Renew estate.

Bomen Solar Farm

Response to Submissions

June 2018

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ABBREVIATIONS

AACHIA	Aboriginal Archaeological and Cultural Heritage Impact Assessment
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BDAR	Biodiversity Development Assessment Report
BSF	Bomen Solar Farm
CBD	Central Business District
dBA	A measure of A-weighted sound levels in decibels
CEMP	Construction Environmental Management Plan
CoP	Code of Practice
DCP	Development Control Plan
DRMP	Decommissioning and Rehabilitation Management Plan
DoP	NSW Department of Planning (now DP&E)
DP&E	NSW Department of Planning and Environment
DPI	Department of Primary Industry
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPC	Engineer, Procure, Construct
ESCP	Erosion and Sedimentation Control Plan
EVA	Eunony Valley Association
GHD	GHD Pty Ltd
GRC	Ground Cover Ratio
GSNSW	Geological Survey of New South Wales
ICNG	Interim Construction Noise guideline
kV	Kilovolt
LAeq	The constant sound level which, when occurring over the same period of time, would result in the receiver experiencing the same amount of sound energy.
LEP	Local Environment Plan
LEMC	Local Emergency Management Committee
LVIA	Landscape and Visual Impact Assessment
MW	Megawatt
MWdc	Megawatt direct current
NRAR	Natural Resource Access Regulator
NSW	New South Wales
O&M	Operation and Maintenance
OEH	Office of Environment and Heritage (formerly DECCW, DECC, DEC)
PCS	Power Conversion Stations
PCT	Plant Community Type
PV	Photovoltaic
RAP	Registered Aboriginal Parties
RE	Renew Estate Pty Ltd
RE1	Public Recreation land use zone
RFS	Rural Fire Service
ROBE	Riverina Oils and Bio Energy
RU1	Primary Production
SCADA	Supervisory control and data acquisition
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SMS	Safety Management Study
SSD	State Significant Development
WIRES	Wildlife Information, Rescue and Education Service
WWCC	Wagga Wagga City Council
WWSF	Wagga Wagga Solar Farm (Terrain Solar proposed project)

1. INTRODUCTION

1.1. Background

Renew Estate is proposing the construction, operation and decommissioning of a 120 megawatt (MWdc) solar farm and associated infrastructure in the suburb of Bomen, Wagga Wagga, New South Wales (NSW) (referred to as the 'proposal'). The proposal site is located about seven kilometres north-east of the Wagga Wagga central business district (CBD) on the eastern side of Byrnes Road.

The proposal is classified as State Significant Development (SSD) under the *State Environmental Planning Policy (State and Regional Development) 2011* and requires development consent from the Minister for Planning under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). An Environmental Impact Statement (EIS) was prepared by GHD Pty Ltd (GHD) to support the development application and assesses the environmental issues associated with the proposal. The EIS was submitted to the NSW Department of Planning and Environment (DP&E) and placed on public exhibition from 21 April 2018 to 21 May 2018. During the exhibition period, the public and agencies were invited to make submissions. A total of 29 submissions were received.

Following the close of the exhibition period, on 24 May 2018 DP&E requested Renew Estate submit a report detailing responses to all issues raised in the submissions. This Response to Submissions report addresses that request. This report also describes changes to the proposal, accompanied by a revised environmental impact assessment (EIA) prepared by GHD Pty Ltd (GHD) of those changes (Appendix A), and provides a revised list of mitigation measures that will be implemented to minimise any potential adverse impacts from the proposal.

1.2. Structure of this report

Section 2 – Proposal overview

Section 3 – Summary of the community information session during EIS Exhibition

Section 4 – Description of changes to the proposal since preparation of the EIS

Section 5 – Summary of number and composition of submissions

Section 6 – Responses to submissions made by the public

Section 7 – Responses to submissions made by agencies and interest groups

Section 8 – A discussion on cumulative impacts with the proposed Wagga Wagga Solar Farm

Section 9 – Viewshed analysis for moderately impacted receptors

Section 10 – Responses to DP&E comments regarding hazards

Section 11 – Revised list of mitigation measures

2. PROPOSAL OVERVIEW

The proposal includes constructing, operating and eventually decommissioning a 120 MWdc solar farm at Bomen. Subject to final detailed design, the primary components of the proposal include:

- about 400,000 photovoltaic solar modules
- about 4,500 trackers comprising single-axis tracking framing systems mounted on steel piles
- up to 44 containerised power conversion stations containing electrical switchgear, inverters and medium voltage transformers
- new on-site electrical switchyard and substation
- connection into the National Electricity Market via about 3.5 kilometres of 132 kV transmission line between the proposed on-site substation and the existing TransGrid Wagga North Substation.
- battery storage system
- control building including office, supervisory control and data acquisition systems (SCADA), operation and maintenance facilities, spare parts and staff amenities serviced by septic systems and rainwater tanks
- car park
- internal DC and AC cabling for electrical reticulation
- minor upgrade of the unsealed section of Trahairs Road, east of Byrnes Road, for site access (to be maintained as a single lane unsealed road)

- internal all-weather access tracks
- internal fire trail and bushfire asset protection zones
- security fencing around the solar farm
- vegetation screening
- meteorological stations
- subdivision of four lots to allow the purchase of the required land for the proposal site.

The construction period is expected to be nine to 12 months from site establishment to commissioning.

The operational lifetime of the solar farm is about 30 years.

Decommissioning at the end of the operational life of the solar farm would involve removing all infrastructure and rehabilitating the site to allow it to be used for other purposes.

3. COMMUNITY INFORMATION SESSION DURING EIS EXHIBITION

Consultation undertaken during early planning phases, EIS scoping and EIS preparation is summarised within Section 4 of the EIS. Renew Estate has continued to engage with the community and key stakeholders since submitting the EIS to DP&E, through meetings, email and telephone correspondence, newsletters, television and radio news coverage and hosting a community information session during the proposal's EIS exhibition period. This section summarises the outcomes of this first session, held at the North Wagga Hall on 7 May 2018.

3.1. Information provided

3.1.1. Display boards

A large volume of information was available at the information session across more than 20 display boards as listed below:

- Site location and site photos
- Indicative solar farm layout
- Land use zoning
- Project benefits
- Commitments to the community
- Delivering low-cost energy
- Behind the meter solutions
- Traffic - volumes
- Traffic - site access
- Construction timeline
- Operational noise
- Environmental constraints
- Environmental management
- Visual impact
- Landscaping
- Hydrology
- Biodiversity
- Our commitments to the community - $100,000 community fund
- Ideas board for people to provide their feedback on how the $100,000 community fund could be spent
- Delivering resilient low-cost energy – Corporate Power Purchase Agreements
- Our commitments to the community - Increased demand for local services
- Benefits to the Community – Opportunity for local businesses to be involved in the project

Also on display was a video showing existing similar solar farms developed by Renew Estate's partners.

3.1.2. Handouts

A number of printed handouts were available which the community were encouraged to take away and/or fill out. These included:

- Survey form (for providing general feedback to Renew Estate)
- Local Service Opportunities form (for informing Renew Estate of local service providers)
- A general information sheet about solar farms
- Bomen Solar Farm Factsheet

3.2. Attendees

The session was well attended with an estimated 60 people attending in total. Those attended included the general public and representatives of the following organisations and interest groups:

- Bomen business owners
- Eunony Valley Association (EVA).
- Committee 4 Wagga Wagga
- Regional Development Australia – Riverina
- Wagga Wagga City Council (WWCC)
- TAFE Riverina
- ABC Riverina
- Nine news
- Landcare Murrumbidgee

3.3. Community response

The community response to the proposal and information session was broadly positive. The proposal was perceived by many as being beneficial to the local economy and one of the largest capital investments in the region in recent times. The session was well attended by local business owners who were enthusiastic about the prospects of business and employment opportunities.

Some nearby landowners raised queries/concerns about the proposal. The key issue of concern was related to the visual impact and proposed landscaping. This issue, and other issues raised, are reflected in the public submissions in Section 6.2.

4. CHANGES TO THE PROPOSAL

Changes made to the Proposal since the preparation of the EIS are described in the following sections. An assessment of the potential environmental impacts of these changes has been undertaken by GHD and is provided in Appendix A (EIA for Changes to the Proposal).

4.1. Revised transmission line

4.1.1. Transmission line corridor alignment

The proposal site as proposed in the EIS included a transmission corridor, about 3.5 kilometres long, within which the proposed 132kV transmission line and associated easement would be located for the connection of the solar farm from the on-site substation to the existing TransGrid Wagga North substation. South of the proposed solar farm, this transmission corridor was aligned along the eastern boundary of Lot 3 DP594679 and then along two route options to the substation through Lot 22 DP1085826.

Since the preparation of the EIS, part of the proposed transmission corridor has been revised. The section of the corridor which previously was aligned along the eastern boundary of Lot 3 DP594679 has been shifted eastward across the property boundary to now run along the western boundary of Lot 2 DP594679. The previous corridor and revised corridor are shown in Figure 1.

The transmission corridor represents a wide corridor within which a narrower disturbance footprint will be sited for the construction of the transmission line and easement. The transmission corridor is up to 150 metres wide in some locations, however the easement will likely be 30 to 45 metres wide for overhead sections, or 7 to 11 metres for underground sections. The additional width included in the corridor is to allow for design flexibility during detailed design, ensuring all potentially disturbed land is assessed in the Development Application.

4.1.2. Underground and overhead sections

At the time of preparing the EIS, whether the proposed transmission line from the on-site substation to the Wagga North substation would be an overhead or underground line had not yet been determined. As such, the EIS considered the impacts of both scenarios to ensure the worst case impacts were identified for each environmental aspect. Following further consultation with TransGrid and landowners of the lots subject to the transmission line easement, Renew Estate have committed to an underground line between the southern boundary of the southern development area and the Wagga North Substation (Figure 1). The method for the section of transmission line from the on-site substation to the southern boundary of the southern development is still yet to be determined and may be either overhead or underground. This will be determined during detailed design.

4.2. Alternative control building location option

The EIS proposed an indicative location of the control building north of Trahairs Road (refer Figure 1). An alternative option for the control building location is now proposed adjacent to the onsite substation (referred to as Option 2, refer Figure 1). The alternative location would allow for simpler linking of SCADA communication systems between the substation and control building.

The final option will be selected during detailed design. Should Option 2 be selected, solar panels would likely be constructed instead at the location where the control building was first proposed (Option 1) north of Trahairs Road. Should this occur, the tree located adjacent this Option 1 site would require removal (see Figure 4 of Appendix A for location). The tree would be retained if Option 1 was selected, to provide shade and amenity for operational staff, consistent with the EIS.

The design and purpose of the control building will remain the same as that described in Section 3.1.7 of the EIS, regardless of location. Note that this building is separate to other building components of the substation including the switchroom and substation control room.

4.3. Revised proposal site adjacent to protected woodland patch

In addition to the area subject to the revised transmission line corridor alignment, the boundary of the north western portion of the proposal site has been revised to exclude the adjacent patch of protected PCT 277 – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion (woodland patch). The woodland patch is protected under the Wagga Wagga Development Control Plan (DCP) as described in the EIS. Whilst this woodland patch was not part of the disturbance area and would have been retained, the proposal site boundary as presented in the EIS traversed the centre of the woodland patch. The proposal site boundary at this location represented the boundary of the proposed subdivision of Lot 11 DP1130519 and therefore the boundary of the land to be acquired and managed by the project.

The subdivision boundary and corresponding proposal site has since been revised to exclude the entire woodland patch from the land to be acquired by the project in response to a request made by WWCC for the woodland patch to be managed by one landowner.

The subdivision boundary and corresponding proposal site has also been extended further south immediately west of the woodland patch to compensate for this loss of area, resulting in the total size of the northern development area remaining the same. The permissibility of the subdivision remains the same as presented in the EIS.

4.4. Revised land subject to the Wagga Wagga Biodiversity Certified Area

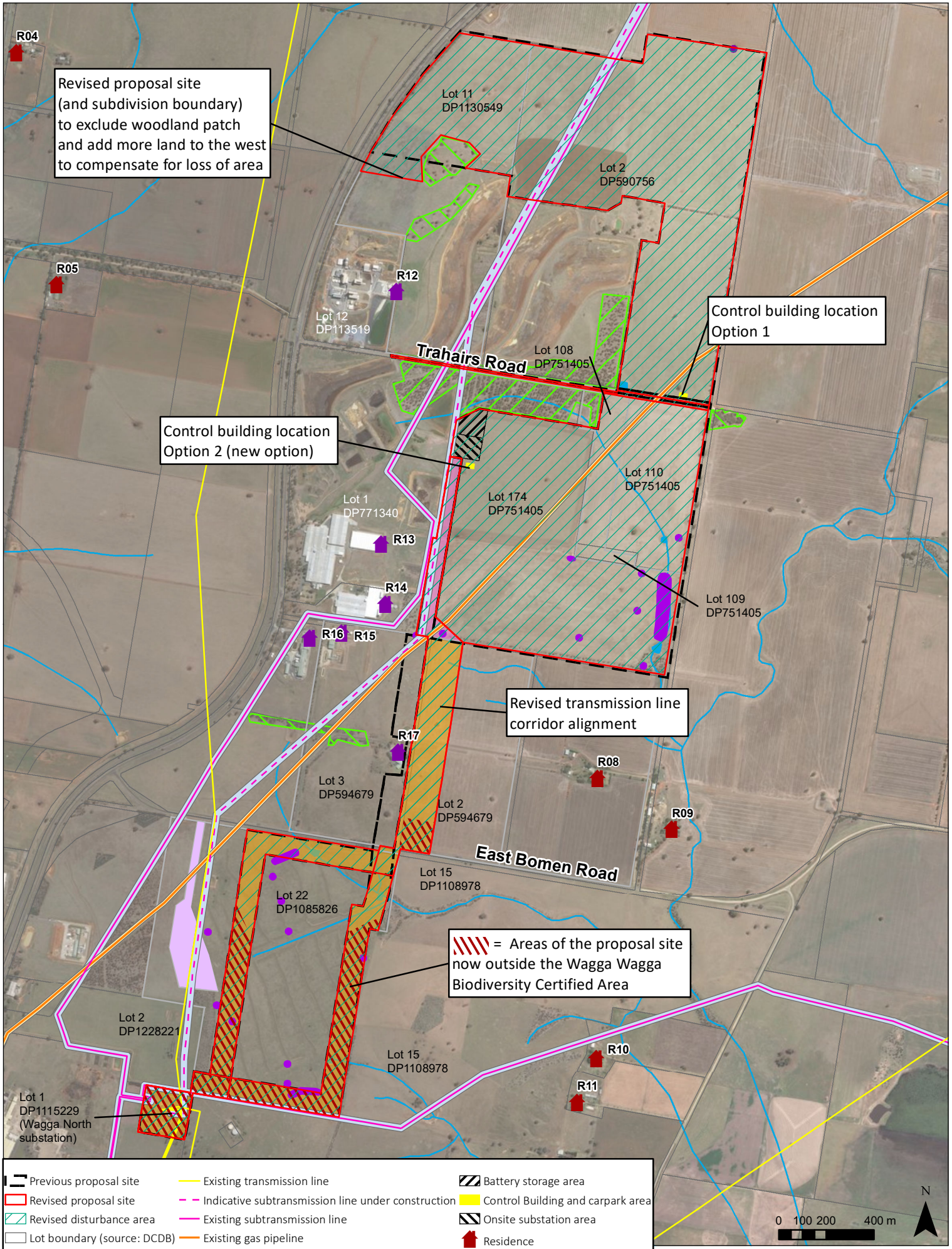
The EIS stated that the proposal site was located on land inside the Biodiversity Certification Area of the Wagga Wagga Local Environmental Plan (LEP) and that a biodiversity assessment under the *Biodiversity Conservation Act 2016* (BC Act) was therefore not required.

On 28 May 2018 WWCC made Renew Estate aware of the Biodiversity Certification of Environmental Planning Instruments Order 2017 which commenced on 24 November 2017. The effect of clause 4 of the Order was the revision of the land subject to the Wagga Wagga Biodiversity Certified Area such that only land zoned Business (B1-B8), Industrial (IN1-IN4), Residential (R1-R5) or Special Infrastructure (SP1-SP3) immediately before the commencement of the BC Act 2016 remains part of the Wagga Wagga Biodiversity Certified Area.

In light of the Order, parts of the proposed transmission line corridor are now outside of the Wagga Wagga Biodiversity Certified Area where the land is zoned Public Recreation (RE1) and Primary Production (RU1) (refer Figure 2). For these areas, the Biodiversity Assessment Method (BAM) applies, as established under the BC Act.

For areas where the BAM applies, a Biodiversity Development Assessment Report (BDAR) is required when vegetation proposed to be removed is classified as native vegetation, and the removal of native vegetation is required to be offset according to the BAM. For the areas of the proposal site outside of the Biodiversity Certified Area, where the BAM would apply, Renew Estate has committed to retaining all native vegetation. Therefore, a BDAR is not required to be prepared for the proposal. Figure 3 identifies all of the native vegetation within the areas of the proposal site that are outside of the Biodiversity Certified Area. The design of the underground transmission line will ensure that all of the native vegetation

identified in Figure 3 will be retained. This can be achieved through aligning the disturbance area through the existing gaps in vegetation, or through underboring,



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LL

Date:
Jun 2018

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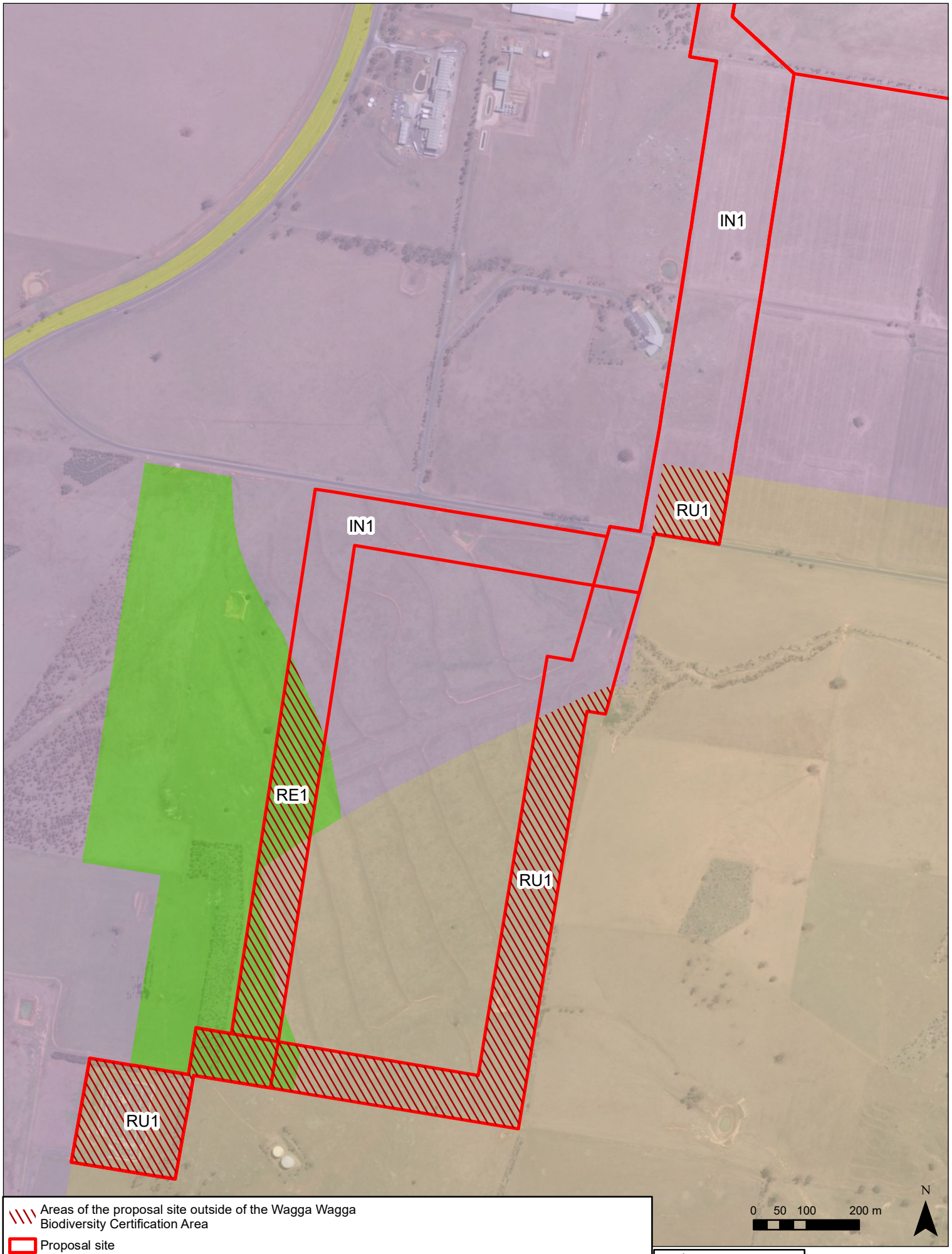
Figure 1: Summary of changes to the proposal



Areas of the proposal site outside of the Wagga Wagga Biodiversity Certification Area

Proposal site

Wagga Wagga LEP land use zone

IN1 General Industrial

RE1 Public Recreation (outside certified area)

RU1 Primary Production (outside certified area)

SP2 Infrastructure

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Drawn by: LL

Date: June 2018

Renew estate.

Figure 2: Areas of the proposal site outside of the Wagga Wagga Biodiversity Certified Area

Figure 3 Native vegetation present within the areas of the proposal site that are outside the Wagga Wagga Biodiversity Certification Area

5. SUBMISSIONS SUMMARY

A summary of the composition of submissions made during the EIS exhibition period is provided in Table 1. A total of 29 submissions were made, comprising 17 made by agencies and interest groups, and 12 made by members of the public.

Table 1 Summary of submissions

Position	Number (Gov, Agency & Interest Groups)	Number (Public)	Total
Support	5	0	**5**
Comment	11	3	**14**
Objection	1	9	**10**
Total	**17**	**12**	**29**

6. RESPONSE TO PUBLIC FEEDBACK

6.1. Summary of issues raised

Table 2 provides a summary of the issues raised by the public, according to aspect. The majority of submissions relate to visual impact and landscaping.

Table 2 Summary of issues raised by aspect

Submission	Stance	6.2.1 Equipment & layout	6.2.2 Location	6.2.3 Consultation	6.2.4 Community fund	6.2.5 Biodiversity	6.2.6 Weed management	6.2.7 Visual impact	6.2.9 Glare / Heat	6.2.8 Landscaping	6.2.10 Noise	6.2.11 Water runoff	6.2.13 Property values	6.2.12 Decommissioning
Bill Schulz of Wagga Wagga, NSW (261746)	Objects		x	x				x	x	x			x	
Bryce McDonell of Eunonyhareenyha, NSW (261659)	Objects	x					x	x		x		x		x
Carl Clark of Wagga Wagga, NSW (261728)	Objects	x				x	x	x	x	x	x	x	x	
Howard and Jan Pollard of Wagga Wagga, NSW (261241)	Objects	x			x		x	x					x	
Marie Suthern of Wagga Wagga, NSW (261674)	Objects							x		x				
Peter Fawcett of Bomen, NSW (261751)	Objects	x					x	x		x				x
Ron Kerr of EUNANOREENYA, NSW (261645)	Objects		x					x	x	x		x	x	x
Bradley Kent of Wagga, NSW (261749)	Objects	x	x				x	x		x				x
(Name withheld) of EUNANOREENYA, NSW (261701)	Comments	x						x		x				x
(Name withheld) of Harefield, NSW (261756)	Objects		x	x				x		x				
(Name withheld) of Brucedale, NSW (259169)	Comments									x				
(Name withheld) of Eunanoreenya, NSW (261661)	Comments									x				

6.2. Response to issues raised

Due to the repeat occurrence of the same or very similar comments across public submissions, the comments have been summarised and consolidated in the following table. The individual public submissions are provided in Section 6.3 along with references to the relevant response in the table below.

Issue	Summary of comments	Response
6.2.1. Equipment and layout	**6 submissions have raised concerns about equipment and layout. Comments made are summarised below:** • The type/dimensions of the panels is yet to be specified which has visual implications • The panels could be up to 4 metres high with Renew Estate previously stating they would be 2 metres high. • The proposed layout shows 90% of the site covered with panels, whereas RE previously stated that 35-40% of the site would be covered.	Section 3.2.1 of the EIS discusses the photovoltaic modules and gives an indicative manufacturer, model and dimensions for the likely final selection. The final manufacturer and model of the panels will be completed following project financial close when the Engineering, Procurement and Construct contract is awarded. Section 3.2.1 of the EIS explains that the maximum extension of the modules is up to four metres above the ground or less, depending on the tracking system used. Section 3.2.2 of the EIS outlines two separate tracking solutions as indicative of the technology that would be selected during detailed design. The Nextracker NX Horizon system is shown to have an indicative maximum extension above ground of 2.08m, the SunPower Oasis system is shown to have an indicative maximum extension above ground of 4m. Table 6.9 of the EIS confirms the viewshed analysis was undertaken with solar panels up to 4.0m. This confirms a conservative approach was undertaken in nominating the heights of infrastructure during the visual impact assessment. The metric that outlines the proportion of the site covered by solar panels is referred to as the Ground Cover Ratio (GCR). The GCR is a ratio of the amount of the total PV area divided by the total solar field area, based on the modules being flat (which would occur in the middle of the day). The total solar field area includes the areas between the tracker rows, which are indicatively spaced 5m to 6m apart. The Indicative Layout shown in Figure 1.6 of the EIS is has a system specification GCR of 39.2%.
6.2.2. Location	**4 submissions have raised concerns about the location of the project. Comments made are summarised below:** • Solar projects should be placed away from roads and out of sight of neighbours • Other alternative sites have not been considered.	Section 2.3.3 of the EIS discusses the site selection process and consideration of alternative sites. There is a multitude of factors which inform the suitability of any project development site. Renew Estate undertakes a comprehensive process of site exploration, screening and evaluation before the ultimate selection of any project development site.

Issue	Summary of comments	Response
	• There are few industrial developments on the eastern side of the industrial area facing the Eunony Valley and it will be likely decades before the proposal site would be developed naturally.	Commercial-scale solar farms require adequate road access, proximity to grid connection infrastructure with sufficient connection capacity and access to a suitably-skilled workforce. Locations which are scarcely populated and distanced from road infrastructure are unlikely to possess the required fundamentals for the development of solar farm projects. The proposal site is considered to be particularly suitable for a solar farm development for numerous reasons (Section 2.3.3 of the EIS) including: - The strong solar resources and proximity to existing electricity transmission infrastructure with sufficient connection capacity. - The land is currently zoned for industrial development (IN1). - The site is the subject of an existing development consent for a 22MW solar farm project (Section 5.1.3 of the EIS). - The site selection aligns with the intent of the Wagga Wagga City Council's Draft Activation Strategy (2017) to establish a solar farm in the Bomen Business Park (Section 2.1.4 of the EIS). - Few directly adjacent properties with residences that would have views of the proposal site. - Minimal environmental constraints due to the proposal site having been disturbed by previous agricultural land use that has cleared vegetation from the majority of the proposal site. The proposal site selection process and EIS considered the potential visual impacts on surrounding receivers, and the approach to reducing these impacts. Renew Estate has proposed mitigation measures to reduce the visual impact of the proposal on neighbouring rural landholders (refer to 6.2.7 Visual Impact, **Error! Reference source not found.**6.2.8 Landscaping and 6.2.4 Community Fund in this report in relation to measures to mitigate visual impacts). However, those landholders cannot expect the same visual amenity as if the proposal site was within a rural zone. The proposal site is zoned for industrial development. The proposed introduction of the major freight and logistics hub in the immediate area as well as the previously approved solar farm development on the proposal site provide strong reasons to suggest that the proposal site will be developed naturally. Further, if the proposal does not to proceed, and it is

Issue	Summary of comments	Response
		developed for some other industrial purpose, that purpose may have greater, if not similar, impacts on neighbours. Section 7.16 of this report provides WWCC's submission on the proposal. The submission states the following: "The Vista of solar panels is a significant change from cropping and grazing issues. This precinct has been identified for major industrial land uses and the transition away from agriculture to industry will alter vistas in the precinct. It is considered that from a long term sense the proposal will be entirely consistent with the character of the area and entirely compatible with adjacent land uses. The eastern precinct of Bomen is currently undergoing transition from a rural area to an industrial area and there will be some potential for conflict and inconsistencies in character. These short term effects are unavoidable during these transitional stages, however, a strategic decision has been made for the conversion of the locality to industrial uses, and therefore considered acceptable." Existing industrial facilities on the eastern side of the Bomen Industrial Park adjacent to the proposal site (Section 1.2.2 of the EIS), include: - The Riverina Oils and Bio Energy (ROBE) oilseed crushing and refining industrial facility - The commercial warehouses to the west of the proposal site, which were formerly part of the Riverina Wool Combing facility - The Enirgi power storage battery recycling facility.
6.2.3. Consultation	**2 submissions have raised concerns about the consultation undertaken for the project. Comments made are summarised below:** • Suggestions made by landowners to mitigate visual and other impacts have been ignored •	Renew Estate has undertaken extensive consultation, as outlined in Section 4 of the EIS and Section 3 of this report. Consultation would continue throughout all stages of the Bomen Solar Farm and would not end after project approval. Renew Estate has actively listened to landscaping suggestions provided by community members. A draft landscaping plan was shown to nearby residents during meetings and at the first community information session in

Issue	Summary of comments	Response
	• RE stated that because the proposal is on industrial zoned land RE don't need to work with neighbours to minimise identified issues.	May 2018. However, this plan was not intended to be final and Renew Estate continues to take on board feedback from the community. Regardless of the zoning of the land, Renew Estate recognises effective consultation as being crucial to ensure the success of the Bomen Solar Farm and is committed to working with neighbours to address concerns.
6.2.4. Community Fund	**1 submission has raised concerns about the community fund for the project. Comments made are summarised below:** • The $100,000 community fund previously proposed to be held in a trust for landscaping of the Eunony Valley has not been mentioned.	Section 4.1.3 of the EIS discusses the commitments Renew Estate has made in regards to shared benefits of the project with the community which included a $100,000 fund to be established for the benefit of the surrounding community. Renew Estate is investigating the most appropriate governance structure for the administration of the community fund, including establishing a Section 355 Committee under the Local Government Act 1993. Under this structure members of the committee would include local representatives and representatives from both Council and Bomen Solar Farm. The fund would be targeted to projects within close proximity to the solar farm, drawing upon some agreed selection criteria to ensure that funds are well spent for the benefit of the community. As outlined in Table 4.1 of the EIS, consultation with key stakeholders identified community fund spending ideas such as funding additional tree plantings throughout the Eunony Valley Region. In response, Renew Estate has committed to the provision of a community landscape fund (the ('Greening Eunony Fund') (Section 6.4.4 of the EIS), with an intent to improve the visual character of the project surrounds and provide additional visual screening. The amount of funding allocated to the Greening Eunony Fund from the overarching $100,000 community benefits fund will be ultimately determined by the community through the governance structure referenced above. Other suggestions for community fund spending identified during the consultation period included funding for the local Rural Fire Services. All onsite landscaping will be funded as part of the project construction budget.

Issue	Summary of comments	Response
6.2.5. Biodiversity	**1 submission has raised concerns about biodiversity. Comments made are summarised below:** • The removal of a significant number of mature trees which are habitat for native birds	The proposal has incorporated a hierarchy of avoiding, minimising and mitigating impacts wherever possible. Several measures have been implemented to avoid and minimise the impacts of the proposal on biodiversity including: - Avoidance of woodland patches by locating infrastructure outside these areas - Retaining trees on the boundary of the proposal site, including plantings - Minimising the upgrade of Trahairs Road to avoid impacts to remnant roadside vegetation. After avoiding and minimising impacts where possible, the removal of 16 remnant native trees, including 10 hollow bearing trees, is proposed. An additional hollow bearing tree has been identified for potential removal associated with an alternative control building location option, as assessed in the EIA appended to this report (Appendix A). The biodiversity assessment undertaken for the EIS and the revised EIA notes that hollow-bearing trees provide habitat for woodland birds. Notwithstanding, the assessments conclude that the removal of these trees is unlikely to substantially affect fauna in the area due to the presence of additional hollow-bearing trees in the area within patches of woodland that provide better quality habitat. The revised EIA further notes that better quality habitat is present along Trahairs Road about 300 metres to the west of the proposal site. Measures to mitigate impacts to biodiversity will also be implemented, including the placement of felled limbs with hollows in woodland or plantings along the boundary of the site.
6.2.6. Weed management	**5 submissions have raised concerns about weed management. Comments made are summarised below:** • The site currently has a major noxious weeds problem • What will the strategy be to control noxious weeds?	The Biosecurity Act 2016 repeals the Noxious Weeds Act 1993, and a 'noxious weed' under the repealed Noxious Weeds Act is effectively a 'priority weed' under the Biosecurity Act. One priority weed, Silverleaf Nightshade (*Solanum elaeagnifolium*) was identified in the proposal site during field surveys undertaken as part of the biodiversity assessment. This weed is common in the area.

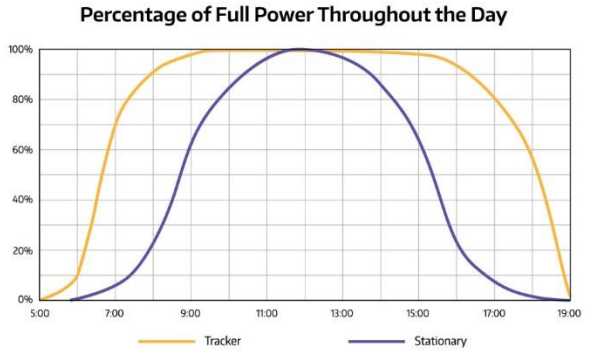
Issue	Summary of comments	Response
	• Sheep grazing, wind and water runoff will spread the weeds onto neighbouring properties.	The biodiversity assessment notes the potential for the proposal to further introduce and spread weeds. To mitigate this potential impact, a weed management controls will be implemented as part of the Construction Environmental Management Plan and Operation Environmental Management Plan. Such controls will be developed by the Engineering, Procure, Construct (EPC) and Operation and Maintenance (O&M) contractor and include measures such as: • Soil material and stripped groundcover vegetation with the potential to contain Silverleaf Nightshade will not be removed from the proposal site. • Inspections and monitoring of weed infestations with prompt response to weed spread (any weed control would be in adherence to the Pesticides Act 1999. • Materials imported from quarries are to be certified as weed free.
6.2.7. Visual Impact	**10 submissions have raised concerns about visual impacts. Comments made are summarised below:** • Visual impacts to dwellings and properties are significant • Visual impacts will have a negative impact on amenity • The land is sloping, not flat, resulting in visual impacts for residences on the western face of Eunony Valley to the east of the site and will be seen from a considerable distance. • Some of the solar panels on lower terrain would be at least 4 metres high to gain efficiency creating a significant visual impact • Residents already have views of the Riverina Oils & BioEnergy facility which has no vegetation plan. • Residents have chosen to live in a rural area not an industrial area. • Many other solar farms are smaller and on flat land • The photos taken from residences are selective, inaccurate and do not show the extent of visual impact	**Terrain and Visual Impact** The EIS (in Section 6.11, Soils and Geology) describes the proposal site as undulating and with an elevation varying from 200 metres above sea level in the south east to 240m metres above sea level in the south west. The terrain of the proposal site and surrounds is further discussed in Section 4 (Landscape and Visual). The greatest variation in elevation occurs in the southern development area which results in this section of the site being visible from properties to the east, with the closest residence in this area being approximately 1.4 km away. The views from these properties are described as Viewpoint 2 and Viewpoint 3 in Section 6.4 of the EIS. The potential visual impact is considered to be moderate from these two viewpoints. Mitigation measures are outlined in Section 6.4.4 of the EIS and include landscaping (see Section 6.2.8 of this document). It is important to clarify that the proposal site is zoned for industrial development. There are a number of existing industrial facilities adjacent to the proposal site (Section 1.2.2 of the EIS) within the same vista as the proposed development. These include:

Issue	Summary of comments	Response
		- The Riverina Oils and Bio Energy (ROBE) oilseed crushing and refining industrial facility - The commercial warehouses to the west of the proposal site, which were formerly part of the Riverina Wool Combing facility - The Enirgi power storage battery recycling facility. Based on the site zoning and existing industrial facilities, the same visual amenity cannot be expected as if the proposal site was within a rural zone. Further, in the absence of the proposal, this site may be developed for some other industrial purpose, which may have a greater, if not similar, visual impact. Section 7.16 of this report provides WWCC's submission on the proposal. The submission states the following: "The Vista of solar panels is a significant change from cropping and grazing issues. This precinct has been identified for major industrial land uses and the transition away from agriculture to industry will alter vistas in the precinct. It is considered that from a long term sense the proposal will be entirely consistent with the character of the area and entirely compatible with adjacent land uses. The eastern precinct of Bomen is currently undergoing transition from a rural area to an industrial area and there will be some potential for conflict and inconsistencies in character. These short term effects are unavoidable during these transitional stages, however, a strategic decision has been made for the conversion of the locality to industrial uses, and therefore considered acceptable." **Height of infrastructure** As discussed in Section 6.2.1 above, two different example tracking systems are described in Section 3.2.2 of the EIS as indicative of the technology that would be selected during detailed design.: • Nextracker NX-Horizon system with a maximum height of 2.08 metres

Issue	Summary of comments	Response
		• SunPower Oasis 3 system with a maximum height of 4 metres Table 6.9 of the EIS confirms that the viewshed analysis was undertaken based on a maximum panel height of 4 metres as a conservative 'worst case' scenario. While the SunPower system is taller, it does typically have a lower footprint and less area would be required for 120 MWp. **Photos** Photos are included in the EIS (Figures 6.11 to 6.16) that are marked up to show the location of the solar farm infrastructure relative to existing views from a range of viewpoints. These figures were produced by the consultancy GHD in preparation of the Landscape and Visual Impact Assessment section of the EIS. In addition to the EIS figures, marked up panorama photos were produced for some nearby neighbours for the purposes of consultation and to help neighbours understand the potential views of the solar farm from their property. These photos were produced by a landscape architect from the consultancy AECOM. Panoramas were shared with neighbours individually and not included in the EIS for privacy reasons. The neighbour photo locations were chosen based on the viewpoint being in close proximity to the residence but also having unobstructed views. For both the EIS figures and the panoramas produced for neighbours, care was taken to mark up the photos based on the maximum extent of the solar farm, the elevation terrain model and landmarks in the photos. However, it should be noted that the aim of the figures was to display where the solar farm would be located relative to the existing landscape and not intended to be a photo-realistic representation of what the solar farm would look like. **Size of Solar Farm** Although solar farms are relatively new to Australia compared to other forms of generation, there is a range of sizes operational or under construction. Sites vary from small scale (<1 MW) systems connected to the distribution network to larger (>100 MW) solar farms connected to the transmission network.

Issue	Summary of comments	Response
		There are a number of factors involved in the size of the solar farm including the grid capacity, equipment selection and availability of land. In the case of Bomen Solar Farm, the connection at the TransGrid North Wagga Substation and utilisation of single axis tracking on the available area of land allows for up a solar farm of up to 120 MWp.
6.2.8. Landscaping	**11 submissions have raised concerns about landscaping. Comments made are summarised below:** • The draft vegetation plan (Fig x of the EIS) is insufficient for screening residents to the east due to sloping land • Suggestions for vegetation screening made by landowners have not been implemented, such as planting trees throughout the site in a grid pattern, not just around the perimeter. The grid pattern would mitigate visual impact, water runoff, noise generation and heat dispersion. • RE have stated that the suggested grid pattern is not economically viable due to shading which is unacceptable to residents. • On sunny days the shading is only during early morning and late afternoon and during full cloud cover days trees to not cast shadows, therefore would not impact on power generation. • Inconsistencies regarding what vegetation screening RE have said is proposed. • Renew Estate do not appear to have committed to the perimeter vegetation. • Details such as type of trees, how many rows, timing of planting etc. have not been discussed. • The major screening is to the west, screening the project from Bomen road, however this provides no screening for residents with a direct line of sight, and which will be affected from the heat and light reflection from the panels. • Screening vegetation will take several years to grow and not have the desired screening effect. • Visual impacts could be reduced by a vegetation buffer of 5 rows of native trees and shrubs around the perimeter of the project.	The Landscape and Visual Impact Assessment undertaken by GHD informed the preparation of the draft landscape plan that was included in the EIS (Figure 3.16) and presented at the community information session on May 7th 2018. The draft landscape plan provides indicative locations of proposed screening vegetation with the aim of reducing the visual impact on adjacent neighbours and road users. The draft landscape plan includes approximately 3.2 km of vegetation screening around the perimeter of the solar farm. In some areas, plantings would be used to fill in gaps in existing native vegetation. Where screening is proposed, vegetation would be planted to ensure the screening vegetation comprises two rows. Screening vegetation would be maintained for the life of the solar farm and trees which do not survive would be replaced. Renew Estate has committed to the vegetation screening in the draft landscape plan as a minimum. However, it is important to note that this plan is draft only. The final landscaping plan will be developed based on equipment selection and the final layout design of the solar farm. The plant species to be used for landscape screening will be determined by the final landscaping plan. Renew Estate has consulted with Landcare representatives who have suggested species selection should take into account plant source, potential pollinating benefits to canola crops, improved biodiversity and potential benefits to other Landcare and rehabilitation projects in the region by providing a source of seeds. Other considerations will include speed of growth, height at maturity, water and maintenance requirements and fire risk. While it is recognised that new screening may not be effective immediately or completely screen the solar farm from some viewpoints to the east of

Issue	Summary of comments	Response
	• Vegetation buffers will lessen the impact of visual impacts, increased temperatures, water run-off, increased noise. • Vegetation interspersed with rows of solar panels should be implemented due to the elevation of the site. • No amount of perimeter vegetation will assist those landowners on the eastern side of the valley • Residents should not be responsible for screening their properties from the project. • North-south oriented lines of vegetation should be integrated with the layout • Vegetation screening along the eastern boundary should be established to obtain 10 metres after 10 years. • Vegetation screening should be deemed established before commissioning.	the project, Renew Estate will prioritise vegetation species that grow quickly and to a similar height as existing vegetation around the proposed solar farm. Renew Estate will continue to consult with neighbours and interest groups, such as Landcare and the RFS, regarding the landscape plan. It is important to clarify that the proposal site is zoned for industrial development. There are a number of existing industrial facilities adjacent to the proposal site (Section 1.2.2 of the EIS) within the same vista as the proposed development. Based on the site zoning and existing industrial facilities, the same visual amenity cannot be expected as if the proposal site was within a rural zone. Further, in the absence of the proposed solar farm, this site may be developed for some other industrial purpose, which may have a greater, if not similar, visual impact and may not provide screening vegetation of any kind. Section 7.16 of this report provides WWCC's submission on the proposal. The submission states the following: "The Vista of solar panels is a significant change from cropping and grazing issues. This precinct has been identified for major industrial land uses and the transition away from agriculture to industry will alter vistas in the precinct. It is considered that from a long term sense the proposal will be entirely consistent with the character of the area and entirely compatible with adjacent land uses. The eastern precinct of Bomen is currently undergoing transition from a rural area to an industrial area and there will be some potential for conflict and inconsistencies in character. These short term effects are unavoidable during these transitional stages, however, a strategic decision has been made for the conversion of the locality to industrial uses, and therefore considered acceptable." **Landscaping interspersed throughout the solar farm** Some community members including members of the EVA have suggested additional screening within the solar farm in a grid formation or

Issue	Summary of comments	Response
		interspersed rows, to further mitigate visual impact. Renew Estate has modelled the inclusion of internal screening would have a critical impact on project viability. The single axis tracking that would be utilised at Bomen Solar Farm is designed to capture sunlight during the early mornings and late evenings when the sun is low on the horizon. These 'shoulder periods' often correspond to high demand in the electricity network and are a valuable part of the generation profile (see below chart).  Source: http://solarips.com/2016/02/like-a-sunflower-solar-pv-panels-track-the-sun/ When the sun is low on the horizon, the shadows from obstacles are longer and extend up to four times the height of the obstacle. Therefore, including extra lines of vegetation would require large buffer areas on either side of the vegetation to be set aside that couldn't be used for solar generation. Buffer areas would also be required for Asset Protection Zones (APZs) to protect solar farm infrastructure from the risk of bushfire and provide adequate fire-fighting space. Solar farms generate electricity from direct sunlight, which creates shadows, and diffuse sunlight which is scattered sunlight that does not arrive on a direct line from the sun. Diffuse light is present on cloudy days when objects do not cast a shadow. Photovoltaic modules do produce electricity from diffuse light. However, only a small proportion of generation

Issue	Summary of comments	Response
		is from diffuse light with the majority of generation coming from direct sunlight. **Offsite landscaping** As discussed in Section 6.2.4 above, Renew Estate has committed to providing a $100,000 fund to the benefit of the community, and key stakeholders have identified additional tree plantings throughout the Eunony Valley Region (outside of the solar farm project site) as an idea for how the funds could be spent. Renew Estate sees this as a good use of part of the community find, which will supplement the proposed screening around the perimeter of the proposal site. Under an appropriate governance structure, the community can determine the quantum of funding to be allocated to the 'Greening Eunony Fund' together with funding allocations for other initiatives benefiting the community.
6.2.9. Glare / heat	**3 submissions have raised concerns about the glare or heat. Comments made are summarised below:** • No guarantee has been made that there will be no reflection from the panels • Other solar farms experience glare issues • Heat generated from solar farms will cause air temperature to be 4 degrees hotter compared with surrounding areas.	**Glare:** Section 6.4.3 of the EIS references a NSW Department of Planning paper (DoP 2010) which states the potential for glare associated with non-concentrating PV systems which do not involve mirrors or lenses is relatively limited. Renew Estate confirm that the Bomen Solar Farm will not be employing mirrors or lenses in the proposal. Section 6.4.3 of the EIS also references a report by Spaven Consulting (2011). This report assessed the potential for glare impact on aviation from PV technology. This report refers to a USA Federal Aviation Administration study that lists eight solar power projects at or adjacent to airports in the USA which have completed FAA assessments. In all these cases the FAA either determined that a full review was not required or reached a finding of No Hazard. **Heat:** The 4^0C heat island effect of a solar power plant was reported in Barron-Gafford *et al.* (2016). This paper was raised by the community during community consultation. The methodology of this study requires some scrutiny; the study was undertaken at only one site and measured the temperature at three

Issue	Summary of comments	Response
		geographically distinct locations that are separated by significant built environment features. The PV plant measurement point is adjacent to large (unrelated) industrial facilities (with no description of use or dimensions) whilst the reference measurement point is located within a large open semi-arid desert ecosystem surrounded by large open spaces. The study took half hourly temperature readings at a height of 2.5m above ground levels but did not measure other key metrics such as wind speed or humidity. It is also not clear if the study measured dry bulb air temperature or wet bulb temperature, despite the reference measurement point being located within a semi-arid desert where evaporative effects will have a significant impact. Additionally, as the study did not include any reference temperatures taken prior to the installation of the PV plant, or include any other measures or additional metrics to normalise to existing conditions, it is not possible to attribute any measured temperatures differences at these locations to any specific cause or mechanism. However, putting aside the questions around the methodology of the study or validity of the results, the mechanism attributed to the perceived heat gain from the PV plant by Barron-Gafford *et al*. (2016) is the permanent removal of existing vegetation under the PV plant. As stated in the EIS, the Bomen Solar Farm would maintain grass cover within the solar field, thus removing the mechanism for this effect to occur.
6.2.10. Noise	**1 submission have raised concerns about the noise levels of the project. Comments made are summarised below:** • The noise of rotating panels and related infrastructure will make a lot of noise.	The noise assessment undertaken as part of the EIS modelled the noise predicted to be generated from the operation of the proposal. Noise generating equipment during operation includes the solar panel tracking system, power conversion stations, on-site substation and light vehicle movements. As demonstrated by the noise assessment, the noise generated from the proposal during operation is predicted to comply with the noise criteria during all time periods for all receivers. As such, no impacts to amenity are expected. The noise predictions are also considered conservative as they assume worst-case scenario meteorological conditions for noise propagation.

Issue	Summary of comments	Response
6.2.11. Water runoff	**3 submissions have raised concerns about water runoff. Comments made are summarised below:** • The EIS identifies class 3 (96%) and class 5 (4%) soils on the proposed 265 hectares which does not clearly reflect the topography of the proposed development site. • The site has over 40 metres of elevation from bottom to top. • The drip lines identified in the EIS are actually creeks. • The proposal site is on land which in the past has caused major flooding on lower lands. • Water runoff will be magnified from the panels which will run via the natural watercourse on to the Murrumbidgee flood plain and risk contamination adjoining land and the river. • Any runoff from the project area can have a significant impact on local farm land • What measures will be put in place to control run off? • A condition of consent should be bunding of the lower borders of the solar farm and employing strategies to contain all water on site. • Water from storms will affect the whole valley	Renew Estate notes in Section 6.11.1 that the site elevation varies from 200 to 240 metres above sea level. The land and soil capability class should not to be used as a measure of topography. The watercourses on maps are labelled as "drainage line/stream" to capture the varied nature of water presence in the map extent. The watercourses within the proposal site are ephemeral. The establishment of impervious solar arrays on the site is not expected to magnify runoff. As described in Section 6.9.3 of the EIS, a 2013 study into the impact of solar farms on hydrology confirmed that a solar farm of the type proposed would not have a significant impact on the surface water run-off rate or volume (Cook and McCuen 2013). This study found that underlying groundcover was the primary determinant of run-off rate. The study found that over bare ground (a smoother surface) the velocity and volume of run-off increases, whereas ground with good grass cover (a rougher surface) delays run-off and absorbs more water. Therefore, by retaining good grass cover underneath the solar arrays, as the proposal intends to, the degree of surface water run-off would remain similar to current conditions. Unmitigated, potential increases in run-off would be from the decommissioning of dams, and the construction of impermeable surfaces for the control building, battery storage system, substation and access tracks. Renew Estate have made a commitment to maintain the existing runoff from of the proposal site through implementing design measures as necessary to mitigate any significant runoff impacts, such as the establishment of dams, retention basins, infiltration trenches or swales. The detail of such measures will be developed during detailed design. Additional vegetation screening proposed around the perimeter of the proposal site will provide additional protection against run-off to surrounding land. Ongoing monitoring and adaptive management will continue to be applied during operation of the proposal.
6.2.12. Decommissioning	**5 submissions have raised concerns about decommissioning. Comments made are summarised below:**	**Further details on decommissioning approach:**

Issue	Summary of comments	Response
	• There are inadequate details for future decommissioning • No commitment has been made to establish a bond for decommissioning. • A bond is necessary due to RE and partners having a lack of track record of building and operating solar farms. • As new electricity generation technologies develop over the next thirty years (the life of the proposal), the proposed solar farm's profitability may decline. Change of ownership or company rationalisation may cause the proposed solar farm to be abandoned. Without proper disposal and clean-up orders obeyed the WWCC and residents would bear the environmental and possibly financial cost.	Decommissioning of the proposal is addressed in Section 3.6 of EIS where decommissioning activities are listed. All decommissioning work will be the responsibility of the project owner with decommissioning being a condition of consent. Prior to decommissioning, a Decommissioning and Rehabilitation Management Plan (DRMP) will be prepared, providing further details on methods of infrastructure removal, rehabilitation and measures to avoid, minimise and mitigate any potential environmental impacts. The DRMP will incorporate further details based on final infrastructure design information and data collected during the construction of the proposal. Prior to decommissioning, a programme of community awareness will be undertaken with information disseminated to the local community through local media, advertising and direct mail. Contact details would be provided for individuals to gain further information or express concerns and make complaints. Other key considerations of the DRMP will be: • Adherence to regulations and guidelines of the day; • Recycling, reuse or disposal of all materials • All potential environmental impacts including traffic, hydrology (including stormwater management and erosion control), noise and vibration, air quality, socio-economic, hazards and risks • Ongoing site monitoring and rehabilitation which may include aeration and / or fertilisation of soil to promote vegetation growth, reseeding, and weed control. **Decommissioning bond:** Renew Estate's primary shareholder and intended solar farm owner, Wirsol, is a financially-secure, large asset owner. Wirsol is Australia's largest solar farm builder and asset owner with five solar farms in construction or operations across Australia, and 24 solar parks built in the UK. The risk of equipment failure at solar farms is low with the technology used being relatively simple, reliable and designed to operate for over 30 years. The equipment is protected by manufacturer warranties of up to 25 years

Issue	Summary of comments	Response
		for some components such as the PV modules. Furthermore, solar fuel is free and the low operational costs provide few opportunities for mismanagement or project failure. It would be in the project owner's best interests to operate the solar farm for as long as possible to recoup the capital costs of installation. In the event of decommissioning, the salvage value of the solar farm infrastructure (steel, copper, aluminium, motors etc.) is expected to cover the cost of decommissioning.
6.2.13. Property Value	**4 submissions have raised concerns about property values. Comments made are summarised below:** • The project will decrease property values. • Visual impacts are considered to have a negative impact on property value	The value of any property is influenced by a wide range of property attributes as well as the prevailing market conditions and the preferences of specific buyers. Section 4.2.3 of the EIS outlines why it would be difficult to predict any potential impact of the proposal development on property values, particularly due to the fact that the proposal site is currently designated as industrial land, which could be used for industrial purposes with greater environmental impacts than the proposal at any point in the future. Additionally, the proposal site is the subject of an existing development approval for the construction of a solar farm project. While there is little information available on the impact of solar farms on property values, studies have been undertaken into the impact of wind farms, which have a longer history in Australia and typically present far higher visibility and noise emissions when operational. Section 4.2.3 of the EIS outlines the NSW Department of Lands' analysis of property sales data (2009) found that wind farms did not negatively affect property values in most cases. In addition to that, a report commissioned by the NSW Office of Environment and Heritage in 2016 stated that there were no conclusive findings relating to value impacts on agricultural properties located close to a wind farm. The report noted that its findings from the review of case studies in NSW and Victoria did not identify any conclusive trends that would indicate that wind farms have negatively impacted on property values, and that their resale analysis indicated that the properties examined demonstrated capital growth that aligned with the broader property market of the time.

6.3. Public Submissions Reconciliation

6.3.1. Bill Schulz of Wagga Wagga, NSW (261746) - Objects

Comment - Bill Schulz of Wagga Wagga, NSW (261746)	Response reference
I object to the current DA.	-
The lack of a vegetation plan which has been put forward to Renew Estate for 6 months as a critical issue shows complete contempt to adjoining landholders.	6.2.8 Landscaping 6.2.3 Consultation
The visual impact & glare will have a extremely negative impact our amenity and property value.	6.2.7 Visual Impact 6.2.9 Glare / heat 6.2.13 Property Value
I ask the NSW State Planning put in place stringent controls in regards to Solar Projects and their impact on adjoining landholders and general community visual damage.	-
I am not opposed to Solar Projects however I do believe they should be placed away from roads and out of sight of neighbours. These are commercial projects that want an easy ride into sub-stations and the power grid. These companies that are going to spend millions on land and panels should be putting some of their capital into running their feed in lines further. If they get further away from sub-stations the land will get cheaper as sub-stations are generally are adjacent to towns and higher value land.	6.2.2 Location
While there is much enthusiasm for renewable energy, I ask that NSW Planning develop clear & robust guidelines for Solar Projects that take into consideration not only the benefits but also their limitations and impact on neighbours and communities.	-

6.3.2. Bryce McDonell of Eunonyhareenyha, NSW (261659) - Objects

Comment - Bryce McDonell of Eunonyhareenyha, NSW (261659)	Response reference
As a local land owner, I am objecting to the proposed Bomen Solar project. It is my opinion that the following points require further clarification and commitment from Renew Estate.	-
Lack of a vegetation screening plan after having said they would do.	6.2.8 Landscaping
Renew Estate staff said they wouldn't put more trees in as it is not economically worthwhile - after having said they would.	6.2.8 Landscaping

Comment - Bryce McDonell of Eunonyhareenyha, NSW (261659)	Response reference
No commitment to put money aside in Trust for the removal/remediation of site - they said they would.	6.2.12 Decommissioning
The land is sloping, NOT FLAT as they are stating.	6.2.7 Visual Impact
Their photos from residences are inaccurate and do not show the breadth of visual impact. A clear example of misleading information.	6.2.7 Visual Impact
Houses and properties will have significant visual impact from the development.	6.2.7 Visual Impact
The property has been neglected in recent months and is now full of noxious weeds i.e. Bathurst Burr & Khaki weed (what controls are going to be put in place to stop these weeds from transferring by wind or water onto other land).	6.2.6 Weed management
Renew Estate staff stated on 7th May, that the panels could be up to 4 meters high!	6.2.1 Equipment and layout
Any runoff from the project area can have a significant impact on local farm land.	6.2.11 Water runoff

6.3.3. Carl Clark of Wagga wagga, NSW (261728) - Objects

Comment - Carl Clark of Wagga wagga, NSW (261728)	**Response reference**
We are writing to draw attention to the still unanswered points in regard to the proposed solar farm installation on former Woolcombing land at Bomen via Wagga wagga NSW.	-
1) What is the strategy for noxious weed control prior to, during and post construction. It is currently a major problem on site.	6.2.6 Weed management
2) As the solar panels park in the horizontal position at night and on non sunny days, What measures will be in place to control run off of rain water from such a concentrated surface area. The land is sloping NOT flat (as continually insisted by Renew estate staff and representatives)	6.2.11 Water runoff

Comment - Carl Clark of Wagga wagga, NSW (261728)	Response reference
3) The photos taken on behalf of Renew estate are selective and do not show the immense total visual scar this project will produce on the landscape.	6.2.7 Visual Impact
4) To compensate for the sloping, NOT FLAT terrain Renew estate staff admitted that some of the lower panels would have to be at least 4 metres high to gain efficiency. This will create a significant visual impact on residents close to the proposed project.	6.2.1 Equipment and layout 6.2.7 Visual Impact
5) A vegetation screening plan was initially stated as being developed. At a later presentation the major screening was to the west thus screening the project from Bomen road, However this provides no screening for residents who have a direct line of sight from their residence and will be effected by heat and light reflection from the panels during the day.	6.2.8 Landscaping
6) There is intention to remove a significant number of mature trees which are the habitat of native birds.	6.2.5 Biodiversity
7) All photos of existing solar farms presented appear to be located on flat land.	6.2.7 Visual Impact
8) None of the Renew estate staff or representatives are prepared to guarantee that there will be no reflection from the panels.	6.2.9 Glare / heat
9) None of the Renew estate staff or representatives are prepared to discuss potential noise levels of the mechanicals of the panels and related infrastructure.	6.2.10 Noise
We are extremely concerned both personally and as a community as to the possible adverse effects this project will have on the area, the environmental impacts and the adverse effects on property values.	6.2.13 Property Value

6.3.4. Howard and Jan POLLARD of Wagga Wagga, NSW (261241) - Objects

Comment - Howard and Jan POLLARD of Wagga Wagga, NSW (261241)	Response reference
This property has been neglected over the years and now grows noxious weeds such as Bathurst Burr, Khali weed and Hairy Panic, all of which multiply each season. By putting sheep on to graze will only spread the weeds. Wind and water run-off will cause these weeds to spread onto the neighbouring properties.	6.2.6 Weed management

Comment - Howard and Jan POLLARD of Wagga Wagga, NSW (261241)	Response reference
Renew told us the land would not be cleared or dug-up in the process of building the farm. Water from storms will effect the whole valley, we have seen that in recent years.	
The promised tree lines to screen the panels will take 10-15 years to grow. Renew say they are uneconomical	6.2.8 Landscaping
The promised $100,000 to be held in trust for the locals to be used to beautify the surrounds has now not been mentioned.	6.2.4 Community Fund
This land is not flat, as Renew states, quite a gentle rise staring into the neighbours houses to the east. This will devalue these properties looking into these panels every daylight hour. The photos they are presenting are not true.	6.2.13 Property Value 6.2.7 Visual Impact
They have now stated the panels could rise up to four metres in height in some areas.	6.2.1 Equipment and layout
We object to this solar farm in it's present form, but not solar farms in general	-

6.3.5. Marie Suthern of Wagga Wagga, NSW (261674) - Objects

Comment - Marie Suthern of Wagga Wagga, NSW (261674)	Response reference
Thank you for the opportunity to comment on this proposal. I do not oppose solar projects, but there should be guidelines put in place by State Planning for all solar projects specifically about: • their location to existing dwellings, • growing vegetation buffers around projects to manage visual impacts, • increased temperatures, water runoff and any noise impacts, and • their overall size.	-
This specific project is huge and will have significant visual impact on surrounding residents. It is on sloping land and will be seen from a considerable distance.	6.2.7 Visual Impact
This impact could be softened by having a vegetation buffer - specifically 5 rows of native trees and shrubs planted surrounding the perimeter of the project. It would also benefit from having vegetation buffers within the project to lessen the impact of increased temperatures, water run off, increased noise and the visual impact. This may have a small impact on production but overall would be better for the environment and the local community now and into the future. In answer to the box below about my view on the application, I object to it not having a planned and funded vegetation buffer surrounding the project.	6.2.8 Landscaping

6.3.6. Peter Fawcett of Bomen, NSW (261751) - Objects

Comment - Peter Fawcett of Bomen, NSW (261751) -	Response reference
Topography: Renew stated that the land is flat when it is not, therefore having greater visual impact on houses and properties.	6.2.7 Visual Impact
Photos from these properties are inaccurate and do not show the exact impact on how the farm will impact on them.	6.2.7 Visual Impact
How will Renew control the weeds and stop them from transferring to neighbouring properties.	6.2.6 Weed management
The design of the panels are yet to be specified.	6.2.1 Equipment and layout
A trust fund is yet to be established for remediation.	6.2.12 Decommissioning
A vegetation plan, that is, a satisfactory one, has yet to be established.	6.2.8 Landscaping

6.3.7. Ron Kerr of EUNANOREENYA, NSW (261645) - Objects

Comment - Ron Kerr of EUNANOREENYA, NSW (261645)	Response reference
The Renew Estate proposal for an electricity power generation plant comprising of 400,000 solar panels is indeed a significant development proposal especially for the Eunony Valley Community (34 homes) who will be negatively impacted by this proposal. The land area of this solar farm proposal when overlaid on a map will cover an area larger than Wagga Wagga's CBD, home to 9,000 people. It will be a massive development dominating Eunony valley for possibly 30 years. I object to the establishment of a 265 hectare solar farm (400,000 solar panels) as it is described in Renewed Estate's Environmental Impact Statement (EIS) for the following reasons:	-
1. The proposed site: The EIS, identifies class 3 (96%) and class 5 (4%) soils on the proposed 265 hectares. This does not clearly reflect the topography of the proposed development site. It has over 40 metres of elevation from bottom to top of the proposed site. The proposed site comprises approx. 25% of the total Bomen Industrial Precinct. It dominates the eastern bank of the Eunony Valley. The drip lines identified in the EIS are actually creeks. The main creek impacted by storm water from the proposed 400,000 glass surface panels will be Schiller"s Creek which has a history of severe flooding across neighbouring properties leading to and crossing Windmill Lane. These documented flood events (WWCC & EPA records) have occurred in the past from storm events as well as from the former woolcombing plant dams overflowing. The point being that the proposed Renew Estate development proposal is on land which, in the past, has caused major flooding on lower lands. The EIS does not clearly address this problem. A condition of consent should be bunding around the lower borders of the solar farm and employing strategies to contain all storm water on site.	6.2.11 Water runoff

Comment - Ron Kerr of EUNANOREENYA, NSW (261645)	Response reference
Furthermore, other alternative solar farm sites have not been considered by Renew Estate. None are named in their EIS. This suggests Renew Estate has little local knowledge, or history. There is less inhabited land and suitable electricity infrastructure near the Uranquinty Powerstation about 30 kms away. This should be considered being less disruptive to individual residents and communities compared with the Bomen site.	6.2.2 Location
2. Visual impact: An electricity power generating plant in full view of Eunony Valley residents will have a negative visual impact, a loss of amenity and possibly devalue properties. The proposed solar farm screening is insufficient. Border tree/foilage planting will take nearly the life of the proposal (25-30 years) to have any desired effect for those lower lying residents, with little or no amelioration for those living higher in the valley. The proposal is large and will dominate the area and vista for neighbours, including myself, being visible for kilometres. Renew Estate proposes to offer the Community $100,00 for visual enhancement of Eunony Valley. They would be advised to spend this money on site to develop rows of trees and foliage interspersed with rows of solar panels to allow for better screening given the elevation of the proposed site. On site plantings could be done so as not to shadow solar panels. Residents should not be responsible for screening their properties from the Renew Estate solar farm.	6.2.7 Visual Impact 6.2.13 Property Value 6.2.8 Landscaping
3. Potential glare: Although the proposal claims little or no glare (2%) from their 400,000 tracking solar panels, experience elsewhere such as the Royalla solar farm (NSW) disputes this claim (Royalla residents warns Williamsdale on glare, as farm goes Dutch - Canberra Times Feb 6 2016).	6.2.9 Glare / heat
4. Inadequate details for future decommissioning of solar farm. A bond to cover decommissioning costs is essential and should be deposited by Renew Estate as a condition of consent, if their proposal is approved. This is especially necessary given that Renew Estate has no track record in building and operating electricity generation plants (solar farms). Rather, they have four solar farm proposals in different stages of planning across NSW and QLD. Their partners Beast Solutions, likewise, have conducted studies for several renewable energy projects, though all are in preliminary stages as at May 2018. WIRSOL, a financial contributor to the project, have no solar farms in Australia and a presence of less than 12 months here. There has been a run on development applications for renewable electricity generation plants across the Riverina ($750m worth according to Daily Advertiser). As new electricity generation technologies develop over the next thirty years (the life of the proposal), the proposed solar farm's profitability may decline. Change of ownership or company rationalization may cause the proposed solar farm to be abandoned. Without proper disposal and clean-up orders obeyed the WWCC and residents would bear the environmental and possibly financial cost. Bomen's Industrial history shows this would not be an isolated incident. Michelle Leathers, Laminex's sanda -dust and Wool Combing plant are some examples of Bomen Industrial sites left polluted after abandonment.	6.2.12 Decommissioning

6.3.8. Bradley Kent of wagga, NSW (261749) - Objects

Comment - Bradley Kent of wagga, NSW (261749)	Response reference
Solar farm is not needed in this farming area which is surrounded by prime agricultural land	-
There is a lack of a vegetation screening plan after having said they would do. Making it an eyesaw. The Renew Estate staff said they would not put more trees in as it is not economically worthwhile - after having said they would this will leave it expose and untidy a distraction.	6.2.8 Landscaping
There has been no commitment to put money aside in Trust for the removal/remediation of site - they said they would.	6.2.12 Decommissioning
The land is sloping and undulating NOT FLAT as they are stating it is	6.2.7 Visual Impact
Their photos from residences are inaccurate and do not show the breadth of visual impact which will have a big negative impact on these residences	6.2.7 Visual Impact
Houses and properties will have significant visual impact form the development that they should not have to have they have chosen to live in a rural area not an industrial one.	6.2.7 Visual Impact 6.2.2 Location
The property has been neglected and weeds not controlled in recent months and is now full of noxious weeds i.e. Bathurst Burr & Khaki weed (what controls are going to be put in place to stop these weeds from transferring by wind or water onto other land) these weeds are very difficult to control even on farming properties they have significant negative impacts on the value of the crops and livestock that you produced. they can very quickly become a problem if not regularly checked and monitored	6.2.6 Weed management
The Renew Estate staff stated on 7th May, that the panels could be up to 4 metres high! which are very invasive	6.2.1 Equipment and layout
I very much object to this proposal and that this area is not a suitable spot	-

6.3.9. (Name withheld) of EUNANOREENYA, NSW (261701) - Comments

Comment - (Name withheld) of EUNANOREENYA, NSW (261701)	Response reference
VEGETATION PLAN: From the start Renew Estate indicated that they would thicken the vegetation line surrounding the development so that the visual impact was lessened from neighbouring property owners. At the meeting 7.5.18 the vegetation plan and on speaking with your staff they advised that the tree line surrounding the development would only be filled in where there are gaps. As the land is sloping, not flat as you are stating, why is there not an additional tree line proposed on the sloping area north/ south. .Originally Renew Estate offered to improve or install tree line on the neighbouring properties to lessen the visual impact of the said 400,000 panels - this has not been addressed at the meeting on the 7.5.18.	6.2.8 Landscaping
PANELS: The plan at the meeting 7.5.18 showed that 90% of the property would be covered with panels. Prior to this they had stated that 35-40% of the property would be covered with panels. They then could not advise me which style of panel would be used as this has not been decided upon. On this information how can we truly know how these panels will be situated on the land and at what height. All these "undecided" factors will have visual implications on our properties. This will undoubtedly decrease the value of our homes and properties. We already look at Robe which has had no vegetation plan to protect neighbours so we know how the Renew Estate plan will look if this is not addressed.	6.2.1 Equipment and layout 6.2.7 Visual Impact
ADDITIONAL: There has been no commitment for any money to be put in to trust for any remediation or removal of the site if the development fails.	6.2.12 Decommissioning

6.3.10. (Name withheld) of Harefield, NSW (261756) - Objects

Comment - (Name withheld) of Harefield, NSW (261756)	Response reference
We own property less than 2km from the proposed site. The proposed site covers a massive area in excess of 600 acres. This is planned to be located on sloping ground on the other side of the Eunony Valley directly in sight from most areas of our property.	-
We are particularly disappointed that whilst we have had a number of consultative meetings with the proponents and their representatives, and have made several suggestions as to mitigating visual and other impacts, these have been ignored.	6.2.3 Consultation

Comment - (Name withheld) of Harefield, NSW (261756)	Response reference
This is a massive development and the scale is difficult to imagine. I have travelled through Europe in recent times and seen many solar "farms" but none that come even close to this scale. Many are 25, 50 or even just over 100 acres, and all on flat land that can be effectively screened. But 625 acres is huge. Especially on sloping ground in a busy farming and lifestyle property area. The visual impact will be enormous. The proponents have taken photos from various properties (including ours) but have only included those photos showing the least impact in their submission. These are also the locations that can benefit from the perimeter screening that has been proposed. The photos do not show the enormity of the visual impact.	6.2.7 Visual Impact
Perimeter vegetation does not provide effective (or any) screening to those properties on the eastern side of the valley as the perimeter is some 70 metres below us. The highest point in the project is still more than 20 metres below us. Accordingly no amount of perimeter vegetation will assist those landholders on the eastern side of the valley. We have suggested a grid pattern vegetation plan throughout this massive project, however whilst the proponents have all nodded and made the right noises they have put none of this in their proposal. They do not appear to have totally committed to the perimeter vegetation. There is no plan, no discussion as to what type of trees, how many rows, when the planting will commence, etc.	6.2.8 Landscaping
We operate a mid scale farming and grazing operation in the Eunony Valley and have a strong connection to the land and its people. This development is causing significant concern to many landholders and residents. Whilst it is true that this proposal is planned on industrial land, at this stage there are only a couple of developments on the Eastern side of the industrial area facing the Eunony Valley. It will be many, many years (likely decades) before this 625 acre area would be developed naturally. Particularly as the local council has committed to developing the western side of the industrial area first. (over the ridge from our valley)	6.2.2 Location
I understand the financial benefit to the proponents in having this development close to the electricity substation, however the impact on so many residences and landholders should not be ignored. This development is enormous and I believe that if this does go ahead that the community will be shocked with the scale and the imposing nature of what will surely be a massive eyesore. We vehemently object to this proposal.	-

6.3.11. (Name withheld) of Brucedale, NSW (259169) - Comments

Comment - (Name withheld) of Brucedale, NSW (259169)	Response reference
In my opinion, one of the few negatives about the Bomen PV generation development is its substantial negative visual impact for residents living on the eastern side of the solar farm. To try to minimise this visual impact I would propose that: a) a couple of north - south oriented lines of vegetation be integrated into the layout to ameliorate the broad continuous band of solar panels which will be obvious to any person viewing the site from many kilometres on its eastern side as the site is gently sloping with an easterly aspect. (b) a tree line visual buffer be established along the eastern boundary designed to obtain a specific height (say 10 metres) after 10 years, (c) these vegetation lines to be planted and deemed to be established before the commissioning of the facility.	6.2.8 Landscaping

6.3.12. (Name withheld) of Eunanoreenya, NSW (261661) - Comments

Comment - (Name withheld) of Eunanoreenya, NSW (261661) -	Response reference
As my property is visually impacted by this development I am so disappointed that the renew have advised me at their last meeting at north Wagga hall that they will now only be filling in trees where there are gaps in the boundaries of the project. At all other meetings renew have indicated that the vegetation plan would be a major factor in this development telling us that the boundaries would be increased in vegetation. As well as this they also advised that properties that would be visually impacted would be supported by renew with tree lines to lower visual impact for neighbours. Our property is one that is impacted visually. The angle in which photos have been taken is not a true representation of the true elevation. This is very obvious from the northern side of Shepherds Siding Rd. Please be true to your word and make this development as aesthetically pleasing to the people who live here.	6.2.8 Landscaping

7. RESPONSE TO AGENCY AND ORGANISATION SUBMISSIONS

7.1. Teys Australia Wagga (261717) - Stance: Supports

Comment - Teys Australia Wagga (261717)	Response
Teys support the proposed development, and provide the following justification of Teys position: 1. The proposed use of the Site for a Large Scale Solar Farm aligns closely with the strategic purpose of Bomen as an industrial area of State and Local significance, supporting regional employment, growth and economic participation. Bomen Business Park is a thriving industrial hub, responsible for major contribution to the regional economy. There continues to be a significant investment into industrial purpose within the Bomen Business Park from both private and Government sources, and this existing use is supported by the proposed project. The significance of the Bomen Business Park as a key Industrial Area was recently recognized in the DRAFT Wagga Wagga City Council Activation Strategy 2040. In this document, the Council has also recognized that strategic planning is integral to the success of the Bomen Industrial Precinct. 2. The proposed project supports those specific objectives of the Regional Strategy. Specifically, The Riverina Murray Regional Plan 2036 which identifies a number of key directions to promote and support economic growth including, 'To promote business activities in Industrial and Commercial Areas', and local Draft Activation Strategy which includes planning for a solar farm in this precinct. This direction underpins the purpose of the Regional Plan, to promote more local jobs through a stronger agribusiness sector; expanded advanced and value added manufacturing; diversified energy production; and forestry and tourism. The implementation of a large scale renewable energy development in Bomen not only aligns closely with the specific objectives of the Activation Strategy but promises to deliver outcomes in line with State and National Energy and Climate change objectives. Teys Australia is committed to taking a role, within our own industry, as a sustainability leader; continually improving energy and water productivity, increasing renewable sources as a proportion of total energy use, and creating sustained value for our customers, internal stakeholders, business partners and the wider community. Teys understand outcomes of the proposed project will deliver benefit that will be shared with other key industrial facility operators within the Bomen Business Park. Not only does the Proposal support opportunities for current businesses within the Bomen Industrial Area, it provides opportunities for the future growth of the economic engine of Wagga.	Noted

7.2. Eunony Valley Association (EVA) (261744) - Stance: Objects

Comment - Eunony Valley Association (EVA) (261744)	Response reference
This submission is written for and on behalf of the Eunony Valley Association Inc. We represent 34 homes and 105 members who live within proximity to north, east and south of the proposed Renew Estate Solar Project. As the application stands the Eunony Valley Association Inc. (EVA) is opposed to the Renew Estate Solar Project. While Renew Estate (RE) have met with EVA 3 times, December 2017, February 2018 & May 2018 and the meetings have been open and welcoming the detail in the development application as it stands does not reflect previous conversations and address concerns repeatedly put forward. While EVA is not opposed to renewable energy projects we have major concerns about the current proposal for this site. The land contour is not flat as mentioned in the submission with 49metre incline over 1 kilometre. This is the western face of the Eunony Valley. To the east of the proposal are 34 homes that will be visually impacted by this development. The concerns shared with RE over the past 6 months are been:	All of the comments made by the EVA have been captured and addressed in Section 6.2.
• Panorama photos taken by RE are not accurate and do not show the total area visually impacted from each property	6.2.7 Visual Impact
• Glare, particularly in the morning with the early sun on them	6.2.9 Glare / heat
• Heat generated within the suite is acknowledged globally to increase air temperature 4 degrees hotter than surrounding areas.	6.2.9 Glare / heat
• Noise of motors rotating panels (100's of motors will make a lot of noise)	6.2.10 Noise
• Lack of clarity on what solar equipment they will use and RE staff suggested at May 2018 meeting it could be 4 metres high, not 2 metres as previously stated.	6.2.1 Equipment and layout
• RE staff at May 2018 meeting stated that because it is on industrial zoned land they don't have to work with neighbours to minimise identified issues.	6.2.3 Consultation
• Weed control on the property - massive noxious weed burden on the property	6.2.6 Weed management
• Water runoff will be magnified from the panels (hardstand) which will run via the natural watercourse onto the Murrumbidgee floodplain & risk of contaminating adjoining land the river.	6.2.11 Water runoff
• Visual amenity will be severely compromised for landholders & homes to the east as the site has 2.66km face.	6.2.7 Visual Impact

Comment - Eunony Valley Association (EVA) (261744)	Response reference
• The lack of an effective vegetation plan to screen the development. • RE has suggested that EVA residents plant trees on their land to screen the visual impact. The question being asked is, why should EVA residents block the aspect from their homes to screen RE's development? • After having tabled at both the December and February meetings that a vegetation plan on a grid pattern would help alleviate many of the above concerns it is disappointing to see that no effort has been made to screen the development. A Landcare officer at the meeting stated that 2 rows of trees along the eastern (and lowest) boundary will have no impact on managing the above concerns. To then questions RE staff at the May 2018 about the vegetation plan (or lack thereof) and be told it is not viable to consider further vegetation makes this proposal completely unacceptable to EVA. Shadowing from trees is an argument put forward saying that impacts on power generation, so.....	6.2.8 Landscaping
Can NSW State Planning please call for an independent report on the impact of shadowing on solar projects? On sunny days the shading is only during early morning and late afternoon, however the clear day allows for maximum power generation. Conversely our observations are that during full cloud cover days trees do not cast shadows so therefor they are not impacting on the ability to generate power.	-
In summary 3 or 4 vegetation belts tiered across (north to south) the project would overcome many of the above concerns. The vegetation will reduce and or minimise visual impact, water runoff, noise generation, heat dispersion. The Wagga Wagga City Council in its Bomen Master Plan of 2010 has vegetation as strong requirement for the development of this land area.	6.2.8 Landscaping
For this project to be seen positively by EVA will ask:	-
• That an independent review be undertaken regarding the impact of shading on solar panels	-
• An effective vegetation plan be developed and then approved by independent analysts that minimises visual impact, noise and glare to EVA properties.	6.2.8 Landscaping
• The vegetation plan becomes a condition of consent and be actioned at the start of the development (if approved) and be proactively managed to ensure screening benefits will be gained within 5 years.	6.2.8 Landscaping
• The vegetation plan must be maintained and upheld throughout the life of the project and thereafter.	6.2.8 Landscaping
• Absolute clarity be made on what the dimensions of the hardware is going to be.	6.2.1 Equipment and layout

Comment - Eunony Valley Association (EVA) (261744)	Response reference
• Water management plan be drawn and calculated to determine if the artificially created runoff is going to be controlled.	6.2.11 Water runoff
As the current application stands, EVA are opposed to this development. Please note in the 2 photos attached, 100% cloud cover on both days when photo was taken there is no shadowing. The flood photo is from 2012 flood and only 1.6km from proposed site	-

7.3. Committee 4 Wagga (261623) - Stance: Supports

Comment - Committee 4 Wagga (261623)	Response
C4Wagga acknowledges the Bomen Solar Farm development application represents a large-scale solar photovoltaic (PV) generation facility and associated infrastructure with an estimated capacity of 120 megawatts (MWdc) and a battery storage system. It is our understanding the Bomen Solar Farm is planned to be constructed on land currently zoned Industrial. The possibility of requiring 200 employees during construction and the prospect of more affordable power for enterprises operating from Bomen Business Park are included amongst the identified business and economic benefits from Bomen Solar Farm. The anticipated business and economic benefits to Wagga Wagga are aligned to our priorities and accordingly, Committee 4 Wagga supports the Bomen Solar Farm development application.	Noted

7.4. Enirgi Power Storage Recycling (261603) - Stance: Supports

Comment - Enirgi Power Storage Recycling (261603)	Response
Enirgi Power Storage Recycling (EPSR) owns the adjacent property to the south of the proposed solar farm. EPSR are in support of this project. EPSR believes the solar farm will support the growth of industry in the Bomen Industrial precinct through the availability of low cost, low emission power supply. The location of the solar farm within the Bomen Industrial precinct would not impact on the established industries but rather introduce an opportunity to source low emission power.	Noted

7.5. Regional Development Australia Riverina (261735) - Stance: Supports

Comment - Regional Development Australia Riverina (261735)	Response
On behalf of the RDA Riverina Committee I am writing to support the Bomen Solar Farm. RDA's are non-profit, community-based organisations. The RDA-Riverina committee comprises of 12 members from across the region who represent local communities, businesses and local government. The RDA-Riverina committee has a broad and diverse skills base and demonstrated networks and alliances. The Chair is appointed by the Commonwealth Minister for Regional Development. RDA Riverina work with all levels of government, business and community groups to support the economic development of the Riverina region. The RDA Charter requires local RDAs to collaborate with relevant stakeholders to identify economic opportunities and leverage private and public-sector investment to the regions. The Bomen Solar Farm fits in this classification. It is proposed that Bomen Solar Farm will create an economic benefit for the Riverina region with 100 additional jobs during construction and 5 operational jobs and ongoing affordable power for Bomen Business Park. The affordable energy has an ability to attract further business to the Bomen Business Park. RDA Riverina understand that the proposed venture will be on industrial zoned land. Renew Estate brings International Solar Company, Wirsol, with it on this venture. Wirsol have numerous Solar Farms across Northern Europe and the UK and several other Solar Farms in various stages of establishment in QLD and VIC. The proposed Bomen Solar Farm is located on 256 hectares of industrial land. RDA Riverina welcomes the $168m Renew Estate Bomen Solar Farm, the jobs it will create in construction and the affordable energy choice for business in an expanding industrial park.	Noted.

7.6. Safework NSW (261779) - Stance: Comments

Comment - Safework NSW (261779)	Response
Safework NSW have no comments in relation to the proposed development, other than we would like to meet with the successful contactor prior to the commencement of Construction.	Noted.

7.7. TransGrid (261781) - Stance: Comments

Comment - TransGrid (261781)	Response
TransGrid has undertaken a review of the Bomen Solar Farm EIS and has no further comments. TransGrid has and will continue to liaise with the proponent in relation to the grid connection works as the project progresses.	Noted.

7.8. Department of Industry – Crown Lands and Water Division (261769) - Stance: Comments

Comment - Department of Industry – Crown Lands and Water Division (261769)	Response
Recommendations prior to project approval • An assessment should be provided of the impacts of removing dams on aquatic habitat, and the impacts of discharging water stored in the dams. A commitment is requested that rehabilitation of the dams would ensure adequate reconstruction and stabilisation of the drainage channels to address the requirements of the Guidelines for Controlled Activities on Waterfront Land (DPI 2012).	The need for removal of dams within the Site will be confirmed during detailed design. Section 4.1.3 (Removal of Aquatic Habitat) of the Biodiversity Assessment provided as Appendix D of the EIS states that the removal of the three dams in the site would be unlikely to cause a substantial impact to native fauna. Should any dams require removal, the erosion and sedimentation management plan will include measures to ensure the adequate reconstruction and stabilisation of the drainage channels in accordance with the Guidelines for Controlled Activities on Waterfront Land (DPI 2012). The proposal would seek to use the water from the dams for dust suppression and construction activities. No water from decommissioned dams would be rapidly discharged onto the land.
• An alternative source of water should be provided for operation of the project due to the current reliance on rainfall.	All water required for the operation of the proposal will be sourced from water tanks on-site which will be filled by rainfall or water trucked in to the site as required. Water use during the operations phase will be low.
• Clarification is requested of proposed works within waterfront land of the first order watercourse in the southern development area. An impact assessment and proposed mitigation measures should be provided where required. Implementation of buffer requirements to watercourses as detailed in the Guidelines for Controlled Activities on Waterfront Land (DPI 2012) is recommended.	The ephemeral drainage lines within the site mapped as first order watercourses (data source: Digital Topographic Database, supplied by Spatial Services - Department of Finance, Services and Innovation) do not have a defined channel with bed and banks. As such the watercourses are not considered waterfront land under the Water Management Act 2000

Comment - Department of Industry – Crown Lands and Water Division (261769)	Response
	and thus the Guidelines for Controlled Activities on Waterfront Land (DPI, 2012). Notwithstanding, the EIS assesses impacts to biodiversity, hydrology and soils as a result of the proposal and includes mitigation measures to manage identified impacts. Works within the ephemeral drainage line within the southern development area would include the installation of steel posts to support the solar modules and tracking systems, underground cabling and the construction of internal access roads. Works within the ephemeral drainage lines within the transmission line corridor would include the installation of posts for overhead sections of the transmission line, or underground sections of the transmission line constructed through trenching or underboring.
• Grazing should be used for vegetation and weed control in the solar farm rather than herbicide application. This will maintain a vegetative cover over the soil surface and provide opportunities for local graziers to access an alternative food source.	It is intended for grazing to be employed for vegetation and weed control during operation. The application of herbicide and slashing/mowing may be also required for some weed control activities where grazing may not provide sufficient control. The use of herbicide would be prescribed within the flora and fauna management plan as part of the CEMP.
• All underground infrastructure should be removed following decommissioning of the site. This will mitigate potential impacts to cultivation if the land is to be returned to cropping as outlined as a possibility in the EIS. The removal of underground cables will also prevent any inconvenience to following development if the site is to be used for industrial purposes.	Noted. Renew Estate will commit to removing its underground infrastructure during decommissioning of the proposal.
• The addition of soil ameliorants such as gypsum should be added to the Soil Mitigation Measures outline in table 6.73 of the EIS.	The use of soil ameliorants for erosion and sedimentation control has added to the revised list of mitigation measures in Section 11Table 5.

Comment - Department of Industry – Crown Lands and Water Division (261769)	Response
Recommendations post project approval • The proponent prepares a Construction Environmental Management Plan (CEMP) in consultation with Natural Resource Access Regulator (NRAR) prior to commencement of activities.	The NRAR will be consulted during the development of the CEMP.
Comment • Groundwater is predicted to be intercepted for transmission pole installation however dewatering is predicted at less than 3ML. The impacts of this are considered to be minor. If dewatering requirements are increased the proponent will be required to consult with NRAR to determine the requirement to obtain water entitlement and additional assessment requirements.	Noted.
• The proponent has indicated three onsite dams will be decommissioned, however no assessment has been provided of the impacts of removing these dams on aquatic habitat, or on the environment where discharge of the water may be required. The EIS also refers to the potential for construction of additional dams in the future to maintain runoff characteristics if required. If this is proposed consultation will be required with NRAR to determine additional assessment or licensing requirements. Rehabilitation of the dams will need to ensure adequate reconstruction and stabilisation of the drainage channel.	The need for removal of existing dams within the Site will be confirmed during detailed design. Section 4.1.3 (Removal of Aquatic Habitat) of the Biodiversity Assessment provided as Appendix D of the EIS states that the removal of the dams in the site would be unlikely to cause a substantial impact to native fauna. Should any dams require removal, the erosion and sedimentation management plan will include measures to ensure the adequate reconstruction and stabilisation of the drainage channels in accordance with the Guidelines for Controlled Activities on Waterfront Land (DPI 2012). Should any new dams be proposed to be constructed, the NRAR will be consulted to determine any additional assessment or licensing requirements.
• The department supports the safeguards and mitigation measures to hydrology and water quality management measures through the proposed development and implementation of an Erosion and Sediment Control Plan (ESCP) and a Groundcover Management Plan as a part of a Construction Environmental Management Plan (CEMP) - in accordance with the guideline, “Managing Urban Stormwater: Soils and Construction”.	Noted.

7.9. Local Land Services NSW (262090) - Stance: Comments

Comment - Local Land Services NSW (262090)	Response
• As a State Significant Development, this negates the requirement for consent under Part 5A of the Local Land Services Act 2013 for native vegetation removal. Additionally, the majority of the proposed site is excluded land, as shown on the Native Vegetation Regulatory Map. It should be noted, however, that part of Option 2 for the proposed transmission line corridor is located on land zoned as RU1. While the majority of this corridor is through what appears to be Category 1 - exempt land, the section of the proposed corridor that runs through Lot 15/DP 1108978 intersects with a small area of sensitive land, as shown on the Native Vegetation Regulatory Map. Additional considerations may be required if Option 2 is chosen.	The transmission line corridor is adjacent to, but does not encroach into Lot 15 DP1108978 or any areas of sensitive land shown on the Native Vegetation Regulatory Map.

7.10. Planning and Environment – Division of Resources and Geoscience, Geological Survey of NSW (GSNSW) (261773) - Stance: Comments

Comment - Planning and Environment – Resources and Geoscience (261773)	Response
• GSNSW reviewed the Environmental Impact Statement (EIS) for the Project and acknowledges the proponent has undertaken a search of DRG's MinView database and confirmed that there are no current mining, coal or petroleum titles over or in the vicinity of the subject site (see page 133 of EIS) with search results shown on a map (see Appendix I - Database Searches of the EIS). • GSNSW notes that an assessment of currently available data confirms that at this stage of the Project, there are no current mineral, coal or petroleum titles or application, or extractive industries in the vicinity of the project site. Accordingly, GSNSW are satisfied the proponent has addressed these specific requirements.	Noted.
• GSNSW has reviewed the EIS with respect to biodiversity offset considerations and any supplementary biodiversity offset measures and note that the proposal site is coincidental with the Wagga Wagga Biodiversity Conservation Area with the EIS stating no biodiversity offsets measures will be proposed for the Project provided it is undertaken in accordance with the Wagga Wagga Local Environmental Plan 2010 (Wagga Wagga LEP 2010). Should this change, GSNSW request to be consulted in relation to any biodiversity offset considerations and any supplementary biodiversity offset measures proposed.	As discussed in Section 4.4, part of the proposed transmission line corridor options is now outside of the Wagga Wagga Biodiversity Certification Area. However, no native vegetation is proposed to be removed in these areas and therefore no biodiversity offsets are required. Should this change, Renew Estate will consult GSNSW.

7.11. Fire and Rescue NSW (261788) - Stance: Comments

Comment - Fire and (261788) Rescue NSW	Response
Should a fire or hazardous material incident occur, it is important that first responders have ready access to information which enables effective control measures to be quickly implemented. Without limiting the scope of the emergency response plan (ERP), the following matters are recommended to be addressed:	Noted. A Fire Management and Emergency Response Plan will be developed for the Project and will incorporate the items recommended.

Comment - Fire and (261788) Rescue NSW	Response
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 (e.g fires involving solar panel arrays, bushfires in the immediate vicinity or potential hazmat incidents). 3. That the ERP develop appropriate risk control measures that would need to be implemented in order to safely mitigate potentials risks to the health and safety of firefighters and other first responders (including electrical hazards). Such measures would include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures, minimum evacuation zone distances and a safe method of shutting down and isolating the photovoltaic system (either in it's entirety or partially, as determined by the 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' that shall be located in a position directly adjacent to the site's main entry points. 6. Once constructed and prior to operation, the operator of the facility must contact 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 agencies can proactively develop comprehensive inter-agency local emergency procedures for significant hazardous sites within their particular local government area. The contact details of members of the LEMC can be obtained from the relevant local council.	Two copies of the Fire Management and Emergency Response Plan will be stored in a prominent 'Emergency Information Cabinet' that shall be in a position directly adjacent to the entry of the solar farm control building.

Comment - Fire and (261788) Rescue NSW	Response
The NSW RFS has reviewed the Environmental Impact Statement (EIS) and notes that the EIS included commitments to addressing the impacts of bush and structural fires on the facility. As such, the NSW RFS has no objection to the proposal and provides the following recommended conditions to be included to any consent granted. 1. A Fire Management Plan (FMP) shall be prepared in consultation with NSW RFS Riverina Fire Control Centre. The FMP shall include: - 24 hour emergency contact details including alternative contact; - Site infrastructure plan; - Fire fighting water supply plan; - Site access and internal road plan; - Construction of Asset Protection Zones (APZ) and their continued maintenance; - Location of hazards (Physical, Chemical Electrical) that will affect fire fighting operations; - Such additional matters as required by the NSW RFS District Office (FMP review and updates). 2. The entire solar array development footprint to be managed as an Asset Protection Zone as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bushfire Protection 2006' and the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'. 3. 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 APZ. 4. To allow for emergency service personnel to undertake property protection activities, a 10 metre wide defendable space (APZ) that permits a minimum 4 metre wide, unobstructed vehicle access is to be provided around the perimeter of the solar array and associated infrastructure.	Noted. Fire management, including items 1 to 4 recommended by NSW RFS will be incorporated into the Fire Management and Emergency Response Plan which will address all emergencies including fire.

7.12. Office of Environment and Heritage (OEH) (262090) - Stance: Comments

Comment - Office of Environment and Heritage (OEH) (262090)	Response
<u>Biodiversity</u> **The EIS meets the Secretary's requirements for biodiversity.** The proposed development is within the Wagga Wagga Biodiversity Certification area. This means that this development is taken to not be likely to have a significant impact on any threatened species, population, or ecological community or its habitat. However, the Wagga Wagga Biodiversity Certification Order also relies on the Wagga Wagga Development Control Plan (DCP) that requires the retention and management of low conservation value remnant patches in Bomen, including the patch of woodland on Trahairs Road abutting the eastern boundary of the proposal.	As discussed in Section 4.4, part of the proposed transmission line corridor options are now outside of the Wagga Wagga Biodiversity Certification Area. However no native vegetation is proposed to be removed in these areas and therefore a BDAR is not required, or any offsets under the BAM (refer Section 4.4). No removal of vegetation protected under the Wagga Wagga Biodiversity Certification and Wagga Wagga DCP is proposed. Further, the proposal site has been revised to exclude the woodland patch in the northwestern portion of the site identified in the EIS as protected under the Wagga Wagga DCP (refer section 4.3). As such, there are now no patches of vegetation within the proposal site that are protected under the Wagga Wagga DCP and Wagga Wagga Biodiversity Certification Order.
Biodiversity Assessment *Section 1.7.2 Construction Activities (page 7)* This section states that no vegetation removal is required for Trahairs Road to be used for access to the site during construction. Any vegetation clearing additional to that identified in the EIS must be in accordance with the DCP. It is critical to the 'maintain and improve' outcome of the Wagga Wagga biodiversity certification that native vegetation identified for protection in the Biodiversity Certification Report (DECCW 2009) is protected and appropriately managed.	Noted.
Table 5.1 Safeguards and management measures (page 30) The DCP requires that a development application for the patch of vegetation abutting the eastern boundary of the proposal site on Trahairs Road is accompanied by a draft management plan. While the patch is not on the proposal site, the Biodiversity Assessment Report commits the proponent to preparation of a Flora and Fauna Management Plan (page 30) including maps of the protected vegetation as part of the Construction Environmental Management Plan. Requirements for protected native vegetation management plans are specified in Part E, Section 13 – Bomen Release Area, Natural Resource Management Control C1 (page 23) of the DCP. The management plan is to "provide for protection and revegetation of the perimeter areas of the Bomen industrial zone	The patch of vegetation abutting the eastern boundary of the proposal site on Trahairs Road is outside the proposal site on land not subject to the development application for the proposal. As such, Control C1 of the DCP does not apply and a draft management plan is not required. The construction phase Flora and Fauna Management Plan will include plans which identify this patch of vegetation as protected and incorporate it within an exclusion area to prevent any encroachment. No other management is proposed within this vegetation patch as it is not located on land under the project's control.

Comment - Office of Environment and Heritage (OEH) (262090)	Response
with the multiple objectives of management for visual impact mitigation, assistance in the management of surface water runoff, acoustic protection and biodiversity offsetting and enhancement."	The proposal includes the planting of additional screening vegetation around the perimeter of the proposal site which will assist in the provision of visual impact mitigation, surface runoff, and biodiversity enhancement.
Recommended actions prior to project approval: The Fauna Rescue Protocol (page 30) should also include "ensuring that local wildlife rescue organisations are aware in advance that construction is starting and that rescued fauna may need assistance".	The revised list of mitigation measures includes this recommendation.
Recommended conditions of development consent: • To comply with the maintain and improve outcome for the Wagga Wagga biodiversity certification, any vegetation clearing additional to that identified in the EIS must be in accordance with the Wagga Wagga Development Control Plan 2010. • The Flora and Fauna Management Plan will include requirements for management of remnant vegetation patches as specified in the Wagga Wagga Development Control Plan 2010 for the Bomen Urban Release Area.	No removal of vegetation protected under Wagga Wagga DCP is proposed and there is now no vegetation protected under the Wagga Wagga DCP within the proposal site (refer Section 4.3). The construction phase Flora and Fauna Management Plan will include plans which identify the vegetation protected under the Wagga Wagga DCP and will incorporate this vegetation into exclusion areas. Any vegetation clearing additional to that identified in the EIS will be in accordance with the Wagga Wagga Development Control Plan.
<u>Aboriginal heritage</u> **The EIS does not meet the Secretary's requirements for Aboriginal cultural heritage.** OEH has reviewed the 'DRAFT Bomen Solar Farm Aboriginal Archaeological and Cultural Heritage Impact Assessment' report (AECOM 2017). We note that the report is a draft and the assessment and Aboriginal community consultation is ongoing. Points 1 to 6 below must be completed prior to development approval, if granted. OEH request another opportunity to review the assessment report after the proponent has addressed the following points and the report is finalised [see below].	The AACHIA has been finalised and is provided in Appendix C. See below responses in relation to specific update requests. The responses have been extracted from a letter response to OEH from the archaeologist engaged to undertake the Aboriginal Archaeological and Cultural Impact Assessment. A copy of the letter is provided in Appendix C.
Further investigation prior to project determination 1. The development of the research design for test excavation and the test excavation for the transmission line must be conducted in the investigation stage of the project and prior to project approval. The purpose of test excavation as in investigative tool is to understand the presence, nature, extent and significance of the archaeological resource to inform management options.	Areas of subsurface archaeological sensitivity have been identified within the southern development area (refer to Figure 22 of the draft AACHIA) and in the area south of East Bomen Road associated with a number of 1st order and small section of a 2nd order watercourse. Areas subsurface archaeological sensitivity within the study area were assessed on the basis of field observations, RAP field comments and existing local and regional

Comment - Office of Environment and Heritage (OEH) (262090)	Response
	archaeological data, as retaining reasonable potential for the presence of subsurface archaeological deposit(s). The area of subsurface archaeological sensitivity located within the southern development area was associated with a 1st order drainage channel. An archaeological test excavation program was subsequently undertaken in this area to determine the nature and extent of subsurface archaeological materials in that area. The overall pattern of subsurface artefact distribution demonstrated by the testing suggested limited Aboriginal use of the low gradient landform elements adjacent to the 1st order creekline subject to testing. Observed artefact densities (range: 0 to 5 artefacts per 0.25m2) were consistent with the presence of a low density “background scatter” of material resulting from limited episodes of lithic discard. As such, the associated site was assessed as of low scientific significance. Areas of subsurface archaeological sensitivity were also identified with the proposed transmission line corridor options located to the south of East Bomen Road, comprising low gradient landform elements adjacent to sections of three 1st order ephemeral drainage lines and a small portion of a 2nd order creekline. These areas were not subject to archaeological test excavation during the assessment field program as the final transmission line route option has not yet been determined. As archaeological test excavation is a destructive process, whereby the original context of a find is destroyed in order to make observations, undertaking these works prior to the selection of the transmission line route was considered inappropriate. Test excavation, and potential salvage excavation within these areas has been recommended as part of the ACHMP and will be undertaken once the route has been finalised. The route cannot be finalised until the detailed design phase of the project. Moreover, test excavation is not typically undertaken pre-approval for large SSD projects due to the size of the areas being considered and the corresponding time and financial considerations to complete such a program. Completion of a comprehensive test excavation programs are often inconsistent with the time requirements for EIS preparations.

Comment - Office of Environment and Heritage (OEH) (262090)	Response
Consultation 2. It is noted that Aboriginal consultation in accordance with the consultation requirements (OEH 2010) is ongoing. Stage 4 of the consultation requirements is still to be completed. The assessment is to include submissions received from the Registered Aboriginal Parties (RAPs) through the consultation process (Stages 1-4) and a response demonstrating how RAP views have been considered. The assessment is to demonstrate that RAPs have been given opportunity and been involved in identifying heritage values and assessing significance. The assessment is to demonstrate evidence of input of RAPs has been considered when determining real or potential harm.	Due to time constraints, the report that was issued to OEH was in draft format and comments had not yet been received from RAPs. The report has been provided to RAPs on multiple occasions seeking comment. Only one response has been received to date. The report was submitted to RAPs again for comment inclusive of the updates below and the assessment of the revised transmission line corridor described in Section 4.1.1. However, no further responses were received.
Significance Assessment 3. Section 8.0 the Significance Assessment is incomplete. It contains only 9 of the sites recorded in the project area. Table 35 indicates there are 22 known Aboriginal sites within the project area. There is no assessment of aesthetic or historic significance and the cultural significance is blank as the draft report is currently out for comment with the Registered Aboriginal Parties.	Significance assessment updated. As noted above the report was out for RAP comment at the time of review and as such the significance assessment could not be complete.
Assessment of Harm 4. An assessment of harm in accordance with the Code of Practice has not been completed. There is no consideration of indirect impacts documented in the report. A table should be prepared in the impact assessment as shown on page 21 of the CoP: with each site within the project area and include site number, type of harm (direct / indirect / none), degree of harm (total / partial / none) and consequence of harm (total loss of value / partial loss of value / no loss of value).	Updated in final AACHIA.

Comment - Office of Environment and Heritage (OEH) (262090)	Response
5. The report needs to assess potential indirect impacts of the proposal on the Bomen Axe Quarry Aboriginal Place. The following reports should be reviewed to assess potential impacts of the proposal on the heritage values of the Bomen Axe Quarry and develop strategies to avoid and minimise harm: a) OEH November 2016, 'Management Plan Wollundry Lagoon & Tony Ireland Park, Wiradjuri Reserve & Gobba Beach, Flowerdale Lagoon, Bomen Lagoon, Bomen Axe Quarry Aboriginal Places'. b) Go Green Services, Wagga Wagga June 2011, 'Bomen Axe Quarry and Manufacturing Site Assessment and Statement of Significance for an Aboriginal Place Declaration'.	No direct or indirect impacts to the Bomen Axe Quarry will occur as part of the proposed development. It is noted that Renew Estate has committed to not impacting the Bomen Axe Quarry and as such all components of the development, including the proposed transmission line route options, have been designed to avoid direct and indirect impacts to this site. Reference to the Section A4 (Management Issues) of the Go Green Services (2011) assessment and statement of significance for the Bomen Axe Quarry states "Ensure that scenic views from the site to the north, east and southeast are retained to an appropriate extent in order to maintain the landscape context values of the site". Views of the development area (i.e., solar modules) will not be available from the quarry due to a ridgeline and hills. Given the location of the proposed transmission line options there was potential for minor visual impacts to the quarry. However, Renew Estate is now pursuing an underground option for the line between the southern development area and the Wagga North Substation which will avoid any possible visual impacts to the quarry. Vibration from excavation of the trench to install the line is not considered likely to impact the quarry due to the nature of the site and extent of the proposed excavations. The report has been updated accordingly.
Mitigation measures to be developed 6. Some mitigation measures are mentioned in section 10, while it also states, "In addition, the ACHMP will include details of proposed mitigation and management strategies of all Aboriginal sites" (AECOM Australia, 2018:89). As per OEH correspondence to DPE regarding the SEARS, mitigation measures are to be fully developed and articulated in the EIS and ACHAR and not left for a post approval management plan.	This is a misreading of the sentence. This paragraph was stating what the contents of ACHMP will include. All management and mitigation measures were included in the AACHIA.
General reporting 7. Section 1.5 Objectives could be expanded to include the requirements of OEH in the letter attached to the SEARS.	Updated in final AACHIA.
8. Include search results of the State Heritage Inventory in the assessment to meet the requirement 1 of the 'Code of Practice of Archaeological Investigation of Aboriginal Objects in New South Wales' (Code of Practice).	Updated in final AACHIA.

Comment - Office of Environment and Heritage (OEH) (262090)	Response
9. To make it clear to the reader, a map should be prepared to indicate Aboriginal sites that are proposed to be harmed by the development and sites that will not be harmed by the proposal. The map could be linked to a table (e.g. Table 35). Zoomed in maps may be necessary to shown sites near the boundaries of the project area.	Updated in final AACHIA.
10. Include copies of sites cards that are proposed to be harmed by the development.	Updated in final AACHIA.
11. There is an inconsistency in the assessment report as to where the advertisement was placed. Section 3.1.1 states the public notice was placed in the Wagga Daily Advertiser on 14 November 2017. Appendix D states the advertisement was in the Bungendore Weekly. Bungendore is more than 250 kilometres to the east of the project area.	Updated in final AACHIA.
12. A management of human remains protocol is to be developed.	This was provided in Section 11.2.5 of the AACHIA.
13. An unanticipated finds protocol is to be developed. We recommend the following protocol be included to ensure compliance with legislation in place to protect ACH in NSW and to ensure no additional harm is caused if Aboriginal sites and objects are encountered during proposed works: *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 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.* *If 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.*	Updated in final AACHIA.
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 this submission are adequately addressed.	Noted.

7.13. Roads and Maritime Services (261777) - Stance: Comments

Comment - Roads and Maritime Services (261777)	Response
The development site is proposed to be accessed from Trahairs Road therefore any access driveway should be consistent with the requirements of Council. Access to this road relies on its intersection with Byrnes Road. Both Trahairs Road and Byrnes Road are classed as local roads. The development site is remote from the classified road networks however due to the location of the development site to the north east of Wagga Wagga the transportation of the components for the development may be via either the Olympic or Sturt Highways, which are both classified roads. The current intersections for the potential last mile transport routes to the development site from these classified roads are capable of accommodating the additional traffic generation and vehicles proposed by the development. 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 generating limited traffic. The documentation does not finalise the preferred route for the delivery of components to the development site or the source of other products, such as the aggregate, water and sand. The submitted reports acknowledge that this development will require the preparation of an appropriate Construction Traffic Management Plan. 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 Council.	Noted. The Traffic Management Plan developed for construction of the project will be developed in consultation with the Council and Roads and Maritime Services.
For road safety reasons consideration could be given to the establishment of a visual buffer around the site to minimise views to the facility from the public road network and therefore minimise distraction of passing motorists. Roads and Maritime is mainly concerned with the impact of the development on the safety and efficiency of the road network. Roads and Maritime emphasises the need, particularly in the construction phase of this development, to minimise the impacts on the existing road network and maintain the safety, efficiency and standard of maintenance along the existing road network and to minimise the impact and distraction to the road user.	The draft Landscape Plan (Figure 3.16 of the EIS) proposes the planting of vegetation along certain parts of the perimeter of the proposal site to thicken up and fill the gaps of existing vegetation. This will assist with screening the proposal from residences and road users. The screening proposed along the northern site boundary adds additional screening specifically for the southbound road users of Byrnes Road north west of the site. The objectives of the Traffic Management Plan will be to minimise the impacts to the existing road network and maintain the safety, efficiency and standards of maintenance along the existing road network.
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):	See below responses to each condition.

Comment - Roads and Maritime Services (261777)	Response
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	This condition will be met.
2. 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 (Roads and Maritime Services and Council). This report is to address all road related infrastructure. Reports must be prepared prior 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. The applicant is accountable for this process, rather than the proposed haulage contractor. Such work shall be undertaken at a time as agreed upon between the Proponent and relevant road authorities.	A Road Dilapidation Report is not considered warranted for roads other than Trahairs Road. The Traffic Impact Assessment (Appendix G of the EIS) identifies that Byrnes Road has existing traffic flows of up to 472 movements per hour. During the peak construction phase, the proposal is expected to add approximately 370 additional traffic movements per day (comprising approximately 340 light vehicle movements and

Comment - Roads and Maritime Services (261777)	Response
	30 heavy vehicle movements). These increases are considered minimal compared to existing traffic flows and would have negligible impact on the road condition of Byrnes Road. As recommended in the Traffic Impact Assessment, Renew Estate propose to undertake a condition assessment of Trahairs Road before and after construction.
3. Prior to the commencement of construction on-site, the Proponent must undertake all works to upgrade any road, its 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 the relevant roads authority. 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 project. On Classified Roads the geometric road design and pavement design must be to the satisfaction of the Roads and Maritime Services.	The only road that is proposed to be upgraded is Trahairs Road, for which WWCC is the road authority. Renew Estate has consulted with WWCC regarding the upgrade of this road to be a single unsealed lane with a width of four metres, suitable for the temporary impact of heavy vehicles during construction. The proposed upgrade works outlined in the EIS are consistent with this consultation. The Traffic Impact Assessment found that no other road upgrades are required and therefore no other road or intersection upgrades are proposed.
4. A management plan to provide measures to address the impact of dust generation from the development site and the transportation route to motorists on the public road network shall be prepared and implemented to the satisfaction of the relevant road authority.	Measures to manage dust will be captured within the Construction Environmental Management Plan.
5. 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 establishment of a barrier (e.g. fence, advanced plantings) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.	Glare is considered in Section 6.4.3 of the EIS which determines that the proposal is unlikely to cause a safety risk through glare or reflectivity for traffic on Byrnes Road. This is due to solar panels being designed to absorb light with very little reflection, and due to the nature of the tracking system where any reflected light is directed back into the atmosphere. Furthermore, screening

Comment - Roads and Maritime Services (261777)	Response
	vegetation is proposed on the northern boundary of the solar farm in the draft landscaping plan to avoid views of the solar farm from Byrnes Road. However, if the proposal does cause glint or glare, and it is evidently hazardous to the travelling public on the public road network, then the project owner will implement mitigation measures.
6. All works associated with the project shall be at no cost to the Roads and Maritime Services.	Noted.

7.14. APA Group (261754) - Stance: Comments

Comment - APA Group (261754)	Response
The proposal plan clearly shows APA's pipeline and easement, however does not accurately label it as a 'high pressure gas transmission pipelines'. The easement is clear of the siting of solar panels, although panels are shown up to the boundary of the easement. The proposal plan shows Trahairs Road crossing the pipelines, to access the proposed hardstand compound area and control building, where the road ends. While the road exists, it appears to be only a minor access road and does not carry through traffic. The proposed development has significant areas of panels to both the east and west of the pipeline easement. A single area for both potential battery storage and substation is located to the west of the development site. Regardless of the final area for battery storage and substation, the need for crossings of the pipelines is anticipated. These are expected to include: • Electrical feeder lines (either above or underground) to transformers and the on-site substation • Electrical transmission lines from the substation to transmission grid connection point • Access tracks (for construction and operation). APA seeks to minimise the number of crossings and have these perpendicular to the pipelines if possible. No work on the easements, including crossings, changes in ground level or other works, may occur without the prior authorisation of APA. Detailed design for crossings will need to be informed by field works to positively locate the pipeline (alignment and depth). Such field works must only be performed under APA permit.	The gas pipelines are labelled as 'Existing gas pipeline' on the maps in the EIS. Future plans will label the gas pipeline easement as 'high pressure gas pipeline easement – no works to occur without the prior authorisation of the pipeline operator' in accordance with Condition #1 requested by APA (see further below). Renew Estate notes that APA seek to minimise the number of easement crossings and that perpendicular crossings are preferable. Renew Estate have commenced consultation with APA regarding seeking authorisation for easement crossings for internal roads and cabling.
The proposed land use changes the current location class around the pipeline and therefore a Safety Management Study (SMS) is required to ensure the ongoing integrity and safety of areas surrounding the pipeline. The SMS must be completed prior to detailed	Renew Estate is in the process of commissioning a Safety Management Study in consultation with

Comment - APA Group (261754)	Response
design, so that the outcomes of the SMS can inform this process. The cost of the SMS and any resulting recommendations must be borne by the development proponent. Electrical works near the pipeline (including crossings) have the potential to impact on the pipelines safe operation and studies in accordance with AS4853 are necessary. The cost of these studies and any necessary mitigations must be borne by the development proponent. Details of all proposed crossings, and works within the easement, must be submitted to APA for consideration. No crossings may occur without the prior authorisation of APA, and must be completed in accordance with any conditions imposed by APA. This includes the existing location of the Trahairs Road crossing. The development proponent should address the issues raised in this letter prior to any approval being granted. APA acceptance of the proposed development is subject to the following conditions. 1. No improvements within Easement Buildings, structures, roadway, pavement, pipeline, cable, fence, change in ground level, or any other improvement on or under the land, must not be constructed within the gas transmission pipeline easement, without the prior authorisation of APA. This includes both temporary and permanent improvements of the type detailed above. All construction workers on site must be made aware of this requirement. 2. Safety Management Study Required Prior to the development commencing, a Safety Management Study (SMS), in accordance with Australian Standards 2885 for Pipelines – Gas and Liquid Petroleum, must be conducted by the applicant and its recommendations/actions must be implemented to the satisfaction of APA. All costs associated with the SMS, and implementing its recommendations/actions are to be borne by the applicant. 3. Risk Assessment Required Prior to the development commencing, and to inform detailed design, the applicant must conduct electrical hazard studies in accordance with (the requirements of) Australian Standard 4853-2012 (for Low Frequency Induction and Earth Potential Rise). The applicant must address any relevant requirements and any recommendations and/or actions must be implemented to the satisfaction of APA. All costs associated with the study, and implementing its recommendations and/or actions are to be borne by the applicant. The applicant must complete validation testing upon completion of construction. 4. Electrical Interference Studies The applicant must conduct electrical interference studies in accordance with the requirements of AS2832 once detailed design is complete. 5. Amend Design to Comply with Australian Standards	APA. A hazard risk workshop with APA has been undertaken to inform this study. Details of all proposed crossings and works within the easement are will be developed in consultation with APA during the detailed design phase. Final details will be submitted for APA for authorisation and all works will comply with conditions imposed by APA. Renew Estate will continue to work with APA to comply with APA's requirements. Renew Estate notes that some conditions can only be satisfied during the detailed design phase of the project once an EPC contractor has been appointed. APA has acknowledged this.

Comment - APA Group (261754)	Response
The applicant must amend its design as required in order to obtain results for the electrical interference studies and electrical hazard studies which comply with the applicable Australian Standard and promptly provide a copy of the studies and reports to APA. 6. High Voltage Powerlines The applicant must make good (at the applicant's cost) any hazards or risks to the Young to Wagga Wagga Pipeline (including cathodic protection systems), caused by any powerlines, or associated infrastructure. 7. Construction Management Plan Prior to the commencement of any works, including demolition, on land within 50 metres of the pipeline easement, a construction management plan must be submitted to and approved by APA. The plan must: • Prohibit the use of rippers or horizontal directional drills unless otherwise agreed by the operator of the gas transmission pipeline. • Avoid significant vibration, heavy loadings stored over the pipeline and heavy vehicle / plant crossings of the pipeline within the easement. • Be endorsed by the operator of the gas transmission pipeline where the works are within or crossing the relevant gas transmission easement. 8. Easement Delineation On Site During construction, the boundary of the easement must be clearly delineated on site by temporary fencing (or other means as agreed by APA), and clearly marked as a hazardous work zone/ restricted area. Any ongoing fencing, or access restriction, as determined by the SMS will be implemented by the proponent. 9. Easement Delineation On Plans All plans which include the area of the gas pipeline easement must have the easement clearly identified with hatching on the full width of the easement. The easement must also be clearly labelled as 'high pressure gas pipeline easement – no works to occur without the prior authorisation of the pipeline operator'. 10. Pipeline Operator Access The ability of the pipeline operator to access the easement must be maintained at all times to facilitate prompt maintenance and repairs. This may be through interlocking padlocks so APA has keyed access as any time. APA field officers will undertake any necessary site induction to facilitate unaccompanied access.	

7.15. Riverina Oils & BioEnergy (261483) - Stance: Supports

Comment - Riverina Oils & BioEnergy (261483)	Response
This is a very impressive project for inland NSW i.e. Wagga Wagga. The proposed solar farm will not only boost regional economy but its move towards Sustainable future. By this project CO2 emission for 100 MW generation will be reduced drastically for Riverina region. For local industries and domestic homes this project is boon to control energy price and run sustainable business as well.	Noted

7.16. Wagga Wagga City Council (WWCC) (265057) - Stance: Comments

Comment - Wagga Wagga City Council (WWCC) (261771)	Response
The Bomen Industrial Area is identified as a significant growth area that plays an important part of the region's economy. The Inland Rail project in Bomen will open up Melbourne and Brisbane ports, and the Bomen Industrial Park supported by the Riverina Intermodal Freight and Logistics (RiFL) Hub will be one of the most important freight and logistic destinations and hubs in Australia. Wagga Wagga City Council supports the sustainable solar energy industry and acknowledges that there is broad public support for the adoption of alternative, renewable, low emission energy generation sources. The proposed development will provide diversification of the local economy and the building of local skills, consistent with city's long term economic growth strategy. At a broader level, this project will also provide significant skills and expertise in the construction of large scale solar thereby providing a foundation to support the development of future large scale solar projects in NSW.	Noted
Consistency with strategic intent The proposal is consistent with the following strategic documents that supports clean and renewable energy projects in Bomen. • Riverina Murray Regional Plan • Wagga Wagga Spatial Plan • Draft Activation Strategy • Wagga Wagga LEP • Wagga Wagga DCP Under the provisions of the Wagga Wagga Local Environmental Plan 2010 (LEP), the subject site is within the General Industrial (IN1) zone. The proposed land use is consistent with the State Environmental Planning Policy (Infrastructure 2007) which permits solar energy systems in the industrial zone. The proposed land use is also permitted with consent in the IN1 Zone on the basis that it is not listed as either permitted without consent or prohibited. The objectives of this zone are:	Noted

Comment - Wagga Wagga City Council (WWCC) (261771)	Response
• *To provide a wide range of industrial and warehouse land uses.* • *To encourage employment opportunities.* • *To minimise any adverse effect of industry on other land uses.* • *To support and protect industrial land for industrial uses.* The development is of a nature that is compatible with the long term vision of Bomen and the Bomen Master Plan that has a strong focus on enabling renewable energy in the locality. The proposed solar energy system would not inhibit the future potential of the land to be developed for industrial purposes in accordance with zone objectives. The proposed solar energy system will be a relatively innocuous use with very low levels of ongoing impact to amenity. The project lifespan for the facility is approximately 25 years after which the facility may be upgraded with new technology or will be decommissioned and the land be made available for another land use consistent with the industrial zoning of the land. The proposed development has the potential to conflict with other land uses however, as explained in more detail below, can be managed and operated in a manner to reduce the impacts on existing and potential future land uses in the locality.	
Amenity The site is located within an industrial area, with developed industrial sites to the west and south-west. Even though the site is zoned for industrial purposes, it currently characterised by broad acre farming enterprises, including cropping and grazing with regular use of machinery. The site development plan submitted with the application sufficiently indicates the site constraints in terms of land form, orientation and accessibility. The natural contours of the site results in a natural drainage pattern and will not be altered as a result of the proposed development. Consideration of the effect of the proposed development on the site has been undertaken, and it is considered that the proposal will be able to be managed in a way to minimise impacts on the environment. The use of the site as a solar energy system would not lead to any ongoing impacts that would detrimentally impact on the way of life or operations of nearby properties. The Vista of solar panels is a significant change from cropping and grazing issues. This precinct has been identified for major industrial land uses and the transition away from agriculture to industry will alter vistas in the precinct. It is considered that from a long term sense the proposal will be entirely consistent with the character of the area and entirely compatible with adjacent land uses. The eastern precinct of Bomen is currently undergoing transition from a rural area to an industrial area and there will be some potential for conflict and inconsistencies in character. These short term effects are unavoidable during these transitional stages, however, a strategic decision has been made for the conversion of the locality to industrial uses, and therefore considered acceptable.	Noted

Comment - Wagga Wagga City Council (WWCC) (261771)	Response
Impacts to adjacent land uses would be primarily related to the construction period. Impacts associated with this would be controlled and managed through the implementation of a Construction Management Plan. Subject to the implementation of the management plan, it is considered that the development would not detrimentally impact adjacent properties.	
Consistency with the approved Master Plan Section 13 of the Wagga Wagga DCP 2010 establishes preferred land use patterns in Bomen to ensure access to transport infrastructure and also sets out a hierarchy of possible direct and legible routes through and within Bomen. The DCP provides a framework of infrastructure corridors to provide the basis for and to facilitate a logical roll out of staged development in a flexible manner. The objectives include efficient use of land, and existing and new infrastructure, water collection and reuse, preservation of native vegetation, and improvement of existing vegetated and creek line areas. Bomen Master Plan that has a strong focus on enabling renewable energy in the locality and the proposal generally complies with the overall objectives and meet the outcomes sought for the Bomen Industrial Area. It should be noted that Council is also currently in the process of reviewing the DCP. The city strategy team has embarked on developing an employment strategy and revised master plan for Bomen. Initial information drawn from the study is that the eastern side of the Bomen industrial area is well suited for renewable energy projects in the form of solar farms as an interim use during the transformation of the area from rural to industrial uses consistent with the industrial zoning that applies. Council supports the proposed development per the aforementioned discussion.	Noted

8. CUMULATIVE IMPACTS WITH THE PROPOSED WAGGA WAGGA SOLAR FARM

At the request of DP&E, this section discusses cumulative noise and visual impacts of the proposed Bomen Solar Farm and the proposed Wagga Wagga Solar Farm (WWSF) proposed by Terrain Solar Pty Ltd.

Terrain Solar Pty Ltd have submitted a development application for a 26 MWac single axis tracking solar farm and associated infrastructure, located south of the Bomen Solar Farm solar site as shown in Figure 4 (DA ref. DA17/0679). The development application is currently under assessment by Southern Joint Regional Planning Panel with its current status noted as 'Further Information Required' on the City of Wagga Wagga website.

The proposed WWSF, if approved, would occupy a footprint of approximately 70 hectares and connect to the TransGrid North Wagga substation.

8.1. Cumulative noise impacts

If the construction periods for the WWSF and Bomen Solar Farm overlap, there is the potential for cumulative noise impacts on nearby noise receivers. Sufficient details of the proposed construction schedule for WWSF are not available at this stage to know the likelihood of this.

Sensitive receivers likely to be most affected by cumulative noise impacts are residential receptors R8 and R9 (R4 and R3 in the WWSF Statement of Environmental Effects (SEE)) which are situated between the two project sites (refer Figure 4). The distance of these receptors relative to the two solar farms is given in Table 3, along with the highest predicted noise levels for each project. The highest cumulative predicted noise levels are given in the final column based on the combination of the highest predicted noise levels for each project.

Table 3 Predicted noise levels from Bomen Solar Farm and Wagga Wagga Solar Farm

Receiver	Distance – Bomen SF[1]	Distance – WWSF[2]	Highest Predicted Noise Level LAeq(15min) – BSF[3]	Highest Predicted Noise Level LAeq(15min) – WWSF[4]	Highest Predicted Noise Level LAeq(15min) – Cumulative[5]
R08	469 m	440 m	38-55 dBA	34 dBA	40-55 dBA
R09	640 m	300 m	35-49	36 dBA	39-49 DBA

Note: Information on the WWSF has been taken from the Noise and Vibration Assessment for WWSF (Version 1, 22 Nov 2017, Appendix C of Statement of Environmental Effects [SEE]) to consider the cumulative impacts of both the WWSF and Bomen Solar Farm projects.
1 - Table 2-1 of Appendix F of the Bomen Solar Farm EIS
2 - Table 3 of Appendix C of the WWSF SEE
3 - Construction Scenario Two in Table 4-3 of Appendix F of the Bomen Solar Farm EIS
4 - Table 7 of Appendix C of the WWSF SEE
5 - Sum of the sound power levels in the previous two columns (note that dBA units are logarithmic and not linear)

The predictions of construction noise levels in the WWSF SEE are much lower and appear to be less conservative than the upper range predictions in the Bomen Solar Farm EIS. Very limited details are given on the assessment methodology and model used in the WWSF SEE. It is possible that the predictions are not based on the worst case 15 minute period of operation where all equipment is operating at full power, at the closest part of the solar farm.

Because the highest predicted noise levels for WWSF are much lower, the highest cumulative noise levels do not differ from those for the Bomen Solar Farm alone.

The Bomen Solar Farm EIS showed that there is potential for the Noise Management Level to be exceeded at R08 and R09 for certain construction scenarios. A number of mitigation measures are therefore proposed to reduce the noise levels (Section 6.1 of Appendix F of the Bomen Solar Farm EIS).

Due to the staged and transient nature of construction activities across the Bomen Solar Farm, there would be opportunity to mitigate cumulative noise impacts through strategic construction planning. For example, the most noise-generating activities at the southern end of the Bomen Solar Farm project site could potentially be scheduled so that they do not coincide with the most noise-generating activities at the northern end of the WWSF project site.

The noise management sub-plan prepared as part of the Construction Environmental Management Plan will include a protocol to minimise cumulative noise impacts and will include:

- Consultation with the WWSF construction contractor
- Strategic planning of construction activities in consultation with the WWSF contractor where practicable
- Coordinated consultation with affected receivers where possible.

8.2. Cumulative visual impacts

The potential cumulative visual impacts of the proposed Bomen Solar Farm and the proposed WWSF are indicated in the viewshed analyses provided in Appendix B. A discussion on these viewshed analyses, including their results and limitations, is provided in the following section.

9. VIEWSHED ANALYSIS

A viewshed analysis has been performed, at the request of the DP&E, for dwellings predicted to have a moderate visual impact from Bomen Solar Farm. Maps showing the results of this analysis are provided in Appendix B.

A viewshed is an area that is visible from a specific location. Maps are provided in Section 6.4.2 of the EIS that show locations where the solar farm infrastructure would theoretically be visible, based on landform. However, the analysis in this report has been undertaken to show which areas are visible from selected nearby dwellings.

It is important to note that while viewshed analysis is a useful tool, the analysis is not 100% accurate (depending on the accuracy of the terrain model) and is typically conservative as it does not take into account screening vegetation and obstacles (other than terrain).

The terrain model used for this analysis is a 5 metre Digital Elevation Model (DEM) with a vertical accuracy of (+/-) 0.9 metre on bare open ground (95% Confidence Interval). Visible areas were calculated based on any of the dwellings within the relevant viewpoint area being visible. Viewpoint heights of 3 metres above ground level were used at the dwelling locations.

Two scenarios were modelled for each viewpoint:

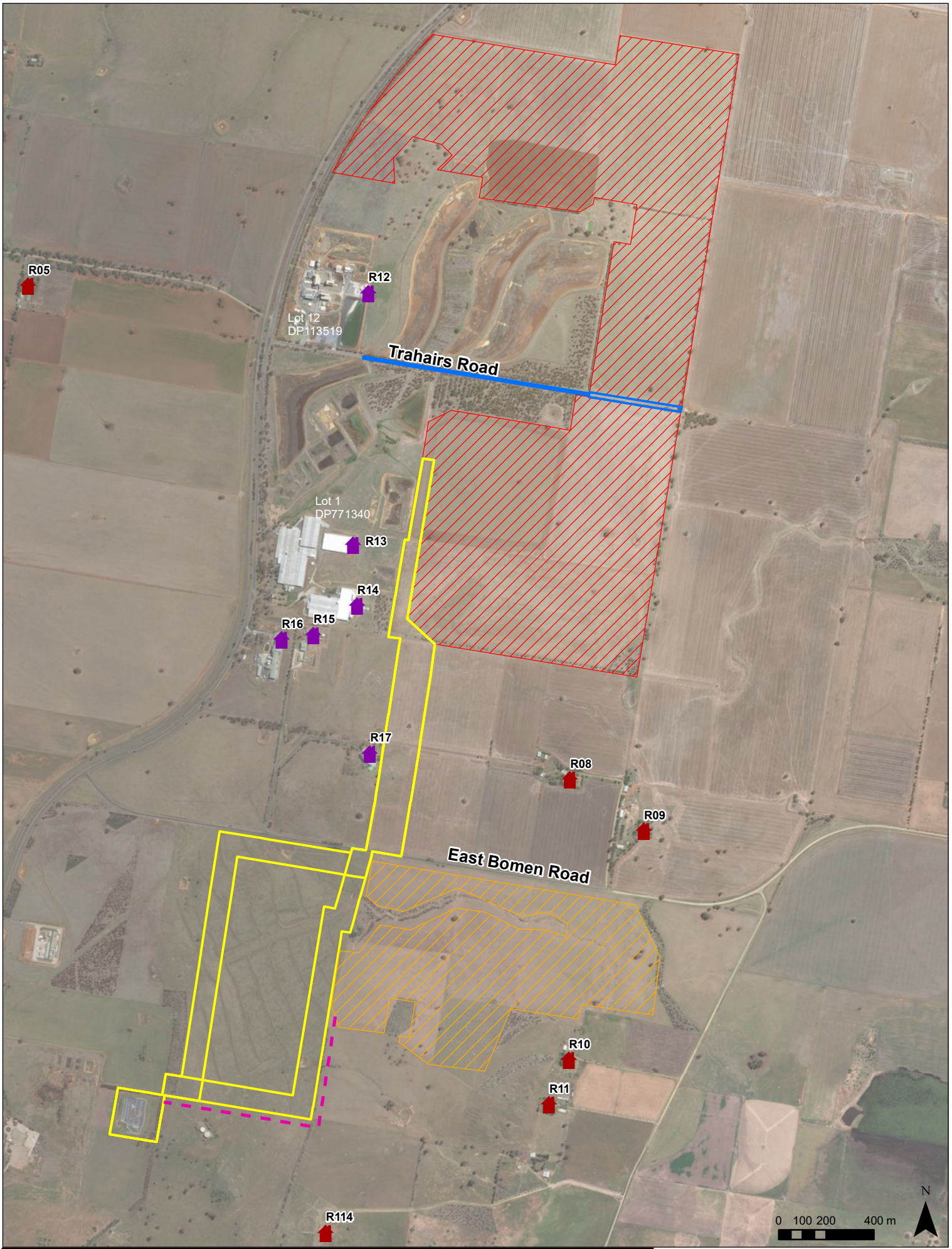
1. No vegetation screening (visible area = blue + orange area)
2. Vegetation screening in the locations proposed in the draft landscape plan (Figure 3.16 of the EIS) (visible area = blue area only).

The screening scenario is conservatively modelled on vegetation that has a height of 5 metres above ground level, although the vegetation would be expected to grow beyond this height and the majority of the existing trees on the perimeter of the site currently exceed this height.

It is important to note that the viewshed analyses do not take into account any existing vegetation, but would provide further screening of the proposal site. The majority of the dwellings for which the analysis has been undertaken are surrounded by existing vegetation and there are also areas of vegetation located between the dwellings and solar farm. Included in Appendix B are aerial imagery maps which illustrate the presence of existing vegetation around in the immediate vicinity of the dwellings.

The viewshed for viewpoint 1 (Appendix B) shows that screening on the southern boundary of the solar farm is effective in blocking the majority of the views of the southern solar farm development area from the two dwellings in viewpoint 1. These dwellings do have theoretical views of the WWSF due to this project not having any screening proposed on the northern boundary of the site.

The viewsheds for viewpoint 2 and viewpoint 3 show that while screening is effective in blocking views of the eastern side of the solar farm, the western parts of the site would still be theoretically visible. As previously mentioned, it is important to note that the majority of the dwellings in these viewpoints are surrounded by existing vegetation and there are also areas of vegetation located between the dwellings and solar farm that are not taken into account in the viewshed analysis.



Proposed Bomen Solar Farm
Solar farm area
Transmission line corridor options
Trahairs Rd Corridor
Proposed WWSF solar farm area (Terrain Pty Ltd project)
WWSF proposed transmission line
Residence
Industrial

Scale: 1:20,000 @ A4
Drawn by: LL
Date: Jun 2018

Renew estate.

Figure 4: Location of WWSF in relation to Bomen Solar Farm

10. PRELIMINARY HAZARDS ASSESSMENT

Table 4 provides comments made by DP&E regarding hazards. The Preliminary Hazards Assessment report (Appendix E of the EIS) has been updated to address the comments and is provided in Appendix D to this report.

Table 4 DP&E Comments on the Preliminary Hazards Assessment

Comment	Response
Identify and evaluate the risks posed by the APA Gas Pipeline to the proposed development, demonstrating that the risks to construction personnel and permanent employees (throughout the operational phase) are acceptable. Include control measures proposed to be implemented to reduce these risks.	Table 3 and the appendices of the PHA have been updated with control measures from the APA Safety Management Study workshop, and an independent Safety Management Study has been referenced in assumptions.
The control measures listed in the PHA are generic and does not appear to be based on a review of the relevant standards applicable to battery storage.	Table 3 of the PHA has been updated to include controls that are more specific to battery storage, in particular line item for "Over heating of Lithium ion batteries". Note that relevant battery storage standards were not specifically referenced but were utilised as background information as the standards in this industry are still being developed. The standards read for context in writing the report include; IEC 60086-4:1996, UL 1642 and the following associated legislation and standards: • National Major Hazard Facility legislation • State, Planning Guidance Legislation – HIPAP, SEPP 22 • Australian Building Codes • AS5577 – Network SMS • AS3000 – Wiring • BS EN 45510-2-3:2000 Power Station Equipment • 2030-2011 – Smart Grid interoperability • AS 4044-1992 – Battery Chargers • AS/NZS 3760:2010 – In service inspection & Testing • AS 4024, 3301:2009 – Robots for industrial Environments – Safety.
Section 3.26 of the EIS states that the capacity of the battery storage can be expanded in the future. The PHA estimated the risks posed by 40 MWh storage capacity and therefore the limit of the output and the storage capacity of this development would be respectively 10MW and 40 MWh	Noted.
Consider and discuss the hazards arising from over- and under- voltage and from over discharge of the batteries (these hazard scenarios are not listed in Table 3 of the PHA) and include safeguards.	This has been addressed in Table 3 of the PHA, line item "Overheating of lithium ion batteries", where the cause includes over and under voltage, with specific controls including 1) Battery Management System, 2) integrated circuit control, 3) current sensing circuits, 4) thermal sensing of cells, 5) battery balancing devices 5) factory cell matching.
Provide a minimum distance from the battery storage to the facility border to ensure that the development will comply with the risk criteria for land use safety planning. The estimation of the minimum distance from the battery storage to the facility border should err on conservatism to account for the uncertainties in the analysis.	This has been addressed in Section 5.4.3 of the PHA.

Comment	Response
It is noted that the substation is adjacent to the battery storage. The risk of an accident at the battery storage site impacting on the substation should be considered and control measures to eliminate a knock on event should be identified and provided.	This has been addressed Table 3 of the PHA.

11. REVISED MITIGATION MEASURES

Table 7.1 of the EIS presented a summary of mitigation measures proposed to be implemented during construction, operation and decommissioning to minimise any potential adverse impacts arising from the proposal on the surrounding environment, including health and safety.

Table 5 presents a revised list of mitigation measures that take into account new or refined commitments made by Renew Estate as part of responses to the submissions and changes to the proposal, subject to any amendments made by the conditions of the development consent. New or refined commitments are indicated with an underline.

Table 5 Revised Mitigation Measures

Issue	Impact	Measure	Timing
Aboriginal heritage	Impacts on Aboriginal heritage items	An Aboriginal Cultural Heritage Management Plan would be developed for the proposal. The plan is to be developed in consultation with RAPs, and to the satisfaction of OEH and DP&E. The plan would contain procedures for consultation and involvement of the RAPs in the management of Aboriginal cultural heritage values. The plan would include details of all the mitigation measures detailed in the final AACHIA, as summarised below.	Pre-construction
		An archaeological salvage program should be undertaken for the Project prior to the commencement of any ground disturbance works within the proposal site. This would include the following: • surface collection of all impacted open artefact sites. Collected artefacts to be relocated adjacent to the potential scarred tree (BS-STI-18). • program of archaeological test excavation and potentially open area excavation along the selected transmission line corridor where it is positioned within areas of identified high Aboriginal archaeological sensitivity. • Open area salvage excavation may be required should the archaeological test excavation program identify significant archaeological features. A detailed research design to be developed for the components of the salvage program.	Pre-construction
		An Aboriginal cultural heritage awareness training package should be developed for use throughout the life of the Project. This package should be developed in consultation with RAPs and completed prior to the commencement any ground disturbance works within the proposal site. A register of all persons having completed the training package should be maintained throughout the life of the Project. Aboriginal cultural awareness training should be mandatory for all staff and contractors whose roles may reasonably bring them into contact with Aboriginal sites and/or involve consultation with local Aboriginal community members. Training should also be offered on a voluntary basis to all other mine staff and contractors.	Construction
		Provisions regarding the appropriate management action(s) for previously unrecorded Aboriginal archaeological evidence identified within the study area throughout the operational life of the Project should be incorporated into the ACHMP.	Operation

Issue	Impact	Measure	Timing
		The unanticipated finds protocol will include the following steps if an Aboriginal object is identified or harmed: 1. Not further harm the object; 2. Immediately cease all work at the particular location; 3. Secure the area 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; and 5. Not recommence any work at the particular location unless authorised in writing by OEH.	
	Salvaged items	All Aboriginal objects salvaged as part of the excavation program should be curated in an appropriate manner, as determined through consultation with RAPs, OEH and DP&E during preparation of the ACHMP. Temporary off-site storage of salvaged objects should be allowed for the purposes of analysis and recording.	Pre-construction
		Aboriginal Site Impact Recording (ASIR) forms for all salvaged sites should be submitted to OEH at the completion of the salvage program.	Pre-construction
	Protection of items not within impact area	All Aboriginal sites not impacted by the Project but within the proposal site should be conserved in-situ. The potential scarred tree site should be protected via permanent stock-proof fencing and appropriate associated signage. Site fencing is to be erected after consultation with a qualified archaeologist and RAP representatives.	Construction
		All relevant staff and contractors are to be made aware of the nature and locations of all sites as well as Renew Estate's legal obligations with respect to them. Protected sites will need to be identified on all relevant site plans. Details for the care of protected sites should be incorporated into the ACHMP.	Construction
	Identification of potential human remains	In the event that potential human skeletal remains are identified within the study area at any point during the life of the Project, the following standard procedure should be followed. 1. All work in the vicinity of the remains should cease immediately; 2. The location should be cordoned off and the NSW Police notified. 3. If the Police suspect the remains are Aboriginal, they will contact the Office of Environment and Heritage and arrange for a forensic anthropologist or archaeological expert to examine the site. Subsequent management actions will be dependent on the findings of the inspection undertaken under Point 3. • If the remains are identified as modern and human, the area will become a crime scene under the jurisdiction of the NSW Police; • If the remains are identified as pre-contact or historic Aboriginal, OEH and all RAPs are to be formally notified in writing. Where impacts to exposed Aboriginal skeletal remains cannot be	Construction

Issue	Impact	Measure	Timing
		avoided an appropriate management mitigation strategy will be developed in consultation with OEH and RAPs; • If the remains are identified as historic non-Aboriginal, the site is to be secured and the NSW Heritage Division contacted; and If the remains are identified as non-human, work can recommence immediately.	
	Identification of previous unknown item	AHIMS sites cards will be completed and submitted to OEH for all newly recorded sites within the study area at the completion of the assessment. In the event that a previously unidentified Aboriginal site is discovered within the study area at any point during the operational life of the Project, an AHIMS site card for that site should be submitted to OEH as promptly as possible. Timing protocols for the submission of AHIMS site cards should be included in the ACHMP for the Project.	Construction
Biodiversity	Loss of native vegetation and fauna habitat	A flora and fauna management plan will be prepared as part of the CEMP to minimise the ecological impacts of the proposal, which will include: • Plans at an appropriate scale for the construction site and adjoining area showing biodiversity features as mapped in Figure 3.1 of the Biodiversity Assessment, including vegetation protected under the Wagga Wagga DCP. • plans at an appropriate scale showing areas to be cleared and areas to be retained within the proposal site, and exclusion zones • a landscaping plan for the proposal site (refer to Landscape and visual measures)	Pre-construction

		Exclusion zones must include at minimum:
		• native vegetation within areas of the proposal site that are outside the Wagga Wagga Biodiversity Certification Area (refer Figure 3 of this report)
		• all land outside the proposal site (not including road corridors to be used for transport) which will capture the following protected areas:
		  • areas of vegetation identified for conservation under the Wagga Wagga Development Control Plan 2010
		  • vegetation protected by covenants
			Construction

		Temporary fencing will be erected to prevent encroachment and clearing of vegetation within exclusion zones.	Construction
		Wildlife Information, Rescue and Education Service (WIRES) is to be made aware of construction commencing starting in advance.	Pre-construction
		Pre-clearing surveys will be undertaken to identify exclusion zones and specific habitat features to be retained (including the hollow-bearing tree next to the southern boundary of the northern solar farm development area and trees identified for protection).	Construction

Issue	Impact	Measure	Timing
		Staff will be inducted and informed of the limits of vegetation clearing and the areas of vegetation to be retained.	Construction
		Where practicable, vegetation removal will occur between January and August, outside the main fauna breeding season, to avoid potential breeding disturbance to fauna.	Construction
		If tree removal is required during the breeding season, an ecologist will investigate if any of the hollows are being used for breeding by threatened species such as the Superb Parrot during pre-clearing surveys. Controls to prevent breeding disruption will be implemented as necessary.	Construction
	Spread of weeds	Priority weed control measures will be implemented as part of the CEMP to prevent their spread in the study area.	Pre-construction
		Declared priority weeds will be managed according to requirements of the NSW *Biosecurity Act 2015*.	Construction Operation
		Soil material and stripped groundcover vegetation with the potential to contain Silverleaf Nightshade will not be removed from the proposal site.	Construction Operation
		Soil disturbance will be avoided as much as possible to minimise the potential for spreading weeds.	Construction Operation
		Inspections and monitoring of weed infestations with prompt response to weed spread (any weed control would be in adherence to the Pesticides Act 1999.	Construction Operation
		Materials imported from quarries are to be certified as weed free.	Construction
	Disturbance of aquatic habitat	Disturbance of aquatic habitat in dams will be minimised if possible.	Construction
	Loss of hollows	Felled limbs with hollows will be placed in woodland or plantings along the boundary of the development area. The woody debris retained will be spread in a fashion that replicates the natural occurrence of woody debris in the environment and will not be stacked.	Construction
	Impacts to fauna	Fauna handling during vegetation removal will be undertaken by a qualified ecologist or Wildlife Information, Rescue and Education Service (WIRES) representative.	Construction
	Water quality, chemical and fuel impacts on flora and fauna	Any herbicides used for weed control will be applied to the manufacturer's specifications and as outlined in the manufacturer's Material Safety Data Sheet.	Construction
	Pathogen spread and establishment	Vehicle wash down facilities will be provided should evidence of pathogens or fungus such as Phytophthora or Chytrid be found.	Construction
Landscape and visual	Visual impacts of solar farm	A landscape plan (see draft in Figure 3.16 of the EIS) will be further developed to outline the location and type of plantings to assist in minimising impacts on views of the proposal site from nearby properties. The landscape plan will be prepared in consultation with all impacted nearby property owners. The plan will outline the species to be used on site and will use species from native vegetation communities found in the local area. All selected species will be determined in consultation with Riverina Local Land Services, the	Detailed design

Issue	Impact	Measure	Timing
		Rural Fire Service and property owners (where required).	
		A review of the landscaping plan will be carried out within two months of operation commencing. This will include consultation with nearby landowners to discuss requests for further screening.	Operation
	Visual impacts of structures (including glare)	The materials and colour of on-site infrastructure will, where practical, be non-reflective and be of a colour that will blend with the landscape.	Detailed design
		Security fencing posts and wire will be non-reflective.	Detailed design
	Visual impacts during construction	All construction plant, equipment, waste and excess materials will be contained within the designated boundaries of the work site and shall be removed from the site following the completion of construction.	Construction Post-construction
		Work sites shall be kept tidy at all times.	Construction Post-construction
Hazards and risk	Emergency response	A Fire Management and Emergency Response Plan will be developed and implemented addressing the below items: • Foreseeable on-site and off-site fire events and other emergency incidents (e.g fires involving solar panel arrays, bushfires in the immediate vicinity or potential hazmat incidents). • Appropriate risk control measures that would need to be implemented in order to safely mitigate potentials risks to the health and safety of firefighters and other first responders (including electrical hazards). Such measures would include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures, 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 the 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. • Two copies of the Fire Management and Emergency Response Plan will be stored in a prominent 'Emergency Information Cabinet' that shall be in a position directly adjacent to the entry of the solar farm control building. • Once constructed and prior to operation, the operator of the facility will contact the relevant local emergency management committee (LEMC).	Construction Operation Decommissioning
	Vehicle interactions	Prepare a construction traffic management plan including standard traffic rules and signage	Pre-construction
		Implement site speed limits	Construction Operation
		Provide designated pedestrian areas	Operation
		Ensure driver competency	Decommissioning

Issue	Impact	Measure	Timing
	Fire	The following fire management measures are to be incorporated into the Fire Management and Emergency Response Plan in consultation with the NSW RFS Riverina Fire Control Centre: • 24 hour emergency contact details including alternative contact • site infrastructure plan • fire fighting water supply plan • site access and internal road plan • construction of Asset Protection Zones (APZ) and their continued maintenance • location of hazards (Physical, Chemical Electrical) that will affect fire fighting operations; • such additional matters as required by the NSW RFS District Office (FMP review and updates). • management of activities with a risk of fire ignition • management of fuel loads on site • storage and maintenance of firefighting equipment • operational procedures relating to mitigation and suppression of bush fire relevant to the operation of a solar farm	Pre-construction
		The entire solar array development footprint to be managed as an Asset Protection Zone as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bushfire Protection 2006' and the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'.	Construction Operation Decommissioning
		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 APZ.	Construction Operation Decommissioning
		To allow for emergency service personnel to undertake property protection activities, a 10 metre wide defendable space (APZ) that permits a minimum 4 metre wide, unobstructed vehicle access is to be provided around the perimeter of the solar array and associated infrastructure.	Construction Operation Decommissioning
		Design buildings and structures to appropriate codes and standards	Pre-construction
		Manage fuel for vehicles and machinery on site to appropriate standards	Construction Operation Decommissioning
	Loss of containment and contact with chemicals, including dangerous goods	Store chemicals in line with appropriate standards	Construction Operation Decommissioning
		Implement a regular inspection and maintenance regime for chemical storage areas	
		Implement standard handling procedures	

Issue	Impact	Measure	Timing
	Contact with chemicals, including dangerous goods	Provide a Safe Work Method Statement detailing methods for handling chemicals	
		Provide spill kits to be used in the event of an incident involving release of chemicals	
		Implement standard transfer and handling procedures	
		Provide a Safe Work Method Statement detailing methods for handling chemicals	
		Provide personal protective equipment (PPE) to all staff	
	Fall from heights	Implement working at heights procedures	Construction Operation Decommissioning
		Ensure all staff working at heights have completed the necessary training	
		Use fall prevention equipment	
	Contact with electricity	Implement isolation procedures	Construction Operation Decommissioning
		Install fit for purpose electrical systems	Construction
		Follow underground utility identification protocols, including Dial Before You Dig	Construction Decommissioning
		Flash protective PPE	Construction Decommissioning
	Mechanical or chemical damage of lithium-ion battery assemblies	Ensure batteries are Quality Assured to AS 9001	Construction Operation
		Install bollards/protective barriers around key battery areas	Construction
		Batteries will be stored as per suppliers specifications	Construction Operation
		The battery system will be containerised and bunded	Construction
		Implement a regular inspection and maintenance regime for the battery assemblies	Operation
	Overheating of lithium batteries	Provide ventilation systems in cabinets	Construction
		Batteries will be stored as per suppliers specifications	Construction Operation
		Fusible separators to isolate cells	Construction Operation
		Provide insulation around batteries.	Construction Operation
		Battery Management System (BMS) to property manage the batteries state of change	Construction Operation
		Integrated circuit control systems, to avoid over heating of cells	Construction Operation
		Battery balancing devices, to avoid deterioration and individual cell over/under voltage	Construction Operation
		Factory cell matching	Construction Operation
	APA high pressure gas pipeline	Pipeline easement delineated on site as a no go zone	Construction
		Positive location during detailed design	Detailed design
		Electrical studies in accordance with AS 4853 and AS 2832	Detailed design
		Pipeline Safety Management Study AS 2885 with APA	Detailed design

Issue	Impact	Measure	Timing
		Battery storage site located outside pipeline to avoid cascading consequential loss	Detailed design
	Battery storage site located adjacent to substation and/or control building	Separation distances between battery storage and other equipment as per AS 2067, or installation of a blast wall if separation distances cannot be achieved	Detailed design
		Construct to National Construction Code & AS 2067	Construction
		Installation of equipment in accordance with manufacturer's instructions and by qualified personnel	Construction
Noise and vibration	Construction noise	A noise management plan will be prepared and implemented as part of the CEMP.	Pre-construction Construction
		All engine covers will be kept closed while equipment is operating.	Construction
		As far as possible, heights from which materials are dropped, into or out of trucks, will be minimised.	Construction
		Machines found to produce excessive noise compared to industry best practice will be removed from the site or stood down until repairs or modifications can be made.	Construction
		To reduce the annoyance associated with reversing alarms, broadband reversing alarms (audible movement alarms) will be used for all site equipment. Satisfactory compliance with occupational health and safety requirements will need to be achieved and a safety risk assessment may need to be undertaken to determine that safety is not compromised. Refer to Appendix C of the ICNG (2009) for more information.	Construction
		Piling works and works to construct the transmission line will not occur during evening/night periods.	Construction
		Apart from works involving installing trackers and modules, all works in evening/night periods will be limited to the central work area (see Figure 1.2 of the EIS).	Construction
		Works involving installing trackers and modules during evening/night periods will not occur in the area between the southern boundary of the solar farm and 250 metres north of the southern boundary. This provides a 700 metre buffer from the residential receiver at R8 and will reduce the noise level to within the noise management level of 35 dBA.	Construction
		During night-works, quiet forklifts (electric – sound power level <100 dBA) will be used for construction activities around the solar array areas.	Construction
		All site workers will be briefed on the potential for noise impacts on local residents and the requirement to implement practical and reasonable measures to minimise noise impacts during the course of their activities. This will include: • avoiding the use of loud radios • avoiding shouting and slamming doors • where practical, machines would be operated at low speed or power and switched off when not being used rather than left idling for prolonged periods	Construction

Issue	Impact	Measure	Timing
		• keeping truck drivers informed of designated vehicle routes, parking locations and delivery hours • minimising reversing • avoiding dropping materials from height and avoiding metal to metal contact on material • keeping engine covers closed while equipment is operating.	
		Once the selection of equipment has been finalised, a review will be carried out to ensure that the noise levels do not exceed the assumed levels in the noise assessment in Appendix F of the EIS.	Construction
	Community impacts	Consultation and cooperation with the nearest sensitive receivers will assist in minimising uncertainty, misconceptions and adverse reactions to noise. The following community relation measures will be implemented: • regular communication will be maintained with the residents affected by construction noise. The construction program and progress will be communicated on a regular basis, particularly when noise generating activities are planned. Communication with the local community will be maintained throughout the construction period • a community liaison phone number and details of permanent site contact will be provided so that noise complaints can be received and addressed in a timely manner. • upon receipt of a noise complaint, monitoring will be undertaken and reported as soon as possible. If exceedances are detected, the situation will be reviewed to identify means to attempt to reduce the impact to acceptable levels.	Pre- construction Construction
Land use	Impacts to utilities	Renew Estate will consult with relevant service providers to confirm measures to be implemented to minimise impacts to existing utilities in the proposal site.	Detailed design Construction
	Biosecurity general	Establish a vehicle high pressure wash down facility well away from livestock and crops to clean vehicles, boots and equipment which need to enter the property.	Construction Decommissioning
	Biosecurity risk - people	Limit worker contact with livestock, crops or plant materials as much as possible and eliminate any unnecessary contact altogether.	Construction Operation Decommissioning
		Keep a visitor register.	Construction Decommissioning
	Biosecurity risk - vehicles	Clearly sign and lock restricted access areas.	Construction Operation Decommissioning
		Ensure construction vehicles are clean and are parked in a designated area away from livestock or crops.	Construction Decommissioning
		Ensure construction vehicles remain on designated tracks.	
	Biosecurity risk - equipment	Clean machinery and equipment from the top down and dismantle where practicable to gain access to internal spaces.	Construction Decommissioning

Issue	Impact	Measure	Timing
	Impacts to land capability	Grazing within the site to be considered to minimise impacts of loss of land and also to manage groundcover vegetation within the proposal site.	Operation
		Prior to decommissioning, a Decommissioning and Rehabilitation Management Plan will be prepared.	Operation
		During decommissioning all aboveground and underground infrastructure owned by the project will be removed.	Decommissioning
		Rehabilitation of the site following decommissioning works will be carried out to ensure that the land can be used for agricultural purposes (cropping and grazing).	Post-decommissioning
Traffic, transport and access	Traffic impacts during construction	A Traffic Management Plan shall be prepared in consultation with Council and Roads and Maritime Services which addresses, 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 disruption 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, • procedures 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	Pre-construction

Issue	Impact	Measure	Timing
		Appropriate exclusion barriers, signage and site supervision are to be employed at all times to ensure that the works area is controlled and that unauthorised vehicles and pedestrians are excluded from the works area.	Construction Decommissioning
		All traffic control devices are to be in accordance with AS 1742.3-2009 – 'Manual of uniform traffic control Devices: Traffic control for works on roads' and the Roads and Maritime Services 'Traffic control at worksites manual'.	Construction Decommissioning
		A condition assessment of Trahairs Road will be conducted before and after construction.	Construction Decommissioning
		If glint or glare from the solar panels is demonstrated to be a nuisance, distraction and/or hazard to the public road, glare mitigation measures shall be implemented.	Operation
Hydrology and water quality	General	An erosion and sediment control plan (ESCP) will be prepared as part of the CEMP. All erosion and sediment control measures shall be designed, implemented and maintained in accordance with relevant sections of 'Managing Urban Stormwater: Soil and Construction Volume 1' (Landcom 2004) ('the Blue Book) (particularly section 2.2) and 'Managing Urban Stormwater: Soil and Construction Volume 2A – Installation of Services' (DECC 2008). The ESCP will include stockpiles, stormwater runoff, trees, site boundaries, site access and storage areas.	Construction
		The Department of Primary Industries – Water controlled activity guidelines will be considered as part of the detailed design of the proposal.	Detailed design
	Rehabilitation	Rehabilitation works are to commence as soon as practicable to stabilise the land surface after works are completed in any area.	Construction
	Increased run-off	Groundcover vegetation would be maintained beneath the solar arrays during operation, to minimise potential for increased run-off.	Construction and operation
		A groundcover management plan would be developed that includes measures to manage any bare areas and erosion that develop beneath the solar arrays.	Operation
	Contamination of surface water	All fuels, chemicals, and liquids will be stored at least 50 metres away from waterways and will be stored in an impervious bunded area within the compound site.	Construction
		The refuelling of plant and maintenance of machinery will be undertaken in impervious bunded areas in the compound site.	Construction
		Vehicle wash downs and/or concrete truck washouts will be carried out within a designated bunded area on an impervious surface or carried out off-site.	Construction
		Machinery will be regularly checked to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff will be appropriately trained through toolbox talks for the minimisation and management of accidental spills	Construction
	Spills and leaks	A site specific emergency spill plan will be developed as part of the Fire Management and Emergency Response Plan, and will include spill management measures in accordance relevant EPA guidelines. The plan will address measures to be implemented in the	Construction

Issue	Impact	Measure	Timing
		event of a spill, including initial response and containment, notification of emergency services and relevant authorities (including Roads and Maritime and EPA officers).	
		An emergency spill kit will be kept on site at all times. All staff will be made aware of the location of the spill kit and trained in its use.	Construction
	Groundwater monitoring bores	Registered groundwater monitoring bores in and around the proposal site will be identified, located and protected during construction and operation as necessary. Any removal of groundwater monitoring bores will be carried out in consultation the DPI Office of Water.	Construction Operation
Electric and magnetic fields	EMF	Design and selection of all electrical equipment is to minimise EMF levels and comply with the ICNIRP exposure levels.	Construction
		Monitoring of electromagnetic levels would be undertaken during the commissioning of the substation to confirm exposure levels. Should levels be above the ICNIRP exposure levels the potential need for further mitigation would be considered.	Commissioning
Soils and geology	Soil impacts	The erosion and sediment control plan developed as part of the CEMP will include measures to manage any potential soil erosion issues identified by a geotechnical study in relation to the characteristics of soils at the site.	Pre-construction
	Contamination	The CEMP will contain an unexpected finds protocol for land contamination that directs workers to cease work and implement pre-determined procedures before further works proceed, including reporting of the potential find to the Council as the applicable pollution control authority.	Pre-construction
	Soil impacts	Erosion and sediment control measures would be in place during the entire construction period and during any required rehabilitation.	Construction
		Activities with a risk of soil erosion such as earthworks will not be undertaken immediately before or during high rainfall or wind events.	Construction
		Where soil disturbance is required, an ameliorant such as gypsum will be applied to manage soil sodicity.	Construction
		Where possible, groundcover on site would be retained particularly in the areas of the solar arrays where disturbance would be limited to the installation of the poles for the mounting structure.	Construction
		Any disturbed areas (with no existing groundcover) would be stabilised promptly and progressively during and following the end of construction.	Construction
		Groundcover vegetation would be established and maintained beneath the solar arrays as much as possible before and during construction, to minimise areas exposed to erosion.	Construction
		A groundcover management plan would be developed that includes measures to manage any bare areas and erosion that develop beneath the solar arrays.	Operation
Socio-economic	Community consultation	A community and stakeholder consultation plan will be implemented to manage the concerns of stakeholders and any impacts on adjacent property	Construction Decommissioning

Issue	Impact	Measure	Timing
		owners. The plan will include (but not be limited to) the following: • protocols to keep the community and stakeholders updated about the progress of the project and its benefits • protocols to inform relevant stakeholders of potential impacts of construction activities such as changes to traffic conditions and night works protocols to allow the community to identify any concerns or issues with the project, particularly during construction and decommissioning.	
Air quality	General air quality impacts	The CEMP will include measures to minimise impacts on air quality including: • a map identifying locations of sensitive receivers • identification of potential risks/impacts through dust generation activities • management measures to minimise risk including progressive stabilisation • a process for altering management measures as required a process for reviewing and updating the plan before decommissioning works start.	Pre-construction
	Dust emissions	Surveillance for visible dust generation will occur at all times.	Construction Decommissioning
		Works that disturb vegetation, soil or stockpiles will not be carried out during strong winds (over 40 km/h) when this may affect receivers (visibility on roads, dust and debris near residences).	Construction Decommissioning
		Stockpiled materials will be covered, stabilised or stored in areas not subject to high wind.	Construction Decommissioning
		All trucks will be covered when transporting loose materials to and from the site.	Construction Decommissioning
		Work activities will be reprogrammed if the safeguards and management measures implemented do not adequately restrict dust generation.	Construction Decommissioning
		Maximum speed limits will be enforced for construction traffic within the site to limit dust generation.	Construction Decommissioning
		A water tanker or similar will be used to spray unpaved roads and exposed areas during construction where required.	Construction Decommissioning
	Exhaust emissions	Construction machinery and equipment will be maintained in good working condition to limit impacts on air quality.	Construction Decommissioning
		Construction equipment, machinery and vehicles will be appropriately sized for the task.	Construction Decommissioning
		Machinery and equipment will be serviced regularly to ensure it is operating efficiently.	Construction Decommissioning
	Impacts on sensitive receivers	A community and stakeholder consultation plan will be implemented to manage the concerns of stakeholders and any impacts on adjacent property owners. The plan will include protocols for informing adjacent property owners of the construction program and protocols to allow the community to identify any concerns or issues.	Construction Decommissioning

Issue	Impact	Measure	Timing
	Climate change	The use of alternative fuels and power sources for construction machinery and equipment will be considered.	Construction Decommissioning
		Energy efficiency and related carbon emissions will be considered in the selection of vehicles and machinery.	Construction Decommissioning
		Local suppliers will be used to limit transport where practicable.	Construction Decommissioning
Non-Aboriginal heritage	Unexpected finds	In the event that a relic (as defined by the *Heritage Act 1977*) is identified during construction works, works will cease at the location. The find will be immediately reported to the Heritage Council in accordance with legislation. No work will commence in the vicinity of the find until any required approvals have been given by the regulator.	Construction Decommissioning
Waste management	General	A waste management plan will be developed for the proposal and will form part of the CEMP. It will include but not be limited to the following: • identifying opportunities to avoid, reuse and recycle, in accordance with the waste hierarchy • quantifying and classifying all waste streams • providing for recycling management onsite • providing toilet facilities for on-site workers and management of sewage • 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).	Construction Operation Decommissioning
	Wastewater management	Septic tanks will be installed and operated in accordance with Council's requirements.	Construction Operation
Cumulative impacts	Cumulative traffic impacts	The construction traffic management plan will consider other developments that may be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic.	Construction

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