. The landowner has confirmed that the water required for the operation of the project, approximately 54 kL annually, would be able to be sourced from the groundwater bore WAL number 11905. This bore has an annual allocation of 100 ML. Confirmation of a commercial agreement for water purchase between the ib vogt and the landowner during construction and operation is available in **Appendix C**.
Prior to the project determination, an impact assessment on the existing licensed stock and domestic bore should be completed for the operational period. This is to include an assessment of the ability to access the required volumes and the impacts on water users and the	As per the commercial agreement in **Appendix C**, the landowner has confirmed that water required for the operation of the solar farm to be sourced from the existing domestic groundwater bore on the site would be sourced from shallow

Issue	Response
environment. The location and proposed use of the bore needs to be consistent with the rules of the relevant water sharing plan.	groundwater bore (WAL number 11905) which has a 100 ML annual allocation. An impact assessment on the existing groundwater bore WAL number 11905 for the operational period has been included in **Section 4.3** of this **RTS**. It includes an assessment of the ability to access the required volumes and the impacts on water users and the environment. Refer to **Section 4.3** below.
Prior to the project determination, the EIS should be updated to reflect the use of groundwater during construction and ongoing operation of the proposal.	Information regarding the use of groundwater during the construction and ongoing operation of the proposal has been included in **Section 4.4 of** this **RTS**. Refer to **Section 4.4** below.
Post Project Determination, the proponent must obtain relevant approvals and licences under the *Water Management Act 2000* before commencing any works which intercept or extract groundwater or surface water (including from on-site dams where necessary) or for any works which have the potential to alter the flow of floodwaters.	Safeguard and Mitigation Measure **WA9** has been included in this **RTS**, stating the proponent must obtain relevant approvals and licences before commencing any works that will intercept or extract ground or surface water which has the potential to alter flow of floodwaters. Refer to **Section 3**, **Table 3-1** below.
A Soil and Water Management Plan and an Erosion and Sediment Control Plan should be prepared prior to construction commencing in consultation with Department of Industry – Lands and Water.	Safeguard and Mitigation Measure **SO1** within the **EIS** states a Soil and Water Management Plan and an Erosion and Sediment Control Plan would be prepared, implemented and monitored during construction and decommissioning of the proposal. The Plans are to be created prior to construction. However, for clarity, consultation with DoI (Lands and Water) in the preparation of the plan has been included in this **RTS**. Refer to **Section 3**, **Table 3-1** below.
Lands	
Notification should be provided to DoI Lands and Water of any works on Toorak Road, with Leeton Shire Council being the consent authority for any road works.	Safeguard and Mitigation Measure **TT5** within the **EIS** stated that the proponent would consult with RMS, Crown Lands, Murrumbidgee Irrigation and Leeton Shire Council regarding any road works. However, for clarity, Crown Lands has been replaced with DoI (Lands and Water) in this **RTS**. Refer to **Section 3**, **Table 3-1** below.

Department of Planning & Environment (DPE) – Hazards and Risk

Issue	Response
The battery energy storage system associated with the development must not exceed a total capacity of 57.12 MW and must be installed in an arrangement consistent with EIS Figure 3-7.	Any change to the proposed design presented within **Figure 3-7** of the **EIS** will require a Modification to the Department by the proponent. No further response required.
The proponent must store and handle all chemicals and fuels used on-site in accordance with: **(a) the requirements of all relevant Australian Standards; and** **(b) the NSW EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids.** **In the event of an inconsistency between the requirements listed from (a) and (b) above, the most stringent requirement must prevail to the extent of the inconsistency.**	Safeguard and Mitigation Measure **HA11** has been included in this **RTS**, stating the proponent must handle and store all chemicals in accordance with the required standards and handbook, or most stringent requirement if inconsistencies arise. Refer to **Section 3**, **Table 3-1** below.
Prior to commissioning of the development, the Applicant must develop and implement a comprehensive Emergency Plan and detailed emergency procedures for the development. The Applicant must keep two copies of the plan on-site in a prominent position adjacent to the site entry points at all times. The plan must: **(a) include details on how the battery storage system and sub-systems can be safety isolated in an emergency;** **(b) be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*;** **(c) be prepared in consultation with Fire and Rescue NSW and NSW Rural Fire Service to their satisfaction;** **(d) identify the fire risks and controls of the development; and** **(e) include procedures that would be implemented if there is a fire on-site or in the vicinity of the site.**	Safeguard and Mitigation Measure **HA7** within the **EIS** states that a comprehensive Emergency Response Plan will be developed and implemented during all stages of the proposal, with two copies stored in a prominent location directly adjacent main entry point. Additional mitigation measures have been included around the storage and isolation of battery storage systems, consistency with required papers and consultation with Fire and Rescue NSW and NSW Rural Fire Service have been included in this **RTS**. Refer to **Section 3**, **Table 3-1** below.

DPE – Resources and Geoscience

Issue	Response
The EIS includes a dated and referenced search of the Department's MinView and identified that	No further response required.

no mining, exploration or extractive industries over or in the vicinity of the proposal site. **The Division has no resource sterilisation concerns regarding the Project or additional issues to be addressed.**	

Department of Primary Industries (DPI)

Issue	Response
The *Draft Large-Scale Solar Energy Guidelines* define land class 1-3 as potential areas of constraint for solar developments. As such, the EIS should address the *Draft Large-Scale Solar Energy Guidelines.* **The EIS makes reference to this Guideline (including Table 2.1 and on p137), the justification to support the proposed development is that the development footprint of 183 Ha represents 0.01% relative to the 1,700,000 Ha of the Murrumbidgee Irrigation Area and that the land is not being permanently removed from production. DPI note that irrigated land within the MIA is actually only 660,000 Ha. The development site includes land and soil capability class 3 land and is primarily an irrigated cropping landscape. High capability land that has access to irrigation is a scarce and valuable resource in NSW. Ideally, this proposed development should be sited elsewhere so that this land continues to be available for agriculture.**	The Final NSW Large Scale Solar Energy Guideline for State Significant Development (December 2018) was addressed in **Section 2.4.6**, **Table 2-1** of the **EIS**, and **Section 4.4.2** of the EIS, not the previous Draft guidelines. The assessment concludes that: • There is no high visibility. • Minimal impact to biodiversity will be encountered. • There is no development in a residential zone or urban area. • The land is not prone to fire of flood. • There are no prospective resource developments. The assessment identified Class 3 Agricultural Land and Crown Road as a key constraint of the development. However, it was concluded that use of the Class 3 Land was justified for the following reasons: • The proposal is not expected to adversely affect the biophysical nature of the land. • The proposal would positively affect soils by providing many of the benefits of long-term fallow, including increasing soil moisture, building soil carbon levels, allowing structural recovery and improving soil biota. • The proposal will not result in the permanent removal of agricultural land. • The proposal would not result in rural fragmentation given it will not alter the existing or surrounding environment. • Adjacent farming operations are compatible. • Strategic sheep grazing may be used within the development site. Grazing would be used to reduce vegetation biomass and put grazing pressure on weeds adjacent to the solar panels. Reference to 1,700,000 ha of MI land is a typed mistake and should read 170,000 hectares of irrigated land.

Issue	Response
	As per **Section 1.2.2** of the **EIS**, it is stated that "The MIA covers an area of 660,000ha of which about 170,000ha is irrigated". The development of 183 ha represents 0.1% relative to the 170,000 ha of irrigated MI land.
The SEPP referred to in section 4.2.9 of the EIS was repealed in early 2019 and a new SEPP is now in force that deals with primary production and rural land matters titled *State Environmental Planning Policy (Primary Production and Rural Development) 2019*. As such it should be referenced in the EIS, not the repealed SEPP.	On lodgement of the **EIS** for adequacy review to DPE (26 February 2019), the new *State Environmental Planning Policy (Primary Production and Rural Development) 2019* was not available. However, details of the new SEPP are detailed below in this **RTS** in **Section 4.1**.
The EIS identifies (in Soil Resources xxv) the heightened potential for soil erosion to occur as a result of solar panels concentrating runoff onto Chromosol soils, which are erosion prone. The proponents plan to mitigate this risk via a soil and water management plan and an erosion and sediment control plan, is noted.	No further response required.
It is stated in 3.7 DECOMMISSIONING AND REHABILITATION, that decommissioning would aim to return the site to its pre-works state, specifically irrigated agriculture. This objective is noted and endorsed, however the following action in 3.7.2 "Posts and cabling would be removed and recycled, equipment below this depth, such as cabling, would be left in situ" is not consistent with this objective. All infrastructure should be removed, including underground cabling, so as to return the land to its pre-project status.	Safeguard and Mitigation Measure **LU3** of this **RTS** has been updated to include the removal of all infrastructure as part of the Rehabilitation and Decommissioning Management Plan. Refer to **Section 3**, **Table 3-1** below.
The SEARs provided by the Department and as referenced in the EIS includes the need for the proponent to seek feedback from Murrumbidgee Irrigation Ltd on the implications of stranded assets likely from cumulative impacts of more developments within the gazetted irrigation areas. Feedback from Murrumbidgee Irrigation Ltd has not been reported in the EIS and we suggest that this feedback be obtained prior to any approvals being given.	ib vogt has consulted with Murrumbidgee Irrigation Ltd since mid-2018. ib vogt is negotiating an easement over Murrumbidgee Irrigation owned land within the solar farm site. The solar farm has been designed to comply with Murrumbidgee Irrigation design rules. Bart Challacombe, Environmental Coordinator at Murrumbidgee Irrigation, made a submission to DPE noting that Murrumbidgee Irrigation is only concerned about potential impacts on infrastructure and potential to impact water quality in the drainage system with contaminated run-off and that as long as the project adheres to the MI Development Rules and MI Drainage Rules there is no issue from Murrumbidgee Irrigation.

NSW Environmental Protection Authority (EPA)

Issue	Response
Based on the information provided the proposed activity is not a scheduled activity under the *Protection of the Environment Operations Act 1977* and the proposal does not require an Environmental Protection Licence. Leeton Shire Council will be the Appropriate Regulatory Authority for pollution control and environmental management issues for this proposal. **On this basis the EPA has no further comments to make in relation to the proposal and requires no further consultation in relation to this application.**	No further response required.

Fire and Rescue NSW

Issue	Response
In the event of a fire of hazardous material incident, it is important that first responders have ready access to information which enables effective hazard control measures to be quickly implemented. Without limiting the scope of the Emergency Response Plan (ERP) requirements of Clause 43 of the *Work Health and Safety Regulation 2000*, there are a number of recommendations (detailed below).	No further response required.
A comprehensive ERP is developed for the site	Safeguard and Mitigation Measure **HA7** within the **EIS** states that a comprehensive ERP will be developed and implemented during all stages of the proposal. Refer to **Section 3**, **Table 3-1** below. No further response required.
The ERP specifically addresses foreseeable on-site and off-site fire events and other emergency incidents (such as fires involving solar panel arrays, bushfires in the immediate vicinity) or potential hazmat incidents.	Safeguard and Mitigation Measure **HA7** within the **EIS** states that the ERP must address foreseeable on-site and off-site fire events or other emergency incidents. However; for clarity, potential hazmat incidents have been included within the ERP requirements. Refer to **Section 3**, **Table 3-1** below.
The ERP details the appropriate risk control measures that would need to be implemented to safely mitigate potential risks to the health and safety of firefighters and other first responders. **Such measures will include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures to be**	Safeguard and Mitigation Measure **HA7** within the **EIS** details that the ERP must include the appropriate risk control measures that would need to be implemented to safely mitigate potential risks to the health and safety of firefighters and first responders. Refer to **Section 3**, **Table 3-1** below.

Issue	Response
instigated, minimum evacuation zone distances and a safe method of shutting down and isolating the pv system (either in its entirety or partially, as determined by risk assessment).	No further response required.
Other risk control measures that may need to be implemented in a fire emergency (due to any unique hazards specific to the site) should also be included in the ERP.	Safeguard and Mitigation Measure **HA7** within the **EIS** states that other risk control measures that may need to be implemented onsite are required in the ERP. Refer to **Section 3**, **Table 3-1** below. No further response required.
That two copied of the ERP be stored in a prominent "Emergency Information Cabinet" located in a position directly adjacent to the site's main entry points/s.	Safeguard and Mitigation Measure **HA7** within the **EIS** states that two copies of the ERP must be stored in a prominent location directly adjacent to the main entry point. Refer to **Section 3**, **Table 3-1** below. No further response required.
Once constructed and prior to operation, that the operator of the facility contacts the relevant local emergency management committee (LEMC).	Safeguard and Mitigation Measure **HA10** within the **EIS** states that prior to operation, the operator of the facility must contact the relevant LEMC. Refer to **Section 3**, **Table 3-1** below. No further response required.
A Fire Safety Study (FSS) be prepared for the BESS part of the site and submitted to FRNSW for review and determination. The FSS should be developed in consultation with and to the satisfaction of FRNSW.	Safeguard and Mitigation Measure **HA12** has been included in this **RTS**, stating the proponent must prepare a FSS prior to the construction of the Energy Storage Facility in consultation and to the satisfaction of FRNSW. Refer to **Section 3**, **Table 3-1** below.

Leeton Shire Council

Issue	Response
Council concerns on the loss of prime agricultural land have not been alleviated by the socioeconomic analysis. **Council recommends that before further consideration is given towards assessing the proposed development, a further socioeconomic and community assessment be undertaken that considers the increased productivity potential of highly developed agricultural land and assets, including the multiplier effect of the value adding of the agriculture commodities produced on the site against the values of converting land to solar production.**	ib vogt engaged Ethos Urban (formerly Essential Economics, who completed the Economic Impact Assessment for the EIS) to provide further information in response to submissions, with input from Riverina Agriconsultants, based in Griffith. Increased productivity potential of highly developed agricultural land and assets, including the multiplier effect of the value adding of the agriculture commodities produced on the site against the values of converting land to solar production has been considered (refer to Appendix B of this **RTS** below). **Value of current annual agricultural production** Wine grapes farm gate: $0.50M

Issue	Response
	Wine grapes post farm gate: $3.25M Citrus farm gate: $0.6M Citrus post farm gate: $1.85M ***Total farm gate: $1.1M*** ***Total post farm gate: $5.1M*** Current produce from the site is primarily processed in Griffith (100% of grapes and 90% of citrus). **Value of solar farm production** • Local construction stimulus of $560,000 (only non-local worker spending counted) • Ongoing economic stimulus of $14.3 million over 30 years. This covers landowner lease payments, estimated council rates revenue and new wage spending (associated with solar farm maintenance and operation jobs) • Electricity production value of $10.0 million pa (note commercially sensitive) • Community fund contributions - $15,000 per year • Decommissioning – further local stimulus. In addition, the development of the solar farm up to construction includes approx. $2 million of fees such as the landowner and local contractors and money spent in the region during site visits, etc.
Council believes the proposed development constitutes a risk to the viability and sustainability of Murrumbidgee Irrigation water infrastructure, compromising both the future availability of irrigation infrastructure and the short and long-term potential impacts of stranded on-farm irrigation infrastructure.	The Main Canal (Gogeldrie Branch) bounds the eastern side of the proposal site. There are two pumps located on the eastern boundary of the proposal site, owned by the site landowner, which pump water from the canal. There is no Murrumbidgee Irrigation infrastructure located within the proposal site or outside the proposal site that will be adversely impacted by the proposed development. The proposal will not interfere with the operation of the main canal and connected structures, and existing access to Murrumbidgee Irrigation infrastructure will be retained. As such, there will be no stranded assets. Murrumbidgee Irrigation confirmed in their submission to DPE that MI is concerned only about potential impacts from contaminated run-off and that the proposal must adhere to the MI Development Rules and MI Drainage Rules.

Issue	Response
	Murrumbidgee Irrigation has no concerns about stranded assets as a result of the proposal. There is no Murrumbidgee Irrigation infrastructure located within the proposal site and outside the proposal site that will be adversely impacted by the proposed development.
The economic assessment makes reference to the region as being low on the SEIFA scale and having high unemployment and a pool of available labour. **This is inconsistent with the analysis in the Western Riverina Regional Economic Development Strategy, which shows relatively low levels of unemployment.**	The additional information provided by Ethos Urban (**Appendix B** of this **RTS**) states that the labour force data in the **EIS** (**Appendix G** of the **EIS**) was published by the Federal Government as of June 2018. The data shows Leeton Shire's unemployment rate of 6.2% compared to the broader regions rate of 5.9% - higher than average for NSW. As of June 2018, the pool of registered unemployed labour was 360 persons in Leeton Shire, and 3,420 persons in the broader region. Ethos Urban has confirmed this data to be relevant and consistent with best available data. The Ethos Urban report (**Appendix B** of this **RTS**) also details that the ABS SEIFA data for 2016 is the latest data available, which details relative socio-economic advantage and disadvantage. Leeton Shire was ranked 35th most disadvantages LGA out of 129 NSW LGAs, with Griffith Shire ranked 48^{th,} Narrandera Shire ranked 23rd and Wagga Wagga ranked 88th. It is important to note that the lower the SEIFA ranking, the higher the level of disadvantage. Ethos Urban has confirmed this data to be relevant and consistent with best available data.
The economic assessment also suggests that the operational requirements for the proposal would be more labour intensive than for use as agricultural land. This is based on the advice from the proponent, and council are concerned that there is limited labour requirements to manage and maintain the facility compared to agricultural activities.	The additional information provided by Ethos Urban (**Appendix B** of this **RTS**) states that agricultural employment on the subject site is based on information relating to the existing operations and has been provided by the landowner (business operator) and cross-referenced with independent analysis undertaken by Riverina Agriconsultants. • The number of jobs supported by existing onsite activities is estimated at 4.5 FTE jobs, which include 2.0 FTE onsite jobs and the equivalent of 2.5 FTE job for casual pickers during the harvesting (e.g. oranges). • Vine picking is automated and does not require casual labour. • For this particular business, a small amount of additional employment is supported through local transportation

Issue	Response
	services and processing (oranges and grapes) – which is estimated at 0.5 FTE. In total an estimated 5.0 FTE are directly employed through the operations of the subject site. Proposed solar farm employment to be located on the subject site is based on estimates provided by the proponent. This information indicates that 3.0 FTE onsite jobs will be supported through the operation of the solar farm associated with the following tasks: • Landscaping / ground care • Panel cleaning • Electrical / technical services • Security services. A review of information relating to other utility scale solar farms shows the amount of ongoing onsite labour estimated for the Yanco Solar Farm is consistent with the operational requirements of such facilities i.e. approximately 1 FTE job per 30 MW of installed capacity (on average for developments between 50MW-100MW). In summary, a net loss of 2.0 FTE would be expected through the conversion of the subject site from existing agriculture activities to solar farm activities. However, the landowner advises the 2.0 FTE staff currently working on the site will be retained in other parts of the company resulting in a no net loss employment outcome. It is also important to recognise that the 2.5 FTE casual pickers are all itinerant workers and not locals; therefore, direct local employment associated with the site will likely increase slightly through the operations of the solar farm. However, on an indirect employment basis there is likely to be a net loss in employment associated primarily with wine grape and orange processing (assuming all processing occurs in the Leeton/Griffith region). Applying a multiplier 5.9 for horticulture to the 5.0 FTE direct onsite jobs, then 29.5 FTE jobs are estimated to be supported through the employment multiplier effect. Not all of these jobs will be locally based as the multiplier also takes into account consumption impacts which will include transportation, warehousing, wholesaling and retailing (supermarkets, restaurants, cafes etc) which are widespread throughout the national economy. Assuming 50% of these jobs are supported locally then

Issue	Response
	approximately 15 FTE jobs would be lost due to the cessation of the existing activities on the subject site. Solar farm operations will also support indirect employment of 15.0 FTE jobs, of with 10% (or 1.5 FTE) assumed to be supported locally (through maintenance and other services to the facility). The net indirect impact on employment locally is therefore estimated to be 13.5 FTE jobs. If total employment (direct and indirect) is considered, the net loss of local jobs is estimated at 11.0 FTE jobs (factoring in the existing non-local fruit picking workforce of 2.5 FTE). During the solar farm's construction phase, an estimated 70 FTE local jobs will be supported directly (i.e. onsite), while additional local jobs will be supported indirectly through industrial (supply chain) and consumption effects. These jobs will not be created if the solar farm does not proceed.
The economic assessment states that the proposal would generate tourism with no evidence. No economic activity would be created in the state.	The Ethos Urban report (**Appendix B** of this **RTS**) states the EIS does not state the solar farm will be a tourism generator; rather, once operational the Yanco Solar Farm could potentially support small-scale tourism and educational opportunities in the future. Visitor spending benefits, should they arise, will logically accrue in Leeton and Yanco, therefore support local businesses.
The economic assessment also does not justify claims that there would be a positive impact on NSW welfare.	The Ethos Urban report (**Appendix B** of this **RTS**) states that the EIS does not make any claims regarding impacts, positive or otherwise, on NSW welfare. The EIS and Ethos Urban report in Appendix C however does highlight several positive economic outcomes for the region.
Council requested in the SEARs a comparison of the value of economic return expected to be generated from the proposal with the existing production and horticulture produced over the site for the operating period. This has not been addressed.	The updated information from Ethos Urban (**Appendix B** of this **RTS**) states the EIA notes that the annual value of horticulture production lost from the subject site is up to $1.1 million (Riverina Agriconsultants 2019); while the wholesale value of renewable electricity production from the same land is estimated at $10.0 million pa. If appropriate multipliers are applied to each productive site use (i.e. ABS Type B multiplier of 5.9 for fruit and vegetable production and 2.9 for electricity generation) then total annual output

Issue	Response
	value for horticulture production is estimated at $7.1 million, compared to electricity generation of $29.0 million pa. Over 30 years; therefore, the value of horticultural production associated with the subject site would be $213.0 million compared to electricity production of $870.0 million (both expressed in constant 2019 dollars).
The positive economic effects for the 4 month construction phase is not considered sufficient given the long term economic benefit to the wider community from agricultural production.	As detailed above, the updated information from Ethos Urban (**Appendix B** of this **RTS**) states the economic return to the property would be greater for solar production than for current agricultural production. The proposal will create new indirect employment for the region that is typical of current agricultural services such as road grading and maintenance, vegetation maintenance, pest control, fence maintenance and livestock maintenance. Local services required to support the proposal's ongoing maintenance and operations will offset local supply chain losses associated with current agricultural practices. Other employment created directly related to solar development includes security, panel cleaning and electrical maintenance. A review of similar utility-scale solar projects shows between 10-15% of total project investment is captured in the local economy in the construction phase. In the case of the Yanco Solar Farm, this level of local investment would amount to $10-15 million over the 10 month (not 4 month) period (assuming a $75 million investment). 60% of the construction jobs are likely to be sourced from the local area and will benefit the community of the Leeton LGA and surrounds. This is estimated to equate to $1.0 million in wages (2018 dollars) retained in the local community. Ongoing economic contribution of the Yanco Solar Farm to the community includes an estimated $14.3 million through additional revenues to Council/community (over 30 years) through an uplift in council rates/developer contributions/Voluntary Planning Agreement or community fund which can support local infrastructure and services.
The EIS mentions there would be no removal of irrigation channels throughout the development site, but does not mention or assess the effect of	The Main Canal (Gogeldrie Branch) bounds the eastern and side of the proposal site. There are two pumps located on the eastern boundary of

Issue	Response
the development on adjoining upstream or downstream customers of Murrumbidgee Irrigation (MI) who may still rely upon these channels. **There is no discussion or assessment on the possible side effects, resulting from the cessation of irrigation practices on the lots on which the proposed development, on the ability of MI to deliver irrigation water in this location.**	the proposal site, owned by Murrumbidgee Irrigation, which pump water from the canal. There is no Murrumbidgee Irrigation infrastructure located within the proposal site and outside of the proposed site that will be adversely impacted by the proposed development. The proposal will not interfere with the operation of the main canal and connected structures, and existing access to Murrumbidgee Irrigation infrastructure will be retained. As such, there will be no impact to adjoining upstream or downstream customers of Murrumbidgee Irrigation. Murrumbidgee Irrigation confirmed in their submission to DPE that MI is concerned only about potential impacts from contaminated run-off and that the proposal must adhere to the MI Development Rules and MI Drainage Rules. Murrumbidgee Irrigation has no concerns about stranded assets as a result of the proposal. For the life of the solar farm the delivery water entitlement charges attached to the site would continue to be paid to Murrumbidgee Irrigation. ib vogt would purchase part of the solar farm site and lease the remainder, so that the delivery entitlements remain in place for the life of the project. This would ensure that the site can be returned to irrigated agriculture upon decommissioning of the solar farm.
The EIS does not address the *State Environmental Planning Policy (Primary Production and Rural Development) 2019.* **Council considers the region to be highly developed and serviced and as such expect in the near future this area will be listed as State Significant Agricultural Land.**	On lodgement of the **EIS** for adequacy review to DPE (26 February 2019), the new *State Environmental Planning Policy (Primary Production and Rural Development) 2019* was not available. However, details of the new SEPP are detailed below in this **RTS** in **Section 4.1**. Land that is considered State Significant Agricultural Land is listed in Schedule 1 of the Primary Production SEPP. Schedule 1 of the SEPP is currently incomplete/blank, with mapping yet to be completed or publicly available (*pers comm* DPI 12/06/19). As such, reference to the significance of agricultural land from Schedule 2 of the previously repealed Rural Lands SEPP is applied. The draft Riverina Murry Important Agricultural Land Mapping was on public exhibition through November and December 2018; however, the plan is no longer available for public viewing as it

Issue	Response
	is being revised to take into consideration all public feedback available (*pers comm* DPI 12/06/19). As such, important agricultural land from this draft plan cannot be considered in the EIS. Therefore, available data was used in the assessment for the EIS, which included the Biophysical Strategic Agricultural Land mapping and Critical Industry Clusters mapping (DPI 2017) and the OEH Land and Soil Capability Assessment Scheme (OEH 2012).
As a condition of consent, it is recommended that the developer consult and liaise with Council on the preparation of the Haulage Plan in order for the following to be addressed: • **Ensure an appropriate mechanism is agreed that will result in any damage caused to local roads during construction and decommissioning be repaired by the developer.** • **Ensure the most appropriate transport routes are used and that the local community can be advised on the higher use of these roads during construction and decommissioning.** • **Ensure appropriate delivery transport vehicles are used during the construction and decommissioning phase as the site is remote from any existing B-double or road train routes.**	Safeguard and Mitigation Measure **TT1** within the **EIS** states a Haulage Plan will be developed and implemented during construction and decommissioning of the proposal. However: for clarity, consultation with Council in the preparation of the plan and additional requirements requested from Council has been included in this **RTS**. Refer to **Section 3**, **Table 3-1** below. Safeguard and Mitigation Measure **TT6** within the **EIS** states a road dilapidation report will be prepared in consultation with the relevant authority, and any damage resulting from construction or decommissioning traffic of the proposal, except from normal wear and tear, will be repaired at the proponent's cost. Such works will be undertaken at a time agreed by the proponent and relevant authorities. No further response required.
Council seeks a formal and binding process that will result in the developer providing an appropriate level of contributions in support of local infrastructure and programs.	Safeguard and Mitigation Measure **SE5** has been included in this **RTS**, stating the proponent will propose to develop a formal and binding process with Council to ensure appropriate levels of contribution. Refer to **Section 3**, **Table 3-1** below.
The approval must contain actions that will guarantee certainty to adjoining businesses that supply of irrigation water will not be affected by the development and the current supply infrastructure will not be affected.	Safeguard and Mitigation Measure **SE6** has been included in this **RTS**, stating the proponent will endeavour to ensure adjoining businesses that supply of irrigation water will not be affected by the development and the current supply infrastructure will not be affected. Refer to **Section 3**, **Table 3-1** below.
The landscape plan and plantings are to be established prior to development of the site.	Plant species for the concept Landscape Plan within **Section 6.3** and **Appendix E** of the **EIS** were selected on the advice of a local grower of indigenous species, and selection was also vetted by the Biodiversity Development Assessment Report.

Issue	Response
	Overstorey vegetation is likely to take some years to mature as an effective vegetative screen, but the chosen species within the midstorey are fast growing and dispersive/spreading species capable of fast establishment and screening. The majority of these midstorey species (2 to 10 m), including shrubs (2 to 5 m), have a short lifespan and will be replaced as required. However, it is also likely that the overstorey vegetation will have established enough as an effective vegetative screen by this time. The timing is recommended to be within 2 months of completion of construction so that actual views of infrastructure can be more certain. The timing of planting should also be chosen to ensure the best chance of survival.
The proposed Waste Management Plan must include actions on the disposal of the existing orange trees and grape vines. Council requires these trees and vines to be shredded and used onsite and does not approve burning or delivery to Leeton Landfill.	Safeguard and Mitigation Measure **WM1** of this **RTS** has been updated to include the requirements of disposal of orange trees and grape vines in the proposed Waste Management Plan (WMP). It also specified that burning is not approved, and that delivery of trees to Leeton Landfill is not approved. Refer to **Section 3**, **Table 3-1** below. If shredded tree waste exceeds requirements onsite, there are a number of businesses around Yenda and Carrathool that accept bulk agricultural waste for composting. This option can also be explored as part of the WMP.

NSW Rural Fire Service (RFS)

Issue	Response
A Fire Management Plan (FMP) shall be prepared for the proposal in consultation with the local NSW RFS District Office, and will include: • **24-hour emergency contact details including alternative telephone contact.** • **Site infrastructure plan.** • **Firefighting water supply plan.** • **Site access and internal road plan.** • **Construction of asset protection zones and their continued maintenance.** • **Location of hazards (physical, chemical and electrical) that will impact on the firefighting operations and procedures**	Safeguard and Mitigation Measure **HA6** within the **EIS** states that a Bush Fire Management Plan would be developed and implemented with input from the local RFS centre, including all listed requirement. Refer to **Section 3**, **Table 3-1** below. No further response required.

Issue	Response
to manage identified hazards during the firefighting operations. • **Mitigation measures designed to prevent fire occurring within the site, and prevent fire escaping the site and developing into a bush/grass fire risk to the surrounding area; and** • **Such additional matters as required by the NSW RFS District Office.**	
The entire solar array development footprint shall be managed as an Asset Protection Zone (APZ) as outlined within section 4.1.3 of *Planning for Bush Fire Protection 2006* and the NSW RFS document *Standards for asset protection zones*.	Safeguard and Mitigation Measure **HA13** has been included in this **RTS**, stating the entire solar array will be managed as an APZ to the relevant guidelines. Refer to **Section 3**, **Table 3-1** below.
To allow for emergency service personnel to undertake property protection activities, a 10 m defendable space managed as an APZ shall be provided around the buildings, substation, battery storage units, around the outside perimeter of the solar array, and around all areas of unmanaged vegetation being retained within the site.	Safeguard and Mitigation Measure **HA8** within the **EIS** details the requirements of the APZ. Refer to **Section 3**, **Table 3-1** below. No further response required.
An access road designed and constructed to comply with the specifications outlined in section 4.1.3(3) of Planning for Bush Fire Protection 2006 shall be provided along the property boundary/fence and around all areas of unmanaged vegetation being retained within the site.	Safeguard and Mitigation Measure **HA13** has been included in this **RTS**, stating that access and internal roads will comply with the specifications in the relevant guidelines. Refer to **Section 3**, **Table 3-1** below.
All proposed internal roads shall comply with the design and construction specifications outlined in section 4.1.3(3) of Planning for Bush Fire Protection 2006.	Safeguard and Mitigation Measure **HA13** has been included in this **RTS**, stating that access and internal roads will comply with the specifications in the relevant guidelines. Refer to **Section 3**, **Table 3-1** below.
A 20,000-litre water supply (tank) fitted with a 65mm stortz fitting shall be located adjoining the internal property access road within the required APZ.	Safeguard and Mitigation Measure **HA9** within the **EIS** details the requirements of the water supply tank. Refer to **Section 3**, **Table 3-1** below. No further response required.

Office of Environment and Heritage (OEH)

Issue	Response
Cultural Heritage	
OEH supports the use of the northern transmission line route option to avoid the isolated find, however we consider a risk	The recommendation for installation of a visible barrier around isolated artefact YSF_IF_001 (AHIMS Site 49-5-0211) has been included as

Issue	Response
remains through unintentional harm (i.e. from heavy machinery). We recommend the proponent establish a temporary visible and physical barrier (a high visibility fence) around the object as an added precaution prior to construction and during decommissioning.	Recommendation 2 **Section 9** of the updated **ACHAR**, and further detailed in Safeguard and Mitigation Measure **AH4** of this **RTS**. Refer to **Section 3**, **Table 3-1** below.
Leeton and District Local Aboriginal Land Council request monitoring of ground disturbance activities as a mitigation measure (7.3 Avoiding or Mitigating Harm) while NGH Environmental does not consider monitoring warranted based on the ACH assessment. In NSW, monitoring cannot take the place of archaeological assessment and should the occurrence of ACH at the subject site be likely then further investigation and assessment would be required. Should the proponent reach an agreement with RAPs to undertake monitoring, this sits outside of the legislative requirements for ACH in NSW and OEH would not provide further advice on this.	**Section 7.3** of the updated **ACHAR** has been updated to include the following: "It is noted that the Leeton & District LALC have requested to monitor any ground disturbance as a mitigation strategy for the proposed Yanco Solar Farm. NGH Environmental do not believe that monitoring is warranted, in this instance, based on the archaeological survey results and the degree of previous disturbance across the proposal area. Any potential agreement between the proponent and the RAPs to undertake monitoring falls outside of the legislative requirements covered by this assessment." No further response required.
OEH advise against notifying registered Aboriginal parties (RAPs) of the discovery of skeletal remains until the NSW Police and Coroner's Office have confirmed that the remains are Aboriginal in origin. OEH advise that the unexpected finds protocol (UFP) should be updated as follows: **If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:** **1. Not further harm the object** **2. Immediately cease all work at the particular location** **3. Secure the area so as to avoid further harm to the Aboriginal object** **4. Notify OEH as soon as practical on 131555, providing any details of the Aboriginal object and its location** **5. Not recommence any work at the particular location unless authorised in writing by OEH.** **In the event that skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.**	The recommendation for contacting NSW police and confirming remains are Aboriginal in origin prior to contacting OEH/RAPs has been included as Recommendation 7 **Section 9** of the updated **ACHAR**, and further detailed in Safeguard and Mitigation Measure **AH3** of this **RTS**. Refer to **Section 3**, **Table 3-1** below. Recommendations for updating the UFP has also been addressed in **Appendix D** of the updated **ACHAR**, under 'Unexpected Finds Management Procedure'.
A CHMP be developed for the site prior to the commencement of any construction works	The recommendation for developing a CHMP in consultation with OEH and the RAPs has been

Issue	Response
inclusive of protocols for encountering unexpected ACH (without steps for historic heritage). • **The Unexpected Finds Protocol for skeletal be updated in accordance with OEH advice, and it is demonstrated that notification of RAPs only occurs following confirmation that remains are Aboriginal in origin (and protected under the National Parks and Wildlife Act 1974)** • **The CHMP should also include a plan of management for fencing works that clearly details mitigation measures for protecting AHIMS Site 49-5-0211 from unanticipated harm.**	included as Recommendation 6 **Section 9** of the updated **ACHAR**, and further detailed in Safeguard and Mitigation Measure **AH1** of this **RTS**. Refer to **Section 3**, **Table 3-1** below.
Protection of AHIMS Site 49-5-0211: • **A temporary physical and visible barrier (protective fencing) is to be established around the known artefact prior to any construction in the vicinity**	The recommendation for installation of a visible barrier around isolated artefact YSF_IF_001 (AHIMS Site 49-5-0211) has been included as Recommendation 2 **Section 9** of the updated **ACHAR**, and further detailed in Safeguard and Mitigation Measure **AH4** of this **RTS**. Refer to **Section 3**, **Table 3-1** below.
Appendix D (Heritage Unexpected Finds Procedure) incorporates details relating to Historic Heritage with those of Aboriginal cultural heritage which is not appropriate. **OEH recommends removing procedure relating to historic heritage from the Aboriginal Unexpected Finds Procedure (and ACHAR) and contact OEH's Heritage Division for appropriate advice regarding historic cultural heritage if a copy has not already been provided.**	All procedures relating to historic heritage have been removed from the Aboriginal UFP and ACHAR. However; as a historic UFP has not been included in the EIS, one has been included as **Section 4.2** of this **RTS**. Refer to **Section 4.2** below.
European Heritage	
There are no State Heritage Register items within the proposed development site or within the vicinity. DPE no longer needs to refer this proposal (or future modifications to the Heritage Council.	No further response required.
Biodiversity	
The exact area of the impact polygons in the shapefile provided to OEH in support of the EIS are slightly different to those used in the BAM calculator. This has a small effect on the total offset.	Up to 0.54 ha of native vegetation would be removed by the proposal. The development footprint for the transmission line runs through 0.02 ha of Weeping Myall Woodland along Houghtons Road. This patch of Weeping Myall Woodland is very small, only 0.05 ha in size and comprised of 3 mature trees. It is anticipated that

Issue	Response
	direct impacts requiring the removal of even only one of these trees would reduce the long-term viability of the whole patch. Thus, as a worst-case scenario the whole 0.05 ha patch of Weeping Myall Woodland was considered to be impacted and this area was entered into the BAM Calculator for the offset calculations. Refer to **Section 7.1.1** of the updated **BDAR**.
The shapefile showing the small scurf pea species polygons has two areas totalling 1.1ha. The impact area for small scurf pea documented in the BDAR is 0.54ha (Table 4-5). OEH recommends adjusting the BAM calculation or clarifying the small scurf pea impact area in the BDAR.	0.54 ha of Forb-rich Speargrass – Windmill Grass – White Top Grassland and Weeping Myall Open Woodland would be removed by the proposal. The Small Scurf Pea is associated with these vegetation types. As this species was unable to be surveyed for during the appropriate survey period it was assumed to be present in these areas of native vegetation. Planted vegetation (i.e. the remaining 0.56 ha of the mapped 1.1 ha) to be removed has been highly modified in the understory and would be unlikely to provide any habitat for the Small Scurf Pea. Refer to **Section 7.1.2** of the updated **BDAR**.
The BDAR does not document or map the patch size as defined in section 5.3.2 of the BAM.	Details of patch size has been updated and included in **Section 3.3.1** – **Table 3-4** of the updated **BDAR**.
The full biodiversity credit report should also be presented in the BDAR, including the credit classes for ecosystem credits and species credits at the development site (table of credit classes and matching credit profiles).	The final full biodiversity credit report has been included as **Appendix H**, with the results tabulated in **Section 10** of the updated **BDAR**.
Figures 4-1 and 4-2 of the BDAR are captioned as threatened species polygon maps but there are no polygons shown or described in the legends.	Figures 4-1 and 4-2 of the **BDAR** have been updated to include threatened species polygons, both on the map and legend.
Preparation of Construction and Operation Environmental Management Plans should be included as conditions of approval. The conditions can stipulate that the plans should include the relevant mitigation commitments identified in Table 6-14.	The requirement of a Construction and Operational Environmental Management Plan has been included in **Section 8.1.1** of the updated **BDAR**, and further clarified in Mitigation Measure **BD1** of this **RTS**. Refer to **Section 3**, **Table 3-1** below.
Vegetation screening should be included as a condition of approval.	Visual screening as per the general requirements of the **Visual Impact Assessment** (Appendix E of the **EIS**) is detailed as Mitigation Measure **VA1** of the **EIS**. **BD14** of this **RTS** has also been updated to state that landscape plantings should be local indigenous species derived from local native plant communities. Refer to **Section 3**, **Table 3-1** below.

Issue	Response
The Construction and Operational Environmental Management Plans should include a fauna monitoring strategy for weekly monitoring of security/boundary fences during construction, and monthly during the first year of operation, implementing fauna management and rescue protocols including identification of mortalities with regular reporting to OEH.	The implementation of fauna monitoring and rescue protocol has been included in **Section 8.1.2** of the updated **BDAR** and included as Mitigation Measure **BD15** of this RTS. Refer to **Section 3**, **Table 3-1** below.

Roads and Maritime Services (RMS)

Issue	Response
A Traffic Management Plan (TMP) shall be prepared in consultation with the relevant road authority (Council and RMS) to outline measures to manage traffic related issues associated with the development, particularly during the construction and decommission process. The appointed transport contractor shall be involved in the preparation of this plan. The plan shall address all light and heavy traffic generation to the development site and detail the potential impacts associated with the development, the mitigation measures to be implemented, and the procedures to monitor and ensure compliance. This pan shall address, but not necessarily be limited to the following: • **Require that all vehicular access to the site be via the approved access route.** • **Details of traffic routes to be used by heavy and light vehicles, and any associated impacts and any road-specific mitigation measures.** • **Details of measures to be employed to ensure safety of road users and minimise potential conflict with project generated traffic.** • **Proposed hours for construction activities, as night time construction presents additional traffic related issues to be considered.** • **The management and coordination of the movement of vehicles for construction and worker related access to the site and to limit disruptions to other motorists, emergency vehicles, school bus timetables and school zone operating times.** • **Loads, weights and lengths of haulage and construction related vehicles and the number of movements of such vehicles.**	Safeguard and Mitigation Measures **TT1** and **TT2** within the **EIS** specifies the requirements of a Haulage Management Plan and a TMP. These measures detail the majority of the requirements listed; however, the requirements of detailing proposed construction hours (including night-time works) has been included in Safeguard and Mitigation Measure **TT2**. Refer to **Section 3**, **Table 3-1** below.

Issue	Response
• **Procedure for informing the public where any road access will be restricted as a result of the project.** • **Any proposed precautionary measures such as signage to warn road users such as motorists about the construction activities for the project.** • **A driver Code of Conduct to address such items as appropriate driver behaviour including adherence to all traffic regulations and speed limits, safe overtaking and maintaining appropriate distances between vehicles, etc. and appropriate penalties for infringements of the Code.** • **Details of procedures for receiving and addressing complaints from the community concerning traffic issues associated with truck movements to and from the site.**	
Glint and glare from the solar panels shall not cause a nuisance, disturbance or hazard to the travelling public on the public road network. In the event of glint or glare from the solar plant being evident from a public road, the proponent shall immediately implement glare mitigation measures such as construction of a barrier (e.g. fence) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.	**Section 6.3** of the **EIS** details vegetative screening requirements along all public roads. The **EIS** also notes that glare or reflectivity hazard to motorists is unlikely given the suite of mitigation measures proposed. However; Safeguard and Mitigation Measure **TT9** has been included in this **RTS**, stating that glint and glare is not to cause a nuisance, disturbance or hazard to motorists. Refer to **Section 3**, **Table 3-1** below.
All works associated with the project shall be at no cost to the Roads and Maritime Services.	Safeguard and Mitigation Measure **TT7** within the **EIS** specifies that the proponent must undertake all works to upgrade the relevant roads and associated infrastructure. This will be at no cost to RMS. Refer to **Section 3**, **Table 3-1** below. No further response required.

TransGrid

Issue	Response
TransGrid has entered into a formal Connection Processes Agreement with ibVogt to complete a finalise project and connection agreements for the generation connection.	No further response required.

Transport for NSW (TfNSW)

Issue	Response

Clause 86 of the ISEPP stipulates that the consent authority must not grant consent without consulting with the rail authority and obtaining concurrence consistent with clauses 86(2) – (5) in the event that the development involves penetration of ground to a depth of at least 2m below ground level on land within 25m of a rail corridor. **Transport for NSW requests this RTS must include a detailed design of power line under Houghton Road to confirm whether the power lines will be within 25 m from the boundary line of the rail corridor. The proponent should also provide further information regarding whether the proposed infrastructure, as shown in Figure 1-3 of the EIS, will be constructed within 25m of the boundary lines of the rail corridor and involving the penetration into the ground level in excess of 2m.**	The section of the proposed power line south of the rail corridor on the northern side of Houghton's Road (parallel to Houghton's Road) would be located within 25 m of the boundary line of the rail corridor. The proposed powerline in this section would be overhead or underground – the underground option would be installed in trenches 80cm deep and approximately 1.5m wide. The proposed solar farm infrastructure (Figure 1-3 of the EIS) would not be constructed within 25m of the boundary lines of the rail corridor. ib vogt proposes: • To provide a detailed design of the power line if the solar farm proposal is approved. The design would be consistent with TfNSW guidelines and specifications. • A planning condition that TfNSW must sign off on the detailed design (such consent not to be unreasonably withheld or delayed)of the power line ahead of construction.
Prior to commencing the works to install the transmission line over the rail corridor, the Proponent must satisfy conditions set out in TfNSW's letter dated 9 January 2019 including but not limited to execution of a licence. It is requested that the Proponent be conditioned to enter into a licence agreement with TfNSW prior to approval of this proposal and consultation with John Holland Rail should occur.	ib vogt are proposing to enter into a licence agreement with TfNSW post approval of the solar farm proposal application (if approved). ib vogt is currently in negotiations with TfNSW, and Transgrid (the Parties) regarding entering into a licence agreement, or other such arrangement, that will be agreeable to all the Parties. ib vogt proposes: • A planning condition that a licence or other suitable agreement between two or all of the Parties for constructionof the powerline across the rail corridor be executed prior to commencing the works. ib vogt understands that TfNSW's letter dated 9 January 2019 does not constitute a final approval from TfNSW in respect of the proposed solar farm power line over the rail corridor and that prior to construction, ib vogt must satisfy conditions set out in the letter. ib vogt understands that access to the rail corridor is prohibited at any time unless otherwise permitted in writing by TfNSW or its agent who manages the Country Regional Network.
The RTS should clarify whether mobile cranes will be used in the air space above the rail corridor. The use of mobile cranes must be in accordance with the AS 2550 series of Australian Standards,	Mobile cranes would not be used in the air space above the rail corridor during construction.

Cranes, Hoist and Winches, including AS2550 15-1994 Cranes – Safe Use – Concrete Placing Equipment.	
The RTS should confirm the proposed development will not be adversely affected by rail noise, vibration and air quality should the rail corridor become operational in the future.	Should the rail corridor to the south of the Yanco Solar Farm site become operational in the future, the proposed solar farm would not be adversely affected by rail noise, vibration and air quality.
A Risk Assessment/Management Plan and Safe Work Method Statements detailing any impacts on the rail corridor in respect of removal and construction of the solar farm infrastructure is to be included. A copy of the Rehabilitation and Decommissioning Management Plan is to be provided to TfNSW and John Holland Rail for approval.	ib vogt proposes: • A condition that TfNSW and JHR are consulted regarding the preparation of the Rehabilitation and Decommissioning Management Plan. • To complete a Risk Assessment/Management Plan and Safe Work Method Statements to the satisfaction of TfNSW and JHR ahead of the construction of the proposed solar farm powerline (such consent from TfNSW and JHR is not to be unreasonably withheld or delayed).
The level of reflectivity and glare produced by any materials, lighting and external finishes of infrastructure required for the proposed development should be confirmed that it will not adversely affect or cause distraction to train drivers for the Operational Rail Corridor. **Confirmation that red and green lights will not be used in all signs, lighting building colour schemes on any part of the proposed development which will face the Operational Rail Corridor.**	ib vogt proposes that these requirements are included in the Traffic Mitigation Measures. No red and green lights will be used.
The proponent is to provide JHR with an assessment of the impacts on the Operational Rail Corridor in the context of the use of two passive level crossings at McQuillan Road and Irrigation Way and one active level crossing at Poplar Avenue. **The safety assessment should include:** • **A site inspection – which would include but not limited to identification of hazards.** • **A site specific risk assessment that includes, existing and future traffic (road and rail), speeds, frequency of trains, volume and heavy vehicle proportion, non-motorised road users, traffic control facilities (existing and proposed if required to ameliorate any specific project related risks).**	ib vogt consulted with JHR between late June to July 2019. ib vogt advised that the only rail crossing in the vicinity of the proposal site is the active level crossing at Poplar Avenue. This section of road is an approved B double route and the largest design vehicle expected to access the site is a 19m articulated vehicle. Therefore, it is not clear why an assessment of impacts on the rail corridor is required as this is an active level crossing. JHR confirmed on 11 July 2019 that the proposed route for construction traffic avoids the level crossing at McQuillan Avenue. Regarding the level crossing at Poplar Avenue JHR advised the proposal would have no adverse impacts in terms of risks and compliance, sighting requirements and loading capacity. The requirement for an assessment of impact on the level crossing at McQuillan Avenue has been waived.

• **Evaluate the risks identified above using the Australian Level Crossing Assessment Model** **In the event that significant risks are identified, the Proponent may be requested to prepare a plan of management that identifies how the risks will be mitigated or potentially an upgrade to the level crossings in accordance with JHR's engineering standards. In addition, the relevant Council will also be requested to update the current Road Rail Interface Agreement to reflect the change to those level crossings in accordance with the Rail Safety National Law 2012.**	
The proponent should inform local bus operators running along Irrigation Way of the proposed development and traffic impacts.	Safeguard and Mitigation Measure **TT1** within the **EIS** states a Haulage Plan will be developed and implemented during construction and decommissioning of the proposal. However: for clarity, consultation with bus operators and other transport businesses has been included in this **RTS**. Refer to **Section 3**, **Table 3-1** below.

2.2.2 Organisation Submissions

Organisation submissions have been paraphrased and addressed in the following sections.

Ryde Gladesville Climate Change Action Group

Issue	Response
The Climate Change Action Group are in support for the proposed Solar Farm. The proposal has several benefits including reducing the use of fossil fuels for electricity, generates local employment, and will help achieve the targets set in the Paris Agreement to reduce global warming.	No further response required.

Murrumbidgee Irrigation (MI)

Issue	Response
Murrumbidgee Irrigation (MI) is only concerned about potential impacts on infrastructure and water quality. The proposed Solar Farm should adhere to the MI Development Rules and MI Drainage rules.	Safeguard and Mitigation Measure **WA10** has been included in this **RTS**, detailing that the proponent must adhere to MI Development and Drainage Rules. Refer to **Section 3**, **Table 3-1** below.

2.2.3 Public submissions

Issues raised in the public submissions have been paraphrased and addressed in the following sections. A response is provided for each issue, not to each submission.

Public submissions in support of the proposed Yanco Solar Farm

Comment	Response
The proposed Solar Farm has several benefits including reducing a reliance on fossil fuels for electricity production, creating local jobs and economic stimulus to regional community business. The proposal would also assist in reducing the amount of carbon dioxide produced and reaching the Paris Agreement to reduce global warming.	No further response required.
The location of the proposed Solar Farm would receive good solar exposure ensuring its viability, with minimal visual impact upon neighbouring properties and the environment.	No further response required.

Public submissions in objection to the proposed Yanco Solar Farm

Issue	Submissions	Details of Issue	Response
Socioeconomic and Community Impacts			
Devaluation of properties/land and decreased borrowing capacity	3	The proposal will devalue the surrounding properties and reduce saleability due to the views. Feedback from local real estate indicate that the property would be worth significantly less. Devaluation of land also restricts the value of future borrowing capacity.	Studies into the effects of solar development and land valuation has not been undertaken in Australia, as large solar installations are still relatively new, and sales data is not available. However, in 2016, the NSW Office of Environment and Heritage (OEH) commissioned an independent study into the potential impacts of wind farm developments on property prices in NSW (Urbis, 2016). There was insufficient sales data to provide a definitive answer, therefore the study was based on the best available data and traditional valuation sales analysis techniques to compare the change in values around wind farms over time and qualitative information from a review of the international literature on the impact of wind farms on property values. Based on the outcome of the study, it was determined that wind farms may not significantly impact the value of rural properties used for

Issue	Submissions	Details of Issue	Response
			agricultural purposes, with no or limited definable impacts. However, it is important to note that there is insufficient sales data to provide a definitive answer to the question of whether wind farm development in NSW impacts on surrounding land values utilising statistically robust quantitative analysis techniques. As solar farms do not have the same impacts as wind farms (i.e. landscape views, shadowing, light flicker etc.), the impact on property values are anticipated to be less. Mitigation measures in the form of vegetative screening and offsetting infrastructure from residences is an effective method to obscure views of the proposal. No reliable assessment can be made with regard to the utility scale solar sector which is in its relative infancy.
Rezoning of land	1	The land will become a commercial zone, rather than primary production.	A solar farm is not classified as commercial/industrial under the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP), but rather electricity generating works. Under the ISEPP, electricity generating works are permissible in any land prescribed as rural under the relevant Local Environmental Plan (LEP). As the proposal is located on land zoned as Primary Production (RU1) under the *Leeton LEP (2014)*, the development is permissible with consent. The land does not require reclassification to industrial or commercial. For more information, refer to **Section 4.2.3** and **Section 4.2.5** of the EIS.
Loss of irrigated agricultural production and economic multiplier benefits	2	Potential economic loss to the Leeton economy from the proposal over 30 years due to economic multiplier benefits. The expected income for the Leeton economy could be much higher with different production, like cotton or almonds.	As discussed above, the proponent has engaged Ethos Urban, an economic consultant and specialist, to conduct a thorough examination of the proposal's Socioeconomic Assessment (**Appendix G** of the **EIS**) and the **EIS** and complete a further socioeconomic and community assessment. The Ethos Urban report (**Appendix B** of this **RTS**) states that the EIS notes that the annual value of horticulture production lost from the subject site is up to $1.2 million (good year); while the wholesale value

Issue	Submissions	Details of Issue	Response
			of renewable electricity production from the same land is estimated at $10.0 million pa. Riverina Agriconsultants report (2019) provides the following estimates of the direct and value-added output for a number of potential agricultural uses on the proposal. The analysis shows the existing land uses provide the highest overall output compares with other agricultural commodities: • Existing site uses $6.2 million pa (wine grapes $3.75 million pa; $2.45 million pa). • Almonds $4.10 million pa. • Cotton $1.20 million pa. • Rice $1.30 millions pa. If appropriate multipliers are applied to each productive site use (i.e. ABS Type B multiplier of 5.9 for fruit and vegetable production and 2.9 for electricity generation) then total annual output value for horticulture production is estimated at $7.1 million, compared to electricity generation of $29.0 million pa. Over 30 years; therefore, the value of horticultural production associated with the subject site would be $213 million compared to electricity production of $870.0 million (both expressed in constant 2019 dollars). Under Discounted Cashflow Analysis using a Discount Rate of 7% (as proposed by the public submission), the Net Present Value of horticultural production associated with the subject site (over 30 years) would be $96 million compared to electricity production of $385 million.
Economic loss and employment	1	The short-term benefits of construction on business volume does not offset the current	As detailed above, the Ethos Urban report (**Appendix B** of this **RTS**) states the economic return to the property would be greater for solar production than for current agricultural production.

Issue	Submissions	Details of Issue	Response
		normal economic return the property produces now. There is also no mention of indirect employment that agriculture provides, including fertiliser sales, chemical sales, agronomy advice, mechanical repair etc. The proposal will decrease the dependency of these support services.	In reference to the $7.1 million in horticulture output as mentioned above, only a portion of will be retained in the local economy. Majority of the economic value is distributed nationally through transportation, processing, wholesaling, retailing and consumption activities. The $560,000 in economic benefit referred to in the public submission, represents only one stimulus factor associated with the construction phase (i.e. wage spending by non-local workers). The proposal will create new indirect employment for the region that is typical of current agricultural services such as road grading and maintenance, vegetation maintenance, pest control, fence maintenance and livestock maintenance. Local services required to support the proposal's ongoing maintenance and operations will offset local supply chain losses associated with current agricultural practices. Other employment created directly related to solar development includes security, panel cleaning and electrical maintenance. A review of similar utility-scale solar projects shows between 10-15% of total project investment is captured in the local economy in the construction phase. In the case of the Yanco Solar Farm, this level of local investment would amount to $10-15 million over the 10 month construction period (assuming a $100 million investment). Ongoing economic contribution of the Yanco Solar Farm to the community includes an estimated $14.3 million through additional revenues to Council/community (over 30 years) through an uplift in council rates/developer contributions/or community fund which can support local infrastructure and services. Also as detailed above, the MIA covers an area of 660,000 ha of which about 170,000 ha is irrigated. The development of 183 ha represents 0.1% relative to the 170,000 ha of irrigated MI land. A 0.1% loss in land will not decrease dependency on local agricultural services significantly.

Issue	Submissions	Details of Issue	Response
Stranded irrigation assets	1	The proposal will cause irrigation assets to become stranded, unable to realise economic return on recent or longer-term irrigation infrastructure investment.	The Main Canal (Gogeldrie Branch) bounds the eastern and side of the proposal site. There are two pumps located on the eastern boundary of the proposal site, owned by Murrumbidgee Irrigation, which pump water from the canal. There is no Murrumbidgee Irrigation infrastructure located within the proposal site. The proposal will not interfere with the operation of the main canal and connected structures, and existing access to Murrumbidgee Irrigation infrastructure will be retained. As such, there will be no impact to adjoining upstream or downstream customers of Murrumbidgee Irrigation. Murrumbidgee Irrigation confirmed in their submission to DPE that MI is concerned only about potential impacts from contaminated run-off and that the proposal must adhere to the MI Development Rules and MI Drainage Rules. Murrumbidgee Irrigation has no concerns about stranded assets as a result of the proposal.
Murrumbidgee Irrigation (MI) Fixed Access and Network Charges	1	Who will pay for the ongoing MI Fixed Assess and Network Charges? The proposal will cause a loss of income to MI, which is used to maintain the remaining irrigation system.	The site landowner would continue to pay Murrumbidgee Irrigation Fixed Access charges, and Network Charges while the existing water allocation is in use throughout the lifetime of the project.
Alternative energy is subsidised by the taxpayer	1	A taxpayer funded guarantee is exploitation of the local economy for investor and national gain.	There are no Government rebates for the development and installation of a large-scale solar farm. The proposal is wholly funded by the proponent. The development application fee through the NSW Government and grid connection process is also wholly funded by the proponent. As such, the proposal is not taxpayer funded.
Site justification	1	No negative impacts to the community are explored when discussion site suitability and justification.	**Section 2.4.6** of the **EIS** is to discuss the suitability of the site and constraints under the NSW Large-scale Solar Energy Guidelines for State Significant Development. The assessment concludes that:

Issue	Submissions	Details of Issue	Response
			• There is no high visibility. • Minimal impact to biodiversity will be encountered. • There is no development in a residential zone or urban area. • The land is not prone to fire of flood. • There are no prospective resource developments. The assessment identified Class 3 Agricultural Land and Crown Road as a key constraint of the development. These constraints are further discussed and mitigated throughout the EIS. Negative impacts to the community are instead discussed in **Section 6.6.3** of the **EIS**. Some likely negative impacts identified to the community include: • Increases in local traffic and subsequent road hazards. • Change in the rural landscape character and visual amenity. • Influx of workers putting pressure on local accommodation, health and broader services. • Demand for accommodation and increases in traffic may impact on tourism is construction coincides with local festivals or events. It was determined that the proposal would have a positive socio-economic impact given the significant economic boost the proposal would generate. It is considered that the expected adverse impacts would be minimal given the temporary nature of the construction phase and that impacts would be managed through the implementation of safeguards.
Existing infrastructure	1	Existing agricultural and irrigation infrastructure is not detailed within the EIS, including shed irrigation pumps and motors, two bores, bore pumps, underground piping	The proposal site includes irrigation infrastructure (pumps and motors, two bores, bore pumps, underground piping and mainline, irrigation drip tube, valve control system, etc). The onsite irrigation system would be removed as part of the construction of the solar farm. The groundwater bores and pumps would remain in

Issue	Submissions	Details of Issue	Response
		and mainline, irrigation drip tube, valve control system etc.	place (refer to Figure 1-5 with bore locations, adjacent to pump sheds). The two Murrumbidgee Irrigation pumps located on the eastern boundary of the proposal site, which pump water from the canal, would remain in place. There is no Murrumbidgee Irrigation infrastructure located within the proposal site and the proposal would not interfere with the operation of the main canal and connected structures.
Population loss	1	Population loss as a result of the proposal will affect services in the community, including schools.	As detailed above, the proposal will not decrease dependency on local services. The proposal will create new indirect employment for the region that is typical of current agricultural services such as road grading and maintenance, vegetation maintenance, pest control, fence maintenance and livestock maintenance. Other employment created directly related to solar development includes security, panel cleaning and electrical maintenance. Also detailed within the **EIS** and Ethos Urban report (Appendix B of this **RTS**), the number of jobs supported by existing onsite activities is estimated at 4.5 FTE jobs, which include 2.0 FTE onsite jobs and the equivalent of 2.5 FTE job for casual pickers during the harvesting (e.g. oranges). • Vine picking is automated and does not require casual labour. • For this particular business, a small amount of additional employment is supported through local transportation services and processing (oranges and grapes) – which is estimated at 0.5 FTE. In total an estimated 5.0 FTE are directly employed through the operations of the subject site. Population loss as a result of the proposal is unlikely.
Visual Impacts			

Issue	Submissions	Details of Issue	Response
Glare and reflection	2	Glare and reflection from the panels will be uncomfortable and reduce saleability of properties.	The potential for glare associated with non-concentrating photovoltaic (PV) systems that do not involve mirrors or lenses is limited. PV solar panels are designed to reflect as little sunlight as possible, resulting in negligible glare or reflection. The panels will not generally create noticeable glare compared with an existing roof or building surface as seen on the ground. In addition to this, seen from above (such as from an aircraft) they appear dark grey and do not cause a glare or reflectivity hazard. Solar PV farms have been installed on a number of airports around the world. Infrastructure would be relatively dispersed and unlikely to present a glare or reflectivity hazard to residences, motorists or aircraft. Panels are also mounted on a single axis tracking system, arranged in an east-west direction. As such, any residences located to the north or south of the proposal will not receive any reflection or glare from solar panels. Residences location east or west of the proposal will receive limited glare or reflection, due to the maximum tilt of 60° of the panel and location of the sun.

Issue	Submissions	Details of Issue	Response

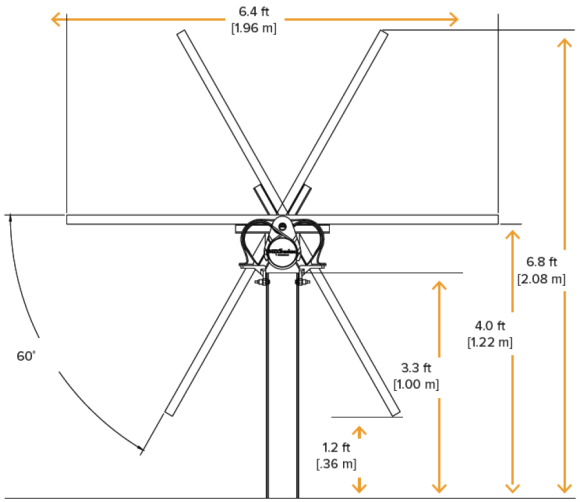


Image depicting the tilt angle of proposed single axis tracking system

As the sun moves across the sky, due to reflection angle of the sun and angle of the panel all reflection will be in an upwards direction away from residences (i.e. angle of incidence equals angle of reflection).

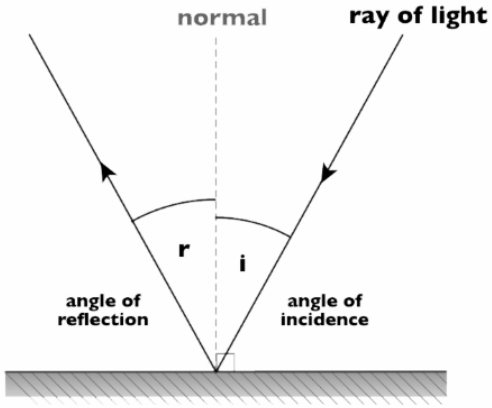


Image describing angle of incidence and angle of reflection

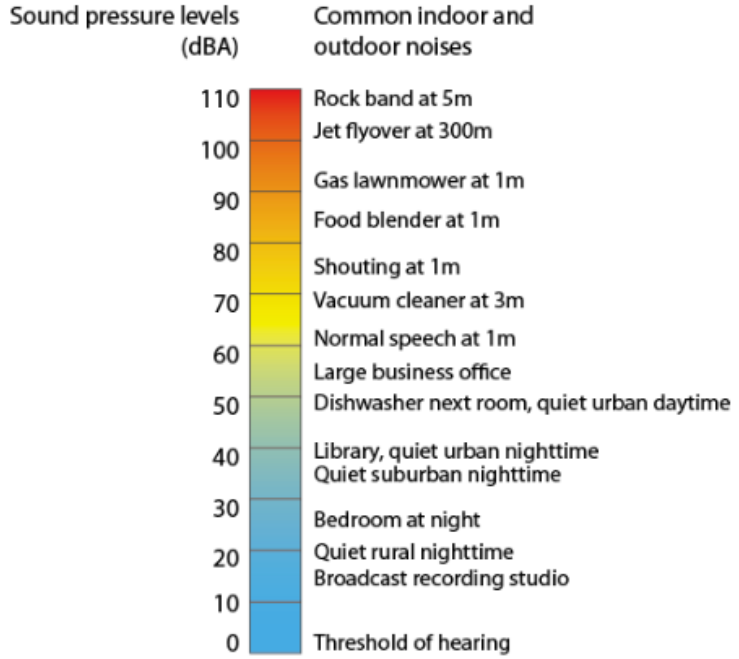
Issue	Submissions	Details of Issue	Response
Vegetative screening	1	The proposed vegetative screening will take many years to have any effect on the visual impact, as the plants will be seedlings.	Plant species were selected on the advice of a local grower of indigenous species, and selection was also vetted by the Biodiversity Development Assessment Report (BDAR) and existing plant community types on-site. Overstorey vegetation is likely to take some years to mature as an effective vegetative screen, but the chosen species within the midstorey and shrubs are fast growing and dispersive/spreading species capable of fast establishment and screening. The majority of these midstorey species (2 to 10 m) and shrubs (2 to 5 m) have a short lifespan and will be replaced as required. However, it is also likely that the overstorey vegetation will have established enough as an effective vegetative screen by this time. It is noted that the aim of plant screens is to break up the view and not eliminate it entirely. Partial views will occur, particularly while vegetation is developing to maturity.
Views	2	The current view is agricultural, with citrus trees and vineyards. The proposal will be aesthetically unpleasant.	The proponent respects the views and opinions of the community, and as detailed throughout the **EIS** and the **Visual Impact Assessment** (Appendix E of the **EIS**) has proposed extensive vegetative screening to reduce any potential views of the proposal. The proposed screening was determined in consultation with affected residences, with plant species selected on the advice of a local grower of indigenous species and vetted by the BDAR.
Land Use Impacts			
Prime agricultural land	3	The proposal is situated on prime agricultural land. The land is A-grade irrigated horticultural farming land that has many thousands of dollars invested in its development.	The majority of the investment over the property in the past has been paid by the landowner who has made a commercial decision to locate solar panels on his land for the next 30 years. After this period the land will be reinstated so that farming can recommence over the land. Murrumbidgee Irrigation infrastructure will not be impacted by the proposed development and can be utilised by adjoining landowners during the operation phase of the development.

Issue	Submissions	Details of Issue	Response
Land capability	2	The land on which the proposal is situated is classed as Land Soil Capability Class 3 under the Land and Soil Capability Assessment Scheme (OEH 2012), which is defined as high capability. Establishment of new irrigation land in NSW will not occur again due to limiting factors. As identified in the NSW Government Large Scale Solar Energy Guideline for State Significant Development (2018), land classed as high capability (Class 1, 2 or 3) is identified as a key constraint and should be given consideration of any fragmentation or displacement of agricultural activities.	As discussed above, the EIS addresses the NSW Large Scale Solar Energy Guideline for State Significant Development (December 2018) in **Section 2.4.6**, **Table 2-1** of the **EIS**, and **Section 4.4.2** of the EIS. The assessment concludes that: • There is no high visibility. • Minimal impact to biodiversity will be encountered. • There is no development in a residential zone or urban area. • The land is not prone to fire of flood. • There are no prospective resource developments. The assessment identified Class 3 Agricultural Land and Crown Road as a key constraint of the development. However, consideration of use of the land was given and it was concluded that use of the Class 3 Land was justified for the following reasons: • The proposal is not expected to adversely affect the biophysical nature of the land. • The proposal would positively affect soils by providing many of the benefits of long-term fallow, including increasing soil moisture, building soil carbon levels, allowing structural recovery and improving soil biota. • The proposal will not result in the permanent removal of agricultural land. • The proposal would not result in rural fragmentation given it will not alter the existing or surrounding environment. • Adjacent farming operations are compatible. • Strategic sheep grazing may be used within the development site. Grazing would be used to reduce vegetation biomass and put grazing pressure on weeds adjacent to the solar panels.
Sheep grazing	2	Grazing of sheep under panels is impractical due to management requirements. Examples of issues include:	There are examples Australia wide of dual-purpose land use, and successful sheep farming under solar infrastructure albeit at a slightly lower stocking rate. An example is at the Dubbo Solar Hub.

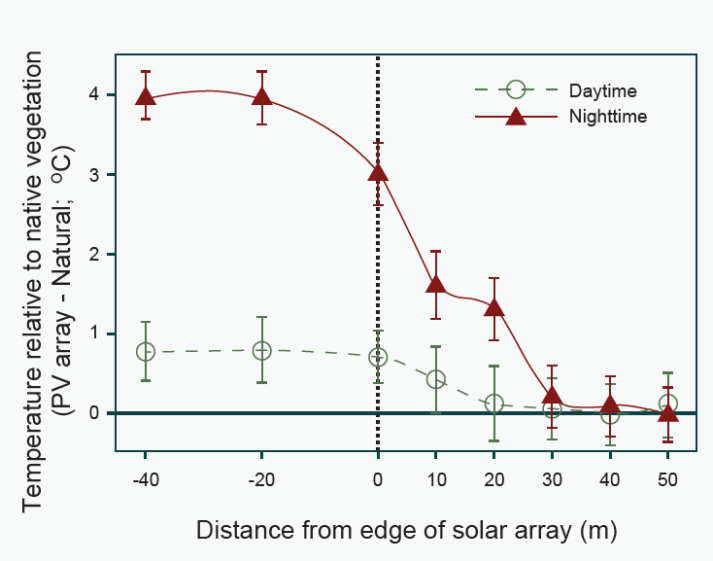
Issue	Submissions	Details of Issue	Response
		• Panels blocking lights and compaction of soils. • Sheep grazing on nutritionally poor plants. • Stocking rates lowered. • Establishment of reliable, sustained and balanced feed regime is unlikely.	Grazing of sheep within these solar farms has proved to be an effective control method for vegetation growth including weeds, and also provides shelter to grazing stock. Operational impacts to soil and pasture grasses have been identified and addressed in **Section 7.2.3** of the EIS. However, the proponent has committed to developing and implementing a Groundcover Management Plan in consultation with a soil scientist and/or an agronomist and taking account of soil survey results to ensure perennial grass cover is established across the site as soon as practicable after construction and maintained throughout the operation phase. The plan would cover: • Soil restoration and preparation requirements. • Species selection. • Soil preparation. • Establishment techniques. • Maintenance requirements. • Perennial groundcover targets, indicators, condition monitoring, reporting and evaluation arrangements: ○ Live grass cover would always be maintained at or above 70% to protect soils, landscape function and water quality. ○ Any grazing stock would be removed from the site when cover falls below this level. ○ Grass cover would be monitored on a fortnightly basis using an accepted methodology. • Contingency measures to respond to declining soil or groundcover condition. • Identification of baseline conditions for rehabilitation following decommissioning.

Issue	Submissions	Details of Issue	Response
			The management plan and mitigation measures would ensure the best outcome for potential sheep grazing and retention of groundcover on-site.
Biosecurity Impacts			
Cleared land	1	Cleared land that is absent of ground cover without re-establishing of a crop cover quickly revegetates itself with weeds, many of which are difficult to control. Tractor and boom spray to gain access under panels is impractical.	The proponent has committed to preparing and implementing a Pest and Weed Management Plan to manage the occurrence of noxious weeds and pest species across the site during construction and operation. The plan will be prepared in accordance with Leeton Shire Council and NSW Department of Primary Industry requirements, and best practice pest control. Pest control will be adapted where required to suit the operating limitations of the site. Where possible, the plan will also integrate weed and pest management with adjoining landowners. As mentioned above, the proponent has also committed to developing and implementing a Groundcover Management Plan to ensure perennial grass cover is established across the site as soon as practicable after construction and maintained throughout the operation phase.
Weeds	2	The proposal will become overrun with weeds, which will not be managed by the company.	It is in the best interest of the proponent to manage the land, its infrastructure and its overall investment. The land must be maintained and managed in compliance with the Conditions of Consent imposed by NSW DPE and any Statement of Commitment proposed within the EIS and subsequent management plans. Failure to do so can result in large penalties and enforcement regimes under the *Environmental Planning and Assessment Amendment Act 2014*. Compliance is ensured through independent auditing of the construction, operation and decommissioning of a proposal, which must be reported back to NSW DPE.

Issue	Submissions	Details of Issue	Response
			As mentioned above, the proponent has committed to preparing a Pest and Weed Management Plan and a Groundcover Management Plan in the EIS.
Crop disease	1	Non-controlled weeds can harbour several productive crop diseases.	Weeds will be controlled as per the Pest and Weed Management Plan in accordance with Leeton Shire Council and NSW Department of Primary Industry requirements, and best practice pest control. Pest control will be adapted where required to suit the operating limitations of the site.
Noise Impacts			
Construction noise and vibration	1	Noise levels during the construction period will be extreme for homes in close proximity.	As part of the **EIS**, a Noise and Vibration Assessment was undertaken by a qualified acoustics engineering firm. The assessment was informed by sound level measurements taken on-site, location of existing residences, known sound power levels for machinery and plant proposed to be used on-site and computer modelling. The assessment states that there will be some noise exceedances during construction of the proposal for residences within closest proximity. However, these exceedances would occur over a short-term, during normal working hours. The maximum duration that affected residents would be likely to experience worst case construction noise is 8 hours in a day. Such activities would move progressively across the site, meaning that at any one receiver worst case construction noise would typically last for 3-4 weeks only. The largest exceedance modelled using the three noisiest plant operating concurrently for any given residence was 68 dB(A) (33 dB(A) above noise management levels). This is however comparable to normal speech at 1 m or a vacuum cleaner at 3 m.

Issue	Submissions	Details of Issue	Response
			 **Sound pressure level comparisons** The assessment also states that the potential for adverse vibration impacts during construction was very low, given the large distances between the residence locations and construction activities. The Amendment Report details the Construction and Operational Noise and Vibration Assessment that was updated to account for the change to the proposed solar farm layout. The setback of solar panels in the northern section of the site has increased the distance between the solar panels and the closest sensitive receptor R07. The construction noise for receptor R07 for the new proposed layout is 55 dB(A) compared to 68 dB(A) for the proposed layout in the EIS.

Issue	Submissions	Details of Issue	Response
			The NMLs, although still exceeded, would be reduced under the new proposed layout for receptors R02, R03, R08 and R09. Construction noise impacts at receptor R12 are now below the NMLs. The updated noise report is included as Appendix B of the Amendment Report. The Noise Assessment and the **EIS** provide a suite of safeguards and mitigation measures to reduce any potential noise or vibration impact. Refer to **Section 6.5** and **Appendix F** of the **EIS** for more information.
Climate and Air Quality Impacts			
Dust	1	Dust from construction will affect homes.	Dust generation would accompany excavation and other earthworks as well as the movement of trucks and work vehicles along any unsealed road during construction and decommissioning of the proposal. Earthworks associated with construction are also relatively minor and not likely to cause significant dust or emissions. The construction of the solar arrays uses a piling machine which is designed to reduce soil disturbance and corresponding dust pollution. The proponent has made a commitment to manage and prevent dust from leaving the development site, which includes covering loads and watering of unsealed roads and stockpiles. Dust will be monitored daily, with construction works to cease if dust is observed being blown from the site. Refer to **Section 7.5** of the **EIS** for more information.
Heat island effect	2	There will be an increase in temperatures around the proposal (heat island effect). This will make living unbearable, increase electricity cost due to use of air conditioners and take a toll on gardens.	A number of studies have shown that Photovoltaic (PV) panels convert incident solar radiation into heat and this can alter the airflow and temperature profiles within and adjacent to the panels. Recent studies suggest that solar arrays will affect air and soil temperatures within the solar array perimeter, and that in relation to outside of the solar array perimeter a heat island effect is unlikely to occur. It identified that any temperature increase within the solar array

Issue	Submissions	Details of Issue	Response
			will be marginal and recommended a 30 m setback from any neighbouring property boundary.  **Temperature increase within solar array decreases from the boundary (Barron-Gafford *et al* 2018)** The research indicates a small potential effect on microclimate within the solar plant site. This effect may actually enhance retention of ground cover in very cold or hot conditions onsite. It is also unlikely that the heat would be carried offsite by the wind. Where sensitive land use occurs adjacent to solar panels, consideration to maintaining a 30 m buffer could be made. A dense vegetation buffer, from ground level to higher than the top of the highest point of the array, helps to mitigate potential heat island effects.

Issue	Submissions	Details of Issue	Response
			The proponent has achieved more than a 30-metre setback from the edge of the closest infrastructure and the boundary of any adjacent property, as well as incorporating an extensive vegetative landscaping plan, to reduce any potential of a heat island effect. Refer to **Section 7.4.2** of the **EIS** for more information. The article on Heat Island Effects used as an example in the public submission is also out-of-date and uses an example of a solar farm in a semi-arid desert ecosystem in the United States. This report is not indicative of the conditions at the proposed Yanco Solar Farm. The journal on which the article is based on is also referenced and described within the EIS, comparing results of this journal with an updated journal about an Australian based solar farm from the same author.
Health Impacts			
Negative health implications	1	Potential negative health impacts near high voltage power supplies.	Research into photovoltaic solar arrays indicated that magnetic fields are significantly less for solar arrays than for household applications. Research found magnetic fields from solar arrays were not distinguishable from background levels at the site boundary, suggesting the health risk of Electric Magnetic Fields (EMFs) from solar arrays is minimal. In Australia, transmission lines and other electrical devices and infrastructure, including switching stations and substations, operate at a frequency of 50Hz. This frequency falls within the Extremely Low Frequency (ELF) range of 0-300Hz. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) advises that 'the scientific evidence does not firmly establish that exposure to 50Hz electric and magnetic fields found near transmission lines is a hazard to human health', and that 'current science would suggest that if any risk exists, it is small'.

Issue	Submissions	Details of Issue	Response
			Australia does not currently have a standard regulating exposure to ELF electric or magnetic fields. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) published guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300GHz) in 1998, which were updated in 2010. The objective of the paper was to establish guidelines for limiting EMF exposure that would provide protection against known adverse health effects. The site is surrounded by agricultural land. Public access would be restricted by fencing around the site including the switching station during the operational phase. Given the levels associated with the infrastructure components, and the distance to the site perimeter fence, EMFs from the solar farm are likely to be indistinguishable from background levels at the boundary fence. The underground cabling would not produce external electric fields due to shielding from soil, and its magnetic fields are expected to be well within the public and occupational exposure levels recommended by ARPANSA and ICNIRP. ICNIRP sets out a number of protective measures to reduce personal harm from EMFs if the basic restrictions are expected to be exceeded (detailed within **Section 7.6.6** of the **EIS**). These include engineering design, administrative controls and personal protective clothing. The works undertaken for the proposed solar farm are not expected to exceed the basic restriction levels. Refer to **Section 7.6** of the **EIS** for more information.
Decommissioning Impacts			
Decommissioning	4	What happens at the end of the lease? Is all infrastructure left on-site? Who is responsible and how will broken solar panels and infrastructure be removed?	At the end of the operating period of the proposal, a Rehabilitation and Decommissioning Management Plan is prepared by the proponent in consultation with NSW Department of Primary Industries and the landowner. The Rehabilitation and Decommissioning Management Plan is to include:

Issue	Submissions	Details of Issue	Response
		The Hazard Analysis and Critical Control Points Management System (HACCP) ensures food safety is in line with international practices. The removal of all infrastructure is not practical and will not meet the HACCP requirements for accreditation. Any infrastructure left (like broken glass) will cause contamination.	• Removal of all infrastructure. • Removal of gravel from internal access tracks where required, in consultation with landowner. • Reversal of any compaction by mechanical ripping. • Indicators and standards to indicate successful rehabilitation of disturbed areas. These indicators and standards should be applied to rehabilitation activities once the solar farm is decommissioned. Decommissioning would aim to return the site to its pre-works state. Certain aspects of the development may be retained by mutual agreement with the landowner at time of decommissioning. Typically, the reclamation of the proposal proceeds in reverse order of installation. All above and below ground infrastructure would be removed. All areas of soil disturbed during decommissioning would be rehabilitated in consultation with the landowner consistent with post-solar farmland use requirements. The site would be left stabilised, under a cover crop or other suitable ground cover. This will depend on what the landholder intends to use the land for at the time. Refer to **Section 3.7** of the **EIS** for more information. In regard to broken glass from panels contaminating the site, the glass used in solar panels are tempered or tapered. This means when the front side of the panel is damaged and the glass breaks, the glue used inside the face of the glass keeps the broken pieces of glass in place until the panel is repaired or replaced. As such, there is very little risk of broken glass contaminating a site.
Sale of proposal	1	If the proposal is sold prior to decommissioning, who is responsible for the decommissioning?	The land must be maintained and managed in compliance with the Conditions of Consent imposed by NSW DPE and any Statement of Commitment proposed within the EIS and subsequent management plans, irrespective of who owns or manages the site.

Issue	Submissions	Details of Issue	Response
			Responsibility of decommissioning passes to the purchaser/lessee of the solar farm if sold prior to the end of the operating life of the proposal.
Returning land to viable agricultural/ irrigation quality	1	Is all previous agricultural and irrigation infrastructure return to its previous viability? Including the underground distribution system, bores and all MI infrastructure.	The site will be returned to its pre work state. For the life of the solar farm the delivery water entitlement charges attached to the site would continue to be paid to Murrumbidgee Irrigation. ib vogt would purchase part of the solar farm site and lease the remainder, so that the delivery entitlements remain in place for the life of the project. This would ensure that the site can be returned to irrigated agriculture upon decommissioning of the solar farm.
Waste	1	Where does solar infrastructure go after decommissioning? Is it taken to Leeton Landfill?	The majority of infrastructure will be recycled or reused upon decommissioning. Currently the Leeton Resource Recovery Centre currently does not have the capacity or technology to recycle solar panels or large-scale lithium-ion batteries. If this is still the case in 30 years time, the solar panels and batteries will be sent to recycling facilities with specialised recycling capability, or back to the manufacturer.
Lifespan of infrastructure	1	The current solar panel effective life span is 25 years, and inverters 15 years. How does this fit in with the proposed 30-year operation period?	Maintenance and replacement of infrastructure would be required throughout the operating life of the proposal, which may include technological advances. Over time, the proponent for any solar farm development may replace or upgrade solar infrastructure and ancillary infrastructure on site providing the upgrades remain within the approved development footprint of the site. This includes any infrastructure that has reached its life span. Where technical advances would improve the performance of the solar farm, the proponent may choose to upgrade or replace infrastructure providing that such upgrades can be established within the parameters of the most current consent. The proponent also has the option of renewing a lease with the relevant landowner.

3 UPDATED MITIGATION MEASURES

In response to submission received, this report proposes a number of changes to the safeguards and mitigation measures detailed in the EIS. Table 3-1 provides the full list of safeguards and mitigation measures with those amended highlighted in grey. New text is shown underlined and removed text shown with ~~strikethrough~~. Table 3-1 provides the full list of safeguards and mitigation measures as amended.

*C = Construction Phase, O = Operational Phase and D = Decommission Phase

Table 3-1 Revised safeguards and mitigation measures

No.	Safeguards and mitigation measures	C	O	D
BD1	The following plans are to be prepared and approved by the relevant authorities: • Biodiversity Management Plan. • Construction and Operational Environmental Management Plan. • Weed Management Plan. • Erosion and Sediment Control Plan. The plans should include but not be limited to the relevant commitments below.	**Pre-construction**	**Pre-operations**	
BD2	Timing works to avoid critical life cycle events such as breeding or nursing: • Hollow-bearing trees would not be removed during breeding and hibernation season (June to January) to mitigate impacts to fauna that would occur. • Dams would be removed in winter to avoid impacts on wetland birds, when Latham's Snipe and Wood Sandpiper are outside Australia, and outside the summer breeding season for Australasian Bittern.	**C**		
BD3	Implement clearing protocols including pre-clearing surveys, daily surveys and staged clearing, with a trained ecological or licensed wildlife handler present during clearing events, including: • Pre-clearing checklist. • Tree clearing procedure.	**C**		
BD4	Relocation of habitat features (fallen timber, hollow logs) from within the development site. Tree-clearing procedure including relocation of habitat features to adjacent area for habitat enhancement	**Pre - construction**		
BD5	Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance; for example, removal of native vegetation by chainsaw, rather than heavy machinery, is preferable in situations where partial clearing is proposed: • Approved clearing limits to be clearly delineated with temporary fencing or similar prior to construction commencing. • No stockpiling or storage within dripline of any mature trees. In areas to clear adjacent to areas to be retained, chainsaws would be used rather than heavy machinery to minimise risk of unauthorised disturbance.	**C**		
BD6	Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise. Construction Environmental Management Plan would include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible.	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
BD7	Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill: • Avoid Night Works. • Direct lights away from vegetation.	**C**	**O**	**D**
BD8	Adaptive dust monitoring programs to control air quality: • Daily monitoring of dust generated by construction and operational activities. • Construction would cease if dust observed being blown from site until control measures were implemented. All activities relating to the proposal would be undertaken with the objective of preventing visible dust emissions from the development site.	**C**		**D**
BD9	Temporary fencing to protect significant environmental features such as riparian zones.	**C**		**D**
BD10	Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas. This will be incorporated into the Pest and Weed Management Plan.	**C**	**O**	
BD11	Staff training and site briefing to communicate environmental features to be protected and measures to be implemented: • Site induction. • Toolbox talks. • Awareness training during site inductions regarding enforcing site speed limits. • Site speed limits to be enforced to minimise fauna strike.	**C**	**O**	
BD12	Preparation of a Vegetation Management Plan to regulate activity in vegetation: • Protection of native vegetation to be retained. • Best practice removal and disposal of vegetation. • Staged removal of hollow-bearing trees and other habitat features such as fallen logs with attendance by an ecologist. • Weed management. • Unexpected threatened species finds. • Rehabilitation of disturbed areas.	**C**		
BD13	Sediment barriers and spill management procedures to control the quality of water runoff released from the site into the receiving environment: • An erosion and sediment control plan would be prepared and implemented in conjunction with the final design. • Spill management procedures would be implemented.	**C**		
BD14	Appropriate landscape plantings of local indigenous species ~~to replace loss of planted vegetation~~ derived from local native plant communities.	**Design Stage**		
BD15	Implement fauna monitoring and fauna rescue protocols for security and boundary fences during construction (weekly) and the first year of operation (monthly).	**C**	**O**	
VA1	Screening would be required on-site, generally in accordance with the draft Landscape Plan provided in the VIA: • Plantings would be three rows deep and where practical, planted on specific sections of the outside of the perimeter fence to break up views of infrastructure including the fencing.	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
	• The proposed plant species to be used in the screen are native, fast growing, with spreading habitat and mixed mature heights of 2-4 m, 3-5m and 5-10 m. Proposed plants derived from the naturally occurring vegetation community in this area. • Plants were selected in consultation with affected near neighbours and a botanist or landscape architect. • The timing is recommended to be within 2 months of completion of construction so that actual views of infrastructure can be more certain. The timing of planting should also be chosen to ensure the best chance of survival. The screen would be maintained for the operational life of the solar farm. Dead plants would be replaced. Pruning and weeding would be undertaken as required to maintain the screen's visual amenity and effectiveness in breaking up views.			
VA2	The materials and colour of onsite infrastructure would, where practical, be non-reflective and in keeping with the materials and colouring of existing infrastructure or of a colour that would blend with the landscape.	**Design stage**		
VA3	Construction and operational night lighting would be minimised to the maximum extent possible (i.e. manually operated safety lighting at main component locations. Lighting will comply with *Australian Standard 4282 – Control of the Obtrusive Effects of Outdoor Lighting*, including: • Eliminating upward light spill, directing light downwards and directing light away from sensitive receivers. • Use of shielded light fixtures. • Using asymmetric beams. Compile and record a complaint register.	**C**	**O**	**D**
LU1	Consultation with adjacent landholders would be ongoing to manage interactions between the solar farm and other properties.	**C**	**O**	**D**
LU2	Consultation would be undertaken with TransGrid regarding connection to the Yanco substation.	**C**		

LU3	A Rehabilitation and Decommissioning Management Plan is to be prepared in consultation with NSW Department of Primary Industries and the landowner prior to decommissioning. The Rehabilitation and Decommissioning Management Plan is to include:
	• Removal of all ~~above-ground~~ infrastructure.
	• Removal of gravel from internal access tracks where required, in consultation with landowner.
	• Reverse any compaction by mechanical ripping.
	• Recycling or reuse of materials including:
	  ○ Solar panels and mounting system.
	  ○ Metals from posts, cabling and fencing.
	  ○ Buildings and equipment such as inverters, transformers and similar components would be removed for resale or reuse, or for recycling as scrap.
	• Removal of all waste offsite and disposal at appropriate waste facilities.
	Recovery of materials and disposal of all other wastes at waste facilities would ensure no contamination remains onsite following decommissioning.
				D

No.	Safeguards and mitigation measures	C	O	D
	Indicators and standards to indicate successful rehabilitation of disturbed areas. These indicators and standards should be applied to rehabilitation activities once the solar farm is decommissioned.			
LU4	A Pest and Weed Management Plan would be prepared to manage the occurrence of noxious weeds and pest species across the site during construction and operation. The plans must be prepared in accordance with Leeton Shire Council and NSW DPI requirements. Where possible integrate weed and pest management with adjoining landowners.	**C**	**O**	
LU5	The proponent would consult with GSNSW in relation to biodiversity offset areas or any supplementary biodiversity measures to ensure there is no consequent reduction in access to prospective land for mineral exploration, or potential for sterilisation of mineral resources.	**C**		**D**
LU6	Construction and operations personnel would drive carefully and below the designated speed limit according to the Traffic Management Plan to minimise dust generation and disturbance to livestock.	**C**	**O**	**D**
LU7	All underground cabling and infrastructure to be removed following decommissioning.	**C**		
LU8	If possible and practical, managed sheep grazing would be used as a preferred option to control weeds and grass growth, and to maintain agricultural production at the site.		**O**	
NS1	Works should be undertaken during standard working hours only (except for the connection to substation) • Monday – Friday 7am to 6pm. • Saturday 8am to 1pm. No work on Sundays or public holidays.	**C**		**D**
NS2	All staff on-site should be informed of procedures to operate plant and equipment in a quiet and efficient manner.	**C**	**O**	**D**
NS3	A letter box drop would be prepared and provided to residences within 2km of the works. The letter would contain details of the proposed works including timing and duration and a contact person for any enquiries or complaints.	**C**	**O**	**D**
NS4	Implement noise control measures that are suggested in Australian Standard 2436-2010 “Guide to Noise Control on Construction, Demolition and Maintenance Sites”, to reduce predicted construction noise levels.	**C**		**D**
NS5	In addition to physical noise controls, the following general noise management measures should be followed: • Plant and equipment should be properly maintained. • Provide special attention to the use and maintenance of ‘noise control’ or ‘silencing’ kits fitted to machines to ensure they perform as intended. • Strategically position plant on site to reduce the emission of noise to the surrounding neighbourhood and to site personnel. • Avoid any unnecessary noise when carrying out manual operations and when operating plant. Any equipment not in use for extended periods during construction work should be switched off.	**C**		**D**
NS6	Establish a noise management procedure to deal with noise complaints that may arise from construction activities. Each complaint would need to be investigated	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
	and appropriate noise amelioration measures put in place to mitigate future occurrences, where the noise in question is in excess of allowable limits.			
NS7	Establish good relations with people living and working in the vicinity of the construction site at the beginning of the proposal and maintain good relations throughout the project. Keeping people informed of progress and taking complaints seriously and dealing with them expeditiously is critical. The person selected to liaise with the community should be adequately trained and experienced in such matters.	**C**		**D**
NS8	Where noise level exceedances cannot be avoided, then time restrictions and/or providing periods of repose for residents must be considered where feasible and reasonable. That is, daily periods of respite from noisy activities may also be scheduled for building occupants during construction hours.	**C**		**D**
NS9	Some items of plant may exceed noise limits even after noise treatment is applied. To reduce the overall noise impact, the use of noisy plant may be restricted to within certain time periods, where feasible and reasonable. Allowing the construction activities to proceed despite the noise exceedance may be the preferred method in order to complete the works expeditiously.	**C**		**D**
SE1	A Community Consultation Plan would be implemented during construction to manage impacts to community stakeholders, including but not limited to: • Protocols to keep the community updated about the progress of the project and project benefits. • Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc.). Protocols to respond to any complaints received.	**C**	**O**	
SE2	Liaison with local industry representatives to maximise the use of local contractors, manufacturing facilities, materials.	**C**	**O**	
SE3	Liaison with local representatives regarding accommodation options for staff to minimise adverse impacts on local services.	**C**		**D**
SE4	Liaison with local tourism industry and council representatives to manage potential timing conflicts or cooperation opportunities with local events.	**C**		**D**
SE5	The Proponent proposes to develop a formal and binding process in consultation with Council that will ensure an appropriate level of contributions in support of local infrastructure and programs,	**Prior to construction**		
SE6	In consultation with Leeton Shire Council the proponent is and will undertake all reasonable actions to ensure that the supply of irrigation water and the current supply infrastructure will not be affected by the development.	**C**	**O**	**D**
AH1	The proponent should prepare a Cultural Heritage Management Plan (CHMP) to address the potential for finding additional Aboriginal artefacts during the construction of the Solar Farm and management of known sites and artefacts. The Plan should include the unexpected finds procedure to deal with construction activity, site induction details, and a plan of management for fencing works for protecting AHIMS Site 49-5-0211 from unanticipated harm. Preparation of the CHMP should be undertaken in consultation with the registered Aboriginal parties and OEH.	**C**		
AH2	Should any Aboriginal objects be uncovered by the work which are not covered by a valid Aboriginal Heritage Impact Permit (AHIP), excavation or disturbance	**C**		

No.	Safeguards and mitigation measures	C	O	D
	of the area is to stop immediately and the Office of Environment and Heritage (OEH) is to be informed in accordance with the *National Parks and Wildlife Act 1974* (as amended). Works affecting Aboriginal objects on the site must not continue until OEH has been informed and the appropriate approvals are in place. Aboriginal objects must be managed in accordance with the *National Parks and Wildlife Act 1974.*			
AH3	~~In the unlikely event that human remains are discovered during the construction, all work must cease in the immediate vicinity. OEH, the local police and the registered Aboriginal parties should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.~~ In the unlikely event that human remains are discovered during the construction, all work must cease in the immediate vicinity. OEH and the local police should be notified immediately. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal. If the remains are determined to be Aboriginal in origin, then the Registered Aboriginal Parties (RAPs) and local Aboriginal community should be informed of the find.	**C**		
AH4	Avoidance of isolated artefact (YSF_IF_001) be achieved by utilising the proposed northern transmission line route. If the route is altered to the southern transmission line option in the future, then this site should be salvaged and reburied outside of the impact corridor in consultation with the Leeton & District LALC. A visible barrier will be installed with a 5 m buffer around the isolated artefact to prevent any harm.	**C**		**D**
AH5	The collection and relocation of the artefacts should be undertaken by an archaeologist with representatives of the registered Aboriginal parties and be consistent with Requirement 26 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. The salvage of Aboriginal objects can only occur following development consent that is issued for State Significant Developments and must occur prior to works commencing. A new site card/s would need to be completed once the artefacts are moved to record their new location on the AHIMS database. An Aboriginal Site Impact Recording Form must be completed and submitted to AHIMS following harm for each site collected or destroyed from salvage and/or construction works.	**C**		
AH6	Further archaeological assessment would be required if the proposal activity extends beyond the area assessed as detailed in this report. This would include consultation with the registered Aboriginal parties and may include further field survey.	**C**		
SO1	A Soil and Water Management Plan and Erosion and Sediment Control Plan would be prepared prior to construction in consultation with the Department of Industry (Land and Water), and implemented and monitored during the construction and decommissioning of the proposal in accordance with Landcom (2004), to minimise soil (and water) impacts. These plans would include provisions such as: • At the commencement of the works, and progressively during construction, install the required erosion control and sediment capture measures. • Regularly inspect erosion and sediment controls, particularly following rainfall. • Maintain a register of inspection and maintenance of erosion control and sediment capture measures.	**Prior to and during construction**		**D**

No.	Safeguards and mitigation measures	C	O	D
	• Ensure there are appropriate erosion and sediment control measures in place to prevent erosion and sedimentation occurring within the stormwater channel during concentrated flows. • Ensure that machinery arrives on site in a clean, washed condition, free of fluid leaks. • Ensure that machinery leaves the site in a clean condition to avoid tracking of sediment onto public roads. • In all excavation activities, separate subsoils and topsoils and ensure that they are replaced in their natural configuration to assist revegetation. • During excavation activities, monitor for increases in salinity, reduce water inputs and remediate the site with salt tolerant vegetation. • Stockpile topsoil appropriately to minimise weed infestation, maintain soil organic matter, and maintain soil structure and microbial activity. • Manage works in consideration of heavy rainfall events. • Areas of disturbed soil would be rehabilitated promptly and progressively during construction.			

SO2	A Groundcover Management Plan would be developed in consultation with a soil scientist and/or an agronomist and taking account of soil survey results to ensure perennial grass cover is established across the site as soon as practicable after construction and maintained throughout the operational phase. The plan would cover:
	• Soil restoration and preparation requirements.
	• Species selection.
	• Soil preparation.
	• Establishment techniques.
	• Maintenance requirements.
	• Perennial groundcover targets, indicators, condition monitoring, reporting and evaluation arrangements:
	  ○ Live grass cover would always be maintained at or above 70% to protect soils, landscape function and water quality.
	  ○ Any grazing stock would be removed from the site when cover falls below this level.
	  ○ Grass cover would be monitored on a fortnightly basis using an accepted methodology.
	• Contingency measures to respond to declining soil or groundcover conditions.
	• Identification of baseline conditions for rehabilitation following decommissioning.
		Pre- construction		

SO3	The array would be designed to allow sufficient space between panels to establish and maintain ground cover beneath the panels and facilitate weed control.	**Design Stage**		
SO4	A comprehensive Emergency Response Plan (ERP) would be developed for the site and specifically address foreseeable on-site and off-site emergency incidents. It would detail appropriate risk control measures that would need to be implemented to safely mitigate potential risk to soil, health and safety of firefighters and first responders in the case of a hazardous spill.	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
SO5	A Spill and Contamination Response Plan (SCRP) would be developed and implemented during construction, operation and decommissioning to prevent contaminants affecting adjacent surrounding environments. It would include measures to: • Manage the storage of any potential contaminants onsite. • Mitigate the effects of soil contamination by fuels or other chemicals (including emergency response and EPA notification procedures and remediation). A protocol would be developed in relation to discovering buried contaminants within the development site (e.g. pesticide containers, if any). It would include stop work, remediation and disposal requirements.	**C**	**O**	**D**
SO6	Any area that was temporarily used during construction (laydown and trailer complex areas) would be restored to original condition or revegetated with native plants.	**C**	**O**	**D**
SO7	Sodic soil should be treated with gypsum where required.	**C**		
SO8	Best Management Practices (BMPs) should be employed where applicable to reduce the risk of erosion and sedimentation: • Preserve and stabilise disturbed areas, drainageways and steep slopes. • Minimise the extent and duration of disturbance. • Install perimeter controls. • Employ the use of sediment control measures to prevent off- and on-site damage. Inspect and maintain sediment and erosion control measures regularly. • Control stormwater flows onto, through and from the site in stable drainage structures. Protect inlets, storm drain outlets and culverts. Provide access and general construction controls.	**C**	**O**	**D**
WA1	All staff would be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	**C**	**O**	**D**
WA2	All fuels, chemicals, and liquids would be stored at least 50 m away from any waterways or drainage lines and would be stored in an impervious bunded area.	**C**	**O**	**D**
WA3	Adequate incident management procedures would be incorporated into the Construction and Operation Environmental Management Plans, including requirement to notify EPA for incidents that cause material harm to the environment (refer s147-153 Protection of the Environment Operations Act).	**C**	**O**	**D**
WA4	The refuelling of plant and maintenance of machinery would be undertaken in impervious bunded areas.	**C**	**O**	**D**
WA5	Machinery would be checked daily to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff would be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	**C**		**D**
WA6	Erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with Managing Urban Stormwater: Soils & Construction (Landcom 2004).	**C**	**O**	**D**
WA7	Ensure appropriate drainage controls are incorporated into the design.	**Design stage**		

No.	Safeguards and mitigation measures	C	O	D
WA8	If groundwater is to be intercepted at any stage of the development the proponent must obtain the relevant entitlement and approval where required prior to any extraction.	**C**	**O**	**D**
WA9	The proponent must obtain relevant approvals and licences under the *Water Management Act 2000* before commencing any works which intercept or extract groundwater or surface water (including from on-site dams where necessary) or for any works which have the potential to alter the flow of floodwaters.	**C**	**O**	**D**
WA10	The proponent must adhere to the Murrumbidgee Irrigation Development Rules and Drainage Rules.	**Design Stage**		
TT1	A Haulage Plan would be developed in consultation with Council and implemented during construction and decommissioning, including but not limited to: • Assessment of road routes to minimise impacts on transport infrastructure and ensure the most appropriate traffic route. • Direction of traffic flow (both heavy and light). • Loads, weights and length of haulage and construction related vehicles and the number of movements of such vehicles. • Scheduling of deliveries of major components to minimise safety risks (on other local traffic). • Traffic controls (signage and speed restrictions etc.). • Consultation requirements with the local community (including bus operators and other transport businesses) to advise of higher use of the roads.	**C**	**O**	**D**
TT2	A Traffic Management Plan would be developed and implemented during construction and decommissioning. The plan would be prepared in consultation with the relevant road authority and the appointed transport contractor. The plan would include, but not be limited to: • Prior to construction, a pre-conditioning survey of the relevant sections of the existing road network to be undertaken in consultation with Council. • Assessment of road condition prior to construction on all local roads that would be utilised. • The designated routes and vehicular access of construction traffic (both light and heavy) to the site. This will include the management and coordination of movement of vehicles for construction and worker related access to limit disruptions to other motorists, emergency vehicles, school buses and other public transport. • Proposed hours for construction activities (including any night-time activities). • Procedure for informing the public where any road access will be restricted as a result of the project. • The designated routes of construction traffic to the site. • Carpooling/shuttle bus arrangements to minimise vehicle numbers during construction. • Scheduling of deliveries.	**C**		**D**

No.	Safeguards and mitigation measures	C	O	D
	• Community consultation regarding traffic impacts for nearby residents. • Consideration of cumulative impacts. • Procedure to monitor traffic impacts and adapt controls (where required) to reduce the impacts. • Details of measures to be employed to ensure safety of road users and minimise potential conflict. • A driver Code of Conduct to address such items as appropriate driver behaviour including adherence to all traffic regulations and speed limits, driver fatigue, safe overtaking and maintaining appropriate distances between vehicles, etc. and appropriate penalties for infringements of the Code. • Details of procedures for receiving and addressing complaints from the community concerning traffic issues associated with truck movements to and from the site. • Providing a contact phone number to enable any issues or concerns to be rapidly identified and addressed through appropriate procedures. • Water to be used on unsealed roads to minimise dust generation through increased traffic use. Following construction, a post condition survey of the relevant sections of the existing road network to be undertaken to ensure it is of similar condition to that prior to construction.			
TT3	Obtain a Section 138 Consent from the relevant council/agency to perform works within the road reserve.	**C**		
TT4	The proponent would continue consultation with Leeton Shire Council regarding the proposed site access locations on Toorak Road and Research Road. The intersection upgrades would be subject to detailed design and would be designed and constructed to the relevant Australian road design standards.	**Design Stage**		
TT5	The proponent would consult with RMS, ~~Crown Lands~~ Department of Industry (Lands and Water), Murrumbidgee Irrigation and Leeton Shire Council regarding any road upgrades. Upgrades would be subject to detailed design and would be designed and constructed to the relevant Australian road design standards.	**Design Stage**		
TT6	The proponent must engage an appropriately qualified person to prepare a Road Dilapidation Report for all road routes to be used during the construction (and decommissioning) activities, in consultation with the relevant road authority. This report is to address all road related infrastructure. Reports must be prepared prior to commencement of, and after completion of, construction (and decommissioning). Any damage resulting from the construction (or decommissioning) traffic, except that resulting from normal wear and tear, must be repaired at the Proponent's cost. Such work shall be undertaken at a time agreed upon between the Proponent and relevant road authorities.	**Pre-construction**		**D**
TT7	Prior to the commencement of construction on-site, the Proponent must undertake all works to upgrade relevant state roads, their associated road reserve and any public infrastructure in that road reserve, to a standard suitable for use by heavy vehicles to meet any reasonable requirements that may be specified by RMS. The design and specifications, and construction, of these works must be completed and certified by an appropriately qualified person to be to a standard to accommodate the traffic generating requirements of the	**Pre-construction**		**D**

No.	Safeguards and mitigation measures	C	O	D
	project. On Classified Roads the geometric road and pavement design must be to the satisfaction of the RMS.			
TT8	For works on the State Road network the developer is required to enter a Works Authorisation Deed (WAD) with RMS before finalising the design or undertaking any construction work within or connecting to the road reserve. The WAD documentation is to be submitted for each specific change to the state road network for assessment and approval by RMS prior to commencement of any works within the road reserve.	**Pre-construction**		
TT9	Glint and glare from the solar panels shall not cause a nuisance, disturbance or hazard to the travelling public on the public road network. In the event of glint or glare from the solar plant being evident from a public road, the proponent shall immediately implement glare mitigation measures such as construction of a barrier (e.g. fence) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.	**C**	**O**	**D**
AQ1	Development of a complaints procedure to promptly identify and respond to issues generating complaints.	**C**	**O**	**D**
AQ2	Protocols to guide vehicle and construction equipment use, to minimise emissions would be included in construction and operational environmental management plans. This would include but not be limited to Australian standards and POEO Act requirements.	**C**	**O**	**D**
AQ3	Dust will be monitored and managed to prevent it leaving the development site. This includes covering loads and watering of unsealed roads and stockpiles.	**C**	**O**	**D**
AQ4	Monitor local weather conditions and manage the site if any conditions will exacerbate air quality (e.g. wind).	**C**		**D**
AQ5	Fires and material burning are prohibited on the development site.	**C**	**O**	**D**
AQ6	Maintain a 30 m buffer from solar infrastructure to nearby and adjacent agricultural activities.	**Design Stage**		
HA1	Dangerous or hazardous materials would be transported, stored and handled in accordance with AS1940-2004: *The storage and handling of flammable and combustible liquids,* and the ADG Code where relevant. All potential pollutants kept on-site would be stored in accordance with relevant HAZMAT requirements and bunded.	**C**	**O**	**D**
HA2	The design, storage, maintenance and transportation of new and waste lithium-ion batteries would comply with the requirements of the Dangerous Goods Code, including specific 'special provisions' and 'packing instructions' applying to the transportation of Li-ion batteries.	**C**	**O**	**D**
HA3	All design and engineering would be undertaken by qualified competent persons with the support of specialists as required.	**C**		
HA4	All electrical equipment would be designed in accordance with relevant codes and industry best practice standards in Australia.	**C**		
HA5	Design of electrical infrastructure to minimise EMFs through the solar array (underground).	**C**		
HA6	A Bush Fire Management Plan would be developed and implemented during construction, operation and decommissioning, with input from the local RFS centre, and include but not be limited to: • Management of activities with a risk of fire ignition.	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D

	• Management of fuel loads onsite.
	• Storage and maintenance of firefighting equipment, including siting and provision of adequate water supplies for bush fire suppression.
	• 24-hour emergency contact details including alternative telephone contact.
	• Site infrastructure plan.
	• Firefighting water supply plan.
	• Site access and internal road plan.
	• Construction of asset protection zones, fire trails, access for firefighting and on-site suppression equipment and their continued maintenance.
	• Location of hazards (physical, chemical and electrical) that will impact on the firefighting operations and procedures to manage identified hazards during the firefighting operations.
	• Such additional matters as required by the NSW RFS District Office.
	• The below requirements of Planning for Bush Fire Protection 2006:
	  ○ Identifying asset protection zones.
	  ○ Providing adequate egress/access to the site.
	  ○ Emergency evacuation measures.
	• Operational procedures relating to mitigation and suppression of bush fire relevant to the solar farm.			

HA7	A comprehensive Emergency Response Plan (ERP) would be developed and implemented during construction, operation and decommissioning, and include but not be limited to: • Address foreseeable on-site and off-site fire events or other emergency incidents (such as fires involving solar panel arrays, bushfires in the immediate vicinity) or potential hazmat incidents. • Details appropriate risk control measures that would need to be implemented to safely mitigate potential risk to the health and safety of firefighters and other first responders. • Such measures will include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures to be instigated, minimum evacuation zone distances and a safe method of shutting down and isolating the PV system (either in its entirety or partially, as determined by risk assessment). • Other risk control measures that may need to be implemented in a fire emergency due to any unique hazards specific to the site. • Include details on how the battery storage system and sub-systems can be safety isolated in an emergency. • Be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*. • Be prepared in consultation with Fire and Rescue NSW and NSW Rural Fire Service to their satisfaction. Two copies of the ERP will be stored in a prominent location in a position directly adjacent the main entry point.	**C**	**O**	**D**
HA8	To allow for emergency service personnel to undertake property protection activities, a 10 m defendable space managed as an Asset Protection Zone (APZ)	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
	shall be provided around the buildings, switching station, battery storage units, the outside perimeter of the solar array, and all areas of unmanaged vegetation being retained within the site.			
HA9	A 20,000-litre water supply (tank) fitted with a 65mm Stortz fitting shall be located adjoining the internal property access road within the required APZ.	**C**	**O**	**D**
HA10	Once constructed and prior to operation, the operator of the facility will contact the relevant local emergency management committee (LEMC).	**C**	**O**	
HA11	All chemicals and fuels used on-site must be stored and handled in accordance with: • The requirements of all relevant Australian Standards; and • The NSW EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids*. In the event of an inconsistency, the most stringent requirement must prevail to the extent of the inconsistency.	**C**	**O**	**D**
HA12	A Fire Safety Study (FSS) be prepared for the energy storage facility (ESF) part of the site and submitted to FRNSW for review and determination prior to the construction of the ESF. The FSS should be developed in consultation with and to the satisfaction of FRNSW.	**C**		
HA13	The entire solar array development footprint shall be managed as an APZ, and all access and internal roads shall comply with specifications as outlined within section 4.1.3 of *Planning for Bush Fire Protection 2006* and the NSW RFS document *Standards for asset protection zones*.	**C**	**O**	**D**
WM1	A Waste Management Plan (WMP) would be developed and implemented during construction, operation and decommissioning to minimise wastes. It would include, but not be limited to: • Identification of opportunities to avoid, reuse and recycle, in accordance with the waste hierarchy. • Quantification and classification of all waste streams. • Provision for recycling management onsite. • Provision of toilet facilities for onsite workers and how sullage would be disposed of (i.e., pump out to local sewage treatment plant). • Tracking of all waste leaving the site. • Disposal of waste at facilities permitted to accept the waste. • Requirements for hauling waste (such as covered loads). • Disposal of existing orange trees and grape vines. Leeton Shire Council does not approve burning or delivery of trees to Leeton Landfill. Orange trees and grape vines should be shredded and used onsite. If the quantity of the waste exceeds the onsite requirements, it would be disposed of at a composting facility. • A Rehabilitation and Decommissioning Management Plan would be developed to manage all solar farm infrastructure in reference to the waste hierarchy and remove all contamination from site (refer Safeguard and Mitigation Measure LU3).	**C**	**O**	**D**
HH1	Should an item of historic heritage be identified, the Heritage Division (OEH) would be contacted prior to further work being carried out in the vicinity.	**C**	**O**	**D**
HH2	Should any skeletal remains be found, works will cease immediately, the area cordoned off and the Police contacted.	**C**	**O**	**D**

4 ADDITIONAL INFORMATION

4.1 STATE ENVIRONMENTAL PLANNING POLICY (PRIMARY PRODUCTION AND RURAL DEVELOPMENT) 2019

The new *State Environmental Planning Policy* (*Primary Production and Rural Development) 2019*, known as the PPRD SEPP, is a new framework that commenced on 28 February 2019. The new framework simplifies the NSW planning system by consolidating, updating and repealing provisions in five former agriculture-themed SEPPs, including the previously repealed *State Environmental Planning Policy (Rural Lands) 2008* (The Rural Lands SEPP). The intention is to provide for better outcomes in balancing rural needs, including farming, and development, and to reduce the risk of land use conflict and rural land fragmentation. Many of the provisions in the repealed SEPPs were local-level land use planning matters, which have now been transferred to Local Environmental Plans. This aims to ensure local industry and community have greater access to and awareness of the agricultural land use planning provisions that apply. The intent of the new SEPP is to deal with agricultural land use matters of State or regional significance only.

The aims of the PPRD SEPP are:

(a) to facilitate the orderly economic use and development of lands for primary production,

(b) to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources,

(c) to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,

(d) to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts,

(e) to encourage sustainable agriculture, including sustainable aquaculture,

(f) to require consideration of the effects of all proposed development in the State on oyster aquaculture,

(g) to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors.

The objectives of Part 2 (State Significant Agricultural Land) of the PPRD SEPP are as follows:

(a) to identify State significant agricultural land and to provide for the carrying out of development on that land,

(b) to provide for the protection of agricultural land:

i. that is of State or regional agricultural significance, and

ii. that may be subject to demand for uses that are not compatible with agriculture, and

iii. if the protection will result in a public benefit.

Land that is considered State Significant Agricultural Land is listed in Schedule 1 of the Primary Production SEPP. Schedule 1 of the SEPP is currently incomplete/blank, with mapping yet to be completed or publicly available (*pers comm* DPI 12/06/19). As such, reference to the significance of agricultural land from Schedule 2 of the previously repealed Rural Lands SEPP is applied.

4.2 HISTORIC HERITAGE UNEXPECTED FINDS PROCEDURE

An unexpected heritage item means any unanticipated discovery of an actual or potential heritage item, for which the Proponent does not have prior approval to disturb or does not have a safeguard in place to manage the disturbance.

These discoveries are categorised as either:

a) Historic/non-Aboriginal heritage items; and
b) Human skeletal remains

If any of the above items are suspected or identified during construction activities, then a series of steps must be followed. These are outlined below:

1. all work should cease in that area and notify a Project Manager or Supervisor immediately of the find;
2. A 'no-go' zone should be established around the find, using visibility fencing (where applicable);
3. Inform all on-site personnel and staff of the find and the demarcated 'no-go' zone;
4. Contact a qualified archaeologist/heritage consultant to inspect the find and provide recommendations.
5. In the event that human remains are identified, complete steps 1-3. Replace Step 4 by immediately contacting the local police to investigate if the find relates to a criminal investigation. The police may take command of part or all of the site.
6. Once clearance of the site has been given by either the qualified archaeologist/heritage consultant then works may proceed within the 'no-go' zone UNLESS specifically instructed by the professional that no further works can be completed.

4.3 IMPACT ASSESSMENT FOR OPERATIONAL WATER USE

The existing licensed groundwater bore, WAL number 11905, would be used for all operational water requirements of the proposal. During operation, it is expected that approximately 54 kL of water would be required annually. The selected groundwater bore (WAL number 11905) approval has an annual extraction volume of 100 ML. The proportion of operational water required by the proposal is 0.054% of the current 100 ML annual allowance.

It is unlikely that there would be an issue accessing the required volume of 54 kL annually under the current approval. The minor annual extraction is unlikely to impact other water users and the environment under the current water sharing plan.

The approved bore is located in Lot 147 DP 751745 and is approved under the Lower Murrumbidgee Groundwater Sources water sharing plan. The following plan conditions that relate to the take of water under the water sharing plan are detailed in Table 4-1:

Table 4-1 Plan conditions and response.

Reference number	Plan condition	Response
NS12562	Notwithstanding the volume of water held in any associated aquifer access license, the volume of groundwater extracted annually from the approved works should not exceed 100 ML.	The annual extraction required by the proposal during the operational period would be 54 kL or 0.054% of the annual allocation of 100 ML.

NS12563	Groundwater usage, including the rate and manner in which water is applied, shall be consistent with the conditions of the MIA Land and Water Management Plan.	Water would be used for staff amenities at the control and maintenance building and for panel cleaning. The Water Sharing Plan for the Lower Murrumbidgee Groundwater Sources 2003 is governed by the *Water Management Act 2000*. The water use would conform to the Water Management Principles under the *Water Management Act 2000* in Part 1, Division 1, Section 5 (4 a-c). *(4) In relation to water use:* *(a) water use should avoid or minimise land degradation, including soil erosion, compaction, geomorphic instability, contamination, acidity, waterlogging, decline of native vegetation or, where appropriate, salinity and, where possible, land should be rehabilitated, and* *(b) water use should be consistent with the maintenance of productivity of land in the long term and should maximise the social and economic benefits to the community, and* *(c) the impacts of water use on other water users should be avoided or minimised.*
NS12564	The work must not be constructed closer than: a) 40 m from the high bank of any creek or river b) 200 m for any property boundary without consent from the owners of adjacent land c) 200 m from any wetland d) 200 m from any high priority groundwater dependent ecosystem e) 500 m from a Department of natural resources observation bore f) 500 m from any works authorised to extract water from the same aquifer or shallow source g) 50 m from Murrumbidgee Irrigation's supply channel/canal	The bores on the property are existing and co-located with the pump stations that draw MI water from the Gogeldrie Branch Canal. The bores are co-located so that the different sources of water can be mixed together. The location of the bores was approved by the then Department of Land and Water Conservation (DLWC).
NS12566	The pumped groundwater shall not be discharged into Murrumbidgee Irrigation's drainage or supply system, and any recycle system must include a storage dam.	Water would be used for staff amenities at the control and maintenance building and for panel cleaning. Water from the staff amenities would be treated in a septic tank installed in line with Leeton Shire Council requirements. Water used for panel cleaning would be minimal and as required. Some solar plants are never cleaned, others require multiple cleanings annually. The annual extraction of around 54 kL would not be pumped into MI drainage or supply systems.

		Sewage would be treated in the septic system and released through that process. Water used for panel cleaning would be absorbed into the soil surface.
NS12567	Groundwater usage including the rate and manner in which water is applied should be less than 7 ML/ha otherwise a demonstration of best management practice will be required.	The proposal would use approximately 54 kL annually across the 210 ha site.

4.4 GROUNDWATER USE DURING CONSTRUCTION AND OPERATION

Groundwater would be used during the construction and operation of the proposal. The groundwater would be sourced from the existing licensed groundwater bore (WAL number 11905) located in Lot 147 DP 751745 and is approved under the Lower Murrumbidgee Groundwater Sources water sharing plan. It has an annual allocation of 100 ML. The proponent would source the water from the northern bore, refer to Figure 1-5.

Construction of the proposal would take approximately 10 months to complete. During this period, it is expected that approximately 38 ML of water would be required, primarily for dust suppression on unsealed roads and for the construction of new roads. The 38 ML would be extracted from groundwater bore WAL number 11905. It would account for approximately 38% of the maximum annual licensed extraction volume.

During operation of the proposal, it is expected that approximately 54 kL would be required annually for staff amenities and panel cleaning when required. The 54 kL would be extracted from the groundwater bore WAL number 11905. It would account for approximately 0.054% of the maximum annual licensed extraction volume.

4.5 PROPOSED SUBDIVISION

As referred to in the Amendment Report, a proposed subdivision of land (Appendix D) was submitted to Leeton Shire Council for consideration and approval. The subdivision would create an allotment, less than the prescribed minimum lot size of 150 ha, within Lot 146 DP 751745. There would be no proposed new dwelling. The proposed new lot (0.38 ha) would be allocated to the switching station for management by TransGrid. The residual lot (19.93 ha) would be for the purpose of the solar farm. Council does not object to the proposed subdivision.

APPENDIX A SUBMISSIONS

Department of Industry

OUT19/5521

Elle Donnelley
Senior Planner
Resource & Energy Assessments
NSW Department of Planning and Environment

Elle.Donnelley@planning.nsw.gov.au

Dear Ms Donnelley

Yanco Solar Farm (SSD 9515)
EIS Exhibition

I refer to your email of 18 April 2019 to the Department of Industry (DoI) about the above matter.

The following advice for you to consider is from relevant branches of Lands & Water and Department of Primary Industries.

DoI – Water and Natural Resources Access Regulator

Recommendations Prior to Project Determination

- Confirmation that the proposed groundwater source for the construction period can meet the necessary demand and that there is a commitment from the existing license holder to make the water available.
- An impact assessment on the existing licensed stock and domestic bore should be completed for the operational period. This is to include an assessment of the ability to access the required volumes and the impacts on water users and the environment. The location and proposed use of the bore needs to be consistent with the rules of the relevant water sharing plan.
- The EIS should be updated to reflect the use of groundwater during construction and ongoing operation of the proposal.

Recommendations Post Project Determination

- The proponent must obtain relevant approvals and licences under the *Water Management Act 2000* before commencing any works which intercept or extract groundwater or surface water (including from on-site dams where necessary) or for any works which have the potential to alter the flow of floodwaters.
- The proponent should prepare a Soil and Water Management Plan and Erosion and Sediment Control Plan in consultation with Department of Industry – Lands and Water.

DoI – Lands

- Toorak Road is identified in the proposal as the primary access road. This road is a shared Council/Crown Road, Leeton Shire Council is the dedicated road authority under the provisions of the *Roads Act 1993*. Notification should be provided to DoI - Lands and Water of any works on Toorak Road, with Leeton Shire Council being the consent authority for any road works.

DPI Agriculture

The DPE's *Large Scale Solar Energy Guideline for State Significant Developments*, highlights areas of constraint for site selection as being *"important agricultural lands, including Strategic Agricultural Land (both critical industry clusters and biophysical strategic agricultural land), and land with soil capability classes 1, 2 and 3".*

While the EIS makes reference to this Guideline (including Table 2.1 and on p137), the justification to support the proposed development despite it being located in an area of constraint, is that the development footprint of 183 Ha represents 0.01% relative to the 1,700,000 Ha of the Murrumbidgee Irrigation Area and that the land is not being permanently removed from production.

We note that irrigated land within the MIA is actually only 660,000 Ha. In addition the development site includes land and soil capability class 3 land and is primarily an irrigated cropping landscape. High capability land that has access to irrigation is a scarce and valuable resource in NSW. The reality is that the subject land will be taken out of production and out of active agricultural management, for a period of 30 years and quite possibly beyond, depending on the electricity market and technologies at the time. Ideally, this proposed development should be sited elsewhere so that this land continues to be available for agriculture.

Other comments in relation to the EIS include:

- The SEPP referred to in section 4.2.9 of the EIS was repealed in early 2019 and a new SEPP is now in force that deals with primary production and rural land matters titled *State Environmental Planning Policy (Primary Production and Rural Development)* 2019. As such it should be referenced in the EIS, not the repealed SEPP.

- The EIS identifies (in *Soil Resources xxv*) the heightened potential for soil erosion to occur as a result of solar panels concentrating runoff onto Chromosol soils, which are erosion prone. The proponents plan to mitigate this risk via a soil and water management plan and an erosion and sediment control plan, is noted.

- It is stated in 3.7 DECOMMISSIONING AND REHABILITATION, that decommissioning would aim to return the site to its pre-works state, specifically irrigated agriculture. This objective is noted and endorsed, however the following action in 3.7.2 *"Posts and cabling would be removed and recycled, equipment below this depth, such as cabling, would be left in situ "* is not consistent with this objective. All infrastructure should be removed, including underground cabling, so as to return the land to its pre-project status.

- The SEARs provided by the Department and as referenced in the EIS includes the need for the proponent to seek feedback from Murrumbidgee Irrigation Ltd on the implications of stranded assets likely from cumulative impacts of more developments within the gazetted irrigation areas. Feedback from Murrumbidgee Irrigation Ltd has not been reported in the EIS and we suggest that this feedback be obtained prior to any approvals being given.

Please send any further referrals to Department of Industry by email to landuse.enquiries@dpi.nsw.gov.au.

Yours sincerely

Liz Rogers
Manager, Assessments
Lands and Water – Strategic Relations
17th May 2019

Subject: FW: Yanco Solar (SSD 9515) - Notice of Exhibition (Agencies) - Hazards and Risk

From: Irene Martin <Irene.Martin@planning.nsw.gov.au>
Date: Sunday, 19 May 2019 at 9:21 pm
To: Elle Donnelley <Elle.Donnelley@planning.nsw.gov.au>
Cc: Nicholas Hon <Nicholas.Hon@planning.nsw.gov.au>, Doris Yau <doris.yau@planning.nsw.gov.au>
Subject: FW: Yanco Solar (SSD 9515) - Notice of Exhibition (Agencies) - Hazards and Risk

Hi Elle,

Thank you for the opportunity to provide advice on the proposed development above.

In reviewing the information it is noted that:

- This project is for the construction and operation of a proposed 60MW photovoltaic solar farm at Yanco NSW.
- The development site is located on freehold rural land.
- The proposed Yanco Solar Farm will include battery storage units, electrical cables and conduits, inverter/transformer units, switching station and electrical transmission infrastructure.
- A new switching station, with control room and switchgear, would be constructed on the development area to connect the solar farm to a new powerline.
- The proposal includes approximately 57.12 MW rated capacity of battery storage, housed across the site in 17 customised containers.
- The site is not identified as bushfire prone and is defined as an area of potential flood storage area.

The dangerous goods to be stored and transported on site include fuel (petrol), pesticides and Lithium-ion batteries. The transport and storage of dangerous goods would not exceed SEPP 33 thresholds therefore the development is not potentially hazardous and a PHA is not required. An assessment of all potential hazards and risks including but not limited to bushfires, spontaneous ignition, electromagnetic fields was satisfactorily assessed. It is noted that the majority of incidents involve lithium-ion batteries; due to failure to adhere to packing and transport requirements.
The Applicant proposes to spread the battery units across 17 customised containers rather than in one large facility. The nearest sensitive receptor to any battery storage compound is at least 250m. The Applicant is also proposing to install reliable automated monitoring (voltage and temperature), alarm and shutdown response systems and the installation of integrated fire detection and fire suppression systems (inert gas).

Given the information above and within the EIS, it is considered that:

- An incident from each battery container is unlikely to escalate to other battery compounds;
- An incident from each battery compound is unlikely to significantly impact the closest residential receptor; and
- The Applicant proposes to install automated monitoring, alarm and shutdown response systems for emergency activation.

It is recommended that the following conditions be included in the consent to ensure continual safe operation of the SSD:

Limit of Consent

1. The battery energy storage system associated with the development must not exceed a total capacity of 57.12 MW and must be installed in an arrangement consistent with EIS Figure 3-7.

Storage and Handling of Hazardous Materials

2. The Applicant must store and handle all chemicals and fuels used on-site in accordance with:
    (a) the requirements of all relevant Australian Standards; and
    (b) the NSW EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Handbook* if the chemicals are liquids.

    In the event of an inconsistency between the requirements listed from (a) and (b) above, the most stringent requirement must prevail to the extent of the inconsistency.

Emergency Plan

3. Prior to commissioning of the development, the Applicant must develop and implement a comprehensive Emergency Plan and detailed emergency procedures for the development. The Applicant must keep two copies of the plan on-site in a prominent position adjacent to the site entry points at all times. The plan must:
    (a) include details on how the battery storage system and sub-systems can be safety isolated in an emergency;
    (b) be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*;
    (c) be prepared in consultation with Fire and Rescue NSW and NSW Rural Fire Service to their satisfaction;
    (d) identify the fire risks and controls of the development; and
    (e) include procedures that would be implemented if there is a fire on-site or in the vicinity of the site.

Should you require any clarification or further detail please do not hesitate to contact me.

Kind Regards

Irene Martin

7 May 2019

Elle Donnelly
Senior Planner – Resource & Energy Assessment
Department of Planning & Environment
GPO BOX 39
SYDNEY NSW 2001

Your Ref: SSD 9515
Our Ref: DOC19/368717

Emailed: elle.donnelly@planning.nsw.gov.au

Dear Ms Donnelly

Re: Yanco Solar Farm (SSD9515) – Environmental Impact Statement

Thank you for the opportunity to provide advice on the Environmental Impact Statement (EIS) for the Yanco Solar Farm (SS9515). This is a response from the Department of Planning & Environment – Division of Resources & Geoscience (the Division).

The Division has reviewed the EIS for the Yanco Solar Farm (SSD 9515) and acknowledges the proponent has undertaken a search of the MinView database and identified that no mining, exploration or extractive industries over or in the vicinity of the proposal site (refer to page *xxiii* of EIS).

The Division has no resource sterilisation concerns regarding the Project or additional issues to be addressed.

Queries regarding the above information should be directed to the Division of Resources & Geoscience - Land Use team at landuse.minerals@geoscience.nsw.gov.au.

Yours sincerely

Steven Palmer
Acting Manager – Land Use

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

From: Craig Bretherton
Sent: Tuesday, 23 April 2019 9:05 AM
To: Elle Donnelley
Subject: FW: Yanco Solar (SSD 9515) - Notice of Exhibition (Agencies)

Hi Elle

I refer to your electronic mail of 18 April 2019 to the Environment Protection Authority (EPA) requesting our comments on the Environmental Impact Statement for the proposed Yanco Solar Farm.

The EPA has responsibilities for pollution control and environmental management for scheduled activities under the *Protection of the Environment Operations Act 1997.* Based on the information provided the proposed development is not a scheduled activity under the *Protection of the Environment Operations Act 1997* and the solar farm does not require an Environment Protection Licence. Under the *Protection of the Environment Operations Act 1997* Leeton Shire Council will be the Appropriate Regulatory Authority for pollution control and environmental management issues for this proposal should it be approved.

On this basis the EPA has no further comments to make in relation to this proposal and requires no further consultation in relation to this application.

If you have any further enquiries about this matter please contact me by telephoning 02 6969 0700.

Thanks

Craig Bretherton
Manager Regional Operations
Riverina Far West Region
South & West Branch, NSW Environment Protection Authority
☎ 02 6969 0700 Mobile ☎ 0427 223 516
craig.bretherton@epa.nsw.gov.au www.epa.nsw.gov.au @EPA_NSW
Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555
Please send all official electronic correspondence to riverina.farwest@epa.nsw.gov.au

From: Fire Safety
Sent: Friday, 3 May 2019 10:59 AM
To: Elle Donnelley
Subject: FRNSW response to EIS Exhibition - Yanco Solar Farm (SSD 9515)

Dear Ms Donnelley,

Notice of Exhibition
Yanco Solar Farm (SSD 9515)

I refer to the submission of the Notice of Exhibition dated 18 April 2019 for the above development to Fire & Rescue NSW (FRNSW) for review and comment. Aspects of the proponent's Environmental Impact Statement have been reviewed and the following comments and recommendations are submitted for consideration.

Large scale solar farm developments are usually located within NSW Rural Fire Services' (RFS) fire districts. Notwithstanding, in the event of either a significant fire event or hazardous material incident (hazmat), FRNSW will be responded to either assist the RFS or to fulfill the role of the designated hazmat combat agency.

It is FRNSW experience that large-scale photovoltaic installations and associated battery energy storage solutions (BESS) present unique hazards and risks to our personnel when fulfilling their emergency duties. It is highlighted that the Fire and Rescue NSW Act 1989 (the Act) imposes specific statutory functions and duties upon the Commissioner of FRNSW. Section 6 of the Act requires the Commissioner to take all practicable measures for preventing and extinguishing fires and protecting and saving life and property within a FRNSW fire district. Section 6 of the Act also requires the Commissioner to protect and save life and property endangered by hazmat incidents and for confining a hazmat incident and for rendering the hazmat site safe.

In addition, the Work Health and Safety (WHS) Act 2011 (and its subordinate Regulation) classify FRNSW as a person (entity) conducting a business or undertaking (PCBU). Clauses 34 and 35 of the WHS Regulation impose specific obligations upon a PCBU to identify hazards and manage risks at workplaces. A site involved in fire or hazmat incident is deemed to be a FRNSW place of work.

Due to the electrical and fire hazards associated with large scale photovoltaic installations and the potential risk to the health and safety of firefighters, both FRNSW and the NSW Rural Fire Service must be able to implement effective and appropriate risk control measures when managing an emergency incident at the proposed site.

In the event of a fire or hazardous material incident, it is important that first responders have ready access to information which enables effective hazard control measures to be quickly implemented. Without limiting the scope of the emergency response plan (ERP) requirements of Clause 43 of the Work Health and Safety Regulation 2000 (the Regulation), the following matters are recommended to be addressed:

1. That a comprehensive ERP is developed for the site.

2. That the ERP specifically addresses foreseeable on-site and off-site fire events and other emergency incidents (such as fires involving solar panel arrays, battery energy storage systems, bushfires in the immediate vicinity) or potential hazmat incidents.

3. That the ERP details the appropriate risk control measures that would need to be implemented to safely mitigate potential risks to the health and safety of firefighters and other first responders (including electrical hazards).

   Such measures will include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures to be instigated, minimum evacuation

zone distances and a safe method of shutting down and isolating the photovoltaic system (either in its entirety or partially, as determined by risk assessment).

4. Other risk control measures that may need to be implemented in a fire emergency (due to any unique hazards specific to the site) should also be included in the ERP.

5. That two copies of the ERP (detailed in recommendation 1 above) be stored in a prominent 'Emergency Information Cabinet' located in a position directly adjacent to the site's main entry point/s.

6. Once constructed and prior to operation, that the operator of the facility contacts the relevant local emergency management committee (LEMC). The LEMC is a committee established by Section 28 of the State Emergency and Rescue Management Act 1989. LEMCs are required to be established so that emergency services organisations and other government and non-government agencies can proactively develop comprehensive inter agency local emergency procedures for significant hazardous sites within their local government area. The contact details of members of the LEMC can be obtained from the relevant local council.

7. As a Condition of Consent that a Fire Safety Study (FSS) be prepared for the BESS part of the site and submitted to FRNSW for review and determination. The FSS should be developed in consultation with and to the satisfaction of FRNSW.

For further information please contact the Fire Safety Infrastructure Liaison Unit, referencing FRNSW file number BFS19/1345. Please ensure that all correspondence in relation to this matter is submitted electronically to firesafety@fire.nsw.gov.au.

Regards,

Administration Officer
Fire Safety Administration Unit
Community Safety Directorate | Fire and Rescue NSW
T: (02) 9742 7434
1 Amarina Ave, Greenacre, NSW 2190 | Locked Bag 12, Greenacre, NSW 2190

JK/EF10/210

22 May 2019

LEETON SHIRE COUNCIL

Elle Donnelley, Senior Planner
Resource & Energy Assessments
NSW Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Email: Elle.Donnelley@planning.nsw.gov.au

Dear Madam

SUBJECT: YANCO SOLAR FARM (SSD 9515) EIS EXHIBITION

Further to the Notice of Exhibition of the Yanco Solar Farm proposal Leeton Shire Council (Council) resolved at its meeting on 1 May 2019 to submit its objections to this development application (See below in Section 1).

In the circumstance that NSW Planning and Environment Department grant development approval, Council strongly recommends the inclusion of a series of conditions of consent in response to the Environmental Impact Statement dated March 2019 from NGH Environmental (See below in Section 2).

1. Development Application Objections

1.1. Loss of Prime Irrigated Agriculture Land

Council wishes to express in the strongest possible terms its concerns about the loss of prime (irrigated) agricultural land within Leeton Shire, which is the foundation of our local and regional economy.

Council believes that the proposed development constitutes a risk to the viability and sustainability of Murrumbidgee Irrigation water infrastructure, compromising both the future availability of irrigation infrastructure and the short and long-term potential impacts of stranded on-farm irrigation infrastructure.

These concerns have not been alleviated by the socioeconomic analysis which we consider flawed. In particular, it appears that the assets and intrinsic value of the site (irrigated agricultural land, existing road, water supply infrastructure proximity to value adding industry and major transport routes) have not been taken into consideration and instead the land has been viewed as being less productive general agricultural land.

The main issue with this analysis is that the particular parcel of land is highly productive when given to irrigated agricultural uses.

Note:

The differential establishment costs between locating the solar farm on highly productive land versus the closest broadacre comparator were not considered in the analysis.

Council recommends that before further consideration is given toward assessing the proposed development a further socioeconomic and community assessment should be undertaken by the proponent that considers the increased productivity potential of this highly developed agricultural land and assets, including the multiplier effect of the value adding of the agriculture commodities produced on this site against the value of converting this land to solar production.

1.2 The economic impact statement makes reference to the region as being very low on the SEIFA scale and having high unemployment and a pool of available labour.

- This is inconsistent with the analysis in the Western Riverina Regional Economic Development Strategy which shows relatively low levels of unemployment across all Western Riverina Local Government Areas (LGA's), with reference rates for the whole of NSW.

1.3 The economic impact statement also suggests that the operational requirements for the solar farm would be more labour intensive than for use as irrigated agricultural land.

This is based on advice from the proponent only. Council contends that upon completion of construction of the solar farm, there is limited labour requirements to manage and maintain the facility. This is opposed to irrigated agriculture whereby there is ongoing labour required to manage and maximise crop production and additional labour associated with value adding manufacturing related to the crops grown.

The economic impact statement also makes the case that the solar farm would be a tourism generator for the region without providing evidence of this. This is a tenuous argument as even if one were to accept the argument that solar farm tourism exists, it would be expected that most (all) visitors would be from NSW (school camps for example) and as such, there would be no economic activity created in the state (activity would be diverted from other regions in the state).

The report also does not justify the claims that there will be a positive impact on NSW welfare from the move to the solar farm. Council contends that changing this parcel from highly productive agricultural uses to a less productive site for the solar farm would likely result in higher welfare overall.

1.4 In its SEARS submission Council requested detailed comment on a comparison of the value the economic return expected to be generated by the establishment and operation of the solar farm over the period of time that the solar farm is expected to exist with the economic value from the production and value adding of horticulture produced over the site over the period of time that the solar farm is expected to exist.

This issue has not been addressed in the EIS.

1.5 The positive economic effects mentioned in the EIS from the 4 month construction phase is not considered sufficiently compelling given the long term economic benefits to the wider community from the agricultural production from the mature horticulture plantings that exist on the site and the broad positive multiplier effects that are created from the existing agricultural use of the land.

Council does not accept the short term gains espoused under 2.2.4 Local Benefits as being justification for the development.

1.6 The EIS mentions on page 178 that "*there would be no removal of irrigation channels throughout the proposed site*" but does not mention or assess the effect of the development on adjoining upstream or downstream customers of Murrumbidgee Irrigation who may still rely upon these channels for water delivery.

There is no discussion or assessment of the possible effects, resulting from the cessation of irrigation practises on the lots on which the proposed development, on the ability of Murrumbidgee Irrigation to deliver irrigation water in this location.

1.7 Application of State Environmental Planning Policy (Primary Production & Rural Development) 2019

The EIS does not address the Primary Production & Rural Development 2019 SEPP and instead mentions the previous Rural Lands SEPP 2008.

The Primary Production & Rural Development 2019 SEPP has been introduced with the following aims;

- to facilitate the orderly economic use and development of lands for primary production,
- to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources,
- to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,
- to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts,
- to encourage sustainable agriculture, including sustainable aquaculture,
- to require consideration of the effects of all proposed development in the State on oyster aquaculture,

- to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors.

State significant land is to be protected when;

i) The land may be subject to demand for uses that are not compatible with agriculture, and

ii) If the protection will result in a public benefit.

At this point in time there is no state significant agricultural land listed under this SEPP. It is understood by Council that the Murrumbidgee Irrigation Area has been included in a draft map of State Significance Agricultural land for potential future inclusion in the SEPP.

Council considers this region to be highly developed and serviced (existing irrigation infrastructure, suitable soils and climate, highly valued irrigation based crops, existing support infrastructure such as roads and power, proximity of value adding industries, established national and international markets and existing transport routes) and a such expect that into the near future this area will being listed as State Significance Agricultural land in the SEPP.

The loss, however small, of this land from agriculture production cannot result in a public benefit given the traditional multiplier effects associated with modern irrigated agriculture.

2. Recommended Conditions of Consent

Should NSW Planning & Environment resolve to grant consent to this development, Council would require that the following recommended conditions of consent be applied to the approval;

2.1. Traffic Transport and Road Safety

As a condition of consent it is recommended that the developer consult and liaise with Council on the preparation of the Haulage Plan in order that the following issues be addressed;

2.1.1. Road damage

To ensure that an appropriate mechanism is agreed to that will result in any damage caused to local roads during the construction and decommission phases of the development will be repaired by the developer.

2.1.2. Transport routes

To ensure that the most appropriate transport routes are used and that the local community can be advised of the higher use of these roads during the construction and decommission.

2.1.3. Appropriate Method of transport and delivery vehicles.

To ensure that appropriate delivery transport vehicles are used during the construction and decommission phases as the site is remote from any existing B-Double or Road train routes.

2.2. Developer Contributions

On page 159 of the EIS the following statement is provided;

"*The developer will also engage with Leeton Shire Council to investigate a developer contribution payment if the proposal is approved, which may fund the delivery of community infrastructure and programs.*"

Council would therefore seek to ensure that the consent details a formal and binding process that will result in the developer providing an appropriate level of contributions in support of local infrastructure and programs

2.3. Maintaining of Irrigation Infrastructure

The approval must contain actions that will guarantee certainty to adjoining agricultural businesses that supply of irrigation water will not be effected by the development and that the current supply infrastructures servicing these businesses will not be affected.

2.4. Landscaping Plan

The landscaping plan and plantings are to be established prior to the development of the site

2.5. Waste Management

The proposed Waste Management Plan must include actions on the disposal of the exiting orange trees and grape vines. Council would require that these trees and vines be shredded and used onsite and does not approve either their disposal by onsite burning or delivery to the Leeton Landfill.

Yours faithfully

Paul Maytom
Mayor

Jackie Kruger
General Manager

From: Timothy Olliver
Sent: Friday, 10 May 2019 2:45 PM
To: Elle Donnelley
Subject: RE: Yanco Solar (SSD 9515) - Notice of Exhibition (Agencies)

Hi Elle,

Thanks for the referral.
There are no concerns in relation to State Heritage for this proposal. DPE no longer needs to refer this proposal (or future modifications) to the Heritage Council.
NB other divisions of OEH may respond in relation to Biodiversity or Aboriginal Cultural Heritage.

Kind regards,

NSW GOVERNMENT Office of Environment & Heritage

Tim Olliver
Heritage Operations Officer
Regional Heritage Operations
North Metro
Heritage Division

26 Honeysuckle Dr, Newcastle 2300
Locked Bag 5020, Parramatta 2150
T 02 4927 3203

Office of Environment & Heritage

Your reference:	SSD 9515
Our reference:	DOC19/355071
Contact:	Simon Stirrat Ph 03 5021 8930
Date:	17 May 2019

Elle Donnelley
Resource and Energy Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Via email: elle.donnelley@planning.nsw.gov.au

Dear Ms Donnelley

RE: Yanco Solar Farm (SSD 9515) – Environmental Impact Statement

I refer to your email dated 18 April 2019 seeking input from the Office and Environment and Heritage (OEH) into the Environmental Impact Statement (EIS) for the proposed Yanco Solar Farm (SSD 9515). We have reviewed the exhibited EIS against the Secretary's Environmental Assessment Requirements (SEARs), issued by the Department of Planning and Environment to the proponent on 30 August 2018, and offer the following comments.

OEH considers that the EIS **does** meet the Secretary's requirements for biodiversity and Aboriginal cultural heritage (ACH) subject to amendments. An assessment summary is provided in **Attachment A** and detailed comments and recommendations are in **Attachment B**.

The initial Aboriginal cultural heritage (ACH) assessment included a site survey on 22 - 23 October 2018 which did not identify any constraints. An additional site survey (11 December 2018) following realignment of the proposed transmission line to the south side of Houghtons Road, identified the presence of an Aboriginal site/object (silcrete core flake). We note the ACHAR indicates that this isolated find (AHIMS Site 49-5-0211: YSF_IF_001) will be avoided by utilising the northern transmission line route and that no further mitigation is required. OEH considers this site is still at some risk (direct or indirect) through chance impacts associated with proposed construction of the transmission line and should be subject to further protection. OEH also considers some amendment to the Unanticipated Finds Protocol, with particular regard to skeletal remains, is required to ensure compliance with legislation in place to protect ACH in NSW.

All plans required as a Condition of Approval that relate to biodiversity or ACH should be developed in consultation and to the satisfaction of OEH, to ensure that issues identified in the consultation process are adequately addressed.

If you have any questions regarding this matter, please contact Simon Stirrat on (03) 5021 8930 or email simon.stirrat@environment.nsw.gov.au.

Yours sincerely

ANDREW FISHER
Senior Team Leader Planning
South West Branch
Conservation and Regional Delivery
Office of Environment & Heritage

ATTACHMENT A - OEH Assessment Summary for Yanco Solar Farm EIS (SSD 9515)

ATTACHMENT B - Detailed comments for Yanco Solar Farm EIS (SSD 9515)

PO Box 1040 Albury NSW 2640
512 Dean Street Albury NSW 2640
Ph: (02) 6022 0624
E-mail: rog.southwest@environment.nsw.gov.au
ABN 30 841 387 271
www.environment.nsw.gov.au

ATTACHMENT A OEH Assessment Summary for Yanco Solar Farm EIS (SSD 9515)

Key Issues

1	*Issue*	Ground disturbance activities associated with the northern transmission line route is a potential risk of harm to AHIMS Site 49-5-0211 **Recommended action:** • Installation of visible barrier (fence) around the artefact prior to construction and decommissioning • Identify the artefact location on all maps and plans • Aboriginal heritage site induction for contractors and work crews
	Extent and Timing	Pre-determination

2	*Issue*	Unexpected finds procedure for skeletal remains (AH3/Recommendation 5) is not entirely consistent with legislation in place to protect ACH in NSW **Recommended action:** • Revise Recommendation 5 such that notification of RAPs and Aboriginal community should only occur once skeletal material is determined as being Aboriginal in origin
	Extent and Timing	Pre-determination

3	*Issue*	A Cultural Heritage Management Plan (CHMP) should be developed in consultation with Registered Aboriginal Parties and OEH include updated protocols for unexpected finds (skeletal remains) prior to construction activity occurring. It should include an unexpected finds protocol and a clear mitigation strategy (including fencing) to ensure that the Aboriginal objects that are to be avoided during construction are not harmed. **Recommended action:** • CHMP should include Unanticipated Finds Procedure and updated process for discovery of skeletal remains • CHMP to provide ACH site induction information for employees and contractors • CHMP should include a mitigation strategy (visible physical buffer) to ensure AHIMS Site 49-5-0211 is avoided during construction and not harmed
	Extent and Timing	Pre-construction

4	*Issue*	Appendix D (Heritage Unexpected Finds Procedure) incorporates details relating to Historic Heritage with those of Aboriginal cultural heritage which is not appropriate. **Recommended action:** • Remove procedure relating to historic heritage from the Aboriginal Unexpected Finds Procedure (and ACHAR) • Contact OEH's Heritage Division (heritage@heritage.nsw.gov.au) for appropriate advice regarding historic cultural heritage if a copy has not already been provided
	Extent and Timing	Pre-determination

OEH Advice		
1.1	**Is the 'baseline' for impact assessment reasonable?**	**Yes**
	The baseline impact assessment is generally reasonable however there are issues to be resolved as outlined in Attachment B.	
1.2	**Are predictions of impact robust (and conservative) with suitable sensitivity testing?**	
	Biodiversity	**Yes**
	ACH	**Yes**
1.3	**Has the assessment considered how to avoid and minimise impacts?**	
	Biodiversity	**Yes**
	ACH – further protection measures are recommended	**No**
1.4	**Does the proposal include all reasonably feasible mitigation options?**	
	Biodiversity	**Yes**
	ACH	**No**
1.5	**Is the assessed impact acceptable within OEH's policy context?**	
The proponent is required to review OEH comments. Once these are considered and appropriate amendments area made OEH will review the responses and/or the revised reports.		
1.6	**Confirmation of statements of fact**	
	See minor points in attachment B.	
1.7	**Elements of the project design that could be improved**	
	See additional protection measures for ACH.	

ATTACHMENT B Detailed comments for Yanco Solar Farm EIS (SSD 9515)

Biodiversity

The Biodiversity Development Assessment Report (BDAR) contains most of the information required from the Biodiversity Assessment Method (BAM).

BAM comments

The exact area of the impact polygons in the shapefile provided to OEH in support of the EIS are slightly different to those used in the BAM calculator. This has a small effect on the total offset.

Also, the shapefile showing the small scurf pea species polygons has two areas totalling 1.1ha. The impact area for small scurf pea documented in the BDAR is 0.54ha (Table 4-5). OEH recommends adjusting the BAM calculation or clarifying the small scurf pea impact area in the BDAR.

The BDAR does not document or map the patch size as defined in section 5.3.2 of the BAM.

The full biodiversity credit report should also be presented in the BDAR, including the credit classes for ecosystem credits and species credits at the development site (table of credit classes and matching credit profiles).

Figures 4-1 and 4-2 of the BDAR are captioned as threatened species polygon maps but there are no polygons shown or described in the legends.

Conditions of approval

Management plans

Table 6-14 (Section 6.2.8 EIS main report) lists management plans to be developed and various mitigation measures to be implemented.

Commitments in the EIS to preparation of Construction and Operation Environmental Management Plans should be included as conditions of approval. The conditions can stipulate that the plans should include the relevant mitigation commitments identified in Table 6-14.

The EIS states in various places that vegetation screening will be done using species derived from local native plant communities. This should also be included as a condition of approval.

Fencing

The EIS identifies security fencing as a potential indirect impact on fauna (BDAR Section 7.1). We recommend that a Construction and Operational Environmental Management Plans include a fauna monitoring strategy for weekly monitoring of security/boundary fences during construction, and monthly during the first year of operation, implementing fauna management and rescue protocols including identification of mortalities with regular reporting to OEH.

Aboriginal Cultural Heritage Assessment

According to our assessment the information provided by Yanco Solar Farm Aboriginal Cultural Heritage Assessment Report (ACHAR) appears to be largely consistent with the requirements identified by the Code of Practice for Archaeological Investigation in NSW (OEH 2010) and SEARs issued for SSD 9515.

ACHAR Recommendations

OEH generally supports the recommendations outlined in the ACHAR (9. Recommendations) including a commitment to preparing a CHMP in consultation with the RAPs and OEH prior to any construction occurring. This should include an appropriate process for the discovery of ACH, including skeletal remains, should they be encountered during development works.

Recommendation 1

OEH supports the use of the northern transmission line route option to avoid the isolated find, however we consider a risk remains through unintentional harm (i.e. from heavy machinery). We recommend the proponent establish a temporary visible and physical barrier (a high visibility fence) around the object as an added precaution prior to construction and during decommissioning.

Recommendation 3

We note that Leeton and District Local Aboriginal Land Council request monitoring of ground disturbance activities as a mitigation measure (7.3 Avoiding or Mitigating Harm) while NGH Environmental does not consider monitoring warranted based on the ACH assessment. In NSW, monitoring cannot take the place of archaeological assessment and should the occurrence of ACH at the subject site be likely then further investigation and assessment would be required. Should the proponent reach an agreement with RAPs to undertake monitoring, this sits outside of the legislative requirements for ACH in NSW and OEH would not provide further advice on this.

Recommendation 5

OEH advise against notifying registered Aboriginal parties (RAPs) of the discovery of skeletal remains until the NSW Police and Coroner's Office have confirmed that the remains are Aboriginal in origin. OEH reiterate previous advice in relation to unexpected finds:

If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:

1. *Not further harm the object*
2. *Immediately cease all work at the particular location*
3. *Secure the area so as to avoid further harm to the Aboriginal object*
4. *Notify OEH as soon as practical on 131555, providing any details of the Aboriginal object and its location*
5. *Not recommence any work at the particular location unless authorised in writing by OEH.*

In the event that skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.

Conditions of approval

Cultural Heritage Management Plan

- A CHMP be developed for the site prior to the commencement of any construction works inclusive of protocols for encountering unexpected ACH (without steps for historic heritage)
    - The Unexpected Finds Protocol for skeletal be updated in accordance with OEH advice, and it is demonstrated that notification of RAPs only occurs following confirmation that remains are Aboriginal in origin (and protected under the National Parks and Wildlife Act 1974)
    - The CHMP should also include a plan of management for fencing works that clearly details mitigation measures for protecting AHIMS Site 49-5-0211 from unanticipated harm.

Protection of AHIMS Site 49-5-0211

- A temporary physical and visible barrier (protective fencing) is to be established around the known artefact prior to any construction in the vicinity

NSW RURAL FIRE SERVICE

The Secretary
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Your reference: SSD 9515
Our reference: D18/6710
DA19042318369 BB

Attention: : Elle Donnelley

21 May 2019

Dear Sir/Madam,

State Significant Development Application - Yanco Solar Farm (SSD 9515) EIS Exhibition

Reference is made to correspondence dated 18 April 2019 seeking comments in relation to bush fire protection for the above proposal in accordance with the *Environmental Planning and Assessment Act 1979.*

The New South Wales Rural Fire Service (NSW RFS) has considered the information submitted and provides the following recommended conditions:

1. A draft Fire Management Plan (FMP) shall be prepared for the proposed facility and provided to the local NSW RFS District Office for comment. Any return comment from the District shall be adopted into an amended FMP. As a minimum, the FMP shall include:

    - 24 hour emergency contact details including alternative telephone contact;
    - Site infrastructure plan;
    - Fire fighting water supply plan;
    - Site access and internal road plan;
    - Construction of asset protection zones and their continued maintenance;
    - Location of hazards (physical, chemical, and electrical) that will impact on the fire fighting operations and procedures to manage identified hazards during the fire fighting operations;
    - Mitigation measures designed to prevent fire occurring within the site, and prevent fire escaping the site and developing into a bush/grass fire risk to the surrounding area; and
    - Such additional matters as required by the NSW RFS District Office.

2. The entire solar array development footprint shall be managed as an asset protection zone as outlined within section 4.1.3 of *Planning for Bush Fire Protection 2006* and the NSW RFS document *Standards for asset protection zones.*

3. To allow for emergency service personnel to undertake property protection activities, a 10 metre defendable space, managed as an asset protection zone, shall be provided around the buildings, substation, battery

Postal address
NSW Rural Fire Service
Planning and Environment Services
Locked Bag 17
GRANVILLE NSW 2141

T 1300 NSW RFS
F (02) 8741 5433
E records@rfs.nsw.gov.au
www.rfs.nsw.gov.au

storage units, around the outside perimeter of the solar array, and around all areas of unmanaged vegetation being retained within the site.

4. An access road designed and constructed to comply with the specifications outlined in section 4.1.3(3) of *Planning for Bush Fire Protection 2006* shall be provided along the property boundary/fence line and around all areas of unmanaged vegetation being retained within the site.

5. All proposed internal roads shall comply with the design and construction specifications outlined in section 4.1.3(3) of Planning for Bush Fire Protection 2006.

6. A 20,000 litre water supply (tank) fitted with a 65mm Storz fitting shall be located adjoining the internal property access road within the required asset protection zone.

Should you wish to discuss this matter please contact Bradley Bourke on 1300 NSW RFS.

Yours sincerely,

Martha Dotter
Acting Team Leader, Development Assessment and Planning
Planning and Environment Services (South)

SWT18/000104
SF2018/255827
CB

15 May 2019

The Manager
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Elle Donnelly

SSD-9515 – PROPOSED YANCO SOLAR FARM, LOTS 142, 145-152, 287, 572 DP751745, LOT 6650 DP1197165, HOUGHTON ROAD, YANCO.

I refer to your correspondence regarding the subject Application which was referred to the Roads and Maritime Services for assessment and comment.

Roads and Maritime Services have reviewed the Environmental Impact Statement (EIS) dated March 2019 prepared by NGH Environmental for the Yanco Solar Farm project. The subject site is located to the west of Yanco with frontage and access to Toorak Road. The supporting documentation acknowledges that access to the site, for construction and maintenance purposes will rely on access via the Sturt Highway and Irrigation Way, which are classified roads, and other roads which form part of the local road network. From the information provided it is understood that the proposal is for the establishment and operation of a 60 MW solar photovoltaic (PV) plant and associated infrastructure on the subject site.

The development will comprise of a series of photovoltaic panels (approximately 205,000) erected on single axis tracker steel frames that will cover most of the site. It is noted from the documentation that the installation of piles to support the solar panels will be a driven type which will not require the use of bulk material such as concrete. The height of the panel structures will not exceed 4 metres above ground.

It is understood that the anticipated total construction period will be between 10 months. Due to the characteristics of such a development the significant proportion of traffic generation (for both light and heavy vehicles) occurs during the construction and decommissioning stages of the development with the operational phase of the development will generate limited traffic. The EIS includes a traffic study which does not identify the need for infrastructure improvements such as intersection upgrades. A Traffic Management Plan is proposed to be developed with input from the relevant roads authorities for construction activity. As the proposal relies on access via the classified and local road network this plan should be finalised in consultation with the relevant road authorities, in this case being both the Roads and Maritime Services and Leeton Shire Council.

It is proposed that approximately 120 construction personnel would be required on site during the peak construction period. The construction workforce may be required to commute from within the local area including Griffith and surrounding localities. Given the distances required to be travelled and the construction workforce numbers it would be appropriate to consider options to address driver fatigue for the construction period of the development. Consideration should be given to car pooling and buses being organised to transport personnel to and from the development site to reduce the risk associated with fatigue and minimise the impact of construction traffic on local traffic.

Given the type and scale of the proposed development and its proximity to the public road network it is considered appropriate that issues relating to potential for distraction of, and for glint/glare impacts on, passing motorist be addressed in the development submission. Consideration could be given to the establishment and maintenance of a visual buffer, such as a vegetated buffer, within the subject site along its frontage to any public road.

Roads and Maritime is mainly concerned with the provision of safe access between the subject site and the public road network and the impact of the development on the safety and efficiency of the road network. Roads and Maritime emphasises the need, particularly during the construction phase of this development, to minimise the impacts on the existing road network. As the subject site is to be accessed via a designated haulage route that utilises the classified and local road network the following conditions are proposed for road safety reasons.

Roads and Maritime Services has assessed the Development Application based on the documentation provided and would raise no objection to the development proposal subject to the Consent Authority ensuring that the development is undertaken in accordance with the information submitted as amended by the inclusion of the following as conditions of consent (if approved):-

1. A Traffic Management Plan shall be prepared in consultation with the relevant road authorities (Council and Roads and Maritime Services) to outline measures to manage traffic related issues associated with the development, particularly during the construction and decommission processes. The appointed transport contractor shall be involved in the preparation of this plan. The plan shall address all light and heavy traffic generation to the development site and detail the potential impacts associated with the development, the mitigation measures to be implemented, and the procedures to monitor and ensure compliance. This plan shall address, but not necessarily be limited to the following;
   i) Require that all vehicular access to the site be via the approved access route.
   ii) Details of traffic routes to be used by heavy and light vehicles, and any associated impacts and any road-specific mitigation measures.
   iii) Details of measures to be employed to ensure safety of road users and minimise potential conflict with project generated traffic,
   iv) Proposed hours for construction activities, as night time construction presents additional traffic related issues to be considered.
   v) The management and coordination of the movement of vehicles for construction and worker related access to the site and to limit disruption to other motorists, emergency vehicles, school bus timetables and school zone operating times,
   vi) loads, weights and lengths of haulage and construction related vehicles and the number of movements of such vehicles,
   vii) procedures for informing the public where any road access will be restricted as a result of the project,
   viii) any proposed precautionary measures such as signage to warn road users such as motorists about the construction activities for the project,
   ix) a Driver Code of Conduct to address such items as; appropriate driver behaviour including adherence to all traffic regulations and speed limits, safe overtaking and maintaining appropriate distances between vehicles, etc and appropriate penalties for infringements of the Code,
   x) details of procedures for receiving and addressing complaints from the community concerning traffic issues associated with truck movements to and from the site,

2. Glint and glare from the solar panels shall not cause a nuisance, disturbance or hazard to the travelling public on the public road network. In the event of glint or glare from the solar plant being evident from a public road, the proponent shall immediately implement glare mitigation measures such as construction of a barrier (e.g. fence) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.

3. All works associated with the project shall be at no cost to the Roads and Maritime Services.

Under the provisions of the Environmental Planning & Assessment Act the Consent Authority is responsible to consider any likely impacts on the natural or built environment. Depending on the level of environmental

assessment undertaken to date and nature of the works it may be necessary for the developer to undertake further environmental assessment for any ancillary road works required as a condition on the development.

Any enquiries regarding this correspondence may be referred to the Manager, Land Use for Roads and Maritime Services (South West Region), Maurice Morgan, phone (02) 6923 6611.

Yours faithfully

Per:
Lindsay Tanner
Director
South West NSW

From: Easements&Development <Easements&Development@transgrid.com.au>
Sent: Thursday, 2 May 2019 11:57 AM
To: Elle Donnelley
Subject: 2018-364 Request for Input - Yanco Solar Farm (SEARs) – SSD 9515

TransGrid Reference Number: 2018-364

Proposal: Request for Input - Yanco Solar Farm (SEARs) – SSD 9515

Lots 142, 145 - 152, 287, Lot 572 in DP 751745 and Lot 6650 in DP 1197165

Thank you for referring the above mentioned Development Application to TransGrid for review.

Please be advised after reviewing the proposed works at **Request for Input - Yanco Solar Farm (SEARs) – SSD 9515**

TransGrid offers the following comments:

TransGrid is working closely with ibVogt for their Yanco Solar Farm connection. TransGrid has already undertaken a formal connection enquiry response and has entered into a formal Connection Processes Agreement with ibVogt to complete a finalise project and connection agreements for the generation connection. To date, TransGrid has completed detailed scoping study and designs.

Regards

Michael

Michael Platt
Development Assessment and Control Officer | Network Planning and Operations

TransGrid | 200 Old Wallgrove Road, Wallgrove, NSW, 2766
T: (02) 9620 0161 **M:** 0427 529 997
E: Michael.Platt@transgrid.com.au **W:** www.transgrid.com.au

Elle Donnelley
Senior Planner
Resource & Energy Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms. Donnelley,

Yanco Solar Farm (SSD 9515)

Thank you for your correspondence to John Holland Rail (JHR) dated 18 April 2019 in regards to reviewing the subject State Significant Development (SSD) application.

TfNSW is the land owner of the Country Regional Network (CRN) across NSW. As of 15 January 2012, JHR have been appointed to manage the CRN. In the capacity of managing the CRN, JHR is responsible for reviewing development proposals and policies adjoining the rail corridor to ensure that potential impacts to rail operations (current and future) are considered and addressed.

The SSD seeks approval for construction, operations and decommissioning of a 72 MW DC solar farm and installation of electrical transmission lines to connect the solar farm to Yanco Transgrid Electrical Substation. The land to which the SSD is related is Lots 142, 145-152 DP 751745, Lot 10 DP 844961 and Lot 6650 DP 1197165 (Development Land) for solar farm development and Lot 1700 DP 1181161 (Access Land) for installation of transmission lines.

The Development Land is separated by Ronfeldt Road from the non-operational Yanco to Willbriggie rail corridor. As the Development Land is adjacent to the rail corridor, the application is assessed with consideration of Clause 85 of the State Environmental Planning Policy (Infrastructure) 2007 (ISEPP). It is also noted that the Development Land is in close proximity to the operational Yanco to Griffith rail corridor. The Access Land, where the installation of transmission lines is proposed, forms part of the non-operational rail corridor owned by TfNSW and would trigger the need for concurrence in accordance with Clause 86 of the ISEPP.

As the subject application being assessed under Part 4.1 of the Environmental Planning & Assessment Act, formal concurrence does not strictly apply. Nevertheless, TfNSW in consultation with JHR has taken into account the statutory requirements under these provisions in its assessment of the proposed development and its associated works.

Comments regarding the subject application are provided in **Attachment A**. TfNSW would be happy to review further information provided by the Applicant as outlined in the attachment and would then provide recommended conditions of consent.

Thank you again for the opportunity of providing advice for the above development application. If you require any further information, please don't hesitate to contact Billy Yung, Senior Transport Planner, via email at billy.yung@transport.nsw.gov.au. I hope this has been of assistance.

Yours sincerely

22/5/2019

Mark Ozinga
Principal Manager, Land Use Planning & Development
Customer Strategy & Technology

CD19/03371

Excavation in, above or adjacent to rail corridor

Comment:

Clause 86 of the ISEPP stipulates that the consent authority must not grant consent without consulting with the rail authority and obtaining concurrence consistent with clauses 86(2) – (5) in the event that the development involves penetration of ground to a depth of at least 2m below ground level on land within 25m of a rail corridor. The EIS states that the underground power line will need to be drilled (under the railway line and under Houghton Road) and the depth would be up to 3m. In addition, the EIS states that piles to support solar panels, boundary fences and switching station will be driven or screwed into the ground up to 2.2 m depending on the geotechnical site investigation.

Recommendation:

It is requested that the Response to Submission (RtS) must include a detailed design of power line under Houghton Road to confirm whether the power lines will be within 25 m from the boundary line of the rail corridor. The Applicant should also provide further information regarding whether the proposed infrastructure, as shown in Figure 1-3 of the EIS, will be constructed within 25m of the boundary lines of the rail corridor and involving the penetration into the ground level in excess of 2m.

Subject to the review of further information prepared as part of the RtS, TfNSW would provide relevant conditions with consideration of the statutory requirements under the provisions of Clause 86 of the ISEPP.

Access to rail corridor

Comment:

The EIS includes a proposal to access the rail corridor for installation of a new 33kV transmission line to connect the solar farm to Yanco Transgrid Electrical Substation. It is acknowledged that the Applicant had undertaken early consultation with TfNSW prior to lodging the development application. TfNSW has forwarded a letter dated 9 January 2019 providing its approval in principle to install the transmission line by underboring a 150mm conduit containing 33kV cable across the rail corridor with conditions. The letter clearly states that no works are to be commenced in the rail corridor until the relevant legal agreement is executed as part of the construction application process. TfNSW has made its position clear to the Applicant that the relevant legal document is a licence rather than an easement in support of their proposed works that requires access to the rail corridor.

Table 4-5 in the EIS has acknowledged the requirement of obtaining the licence from TfNSW for construction of the powerline across the rail corridor, however, Section 5.3.6 of the EIS states that the Proponent is still in discussion with TfNSW and JHR regarding easement over the rail corridor.

Recommendation:

Prior to commencing the works to install the transmission line over the rail corridor, the Applicant must satisfy conditions set out in TfNSW's letter dated 9 January 2019 including but not limited to execution of a licence.

It is requested that the Applicant be conditioned to enter into a licence agreement with TfNSW prior to approval of this application. The applicant should consult with JHR (*Joanne Cheoung, Commercial Property Analyst, via email at joanne.cheoung@jhg.com.au*) regarding this matter.

For the avoidance of doubt, the earlier letter (dated 9 January 2019) does not constitute a final approval from TfNSW in respect of installation of transmission lines over the non-operational rail corridor.

It is requested that the Applicant be made aware of the access to the rail corridor is prohibited at any time unless otherwise permitted in writing by TfNSW or its agent who manages the Country Regional Network.

Cranes and equipment

Comment:

Clause 85 of the ISEPP states that if the development involves the use of a crane in the air space above the rail corridor, the consent authority must take into consideration any response from the Rail Authority. As referenced to the relevant standard and guideline (*TfNSW Standard – External Developments T HR CI 12080ST and Department of Planning – Development near Rail Corridors and Busy Roads Interim Guidelines),* it must be noted that cranes, concrete pumps or other equipment must not be used in airspace over the rail corridor when the equipment is in operation. When not in operation, cranes are permitted to 'weathervane' into the rail corridor subject to approval of the rail authority.

The EIS indicates the use of mobile cranes including 50T mobile cranes during construction, however, it does not provide details whether the cranes will be used in the air space above the rail corridor.

Recommendations:

It is requested that the Response to Submission (RtS) should clarify whether mobile cranes will be used in the air space above the rail corridor.

The applicant should be made aware of the use of mobile cranes must be in accordance with the *AS 2550 series of Australian Standards, Cranes, Hoist and Winches*, including *AS2550 15-1994 Cranes – Safe Use – Concrete Placing Equipment*.

Subject to the further information prepared as part of the RtS, TfNSW would provide a condition if there is any intended use of cranes.

Noise, vibration and air quality

Comment:

Part of the proposed development are located adjacent to a rail corridor and the consent authority needs to be satisfied that the proposed development would not be adversely affected by rail noise, vibration or air quality due to the rail traffic.

Recommendations:

It is requested that the RtS should confirm the proposed development will not be adversely affected by rail noise, vibration and air quality should the rail corridor become operational in the future.

Construction and demolition impacts

Comment:

The application includes construction and installation of various infrastructure in the Development Land which is located adjacent to the rail corridor. The application also includes demolition of infrastructure as part of decommissioning to return the site to its pre-work state. The decommissioning includes removal of all above ground infrastructure and below ground infrastructure less than 500 mm deep including the solar arrays and its foundation of posts, all site amenities and equipment and fencing. The EIS stated that a Rehabilitation and Decommissioning Management Plan (RDMP), that describes how the infrastructure will be removed upon the decommissioning, will be prepared and approved by the relevant authorities. It is vital for TfNSW and JHR to be satisfied that decommissioning does not have any adverse impacts on the rail corridor and the existing rail infrastructure.

Recommendations:

It is requested that the RtS include a Risk Assessment/Management Plan and Safe Work Method Statements detailing any impacts on the rail corridor in respect of removal and construction of the infrastructure stated above.

It is also requested that the Applicant to provide TfNSW and JHR with a copy of the RDMP for approval in response to this submission.

Visual impacts

Comment:

The Visual Impact Assessment (VIA) concludes that visual impacts from various locations within both rail corridors are assessed as negligible or nil.

Recommendations:

It is requested that the RtS should confirm the level of reflectivity and glare produced by any materials, lighting and external finishes of infrastructure required for the proposed development will not adversely affect or cause distraction to train drivers for the Operational Rail Corridor. In addition, the RtS should confirm that red and green lights will not be used in all signs, lighting building colour schemes on any part of the proposed development which will face the Operational Rail Corridor.

Impacts on level crossings

Comment:

Clause 84 of the ISEPP states that the consent authority must not grant consent to development without the concurrence of the rail authority for the rail corridor if the development involves a likely significant increase in the total number of vehicles or the number of trucks using a level crossing. The proposed construction traffic route involves passing through level crossings of the Operational Rail Corridor.

Recommendations:

It is requested that the Applicant provide JHR with an assessment of the impacts on the Operational Rail Corridor in the context of the use of two (2) passive level crossings at McQillan Road and Irrigation Way and one (1) active level crossing at

Poplar Avenue as part of the RtS. TfNSW would then assess the relative risks and condition as required.

The Applicant should undertake a safety assessment including:

- A site inspection – which would include but not limited to identification of hazards
- A site specific risk assessment that includes, existing and future traffic (road and rail), speeds, frequency of trains, volume and heavy vehicle proportion, non-motorised road users, traffic control facilities (existing and proposed if required to ameliorate any specific project related risks)
- Evaluate the risks identified above using the Australian Level Crossing Assessment Model

In the event that significant risks are identified, the Applicant may be requested to prepare a plan of management that identifies how the risks will be mitigated or potentially an upgrade to the level crossings in accordance with JHR's engineering standards. In addition, the relevant Council will also be requested to update the current Road Rail Interface Agreement to reflect the change to those level crossings in accordance with the Rail Safety National Law 2012.

Construction traffic

Comment:

The traffic assessment, that forms part of the EIS, provides an outline of matters to be addressed in the Construction Traffic Management Plan (CTMP) that will be prepared during the construction phase. The proposed construction traffic route includes Irrigation Way, which is currently serving four school bus routes.

Recommendations:

The school bus routes running along Irrigation Way are operated by Patten's Transport Services and Patrick & Jan Lyons. It is requested that the Applicant should inform the bus operators with regard to the impact of the proposed development.

29 Kennedy St
GLADESVILLE NSW 2111
21 May 2019

Department of Planning

RE: Yanco Solar Farm,

The Ryde Gladesville Climate Change Action Group is a group of over 600 citizens in the Ryde area concerned about climate change and the urgent need for action to move to 100% renewables.

In light of this, we are writing to strongly support the Yanco Solar Farm proposal. We believe these types of projects are vital in reducing our reliance on fossil fuels for electricity production. Projects such as the Yanco Solar Farm are to be encouraged and given priority by the government as a means of assisting both NSW and the Australian governments reach, and preferably exceed, the targets set in the Paris agreement to reduce global warming to 1.5ºC

This project has many positive outcomes including the creation of local jobs and the opportunity for economic stimulus to the regional community's businesses. It has excellent solar exposure which means it will be effective in capturing the maximum amount of sunlight for electricity production and has a minimal visual impact to neighbouring properties. We note there is a low environmental impact in its construction.

We believe projects like this are important in cutting the amount of carbon dioxide produced and that renewable energy projects are a significant player in reaching zero emissions.

Yours sincerely

Pamela Reeves
Secretary
Ryde Gladesville Climate Change Action Group

Submission for: Yanco Solar Farm

Comments

Bart Challacombe

Hanwood, New South Wales

Message

Murrumbidgee Irrigation (MI) is only concerned about potential impacts on infrastructure and potential to impact water quality in the drainage system with contaminated run-off.

As long as the project adheres to the MI Development Rules and MI Drainage Rules (attached) there is no issue from our company.

Attachments

Drainage Use Rules _ Effective 1 July 2018 to 30 June 2019

Development Rules _ Effective 1 July 2018 to 30 June 2019

The Department of Planning and Environment acknowledges the Traditional Custodians of the land and pays respect to all Elders past, present and future.

Murrumbidgee Irrigation

Murrumbidgee Irrigation Limited ABN 39 084 943 037
Postal Locked Bag 6010, Griffith NSW 2680 Web www.mirrigation.com.au
Offices •Research Station Rd, Hanwood NSW 2680 • Dunn Ave, Leeton NSW 2705
Contact T (02) 6962 0200 F (02) 6962 0209 E info@mirrigation.com.au

Development Rules

Effective: 1 July 2018 to 30 June 2019

Contents

1. Introduction

1.1 This document contains Rules of the Company that are binding under the Water Entitlements Contract and the Water Delivery Contract (the **Contract**). A Customer's Contract binds them to these Development Rules.

1.2 These Development Rules should be read in conjunction with, and are subject to:

(1) the Contract;

(2) any relevant Rules;

(3) the Commonwealth Act;

(4) the Commonwealth Rules;

(5) the NSW Act; and

(6) all other relevant laws, regulations, orders and Licences.

2. Definitions and interpretation

2.1 In these Rules, the following words have these meanings unless the contrary intention appears:

(1) **Channel** means a conduit in or on the land intended for the carriage of water and includes both supply channels and drainage channels.

(2) **Channel Bank** means the retaining wall of a channel.

(3) **Commonwealth Act** means the *Water Act 2007* (Cth);

(4) **Commonwealth Rules** means *Water Market Rules 2009* (Cth), the *Water Charge (Termination Fees) Rules 2009* (Cth) and the *Water Charge (Infrastructure) Rules 2010* (Cth).

(5) **Company Works** means works owned by the Company, including but not limited to any permanent or temporary structure constructed to facilitate the operation of the works. Typical works of the Company include:

(a) earthen channels (both supply and drainage);

(b) access culverts;

(c) outlets and regulators;

(d) flumes/subways;

(e) stock and domestic piped supplies;

(f) pipe off-takes;

(g) under boring;

(h) flood control structures (including pumps and levees);

(i) drainage pump sites;

(j) pump stations;

(k) pipes; and

(l) IHS systems.

(6) **Crest Width** means the horizontal width of the top of a Channel Bank as demonstrated in Diagram 1 in Annexure A.

(7) **Deep Bore** means a hole in the ground designed to provide access to subsurface water at a depth below the natural surface of greater than 12 metres.

(8) **Irrigation Practices** means, in relation to a Landholding:

(a) the Works on or connected to the Landholding; and

(b) the manner in which those Works are employed for the purposes of the irrigation activities carried out on the Landholding from time to time;

(9) **Landholding** has the same meaning as that given in the Contract;

(10) **Pests** has the same meaning as that provided by section 15 of the *Biosecurity Act 2015* (NSW);

(11) **Shallow Bore** means a hole in the ground designed to provide access to subsurface water from below the natural surface level to a depth of 12 metres;

(12) **Toe of the Bank** means, where it refers to a Channel Bank, the point furthermost away from the channel, of the Channel Bank where the batter meets natural ground level as demonstrated Diagram 1 in Annexure A;

(13) **Top of Bank** means the upper most point of a Channel Bank as demonstrated in Diagram 1 in Annexure A.

2.2 A term defined in the Contract has the same meaning in these Development Rules, unless the contrary intention appears.

2.3 Clause 1.2 (Interpretation) of the Contract applies to these Development Rules with the necessary changes.

3. Access to Company Works

3.1 Pursuant to the Act, the Company is entitled to unrestricted access through Landholdings whenever required for the purpose of installing, operating, repairing, replacing, maintaining, removing, extending, expanding, connecting, disconnecting, improving or doing any other thing that the Company considers necessary or appropriate to any of its water management works or to construct new water management works.

3.2 Where appropriate and subject to any Legal Requirement stating otherwise, the Company will provide improved access along channels to obtain a minimum 5 metres Top of Bank Crest Width of the Channel Bank. However, and for the avoidance of doubt:

(1) this does not entitle the Customer to an easement over the Company's Works; and

(2) there is no guarantee or commitment by the Company to make access available across any Channel Bank in the Company's area of operations.

3.3 Subject to sub-rule 3.4, the Company will bear the cost associated with the construction of new access banks and the modification of existing Company Works if the Company determines that it is appropriate to do so.

3.4 Nothing in this rule 3 is intended to supersede the Customer's liability under clause 26 of the Water Delivery Contract for any damage done to the Company's Works.

4. Construction and planting near boundary of Company Works

4.1 Subject to sub-rules 4.2 and 4.3, the Customer must not, without the prior written consent of the Company, undertake any construction work, construct anything, erect a fence, plant any trees, vegetation or crops, stockpile vegetation, stockpile chemical drums or other materials, or allow any of those things to remain:

(1) in relation to a Channel forming part of the Company's Works, within 10 meters of the Toe of the Bank; or

(2) otherwise, within 5 metres of the Company's Works.

4.2 The Customer must not construct or permit to remain on any Landholding:

(1) any Shallow Bore within 40 metres of the Company's Works; or

(2) any Deep Bore within 20 metres of the Company's Works,

without the prior written consent of the Company.

4.3 Despite sub-rules 4.1 and 4.2, the Company may, from time to time, determine the minimum distance required between any construction work on a Landholding and:

(1) the boundary between the Company's Works and a Landholding;

(2) in relation to a channel forming part of the Company's Works, the Toe of the Bank; or

(3) generally, the Company's Works,

and such determinations bind the Customer.

4.4 The Company may remove, or require the Customer to remove a private structure (including trees) installed prior to the adoption of the Development Rules that the Company determines is inconsistent with the objectives of this rule 4.

4.5 A Customer who does not comply with any one or more of sub-rules 4.1 to 4.4 of these Development Rules will be deemed to have committed a material breach under clause 26 of the Contract. In addition to its rights under the Contract, the Company may:

(1) rectify the default and charge the Customer for the Costs incurred for rectifying the default and for any Loss suffered; and

(2) suspend water supply to the Customer.

4.6 The Company may, acting reasonably or in accordance with a Legal Requirement, remove any structure or carry out any remedial work required in consequence of a breach by a Customer of these Development Rules without first serving notice of the breach to the Customer.

4.7 The Company must not, in exercising its rights under this rule 4, take such action unless that action is reasonably necessary to:

(1) prevent or remediate any damage, destruction or interference to the Company's Works; or

(2) to ensure the Company, its employees, agents and servants have unimpeded access to the Company's Works.

5. Change of on-farm practices

5.1 A Customer who makes a change to their on-farm land use practice is responsible for ensuring that:

(1) any change, addition, or cessation in on-farm land use practice will comply with all Documents, particularly these Development Rules and the Drainage Use Rules; and

(2) they have sufficient Rights of Access to operate their Irrigation Practice resulting from the change to their on-farm land use practice.

6. Pests

6.1 The Customer must control Pests on the Landholding in accordance the *Biosecurity Act 2015* (NSW) and:

(1) provide any information reasonably requested by the Company with respect to the Customer's weed control activities; and

(2) not do anything which is reasonably likely to pollute the Company Works.

6.2 The Customer acknowledges that he, she or it is not permitted to apply any pesticides, herbicides or control sprays to the flow area of the Company Works, unless the Company states otherwise.

6.3 If the Customer fails to control Pests and it would be detrimental to the Company's Works or other Customers not to do so within a reasonable time (and in any event, within 30 days) after receiving a notice from the Company, the Company or the Company's Personnel may undertake work to control the relevant Pests.

6.4 All Costs reasonably incurred by the Company in carrying out work to control the relevant Pests under sub-rule 6.3 will constitute a debt due from the Customer to the Company that must be paid by the Customer to the Company on demand.

7. Fencing

7.1 Pursuant to the *Dividing Fences Act 1991* (NSW), the Company is not liable to contribute to the erection or maintenance of fencing infrastructure adjacent to the Company Works where the fencing is to be situated, or is situated on land not owned by the Company.

7.2 Where the Company owns the land, or has an easement on the land where the Company's Works are situated then, if the Company decides that it is reasonably necessary to erect a fence for the protection, maintenance or operation of the Company's Works, the Company may erect such a fence dividing the Landholding from the Company's Works without the consent of the Customer.

7.3 Subject to sub-rule 7.4, the cost of any fence erected under sub-rule 7.2 will be the responsibility of the Company.

7.4 A Customer will be liable for the Costs incurred by the Company for erecting or repairing a fence if:

(1) the Customer had caused the damage to the existing fence that requires repair; or

(2) the erection of the fence was in response to a Customer's breach of any one or more of clauses 19, 20 or 24 of the Contract.

7.5 Where a Customer intends to erect a fence adjacent to Company Works on his, her or its Landholding, then the Customer is responsible for ensuring that:

(1) the fence is constructed in accordance with rule 4.1 of these Development Rules; and

(2) the Customer has received a survey from a registered surveyor that the fence is located on his, her or its Landholding (and not on land owned by the Company or which the Company has an easement over).

7.6 Subject to sub-rule 7.7, where the Company causes damage to the Customer's fencing, including where it does so to gain access to Company's Works, it shall if practicable:

(1) restore the fencing to its pre-damaged condition at no cost to the Customer; or

(2) if the Company determines that it is more appropriate to do so, pay to the Customer an amount equal to the pre-damaged value of the fencing.

7.7 The Company is not liable to restore a Customer's fence or provide compensation to the Customer under sub-rule 7.6 where the Customer's fence is in breach of sub-rule 7.5 of these Development Rules.

8. Works by Third Party

8.1 Where a person seeks any permission or consent from a Customer for the purpose of the carrying out construction, maintenance or repairs on a Landholding, to the maximum extent permitted by law, the Customer must not give consent if the construction would contravene these Development Rules if the construction were carried out by the Customer.

8.2 Where a person seeks a permission or consent under rule 8.1 or gives notice to a Customer of an intention to carry out any construction, maintenance or repairs on a Landholding, the Customer must promptly give notice to the Company and promptly provide a copy of any relevant notice given to the Customer by the person.

9. Land or Environment Contamination

9.1 The Customer must not place or permit to remain on the Landholding anything, including chemicals, hazardous materials, trash, rubbish or dead livestock, if it will:

(1) breach, or be likely to breach, any Licences held by the Company;

(2) contravene the Company's obligations under a Legal Requirement; or

(3) contaminate the Landholding, the Company Works or land owned by the Company.

9.2 Where a Customer has received a written notice from the Company for a breach of rule 9.1 and fails to rectify that breach within 28 days after the date of that notice, then the Company will be entitled to remove the material from the Landholding at the Customer's expense.

9.3 The Company's rights under rule 9.2 are in addition to its rights under clause 26 of the Customer's Water Delivery Contract or clause 16 of the Customer's Water Entitlements Contract.

10. Removal of Vegetation

10.1 The Company may remove or trim any vegetation or tree on a Customer's Landholding that is, or is likely to cause damage, destruction or interference with Company Works, or where it determines that such removal or trimming is necessary to allow the Company access to the Company's Works.

10.2 The consent of the Customer is not required under sub-rule 10.1 but the Company must act reasonably when taking any such action under that sub-rule.

10.3 The Company shall, wherever reasonably possible, notify the Customer prior to the removal of any vegetation proposed to be removed from the Landholding but this is not a condition precedent for the removal or trimming to occur.

10.4 Subject to sub-rule 10.5, the Company will pay the Costs associated with the disposal of any vegetation or trees under this rule and, within a reasonable time after removal, reinstate any adversely affected area of the Landholding to a reasonable condition, subject to fair wear and tear.

10.5 The Customer will be liable for the Costs associated with the disposal of any trees where the Customer has breached rule 4 of these Development Rules.

11. Removal of Material from Company Works

11.1 A Customer must not (unless required to take action under rule 9 of these Development Rules) remove, construct or dig any fill or other materials from any part of any supply or drainage Channel owned or controlled by the Company.

12. Consultation

12.1 Where practical and except as otherwise specified in these Development Rules, the Company will consult with the Customer before implementing any rule that may have a significant adverse impact on the Customer's Landholding.

ANNEXURE A

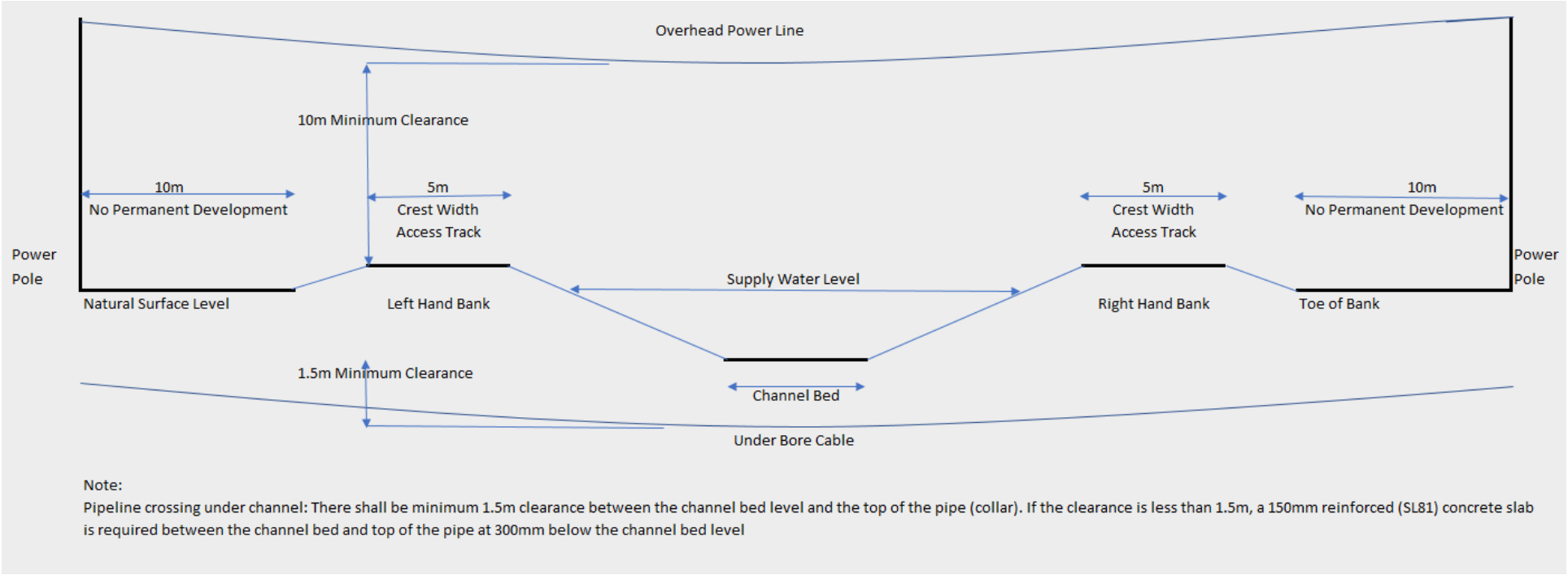


Diagram 1- This illustration is provided as a guide for Crest Width, Toe of the Bank and Top of the Bank

Murrumbidgee Irrigation

Murrumbidgee Irrigation Limited ABN 39 084 943 037
Postal Locked Bag 6010, Griffith NSW 2680 Web www.mirrigation.com.au
Offices •Research Station Rd, Hanwood NSW 2680 • Dunn Ave, Leeton NSW 2705
Contact T (02) 6962 0200 F (02) 6962 0209 E info@mirrigation.com.au

Drainage Use Rules

Effective: 1 July 2018 to 30 June 2019

Contents

1. Introduction

1.1 This document contains the Drainage Use Rules of the Company, which are referred to, and form part of the Water Delivery Contract (Contract). A Customer's Contract binds them to these Drainage Use Rules.

1.2 These Drainage Use Rules should be read in conjunction with, and are subject to the Contract, any relevant Rules (particularly the Development Rules), the Commonwealth Act, the Commonwealth Rules, the NSW Water Act, and all other relevant laws, regulations, orders and Licences.

1.3 These Drainage Use Rules relate to drainage of irrigation and Stormwater only and do not relate to the management of Flood water. The Company is not the authority responsible for management of Flood water and makes no representation to that effect in these Drainage Use Rules.

2. Definitions and interpretation

2.1 In these Drainage Use Rules:

(1) **Authorised Discharge Point** means the inlet to the Company's Works which the Company has approved for Drainage as set out in the Rights of Access Certificate;

(2) **Authorised Drainage Water** means:

(a) excess water following irrigation watering that has directly discharged from an Authorised Discharge Point;

(b) Stormwater that has directly discharged from an Authorised Discharge Point;

(c) Stormwater from urban areas that has directly discharged from a Government Authority's stormwater network,

but does not include any water that would cause Material Harm to the Environment.

(3) **Commonwealth Act** means the *Water Act 2007* (Cth);

(4) **Commonwealth Rules** means *Water Market Rules 2009* (Cth) and the *Water Charge (Termination Fees) Rules 2009* (Cth).

(5) **Drainage** means the action or process of draining something and includes surface and subsurface drainage;

(6) **Drainage Work** has the same meaning as that given under the NSW Water Act;

(7) **Flood** means relatively high stream flow which:

(a) overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam; and/or

(b) local overland flooding associated with major drainage before entering a watercourse; and/or

(c) coastal inundation resulting from super-elevated sea levels and/or waves overtopping coastline defences excluding tsunami.

(8) **Material Harm to the Environment** has the same meaning as that given by section 147 of the POEO, stated as follows:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000; and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(9) **NSW Water Act** means the *Water Management Act 2000* (NSW);

(10) **Overland Flow Water** has the same meaning as that given under the *Water Management Act 2000* (NSW);

(11) **Pesticide** has the same meaning as that given under the *Pesticides Act 1999* (NSW);

(12) **POEO** means the Protection of the *Environment Operations Act 1997* (NSW)

(13) **Stormwater** means natural flow of water from rainfall, including roof runoff, but does not include Flood;

(14) **Treated Waste Water** means any Waste Water that has been treated in accordance with POEO.

(15) **Treated Waste Water Discharge Licence** means a licence granted by the Company to a Customer permitting the discharge of Treated Waste Water into the Company's Works.

(16) **Waste Water** means:

(a) waste water from sewage treatment systems (including the treatment works, pumping stations, sewage overflow structures and the reticulation system), or

(b) waste water from collection or treatment systems that are ancillary to processing industries involving livestock, agriculture, wood, paper or food, being waste water that is conveyed from the place of generation by means of a pipe, canal or conventional method used in irrigation (but not by means of a tanker or truck), or

(c) waste water from collection or treatment systems that are ancillary to intensive livestock, aquaculture or mariculture, being waste water that is released by means of a pipe, canal or other conventional method used in irrigation as part of day to day farming operations, in accordance with POEO.

2.2 A term defined in the Contract has the same meaning in these Drainage Use Rules, unless the contrary intention appears.

2.3 Clause 1.2 of the Contract (Interpretation) applies to these Drainage Use Rules with the necessary changes.

3. Drainage

3.1 A Customer will only be entitled to discharge Drainage in to the Company's Works if it satisfies all the following conditions:

(1) the Customer holds a valid Treated Waste Water Discharge Licence;

(2) the Customer complies with any reasonable direction of the Company for the purpose of satisfying any Legal Requirement;

(3) the Drainage is either:

(a) Authorised Drainage Water; or

(b) Treated Waste Water;

(4) the Drainage will not cause any Material Harm to the Environment;

(5) the Customer ensures that Drainage is only discharged through the Company's Works servicing the Landholding as determined by the Company; and

(6) the Customer does not take water from the Company's Works except in accordance with these Drainage Use Rules or the Contract.

4. Installation and removal of Drainage Works

4.1 The Customer must not install, construct, commence operation of, remove, extend, expand, connect, disconnect, cut banks or improve any Drainage Works (whether owned by the Company or the Customer) without the consent of the Company. Consent can be obtained by submitting an application to the Company for approval.

4.2 Subject to clause 4.3, a Landholding will only be entitled to one Authorised Discharge Point.

4.3 A Landholding may be entitled to more than one Authorised Discharge Point in circumstances where:

(1) the Company's Works results in the division of a Landholding into separate portions;

(2) two or more separate Landholdings, each with an existing Authorised Discharge Point, become amalgamated; or

(3) the Landholding is authorised under clause 4.5 of these Drainage Use Rules to have more than one Authorised Discharge Point.

If this sub-rule applies, then the Company may approve an additional Authorised Discharge Point for each separated portion of the Landholding.

4.4 An Authorised Discharge Point must meet the following criteria:

(1) for Landholdings:

(a) greater than 60 ha, all drainage inlets are to be 300mm in diameter;

(b) smaller than 60 ha, all drainage inlets are to be 225mm in diameter.

(2) the inlet must be located at the lowest point of the boundary of the Landholding which adjoins the Company's Works.

4.5 Except with the prior written consent of the Company, on farm Drainage Works for subsurface drainage are permitted to be installed or to remain on a Landholding only if:

(1) the subsurface Drainage Works existed as at 1 July 1989; or

(2) all water drained from the subsurface Drainage Works remains on the Landholding.

4.6 Despite any other rule, a Customer is not entitled to back-wash water into the Company's Works.

5. Environment

5.1 Unless the Company provides the Customer with prior written notice stating otherwise, the Customer must prevent any water used for watering a rice crop exposed to Pesticide from leaving the relevant Landholding within 28 days from the day that the Pesticide was applied to the Landholding.

5.2 The Customer must notify the Company immediately if Waste Water has passed in to the Company's Works or Supply Works from the relevant Landholding, including as a result of Overland Flow Water.

6. Monitoring and Investigation

6.1 The Customer must permit the Company to carry out sampling and testing of Drainage discharged by the Customer, as required by and at the direction of the Company from time to time.

6.2 In addition to the powers granted under the NSW Water Act, POEO and its Licences, the Company may collect and analyse additional samples of Drainage discharged by the Customer at any time and without prior notice if:

(1) it is in response to a complaint or incident; or

(2) routine sampling and analysis previously taken by the Company indicates there is a reasonable likelihood that the Drainage discharged has:

(a) caused Water Pollution: or

(b) is in breach of any water quality standards imposed by the Company's Licences or other relevant Legal Requirements.

6.3 The Customer will be responsible for all Costs incurred by the Company and will indemnify the Company in full in circumstances where the Company has conducted an analysis of Drainage and it is determined by the Company that there is a material breach of these Drainage Use Rules by the Customer.

6.4 The Customer must comply with the reasonable directions of the Company, notified by the Company to the Customer, for the purpose of reducing the impact of pesticides, nutrients, salt and any other pollutant, contaminant or water condition on receiving waters.

6.5 The Customer must provide the Company with all reasonable access to the Customer's Landholding and must provide the Company with reasonable assistance required by the Company for the purposes of the Company determining whether the Customer is complying with sub-rule 6.3.

7. Breach of Drainage Use Rules

7.1 In addition to rule 6 of these Drainage Use Rules and the Contract, if a Customer is in breach of these Drainage Use Rules, the Company will take appropriate action to prevent the continuance of the breach and may do any one or more of the following:

(1) suspend delivery of water (without any obligation to make up any delay or shortfall in delivery) and deny the Customer any services provided by the Company;

(2) by giving a notice to the Customer, require the Customer to conduct works such as to prevent the continuance of the breach;

(3) by giving notice to the Customer, require the Customer to suspend the discharge of Drainage or any substance into the Company's Works (without any liability for the consequences, including flooding).

(4) attend to immediate remediation of the breach at the Customer's expense to prevent any suspected or imminent breach of a Licence; or

(5) revoke any prior approval granted to the Customer to discharge under these Drainage Use Rules.

7.2 If the Customer fails to comply with a notice under sub-rule 7.1, then the Company may carry out works at the Customer's expense to prevent the continuation of, or any further breach by the Customer. Any such costs incurred under this rule 7 will immediately become a debt due to the Company and payable without set-off or counterclaim.

20th May 2019

The General Manager
Leeton Shire Council
Chelmsford Place
Leeton, NSW, 2705

Dear Sir

Re: Submission against proposed Solar farm near Yanco

We live at Farm 302A Research Road, Yanco. Our parents' farm will be opposite the proposed solar farm. It will only be metres away from our property. We do not agree that this project should go ahead on the following points:

- The proposed solar farm is only 6 km from town and in the middle of prime farming land. This will devalue the surrounding properties.
- The proposed solar farm will be aesthetically unpleasant. At the moment we enjoy looking at citrus trees when we look out. Who wants to look at ugly solar panels every day? I have seen other solar farms and they are overgrown with weeds and are not very nice to look at. Even though the company state they will be maintaining it, they most probably won't.
- When the sun goes down and they will be facing our property, the glare from the solar panels will be uncomfortable.
- What is going to happen to the land in thirty years' time when the lease runs out? Do we have to be stuck looking at the solar panels forever? And what will this do to the value of our land? Who wants to buy property next to a solar farm?

We have nothing against solar farms as it is a great way to produce renewable energy. BUT these farms should be placed far away from adjoining properties, especially homes with families.

Regards
Cameron & Anita Fitzgerald
PO Box 368
Leeton, NSW, 2705

SUBMISSION

Yanco Solar Farm
(SSD 9515)
EIS Exhibition

May 2019

Submitted by:
J.W. & F.W de Wit

SSD 9515 Objections

Introduction

As active local Murrumbidgee Irrigation Area (MIA) irrigators we welcome the opportunity provided by the NSW DPE to provide the following submission on the currently exhibited Yanco Solar Farm (SSD 9515). For the following reasons we oppose this proposed solar farm development.

Loss of Irrigated Agricultural Production and Economic Multiplier Benefits

The MIA located in South Western NSW encompasses 130,000 ha of irrigated land. Water is diverted from the Murrumbidgee River into the MIA and is used to supply the major towns of Griffith and Leeton as well as over 3,300 surrounding irrigated agricultural landholdings. Irrigated agriculture is the primary industry in the MIA supporting a diverse array of local agricultural businesses including:

- Apiarists (Crop pollination services);
- Engineering (Agricultural manufacturing);
- Irrigation Suppliers (Pumps, Water Stops, Headwalls);
- Aerial Operators (Crop protection application);
- Chemical Suppliers (Crop protection inputs);
- Fertilser Suppliers (Crop input);
- Irrigation Automation (Irrigation Water Efficiency);
- Water Monitoring (Irrigation Water Efficiency);
- Water Traders (Water Market Transactions);
- Agribusinesses (Livestock, Farming & Agricultural Products);
- Banks (Agricultural Financing); and
- Machinery Dealers (New & Used Machinery, Parts & Service).

In addition, the MIA's irrigated agricultural sector is also strongly supported by a number of research organisations including Deakin University (Griffith Centre for Regional and Rural Futures), Charles Sturt University and NSW DPI (Research). All of these research partner organisations working full time, with a local research facility presence, to support irrigated agriculture in the MIA and underpin irrigated agricultural investment, their research leveraging significant economic multiple benefits back to our irrigated agricultural sector and local agricultural businesses as listed above.

In a Technical Report by the CRC for Irrigation Futures[1] irrigation in the Murray Darling basin has an economic multiplier of 3.5, indicating that for every $1,000 of farm gate revenue generated there is an additional $3,500 of dependent economic activity.

Because of the significant investment required in purchasing irrigated agricultural land and irrigation water it is expected that an astute agricultural producer will expend these valuable resource inputs into growing agricultural commodities with the highest Gross Margin Return. For example, if the proposed Yanco Solar Farm site was alternatively used for Cotton production, the following economic assessment of the Annual Economic Return to the grower could be realistically expected and achieved.

Cotton Production (Based on 100ha's of Production over 30Years)	**$**
Individual Cotton Farm, Farm Net Profit, Furrow Irrigated Cotton ($/ha)	2,676
Economic Multiplier of 3.5	9,366
$9,366 multiplied by 100Ha's	936,600
$936,600 multiplied by 30Yrs (Life Expectancy of Solar Farm)	**28,098,000**

NB: Yanco Solar Farm approximately 205ha of irrigated productive farmland.

The potential economic loss to the local Leeton economy from building the proposed Yanco Solar Farm, based on the simple economic analysis above, over the 30 year life expectancy of the Yanco Solar Farm amounts to **$28,098,000**. If this basic economic analysis was to be undertaken through a Discounted Cash Flow analysis using a Discount Rate 7%, the resultant number in today's dollars, would be substantially higher. In addition, Cottons contribution to the regional Australian workforce, based on 100ha's of Cotton, provides direct jobs for 2.2 people annually (eg Farm Managers, Agronomists, Agricultural Pilots, Picker Operators, Ginning Staff, Cotton Classers, Cotton Brokers).

Further, if the above simple economic analysis was also run for Almond plantation production, the economic productivity would be in a similar range of potential economic productivity to the local Leeton economy.

Importantly, the statements within the Yanco Solar Farm EIS relating to Socio Economic and Community comments and within the EIS Appendix G – Economic Impact Statement in particular 3.7, Impact of Agricultural Land, are essentially economically unsubstantiated claims lacking in any sound economic evaluation or analysis. This is a particular weakness of this Yanco Solar Farm EIS and yet it is the key issue of conjecture in relation to the potential above demonstrated substantial losses which would be incurred to the local Leeton economy should the Yanco Solar Farm proceed.

A full, thorough and comprehensive independent Socio-Economic study should now be directed to be undertaken which represents accurately the true economic capacity and potential of this prime irrigated agricultural land on which the Yanco Solar Farm is currently proposed.

To reiterate, this is high productivity prime irrigated agricultural land, land of this capability is a limit resource, as quoted by the NSW Irrigators Council[2] less than 1% of land in NSW and it should not be allowed to go to a dramatically lower value use at the direct expense of the local Leeton economy and community longer term. This should not be development at any price. The MIA and its irrigation communities contribute over $5 Billion annually to the national economy through high value food and fibre production.

Land Capability

The land on which the Yanco Solar Farm is proposed is on Land and Soil Capability Class 3 under the Land and Soil Capability Assessment Scheme (OEH 2012) and as such Class 3 classification is defined as High Capability Land, in this instance land of high agronomic potential and capacity to produce a very diverse range of high value agricultural crops, with the distinct added advantage, in this instance of being on irrigated land equipped with all the necessary high efficiency irrigation water delivery infrastructure.

Irrigated soils of the MIA are an important and valuable agricultural resource capable of sustaining long term agronomic production. Irrigated land, as mentioned, is less than 1% of all agricultural land in NSW, a limited and valuable resource unable to be replaced elsewhere. Realistically, establishment of new irrigation land in NSW will not occur again, factors including lack of suitable high quality high productivity soil types, land of suitable relief for gravity fed irrigation flows, no further irrigation flow allocations and the massive cost and investment required for 'green field' development of such irrigated lands.

---

[1] Source: Meyer, WS (2005). The Irrigation Industry in the Murray and Murrumbidgee Basins. CRC For Irrigation Futures Technical Report No. 03/05.

[2] New South Wales Irrigators Council, Available at: http://www.nswic.org.au/factsheets/

As identified in the NSW Government's, Large Scale Solar Energy Guideline[3] for State Significant Development, Dec. 2018, Page 9, the heading titled Key Site Constraints states that irrigated cropping land and soil capability classes 1, 2 and 3 should be given consideration of any significant fragmentation or displacement of agricultural industries. Fragmentation and displacement which would clearly occur through the construction of the proposed Yanco Solar Farm. As such this land should be retained for ongoing irrigated agricultural production and this proposed Yanco Solar Farm development located elsewhere on appropriately matched higher Land and Soil Suitability classes 4. 5 and 6 of lower agronomic potential, potentially on surrounding dryland areas.

Historically, soil surveys and soil core assessments were an integral part of the original soils assessment process for delineation of these lands for irrigated agriculture, effectively 'ear marking' what was originally semi-arid landscapes for development into irrigation agricultural land. Only land with the certain pre-determined chemical and physical soil characteristics was apportioned off for irrigated agricultural development. Only fertile soils of pre-defined agronomic quality and attributes were mapped for inclusion into the MIA irrigation lands, land which is limited in its extend and is widely acknowledged as a highly valuable agricultural resource within NSW.

'Stranded' Irrigation Investment and Assets

In 2015, Murrumbidgee Irrigation (MI) through the Private Irrigation Infrastructure Operators Program (PIIOP-NSW)[4] received funding from the Department of Agriculture and Water Resources of $297 million to improve the efficiency of off-farm irrigation systems and on-farm water use. This investment comprising:

- Private Irrigation Infrastructure Operators Program (PIIOP Round 2) to upgrade on-farm irrigation infrastructure in exchange for the transfer of water savings back to the Commonwealth (eg storages, recycling systems) $175 million

- PIIOP Round 3 to upgrade off-farm infrastructure in exchange for water savings (eg Channel lining and automation & On-farm delivery automation), $122 million

The proposed Yanco Solar Farm site, would have been a beneficiary of the above stated investment. Now with the proposed Yanco Solar Farm development, this Commonwealth investment in existing on site irrigation assets could become effectively 'Stranded' irrigation investment and assets, unable to realise economic return on either recent or longer term irrigation infrastructure investment.

In addition, the question of who pays for the ongoing Murrumbidgee Irrigation (MI) Fixed Access and Network Charges which will still need to be paid? No or very limited water usage under the proposed Yanco Solar Farm will occur therefore incurring a loss of Usage Charge income to MI. Who covers the cost of this lost water usage income which is ultimately used by MI in the longer term maintenance the remaining irrigation system?

'Stranded' irrigation investment and assets will have a further detrimental economic impact on the MIA, the surrounding irrigation industry and the local Leeton economy.

---

[3] NSW Government, Large Scale Solar Energy Guideline for State Significant Development December 2018, Available at: www.planning.nsw.gov.au/Policy-and-Legislation/Renewable-Energy/Large-scale-Solar-Energy-Guideline

[4] Murrumbidgee Irrigation, Modernisation Projects- Infrastructure Projects, Avaiable at: www.mirrigation.com.au/Modernisation/Modernisation-Projects

Returning Site to Productive Irrigated Agricultural Landuse (Existing Capability)

As stated, the land on which the Yanco Solar Farm is proposed is on Land and Soil Capability Class 3, these soils comprising both the chemical and physical attributes to grow a broad range of high value irrigated agricultural crops eg. Cotton, Nuts (Almonds, Walnuts), Vegetables, (Carrots, Pumpkin, Broccoli). Land suitable for future food production is key to sustaining our future growing population, these populations now demanding high standards for food production, food safety and traceability.

The Hazard Analysis and Critical Control Points (HACCP)[5] management system is now a fundamental requirements to food production from irrigated agriculture. The HACCP Certification combines the Codex Alimentarius principles for HACCP; good manufacturing practice, relevant standards and key management systems to ensure the food safety system is in line with international practices. HACCP ensures that the food production system is working to its full potential and gives independent assurance to the customer that the food safety system is sound.

Solar Farms, inherent in their build, are highly intrusive and impact significantly on the land on which they are build. Solar farms require extensive trenching, laying of cabling, installation of foundations (including areas of mass concrete), above ground wiring to solar tracing systems and inverter stations. The 'End of Life' removal of this embedded solar farm infrastructure, in its entirety, is not practical or plausible, the cost of which would be very significant in assuring verified and complete removal of the all site contamination, and that is, this site could not be remediated to a standard to meet the stringent requirements of HACCP accreditation. Shattered panels, cabling, wiring or any plastics contamination would immediately render this site unusable for future food or fibre production.

Proposal to graze the site

The Yanco Solar Farm EIS discusses, post solar installation, using the land to graze livestock to generate some agricultural activity. This by its very nature is an impractical proposal. Livestock, in this instance sheep, require a significant number of livestock management inputs as the basis of successful livestock production, that is, a reliable, sustained and balance feed regime (improved pasture, pasture renovation, supplementary feeding), pest control regime (Lice, Fly Strick, Intestinal Worm control) and standard husbandry requirements (Lambing, Crutching, Shearing). All of these livestock management inputs require considerable skill and expertise to ensure a commercially viable enterprise on non-solar farm land. On land established with solar panels this would not be operationally or financially a viable pursuit.

For example, in respect to providing a reliable, sustained and balanced feed regime, solar farms have been identified for their ability to block Ultraviolet light and consequently disrupt soil microbiology, the issue being that when carbon is stripped from soil aggregates by soil biology the aggregates become compressed and the soil becomes hard and compacted. When sheep graze nutritionally poor plants they do not receive the adequate levels of minerals to meet their daily requirements therefore they have to graze more plants per square meter. This leads to the land being less productive because it can only sustain a smaller number of stock per hectare due to the lack of nutrition in plants.

---

[5] NSW Food Authority, Food Safety Programs HACCP. Available at: http://www.foodauthority.nsw.gov.au/ip/food-safety-programs-haccp

Further, solar farms at the commencement of construction are usually on substantially cleared land that is absent of ground cover, particularly if on previously farmed agricultural land. It is the case that if cleared agricultural land is left without re-establishment of a crop or pasture, the land will quickly revegetate itself with a broad range of weeds (in this area, likely Silver Leaf Nightshade (*Solanum elaeagnifolium*), Roy poly *(Salsola australis* R.Br.*).* Silver Leaf Nightshade is very difficult to control requiring repeated applications of herbicide while Roly poly is a potential fire hazard when allowed to build-up.

It is difficult for these persistent weeds to be controlled with herbicide due to the impossibility of a tractor and boom spray to gain access beneath installed solar panels. Again, establishment of a reliable, sustained and balanced feed regime long term under solar panels is unlikely to be operationally or financially viable for sheep production. Further, any non-controlled weed is a harbour for several productive crop diseases eg Fusarium which can arise as disease in surrounding productive crops having a potential economic impact to producers. Agricultural biosecurity is taken very seriously in this region.

Conclusion

In conclusion, we fundamentally support the endeavour of the NSW Government to develop renewable energy infrastructure, be it solar, wind or hydro in NSW. However we do not support, in this instance the development of the Yanco Solar Farm, or any other solar farm on MIA high economic productivity prime irrigated agricultural land. Land currently mapped, in draft, under the Riverina Murray Important Agricultural Land mapping program of the NSW Department of Primary Industries.

22nd May 2019

Submission for: Yanco Solar Farm

Objects

Estelle Cooper

LEETON, New South Wales

Message

As we live immediately next door to the proposed solar farm we will be negatively impacted in the following ways
- Property value- feedback from local real estate agents has indicated that the property would be worth significantly less. This unfair loss of equity restricts the value of future borrowing capacities against our property.
Saleability - the outlook of our property is greatly altered from an idyllic lifestyle outlook to one of metal and infrastructure. As well as a visual eyesore the metal will cause glare and reflection. This will greatly decrease the number of potential buyers if we ever wanted to sell our property. We purchased the property for its scenic setting as it is surrounded by vineyards, orchards and hobby farms. We feel the proposed vegetative screening will take many years to have any effect on the visual impact as the plants will be seedlings.
Noise levels during building- being in such close proximity the impact on our lives during the construction phase will be at times extreme, with noise and vibration caused by heavy machinery, drilling and ramming of poles, construction of roads and erection of fencing. Dust will also be a factor.
Health concerns - we are worried about any potential negative health impacts similar to cases

reported near high voltage power supplies. No information seems to confirm that our long term personal safety will not be impacted.
- Heat impact - it is commonly reported that temperatures can be raised by up to 6 degrees around a solar farm. As we live in hot environment where temperatures can reach 45 degrees we feel another 6 degrees make living next to the solar farm unbearable as well as increasing our electricity costs to cool our property. The extra heat would also take a toll on our trees, gardens and lawns.
- When we purchased the property we understood that the zoning was for primary production and now this will potentially be overruled to become a commercial zone where the financial beneficiary will be an international company.
- To allow A grade irrigated horticultural farming land that has had many thousands of dollars invested in its development to be wasted on a venture that could be built on lower value land seems like a terrible injustice.

Submission for: Yanco Solar Farm

Supports

Name Withheld

CORBIE HILL, New South Wales

Message

I support this project 100%

The Department of Planning and Environment acknowledges the Traditional Custodians of the land and pays respect to all Elders past, present and future.

Submission for: Yanco Solar Farm

Supports

Pamela Reeves

GLADESVILLE, New South Wales

Message

I am writing to strongly support the Yanco Solar Farm proposal. I believe these types of projects are vital in reducing our reliance on fossil fuels for electricity production. Projects such as the Yanco Solar Farm are to be encouraged and given priority by the government as a means of assisting both NSW and the Australian governments reach, and preferably exceed, the targets set in the Paris agreement to reduce global warming to 1.5ºC

This project has many positive outcomes including the creation of local jobs and the opportunity for economic stimulus to the regional community's businesses. It has excellent solar exposure which means it will be effective in capturing the maximum amount of sunlight for electricity production and has a minimal visual impact to neighbouring properties. I note there is a low environmental impact in its construction.

Projects like this are important in cutting the amount of carbon dioxide produced and that renewable energy projects are a significant player in reaching zero emissions.

The Department of Planning and Environment acknowledges the Traditional Custodians of the land and pays respect to all Elders past, present and future.

Uzhrona

20th May 2019

The General Manager
Leeton Shire Council
Chelmsford Place
Leeton, NSW, 2705

Dear Sir

Re: Submission against proposed Solar farm near Yanco

We live at Farm 302A Research Road, Yanco. Our farm will be opposite the proposed solar farm. It will only be metres away from our property. We do not agree that this project should go ahead on the following points:

- The proposed solar farm is only 6 km from town and in the middle of prime farming land. This will devalue the surrounding properties.
- The proposed solar farm will be aesthetically unpleasant. At the moment we enjoy looking at citrus trees when we look out. Who wants to look at ugly solar panels every day? I have seen other solar farms and they are overgrown with weeds and are not very nice to look at. Even though the company state they will be maintaining it, they most probably won't.
- When the sun goes down and they will be facing our property, the glare from the solar panels will be uncomfortable.
- What is going to happen to the land in thirty years' time when the lease runs out? Do we have to be stuck looking at the solar panels forever? And what will this do to the value of our land? Who wants to buy property next to a solar farm?

We have nothing against solar farms as it is a great way to produce renewable energy. BUT these farms should be placed far away from adjoining properties, especially homes with families.

Regards

Salafia, P. Salafia

Paul & Patrizia Salafia
PO Box 368
Leeton, NSW, 2705

Submission by Roy Currie - April 25 2019

Keep in mind that regardless of global warming etc, alternative energy is subsidised by the taxpayer and **ib vogt** is in this to make money on their investment which is normal business practice. Therefore to obtain as large a return on investment as possible, the investing company wishes to have as good an outcome as possible which means that if someone gets stepped on, so be it. The current rush of solar farms from the investor point of view has nothing to do with global warming or greenhouse gases, it has to do with return on investment and if you can get a taxpayer funded guarantee, it is a home run investment. In short, it is the **exploitation of the local economy** for investor and national gain.

My observations regarding the **ib vogt - EIS statement** prepared by **NGH Environmental** – is that it is not an objective report and is very pro development, therefore must be viewed with great distrust! The EIS consists of 295 pages therefore my comments do not constitute an in depth coverage of the statement, selecting the pertaining items that I know to be incorrect or overlooked.

The entire EIS is based on a state/nation wide "one size fits all" solar protocol based on "if it is solar, it is good". This is to achieve the stated targets regardless of local impacts. For an example of this bureaucratic ignorant attitude, just look at what the MDBP has done and will continue to do to our rural economy and the nation.

Link to the EIS below:

https://www.planningportal.nsw.gov.au/major-projects/project/9391

Page 16 – 2.4.6 Site suitability and justification – My comments in italics

Finally, it would contribute to economic development in Yanco and Leeton, and the surrounding region. The key site constraints with justification as to why the site is suitable is detailed in Table 2-1 below: *The "table below" does not list one negative effect to the local community, is biased positively to the promotion of the solar farm, glossing over or ignoring the real facts.*

Groundwater - Page – 182 – Extract - *My comments in italics*

An internal road system would be established for the construction and maintenance of the solar farm infrastructure.
Several irrigation canals are present within the development site. Gogeldrie Branch Canal borders the development site.
Several farm buildings and dwellings also occur in the development site.

Other improvements on the development site that are not mentioned, purposely understated or overlooked are:

- *Two irrigation bores –delivering approximately 5.5 megalitres per day to the irrigated area- It is interesting to note that the report easily glosses over these two assets – Construction and equipping of the two bores would currently be about $150,000 not considering the application to supply electrical connections to each site which today may be as high as $100,000 per bore site.*
- *I have bore log copies of bores – GW402594 and GW415644- Bores that are **NOT** mentioned in the EIS- the EIS does make mention of two S & D bore as follows:*
    - "There are two bores within 500 m of the development site with Bore IDs GW058303 *(no log recorded)* and GW040500 *(cannot be found).* Both are used for Stock and Domestic water supply. Data is available for GW058303 and indicates that the drill depth is 10.40 m with a standing water level of 2.10 m and a good rating against salinity." *(no detail other than location recorded according to the NSW State Water records so where did this information come from? – the recorded location of bore GW058303 is 3 km north of the proposed solar farm homestead on a different property title). There is an unregistered S & D bore located at the homestead.*
        - *A convenient oversight? Or sloppy research? Or information provided to mislead?*

*Indicative infrastructure list and is a not a conclusive list as **there is a second system of similar size:***

- *Grid power to the properties*
- *Transformer – 200 kVa*
- *Shed irrigation pump motors – 2 x 45 k/W plus jockey of about 10 k/W = 100 k/W*
- *Bore pump – 22 k/W*
- *Very extensive piped underground mainline for the irrigation water distribution system*
- *Valves and sub-mains*
- *The many kilometres of irrigation drip tube*
- *The irrigation valve control system*
- *Reinstallation of the irrigation system - currently value approximately $5,000 per ha x205ha = $1,025,000*
- *Reinstallation of the posts and wires*
- *The procurement and replanting of the selected species*
    - *There is considerably more infrastructure not listed*

*It is a grandiose statement to return the land to its **existing capability** but it will be vacant land with all present infrastructure and assets destroyed or rendered useless. This statement is very misleading, treating the community as uniformed fools.*

The Leeton community is faced with 30 years of loss of contribution to the economy which on top of the present MDBP monumental impact will decrease the Leeton population even further, making Leeton capable of only providing very minor services

EIS - *7.9.2 Potential Impacts* - Page 235 -

These impacts have been assessed in detail in **Section 6.4** and found to be highly manageable. It is also important to note that the proposal will not limit all agricultural activities, and it is proposed to graze the development site.
Upon decommissioning of the solar farm, the development footprint would require rehabilitation to restore it to its pre-existing agricultural condition.

- As such, no cumulative impacts to agricultural enterprise are expected - *This is a very skewed comment*

See below copied from Section 6.4 - page 136 of the EIS:
The value of production lost is estimated at up to $1.2 million per year (good year) *(it is actually a lot greater on a good year)* or an average of $850,000 over a longer-term period (expressed in $2018 dollars). All production from the site supplies the domestic market (i.e. no exports). In comparison**, it is estimated the wholesale value of clean electricity supply into the national grid from the Yanco Solar Farm could total $10.0 million per year.**

So what does the $10 million do for the Leeton economy?

*This is an ib vogt emotive **estimated** value and makes absolutely **no contribution** **to Leeton's economy**. My calculation is this – using their figures,* (not my previous figures*) and a current average of $1 million production from the property per year and the EIS stated value to Leeton during the 10 month construction phase only, of $560,000, Leeton's loss just in the 10 month is $833,000 - $560,000 = $273,000 and of course this loss continues on at the 2018 rate of $1,000,000 per year for 30 years offset by the employment of 3 people and minor contractors, if in fact the solar infrastructure lasts that long. NOTE that there is no mention of the six downstream jobs that agriculture provides.*

Repeatedly much is made of "returning the site to agricultural use" – as I previously listed, currently has as operating infrastructure of:

- Two equipped operating irrigation bores **(not declared in the EIS - page 18**2) – Bore GW402594 at 20 metres deep, producing 2.5+ megalitres per day and Bore GW415644 at 40 metres deep producing 3+ megalitres per day – approximate replacement cost of $150,000
- Two fully functional drip irrigation systems with a current replacement cost of 1.1 million dollars
- The connection of electricity supply estimated at $100,000 each.

All or most of this existing infrastructure will require replacement in 30 years as damage to the underground pipe systems and the general deterioration of the motors, pumps, water supply infrastructure.

NGH Environmental - EIS statement – **Extract – Page xix** - continues on to state - *My comments in italics*

The proposal is expected to operate for 30 years. (*The current solar panel effective life span is 25 years at best, losing efficiency at an ever increasing rate as they age – so where does the 30 year figure come from? The inverter life span is about 15 years, and as for the battery life span, if even they are implemented, is unquantifiable as the present research is inconclusive and they themselves pose a safety concern, a limited cycle life, a high capitol cost and a pollution problem, none of which is fully addressed as yet, as well as the new technology aluminum-ion battery on the horizon as a cheaper, safer option.)* The construction phase of the proposal is expected to take 10 months and will commence in early 2020. After the operating phase, the proposal would either be decommissioned, removing all above ground infrastructure and **returning the site to its existing land capability**, *(a totally impractical statement)* or upgraded with new photovoltaic equipment- *virtually the only practical option*

Other questions:

- *If **ib vogt** sells the business in the ensuing time does the "clean up" responsibility pass with the sale to the new owner/lessee?*
- *Is the damaged underground distribution system returned to viability?*
- *Is the MI "on property" irrigation water infrastructure systems returned to reliable viability?*
    - *Including the MI supply system that will have fallen into disrepair during this time frame*
- *Are the bores returned to reliable viability? If they have not collapsed during this time!*
- *What or who cleans the shattered glass from the affected area if a catastrophic event destroys the panels? An event like this will render the land virtually useless for agricultural purposes*
- *Where does the "end of life" component go? Leeton landfill?*

My observation is that in thirty years' time, is that it will be unviable to carry out the foregoing and the land will be forever a solar farm, grazing or waste land, all low economic value pursuits when compared to what the current and potential economic generating value is.

PROJECT BENEFIT - EIS – Page *xx* - *My comments in italics*

In addition to reduced greenhouse gas emissions and meeting government energy policies, local social and economic benefits that would be associated with the construction and operation of the proposal include:

- Direct and indirect employment opportunities during construction and operation of the solar farm. This includes up to 120 direct and 190 indirect full-time staff for the 3 to 4 month peak of construction and five operational staff for the life of the project. *(A contradiction of the **ib vogt** Newsletter 2 April 2019, stating **3 permanent jobs**)* Maintenance contracts for panel cleaning, fence repair, road grading, etc. would also be required and would likely be met by local contractors.
- Direct business volume benefits for local services, materials and contracting (e.g. accommodation, food and other retail).
    - ***The short term benefit does not offset the current normal economic return that this property produces now!*** *The only way that this project can contributes to the Leeton economy is by putting it on low economic value land. See below!*

- **EIS - Page 247 -** It is estimated that $560,000 in wage spending would be directed at local and regional businesses and service providers during the construction period. Spending would include housing expenditure, retail, recreational spending, and personal, medical and other services. – *this property area presently returns about $2million gross per annum so for the indicated construction period of 10 months the potential property return would be $1,670,000 for the same time period – an economic loss to the community of $1,110,000 just during construction, plus 30 years of continued loss.* ***The EIS states that the property produces 1.2 million! Either way, Leeton loses!***

Amongst others, the following misinformation:

• Retain some agricultural production value through managed stock grazing during operation. *An emotive observation that will have very little economic value compared to the overall loss of income to the community over 30 years*

• Preserve future agricultural production values, being highly reversible at the end of the project's life. – *An impractical but "feel good" statement that has no value – see my previous comments above.*

I reiterate the following from my pervious submissions:
The downstream flow on losses of employment, machinery sales and service industries to name some:

- 10 plus casual workers,
- The harvest contractors,
- The use of about 4.5 megs of water per ha. totaling 922 megs per annum that must be provided by MI and their employees, the maintenance of the irrigation systems and the bores that the maintenance of, supports local contractors.
- The required professional services of mechanical repairs,
- Agronomy advice
- Chemical sales
- Fertiliser sales
- Population loss, affecting services and the community in general
- Population loss, hence school age pupils, affecting our schools
- Solar farms create heat cells that research has shown can be up to 6 degrees above the area ambient temperature.
    - The solar farm is directly south of the Leeton, and directly west of the Yanco community – our weather systems move west to east and our prevailing winds blow west to east – the settled areas will experience higher temperatures.
    - This rise in temperature will have adverse effects on other intensive agricultural pursuits in the area!
- **ib vogt** disputes the heat cell claim, yet extensive research in Wisconsin and Arizona raises this as a concern.

See below:

Written by Sandra Henderson (Research Editor, Solar Novus Today) **29 November 2016 Extract** ***"Large Solar Power Plants Increase Local Temperatures"***
Link - https://www.solarnovus.com/photovoltaic-heat-island-effect-large-solar-power-plants-increase-local-temperatures_N10518.html
*Contrary to previous studies that predicted solar power installations would decrease temperatures around them by absorbing some of the sun's energy, a study by a team of researchers from the **University of Arizona** and the **University of Madison-Wisconsin** indicates the opposite: Large solar power plants cause a photovoltaic heat island effect.*

- Be aware that as a general rule, agriculture generates six indirect non ag downstream jobs – solar cannot do this!
- All the foregoing affects Leeton's fragile economy.

Why do I use the term fragile? Fragile because of the disastrous Murray Darling Basin fiasco! Have a look at our main street with the empty shops! Yes! The first excuse that is made about this situation is "on line shopping" is ripping the heart out of the town! I do not deny that this is a contributing factor, but the only reason that any rural community exists is that there is a **RURAL POULATION/INDUSTRY** that requires support services. This proposed so called "development" has a great and needless negative impact on our community. The **ib vogt** solar project **decreases** this dependency of support services – see alternative below.

EIS *6.4.1 Existing environment* - Page 130 - Excerpts

It is important to note that solar farms do not preclude the use of land for agriculture. Some agricultural activity is still possible whilst a solar farm is operating (e.g. grazing). Additionally, the degree of permanent land disturbance in the construction and operation of solar farms is small, and upon decommissioning of the proposal, the development footprint would be rehabilitated to restore land capability to pre-existing agricultural use.

Class 3 land is considered **High Capability Land**: Land that has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices.

Class 6 is considered **Low Capability Land**: Land that has very high limitations for high-impact land uses and is restricted to low-impact land uses such as grazing, forestry and nature conservation. **97% of the development site is classified as Class 3 land.**

So why is this "high capability" land being developed for a "low capability" income to the Leeton economy?
See green outline below for alternative Class 6 land sites!

A snapshot of 1950 ha of possible alternative sites that would satisfy all requirements for the community and making the **ib vogt** EIS stated contribution to the Leeton economy a **positive** reality with very little of the current angst. Of course **ib vogt** has to dig deeper into their pockets to make it happen, - **Too bad! - I don't care!**

Wate
Work S

GW402594

Licence:
Licence Status:

Authorised Purpose(s):
Intended Purpose(s): IRRIGATION

Work Type: Bore
Work Status:
Construct.Method:
Owner Type:

Commenced Date:
Completion Date: 31/10/03

Final Depth: 20.00 m
Drilled Depth: 21.00 m

Contractor Name: STRATHMERTON DRILLING PTY LTD
Driller: Brian Ernest Madgwick
Assistant Driller:

Property:
GWMA:
GW Zone:

Standing Water Level (m): 5
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

County
Form A: COOPER
Licensed:

Region: 40 - Murrumbidgee
River Basin: - Unknown
Area/District: 41

CMA Map: 8128-1N
Grid Zone:

Elevation: 0.00 m (A.H.D.)
Elevation Source: (Unknown)

Northing: 6173446
Easting: 443789

GS Map: -

MGA Zone: 55

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placeme

Hole	Pipe	Component	Type
1		Hole	Hole
1	1	Casing	P.V.C.
1	1	Opening	Screen

Water Bearing Zones

From -m	To - m	Thickness-m	WBZ Type
16	20	4	Unknown

Drillers Log

From -m	To - m	Thickness-m	Drillers Description
0	1	1	Topsoil
1	16	15	Clay, brown
16	20	4	Sand, brown
20	21	1	Basement

rNSW
ummary

Parish	Cadastre
YARANGERY	LT149 DP751745

Scale:

Latitude: 34°34'45.2"S
Longitude: 146°23'13.6"E

Coordinate Source: GPS - Global

nt of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

From -m	To - m	OD-mm	ID-mm	Interval	Details
0	20	250			Unknown
0	16	220			Screwed
16	20	220		0	Stainless Steel, Welded, A: 1.60mm

S.W.L.-m	D.D.L.-m	Yield l/s	Hole Depth-	Duration-hr	Salinity - mg/l
5				02:00:00	

Geological Material	Comments
Topsoil	
Clay	
Sand	
Invalid Code	

APPENDIX B ECONOMIC ASSESSMENT – ETHOS URBAN

ETHOS URBAN

3 September 2019 Project No: 1390148

Yanco Solar Farm – Response to Submissions

Response to Leeton Shire Council Submissions (Economic)

1.1 *A further socioeconomic and community assessment should be undertaken by the proponent that considers the increased productivity potential of this highly developed agricultural land and assets, including the multiplier effect of the value adding of the agriculture commodities produced on this site against the value of converting this land to solar production*

A report prepared by Riverina Agriconsultants (29 July 2019), provides the following estimates of the direct and value-added output for a number of potential agricultural uses on the subject site. This analysis shows the existing land uses (mix of wine grapes and citrus) provides the highest overall output compared with other agricultural commodities (i.e. almonds, cotton and rice) which could be produced on the subject land.

Site Use	Estimated Farm Gate + Local Post Farm Gate Production
Wine grapes	$3.75 million pa
Citrus	$2.45 million pa
Existing Site Uses	**$6.2 million pa**
Almonds	**$4.10 million pa**
Cotton	**$1.20 million pa**
Rice	**$1.30 million pa**

A comparison the economic output from the existing land use (wine grapes and citrus) compared to conversion of the land for solar production is provided in section 1.4 (below).

1.2 *The economic impact statement makes reference to the region as being very low on the SEIFA scale and having high unemployment and a pool of available labour.*

- *This is inconsistent with the analysis in the Western Riverina Regional Economic Development Strategy which shows relatively low levels of unemployment across all Western Riverina Local Government Areas (LGA's), with reference rates for the whole of NSW.*

ETHOS URBAN

The labour force data used in the Economic Impact Assessment (EIA) is based on official data published by the Federal Government (Department of Employment) as of June 2018. This official data shows Leeton Shire's unemployment rate of 6.2% and the broader region's unemployment rate of 5.9%, were higher than the average for NSW (4.8%). As of June 2018, the pool of registered unemployed labour was 360 persons in Leeton Shire and 3,420 persons in the broader region (Study Area). Refer to Table A below.

Table A: Labour Force – Study Area, June 2018

Municipality / Area	Employed	Unemployed	Total Labour Force	Unemployment Rate
	No.	No.	No.	Percentage
Griffith City Council	13,660	690	14,350	4.8%
Leeton Shire Council	5,480	360	5,840	6.2%
Narrandera Shire Council	2,660	250	2,910	8.6%
Wagga Wagga City Council	32,840	2,120	34,960	6.1%
Study Area	**54,640**	**3,420**	**58,060**	**5.9%**
New South Wales	**3,949,500**	**200,600**	**4,150,100**	**4.8%**

Source: Australian Government Department of Employment, *Small Area Labour Markets – June Quarter 2018*
Figures rounded

ABS SEIFA data for relative socio-economic advantage and disadvantage for 2016 (latest available), shows Leeton Shire was ranked the 35th most disadvantaged LGA out of 129 NSW LGAs. As Table B highlights, Griffith LGA (48st) and Narrandera Shire LGA (23th) were also ranked below the NSW average in terms of relative disadvantage. Only Wagga Wagga LGA (88th) out of the Study Area LGAs, was ranked above the NSW average in terms of disadvantage. Note, the lower the SEIFA ranking the higher the level of disadvantage.

Table B: ABS SEIFA Index of Relative Socio-Economic Advantage and Disadvantage – Selected LGAs, 2016

	2016	
LGA	Ranking 1 to 129 (NSW LGAs)	Decile 1 to 10
Griffith City Council	48	4
Leeton Shire Council	35	3
Narrandera Shire Council	23	2
Wagga Wagga City Council	88	7

Source: ABS SEIFA Indices, 2016

1.3 The economic impact statement also suggests that the operational requirements for the solar farm would be more labour intensive than for use as irrigated agricultural land. This is based on advice from the proponent only. Council contends that upon completion of construction of the solar farm, there is limited labour requirements to manage and maintain the facility. This is opposed to irrigated agriculture whereby there is ongoing labour required to manage and maximise crop production and additional labour associated with value adding manufacturing related to the crops grown.

Agricultural employment on the subject site is based on information relating to the existing operations and has been provided by the landowner (business operator) and cross-referenced with independent analysis undertaken by Riverina Agriconsultants.

- **The number of jobs supported by existing onsite activities is estimated at 4.5 FTE jobs, which include 2.0 FTE onsite jobs and the equivalent of 2.5 FTE job for casual pickers during the harvesting (e.g. oranges).**
- **Vine picking is automated and does not require casual labour.**
- **For this particular business, a small amount of additional employment is supported through local transportation services and processing (oranges and grapes) – which is estimated at 0.5 FTE.**

In total an estimated 5.0 FTE are directly employed through the operations of the subject site.

Proposed solar farm employment to be located on the subject site is based on estimates provided by the proponent.

This information indicates that 3.0 FTE onsite jobs will be supported through the operation of the solar farm associated with the following tasks:

- **Landscaping / ground care**
- **Panel cleaning**
- **Electrical / technical services**
- **Security services.**

A review of information relating to other utility scale solar farms shows the amount of ongoing onsite labour estimated for the Yanco Solar Farm is consistent with the operational requirements of such facilities i.e. approximately 1FTE job per 30 MW of installed capacity (on average for developments between 50MW-100MW).

In summary, a net loss of 2.0 FTE would be expected through the conversion of the subject site from existing agriculture activities to solar farm activities. However, the landowner advises the 2.0 FTE staff currently working on the site will be retained in other parts of the

company resulting in a no net loss employment outcome. It is also important to recognise that the 2.5 FTE casual pickers are all itinerant workers and not locals; therefore, direct local employment associated with the site will likely increase slightly through the operations of the solar farm.

However, on an indirect employment basis there is likely to be a net loss in employment associated primarily with wine grape and orange processing (assuming all processing occurs in the Leeton/Griffith region).

Applying a multiplier 5.9 for horticulture to the 5.0 FTE direct onsite jobs, then 29.5 FTE jobs are estimated to be supported through the employment multiplier effect. Not all of these jobs will be locally based as the multiplier also takes into account consumption impacts which will include transportation, warehousing, wholesaling and retailing (supermarkets, restaurants, cafes etc) which are widespread throughout the national economy. Assuming 50% of these jobs are supported locally (recognising significant processing facilities in the region) then approximately 15 FTE jobs would be lost due to the cessation of the existing activities on the subject site.

Solar farm operations will also support indirect employment of 15.0 FTE jobs, of with 10% (or 1.5 FTE) assumed to be supported locally (through maintenance and other services to the facility).

The net indirect impact on employment locally is therefore estimated to be 13.5 FTE jobs. If total employment (direct and indirect) is considered, the net loss of local jobs is estimated at 11.0 FTE jobs (factoring in the existing non-local fruit picking workforce of 2.5 FTE).

During the solar farm's construction phase an estimated 70 FTE local jobs will be supported directly (i.e. onsite), while additional local jobs will be supported indirectly through industrial (supply chain) and consumption effects. These jobs will not be created if the solar farm does not proceed.

The economic impact statement also makes the case that the solar farm would be a tourism generator for the region without providing evidence of this. This is a tenuous argument as even if one were to accept the argument that solar farm tourism exists, it would be expected that most (all) visitors would be from NSW (school camps for example) and as such, there would be no economic activity created in the state (activity would be diverted from other regions in the state).

The EIA clearly does not state the solar farm will be a tourism generator; rather, once operational the Yanco Solar Farm could potentially support small-scale tourism and educational opportunities in the future. Visitor spending benefits, should they arise, will logically

accrue in Leeton and Yanco (where the solar farms are located), therefore support local businesses.

The report also does not justify the claims that there will be a positive impact on NSW welfare from the move to the solar farm. Council contends that changing this parcel from highly productive agricultural uses to a less productive site for the solar farm would likely result in higher welfare overall.

The EIA does not make any claims regarding impacts, positive or otherwise, on NSW welfare.

The EIA does; however, highlight several positive economic outcomes for the region (as defined by the Study Area). These positive outcomes include:

- **Local employment generation of 70 FTE construction-related jobs (plus additional jobs through the supply chain).**
- **Project participation opportunities for regional businesses and contractors,**
- **Construction worker spending stimulus of approximately $560,000 (associated with non-local workers) during the construction phase, benefiting accommodation providers, retailers, cafes, restaurants, pubs etc.**
- **Financial stimulus to council through developer contributions and an increase in rates returns to council from the site. A commitment of the VPA of $15,000 per year has been made by the proponent. These revenues can be used to support community infrastructure and services.**

1.4 *In its SEARS submission Council requested detailed comment on a comparison of the value the economic return expected to be generated by the establishment and operation of the solar farm over the period of time that the solar farm is expected to exist with the economic value from the production and value adding of horticulture produced over the site over the period of time that the solar farm is expected to exist.*

This issue has not been addressed in the EIS.

The EIA notes that the annual value of horticulture production lost from the subject site is up to $1.1 million (Riverina Agriconsultants); while the wholesale value of renewable electricity production from the same land is estimated at $10.0 million pa.

If appropriate multipliers are applied to each productive site use (i.e. ABS Type B multiplier of 5.9 for fruit and vegetable production and 2.9 for electricity generation) then total annual output value for horticulture

production is estimated at $7.1 million, compared to electricity generation of $29.0 million pa.

Over 30 years; therefore, the value of horticultural production associated with the subject site would be <u>$213.0 million compared to electricity production of $870.0milion</u> (both expressed in constant 2019 dollars).

1.5 The positive economic effects mentioned in the EIS from the 4-month construction phase….etc

The EIA notes the construction phase of the Yanco Solar Farm is estimated to be approximately 10 months, and not 4 months.

<u>Response to other submissions (Economic)</u>

Estelle Cooper- Property price impacts

Land and property values are subject to a range of complex factors and relationships which makes it difficult to isolate one single factor as causal to price movements. Influential factors on land and property prices include:

- **Supply and demand dynamics**
- **Economic confidence**
- **Interest rate movements**
- **Investment and capital growth potential**
- **Existing land potential**
- **Land transition potential**
- **Availability of finance/loans**
- **Specific characteristics of a site/property**
- **Environmental factors (drought, flood, bushfires)**

While some research has been undertaken to isolate the impacts of wind farms on property prices (e.g. Review of the Impact of Wind Farms on Property Prices, Urbis, 2016 for the NSW Government), no research has been identified which specifically addresses the link between property values and solar farms in Australia.

Importantly, the Urbis report notes that over a relatively long assessment period of 2000 to 2015:

"*There is insufficient sales data to provide a definitive answer to the question of whether wind farm development in NSW impacts on surrounding land values utilising statistically robust quantitative analysis techniques*" (Executive Summary).

While the impacts of wind farms and solar farms on property and land prices should not be compared, given the intrinsically different nature of the developments and operations, the difficulty in assessing impacts on

values in the well-established Australian Wind Farm sector underpins the fact that no reliable assessment can be made with regard to the utility scale solar sector which is in its relative infancy.

J.W. & F.W de Wit – Loss of Agricultural Production and Economic Multiplier Benefits

The EIA notes that the annual value of horticulture production lost from the subject site is up to $1.1 million; while the wholesale value of renewable electricity production from the same land is estimated at $10.0 million pa.

If appropriate multipliers are applied to each productive site use (i.e. ABS Type B multiplier of 5.9 for fruit and vegetable production and 2.9 for electricity generation) then total annual output value for horticulture production is estimated at $6.5 million, compared to electricity generation of $29.0 million pa.

Over 30 years; therefore, the value of horticultural production associated with the subject site would be $195 million compared to electricity production of $870.0 million (both expressed in constant 2019 dollars).

Under Discounted Cashflow Analysis using a Discount Rate of 7% (as proposed by the submitter), the Net Present Value of horticultural production associated with the subject site (over 30 years) would be $86 million compared to electricity production of $385 million.

Roy Currie – Value of production and economic losses

Refer to above output value aggregate comparisons for horticulture and electricity production. Note, only a portion of the $7.1 million in horticultural output (direct and indirect) will be retained in the local economy – with economic value distributed nationally through activities such as transportation, processing, wholesaling, retailing and consumption activities (restaurants, bars, cafes).

The $560,000 in economic benefit referred to in the submission, represents only one stimulus factor associated with the construction phase (i.e. wage spending by non-local workers). Other economic benefits will accrue to the Leeton economy including a significant number of jobs created for locals, as well as contracts for local businesses supplying services (directly or indirectly) to the construction project. A review of similar utility-scale solar projects shows between 10-15% of total project investment is captured in the local economy in the construction phase. In the case of the Yanco Solar Farm, this level of local investment would amount to $10-15 million over the 10 month period (assuming a $100 million investment).

ETHOS URBAN

Ongoing economic contribution of the Yanco Solar Farm to the community includes an estimated $14.3 million through additional revenues to Council/community (over 30 years) through an uplift in council rates/developer contributions/or community fund which can support local infrastructure and services.

riverina
agriconsultants

AGRICULTURAL VALUE OF PRODUCTION AND EMPLOYMENT ASSESSMENT FOR THE PROPOSED YANCO SOLAR FARM

AGRICULTURAL VALUE OF PRODUCTION AND EMPLOYMENT ASSESSMENT FOR THE PROPOSED YANCO SOLAR FARM

Submitted to: ib vogt GmbH

Attention: Jenny Walsh

Ph: 0406 938 995
Em: JennyWalsh@ibvogt.com

Submitted by: Riverina Agriconsultants
Agribusiness & Environmental Consultants
PO Box 1458
Level 1
84 Yambil Street
GRIFFITH NSW 2680

Ph: 02 6964 9911
Fx: 02 6964 5440
Em: admin@rivagri.com.au
Web: www.rivagri.com.au
ABN: 79 095 414 065

29 July, 2019

TABLE OF CONTENTS

LIST OF TABLES

1.0 EXECUTIVE SUMMARY

This report assessed the farm gate and local post farm gate value of production, and employment arising from the land which is the site of the proposed Yanco Solar Farm.

Based on current land use being wine grapes and citrus, this report has assessed the value of production from the land which is the site of the proposed Yanco Solar Farm to be as set out in Table 1 below:

Table 1: Value of Production

	Farm Gate	Local Post Farm Gate
Wine grapes	$0.5M	$3.25M
Citrus	0.6M	1.85M
Total	1.1M	5.10M

This report also assessed alternative high value land uses for the subject land finding potential local post farm gate value of production to be:

- Almonds - $4.1M;
- Cotton - $1.2M; and
- Rice - $1.3M.

The current operation is undertaken by two full-time employees. Casual (contract labour) is engaged for the citrus harvest which equates to about another three full-time equivalent staff.

The basis for these conclusions is provided in the body of this report.

2.0 INTRODUCTION

This report was requested by ib vogt GmbH to provide an independent assessment of questions raised in submissions to the Environmental Impact Statement (EIS) dated 29 March 2019 for the proposed Yanco Solar Farm. In response to the EIS in a letter dated 22 May, 2019 Leeton Shire Council stated:

> *"Council recommends that before further consideration is given toward assessing the proposed development a further socioeconomic and community assessment should be undertaken by the proponent that considers the increased productivity potential of this highly developed agricultural land and assets, including the multiplier effect of the value adding of the agriculture commodities produced on this site against the value of converting this land to solar production."*

The purpose of this report is to specifically address productivity potential, local value adding and employment arising from the land which is the site of the proposed Yanco Solar Farm. All dollar figures provided in this report are GST exclusive.

As set out in Figures 1-1 and 1-2 of the EIS, the subject land adjoins Toorak and Research Roads, is located south of Leeton and west of Yanco in the Murrumbidgee Irrigation Area and comprises Lots 142, 145 to 152 in DP751745 and Lot 6650 in DP1197165.

According to property data provided by *Riverina Winegrape Growers*, the current land use of the subject land is predominantly wine grape and citrus production as summarised in Table 2.

Table 2: Current Land Use

Type	Ha
White Grapes	33.6
Red Grapes	65.5
Oranges	58.8
Vacant	10.5
Total	168.4

The total arable area of the subject land 168.4ha. The vacant land has previously been used for red and white wine grape production; these vines have been removed in the past three years.

3.0 CURRENT LAND USE ASSESSMENT

3.1 Wine grapes

As set out in Table 2 the land proposed for the Yanco Solar Farm is currently used for wine grape and citrus production. Wine grape production data provided by Riverina Winegrape Growers for the subject land indicate average (rounded) yields from 2015 to 2019 (inclusive) were:

- Red grapes 685 tonnes; and
- White grapes 350 tonnes.

According to field data provided by *Riverina Winegrape Growers*, the majority of the red varieties are Cabernet Sauvignon and Shiraz and the majority of the white varieties is Chardonnay. According to the *Riverina Utilisation and Pricing Summary*[1] provided by *Riverina Winegrape Growers,* the 2018 weighted average prices for these varieties were:

- Cabernet Sauvignon - $480/tonne;
- Shiraz - $465/tonne; and
- Chardonnay - $352/tonne.

Wine grape prices have increased in 2019 by about 10%, but the 2019 Riverina Utilisation and Pricing Survey is not expected to be available until late August 2019. Using a red wine grape price of $472.50/tonne (being the 2018 average of Cabernet Sauvignon and Shiraz) and average yields as set out above the farm gate value of wine grape production from the subject land can be calculated as:

Red wine grapes	685 tonnes x $472.50/tonnes	=	$323,663.00
White wine grapes	350 tonnes x $352/tonne	=	$123,200.00
Total		=	$446,863.00

Therefore, having regard for 2019 price increases and vacant land (Table 2), on average a projected farm gate value of production for wine grapes from the subject land is $500,000.00.

Wine making and bottling are the extent of post farm gate value adding to wine grapes that occurs in the local area. Wineries are typically paid $4.00 to $5.00 per litre for wine that retails for $8.00 to $10.00/bottle (see below). A significant portion of the wine grapes produced in the Riverina is made into wine that retails for such prices in the domestic market.

[1] https://www.wgmb.net.au/index.php/products/utilisation-price-surveys

According to the *Wine Australia* Wine Benchmark Calculator[2] the extraction rate for Chardonnay is 675L of wine produced for each tonne of wine grapes, and for Cabernet Sauvignon and Shiraz is 700L of wine produced per tonne of wine grapes. The Wine Benchmark Calculator indicates the price paid to the local winery per dozen for wine retailing at $8.00/bottle is $36.58/dozen and $46.59/dozen for wine retailing at $10.00/bottle. These figures equate to approximately $4.00 and $5.00 per litre as the local (valued added) price of wine which is approximately 40% of the final retail price.

Using this information, the post farm gate local value of wine produced on the subject land based on a retail price of $8.00/bottle can be calculated as:

Red Wine grapes	685 tonnes @ 700L/tonne x $4.00/L	=	$1,918,000.00
White Wine grapes	350 tonnes @ 675L/tonne x $4.00/L	=	$945,000.00
Total		=	$2,863,000.00

For a retail price of $10.00/bottle these figures would be:

Red wine grapes	=	$2,397,500.00
White Wine grapes	=	$1,181,250.00
Total	=	$3,578,750.00

A midpoint between these figures is about $3.25M which has been adopted as the local post farm gate value of wine grapes produced from the subject land.

3.2 Citrus

As set out in Table 2 the area of citrus on the land proposed for the Yanco Solar Farm is 58.8ha. According to the landowner, the variety split is about two-thirds Navels (say 39.2ha) which are packed as fresh fruit in the local area and one-third Valencias (say 19.6ha) for juice production. Riverina citrus yields and prices according to *Falivene S & Creek A, 2018* are summarised in Table 3.

Table 3: Citrus Value of Production

Variety	Tonnes/Ha	$/Tonne	$/Ha
Valencias	25.0	265.00	6,625.00
Navels	35.0	300.00	10,500.00
Navels (export)	35.0	400.00	14,000.00

[2] http://rr.wineaustralia.com/Default.aspx

Navel prices for some local growers in the past three years have averaged more than $700/tonne but are lower in 2019. The average Navel income from Table 3 is $12,250/ha. Based on Table 3 the farm gate value of citrus production from the subject land can be calculated as follows:

19.6ha x $6,625/ha + 39.2ha x $12,250/ha	=	$610,050.00
When rounded	=	$0.6M

Local post farm gate citrus value, assuming the juice is manufactured in the local region and navels are packed in the local region, is calculated as follows:

Valencias

Orange juice manufacturing costs were not available at the time of preparing this report. The following assumptions were made in relation to Valencia production from the subject site:

- Yield of 25 tonnes/ha (Table 3);
- Juice yield of 500L/tonne of oranges;
- Orange juice has a retail price of $2.00/litre; and
- The value of juice processed at local plant is 40% of the final retail price (as per wine grapes).

The local regional value of juice from the subject land therefore equates to:

25 tonnes/ha x 19.6ha x 500L of juice/tonne x $0.80/L	=	$196,000.00

Navels

The packed value at local shed of Navel production on the subject land is calculated below based on the following assumptions:

- Yield of 35 tonnes/ha (Table 3);
- Shed pack out 60% (proportion of saleable fruit);
- Processed carton weight 18kg;
- Price per carton $36.00 ($2/kg or $2,000/tonne); and
- Remaining 40% of fruit is sold for juicing or a low value use with returns on this product covering shed handling costs only.

The local shed value of Navels produced from the subject land can be calculated as follows:

35 tonnes/ha x 39.2ha x $2,000/tonne x 60%	=	$1,646,400.00

The regional value of citrus from the subject land can be calculated as:

$294,000.00 + $1,234,800.00	=	$1,842,400.00
When rounded	=	$1.85M

4.0 ALTERNATIVE HIGH VALUE LAND USES

Alternate high value land use options for the subject land include other prominent crops produced in the area such as almonds, cotton and rice. The potential local value of production based on average yields and prices from these crops is set out below:

- Almonds – 3,500kg/ha x $7.00/kg x 168.5ha = $4,128,250.00
- Cotton – 11 bales/ha x $650/bale x 168.5ha = $1,204,775.00
- Rice – 12 tonne/ha x 65% x 168.5ha x $1,000/tonne = $1,314,300.00

The following comments are made in relation to the figures above:

- Almonds are dehulled locally, any further processing takes place out outside of the region. The price of $7/kg is a dehulled local plant price so there is no further local post farm gate value adding;
- Cotton is ginned locally and exported direct from the gin. $650/bale includes an assumed price of $575/bale for lint and $300/tonne for cotton seed and represents post ginning prices paid at the local gin to the producer; and
- Rice produced in the Murrumbidgee Irrigation Area is packaged at the Leeton Rice Mill; assume a mill turnout of 65% and processed price at the mill of $1/kg.

5.0 EMPLOYMENT

The landowner advises the current wine grape and citrus operation is carried out by two full-time staff. Wine grapes are pruned mechanically, but not hand pruned.

The oranges are hand-picked by contractors for a cost of about $85/tonne. Using yields as set out in Table 3 the annual harvesting cost is about $ 158,000.00. Assuming contract labour overheads of 20%, and a median annual wage of $45,000[3] the citrus harvest cost equates to about three full-time equivalents.

According to the landowner, citrus pickers are not available in the local area, so the majority of citrus pickers employed on the land which is the site for the proposed Yanco Solar Farm are from overseas operating on working visas.

[3] https://itt.abs.gov.au/itt/r.jsp?RegionSummary&region=14750&dataset=ABS_REGIONAL_LGA2018&geoconcept=LGA_2018&maplayerid=LGA2018&measure=MEASURE&datasetASGS=ABS_REGIONAL_ASGS2016&datasetLGA=ABS_REGIONAL_LGA2018&regionLGA=LGA_2018&regionASGS=ASGS_2016

6.0 REFERENCES

Australian Bureau of Statistics data for Leeton LGA viewed on 25 July at https://itt.abs.gov.au/itt/r.jsp?RegionSummary&region=14750&dataset=ABS_REGIONAL_LGA2018&geoconcept=LGA_2018&maplayerid=LGA2018&measure=MEASURE&datasetASGS=ABS_REGIONAL_ASGS2016&datasetLGA=ABS_REGIONAL_LGA2018&regionLGA=LGA_2018&regionASGS=ASGS_2016

Falivene S & Creek A, 2018, *NSW citrus farm budget handbook 2018*, NSW Department of Primary Industries

Letter from Leeton Shire Council to NSW Department of Planning & Environment, dated 22 May, 2019

NGH Environmental 2019, *Environment Impact Statement Yanco Solar Farm*

Riverina Winegrape Growers website viewed on 2 July, 2019 https://www.wgmb.net.au/index.php/products/utilisation-price-surveys

Wine Australia website viewed on 2 July, 2019 http://rr.wineaustralia.com/Default.aspx

APPENDIX C LANDHOLDER LETTER FOR WATER USE

Farm 297
Toorak Road
Leeton 2705

Jenny Walsh
Planning Manager
ib vogt
Level 6, 201 Kent Street
Sydney NSW 2001

Dear Jenny,

Proposed Yanco Solar Farm - groundwater source during construction

As landowner of the Yanco Solar Farm site (Lots 142, 145 – 152, 287 and Lot 572 DP 751745) and licence holder of the following:

- Groundwater bore (WAL number 11905) – shallow bore with 100ML annual allocation.

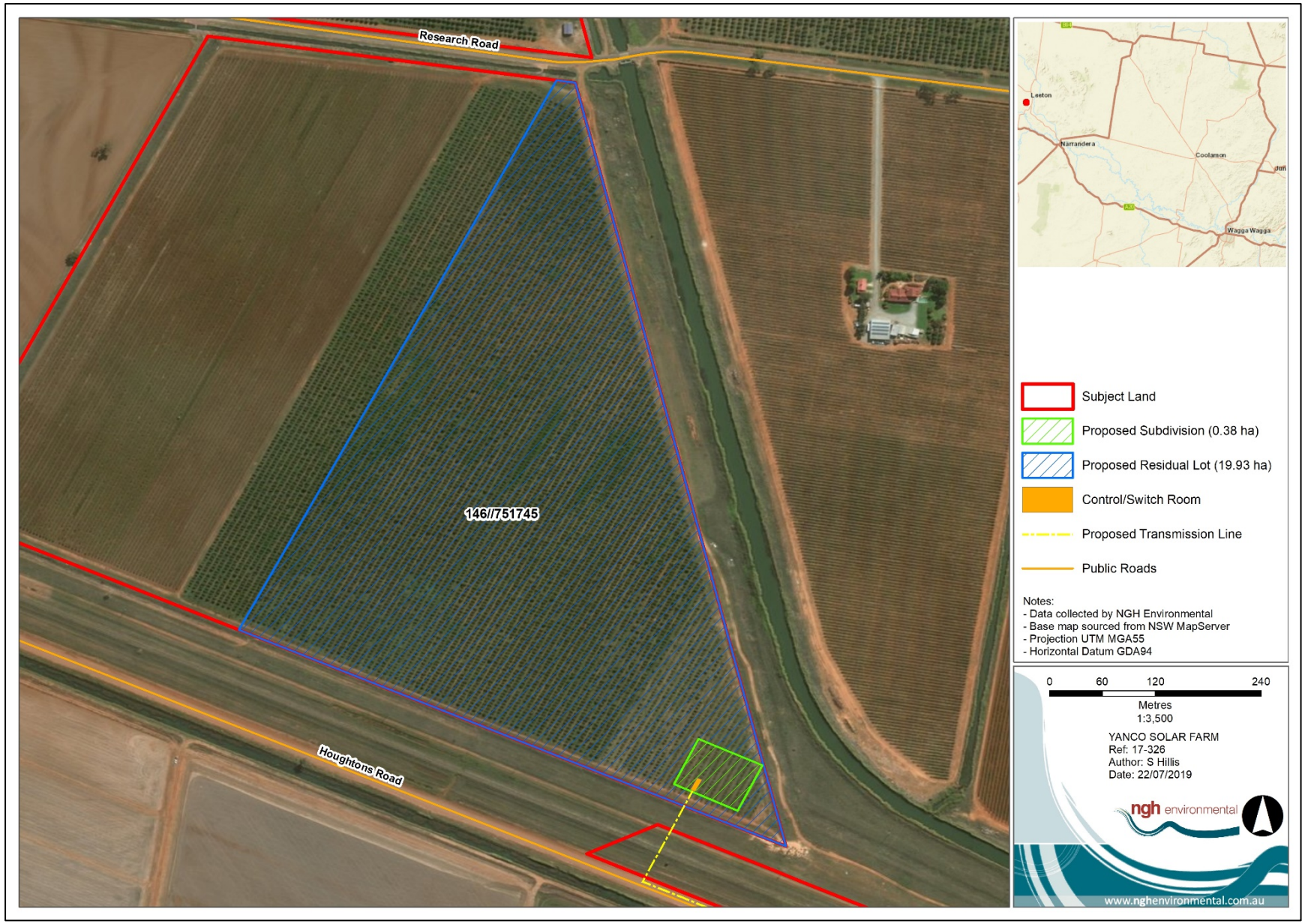
I confirm that the water required for the construction of the solar farm proposal (approximately 38ML over 10 months) would be sourced from shallow groundwater bore (WAL number 11905) which has a 100ML annual allocation. As licence holder I will make this water available to ib vogt by a commercial agreement.

Similarly, for the approximate 54kL per year of water which would be required for the operation of the proposed solar farm, as licence holder of shallow groundwater bore (WAL number 11905) which has a 100ML annual allocation, I will make this water available to ib vogt by a commercial agreement for the life of the project.

Your sincerely,

Ralph Ireno Dated 29/8/19

APPENDIX D SUBDIVISION PLAN


Research Road
146//751745
Houghtons Road
Leeton
Narrandera
Coolamon
Wagga Wagga
Subject Land
Proposed Subdivision (0.38 ha)
Proposed Residual Lot (19.93 ha)
Control/Switch Room
Proposed Transmission Line
Public Roads
Notes:
- Data collected by NGH Environmental
- Base map sourced from NSW MapServer
- Projection UTM MGA55
- Horizontal Datum GDA94
0
60
120
240
Metres
1:3,500
YANCO SOLAR FARM
Ref: 17-326
Author: S Hillis
Date: 22/07/2019
ngh environmental
www.nghenvironmental.com.au