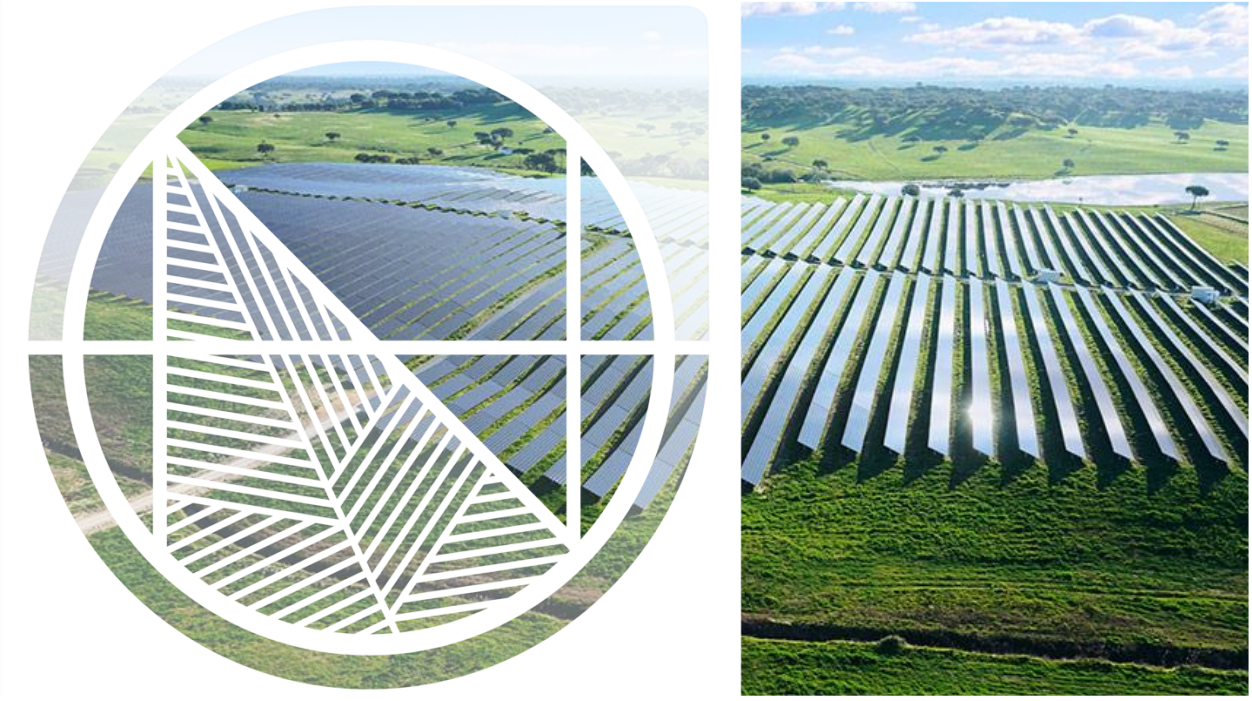
RESPONSE TO SUBMISSIONS

Culcairn Solar Farm

June 2020

Project Number: 18-441



BEGA • BRISBANE • CANBERRA • GOLD COAST • NEWCASTLE • SYDNEY • WAGGA WAGGA
W. www.nghconsulting.com.au

Document Verification

Project Title:	Culcairn Solar Farm
Project Number:	18-441
Project File Name:	Culcairn Solar Farm Response to Submissions Final V1.1

Revision	Date	Prepared by	Reviewed by	Approved by
Final V1.0	29/05/2020	Sarah Hillis	Erwin Budde	Erwin Budde
Final V.1.1	03/06/2020	Sarah Hillis	Erwin Budde	Erwin Budde

NGH Consulting prints all documents on environmentally sustainable paper including paper made from bagasse (a by-product of sugar production) or recycled paper.

W. www.nghconsulting.com.au

E. ngh@nghconsulting.com.au

BEGA - ACT & SOUTH EAST NSW
Suite 11, 89-91 Auckland Street (PO Box 470) Bega NSW 2550 **T.** (02) 6492 8333

NEWCASTLE - HUNTER & NORTH COAST
Unit 2, 54 Hudson Street
Hamilton NSW 2303 **T.** (02) 4929 2301

BRISBANE
Suite 4, Level 5, 87 Wickham Terrace
Spring Hill QLD 4000 **T.** (07) 3129 7633

SYDNEY REGION
Unit 18, Level 3, 21 Mary Street
Surry Hills NSW 2010 **T.** (02) 8202 8333

CANBERRA - NSW SE & ACT
8/27 Yallourn Street (PO Box 62)
Fyshwick ACT 2609 **T.** (02) 6280 5053

WAGGA WAGGA - RIVERINA & WESTERN NSW
Suite 1, 39 Fitzmaurice Street (PO Box 5464)
Wagga Wagga NSW 2650 **T.** (02) 6971 9696

GOLD COAST
PO Box 466
Tugun QLD 4224 **T.** (07) 3129 7633

BEGA • BRISBANE • CANBERRA • GOLD COAST • NEWCASTLE • SYDNEY • WAGGA WAGGA

W. www.nghconsulting.com.au

ABN 31 124 444 622 ACN 124 444 622

TABLE OF CONTENTS

FIGURES

TABLE

1. INTRODUCTION

1.1. BACKGROUND

1.1.1. Preparation of the Environmental Impact Statement (EIS)

An approximately 350 Megawatt (MW) Alternating Current (AC) photovoltaic (PV) solar farm is proposed near Culcairn, southern NSW (equivalent to up to 402.5 MW Direct Current; DC). The 1351-hectare (ha) Subject Land (1126 ha Development Footprint) is freehold rural land approximately 4 kilometres (km) south-west of the township of Culcairn.

NGH has prepared an Environmental Impact Statement (EIS) on behalf of the proponent, Neoen (the Proponent). The EIS was prepared in accordance with Part 4 of the New South Wales (NSW) *Environmental Planning and Assessment Act 1979* (EP&A Act) and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), addresses the Secretary's Environmental Assessment Requirements (SEARs) provided by NSW Department of Planning, Industry and Environment (DPIE) on 3 May 2019. The Proposal is classified as State Significant Development (SSD).

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

- Visual impact.
- Noise impacts.
- Socioeconomic and community impacts.
- Land use impacts.
- Traffic, transport and road safety.
- Water use and water quality.
- Biodiversity (flora and fauna).
- Aboriginal heritage.

These issues were investigated in the EIS via specialist assessments. Lower risk issues were investigated primarily by desktop assessment. A set of mitigation measures were detailed to ensure that all environmental impacts identified could be managed appropriately.

1.1.2. Exhibition period and location

The EIS was placed on public exhibition between 30 January and 27 February 2020. It was exhibited online at https://www.planningportal.nsw.gov.au/major-projects/project/10916.

Hard copies were available at the following locations:

- Greater Hume Council – Culcairn Office, 40 Balfour Street Culcairn.
- Greater Hume Council – Walla Walla Customer Service Centre, Commercial Street Walla Walla.

During the exhibition period, submissions were received from members of the public, community groups and government agencies. These were collated and provided to Neoen by DPIE in February 2020.

1.2. PURPOSE OF THIS REPORT

NGH has prepared this Response to Submissions (RTS) on behalf of Neoen Australia Pty Ltd (Neoen) (the Proponent) in response to DPIE's letter dated 3 March 2020 and to fulfil the requirements of section 85A of the *Environmental Planning and Assessment Regulation 2000*. The purpose of the RTS is to:

- Considers and responds to the matters raised in the submissions for the proposal.
- Describes changes to the proposal, including a revised set of proposed mitigation measures.
- Details the additional studies undertaken to respond to matters raised.

Note: concurrent with the preparation of this Submissions Report, an Amendment Report has been prepared to set out in full, and assess where required, changes made to the project since the exhibition of the EIS. Where relevant, the results of Amendment Report are referenced in this report.

1.3. HOW TO READ THIS REPORT

Responses to Community Submissions – A summary of responses to issues raised in submissions from the public are found in Section 4.1.4. These responses are typically brief and are based on information from:

- The EIS.
- Specialist studies.
- Additional specialist studies which are summarised in Section 3.3 of this report, and further detailed within the Amendment Report.

Responses to Agency Comments – A summary of responses issued by government agencies and Council are found in Section 4.2.

Changes to the Proposal – A summary of all changes to the project since the EIS was exhibited can be found in Section 3.3.1. More details can be found within the Amendment Report.

2. CULCAIRN SOLAR FARM PROPOSAL SUMMARY

The following is a summary of key information as presented in the EIS and subsequent RTS.

2.1. THE PROPONENT

Neoen (the Proponent) is a French company specialising in renewable energy production, with more than 2.8 gigawatt (GW) of renewable energy already operating or under construction. They have developed renewable energy projects, including solar farms, wind farms and Battery Energy Storage Systems, in thirteen countries including France, Australia, El Salvador, Zambia, Portugal, Argentina, Jamaica, and Finland. The company has many years of experience in developing, building and operating solar power projects. Solar projects that the company has developed and built in Australia include:

- Coleambally Solar Farm.
- Griffith Solar farm.
- Parkes Solar Farm.
- Numurkah Solar Farm.
- Dubbo Solar farm.

2.2. PROPOSAL SUMMARY

The proposal is located within the Greater Hume Local Government Area (LGA), approximately 4 km south-west of the township of Culcairn. The subject land comprises of the following lots:

- Lots 70-73, 86 DP 753764.
- Lots 9-11, 45-47, 53, 54 DP 753735.
- Lot 1 DP 179854.
- Lot 114 DP 664997.
- Lot 1 DP 575478.
- Lot 1 DP 171815.
- Lot 1 DP 945904.
- Lot B DP 972054.

The proposal is bound by Walbundrie Road (north), Weeamera Road (east), Cummings Road (west), and Benambra Road (south). The site is intersected by Cummings Road, Schoff's Lane, and an unnamed lane (north / south) through the centre of the site.

The development footprint originally occupied around 1126 hectares (ha) (now 1084 ha) of the 1351 ha subject land. One ha of the development footprint is located outside the subject land, along the section of Weeamera Road that requires upgrade. The proposal would involve the construction of a ground-mounted photovoltaic (PV) solar array generating around 350 MW AC / 402.5 MW DC of renewable energy and would connect into an existing 330 kV TransGrid transmission line that traverses the proposal. The power generated would be exported to the national electricity grid.

Key development and infrastructure components as described within the EIS will include:

- Single axis tracker PV solar panels mounted on steel frames over most of the site (maximum tilt 4.2m in height).
- Battery storage to store energy produced on site (up to 100 MW / 200 MWh capacity).
- Underground and overground electrical conduits and cabling to connect the arrays to the inverters and transformers.
- Systems of invertor units and voltage step-up throughout the arrays.

- National Energy Market (NEM) compliant metering arrangements for all energy exported to the grid as well as internal metering to measure battery and solar output.
- On site substation, connecting to the existing 330 kV TransGrid transmission line.
- Site office and maintenance building, vehicle parking areas, material laydown area, internal access tracks and perimeter security fencing.
- Site access track off Weeamera Road.
- Road crossing and easement electrical crossing through underground and/or overhead lines, of Cummings Road and Schoff's Lane.
- Vegetative screening at impacted visual receivers and at the intersection of public roads.

The proposed infrastructure map as described within the EIS (Figure 2-1) illustrates the indicative layout, including a concept development footprint for the solar arrays noting that not all the area will contain infrastructure. Detailed design would allow for avoidance of sensitive features on the site. Within this footprint, there are several areas that have been prioritised for avoidance from blocks of solar panels, due to areas that represent higher quality fauna habitats.

Construction vehicle access to the site would be located on Weeamera Road via the Olympic Highway and Benambra Roads. Benambra Road and the southern section of Weeamera Road are sealed and capable of carrying additional heavy vehicles, as they currently service the Boral Quarry. The 1.4 km section of Weeamera Road, between the Boral Quarry turn and the access location, would be upgraded to allow capacity for heavy vehicle use. Access to the northern section of the site would be via two directly opposite access points across Cummings Road.

In total, the construction phase of the proposal is expected to take 16 to 18 months, and the facility would be expected to operate for around 30 years. Five to ten full time equivalent staff would operate the facility and include operations and maintenance staff, and up to six service contractors. After the operating phase, the proposal would either be decommissioned, removing all above ground infrastructure and below ground infrastructure to a depth of 500 mm, or removed as necessary to allow restoration of land capability to pre-existing agriculture. The site would be returned to its existing land capability or upgraded with new photovoltaic equipment subject to further planning approvals.

These key features of the project remain unchanged.

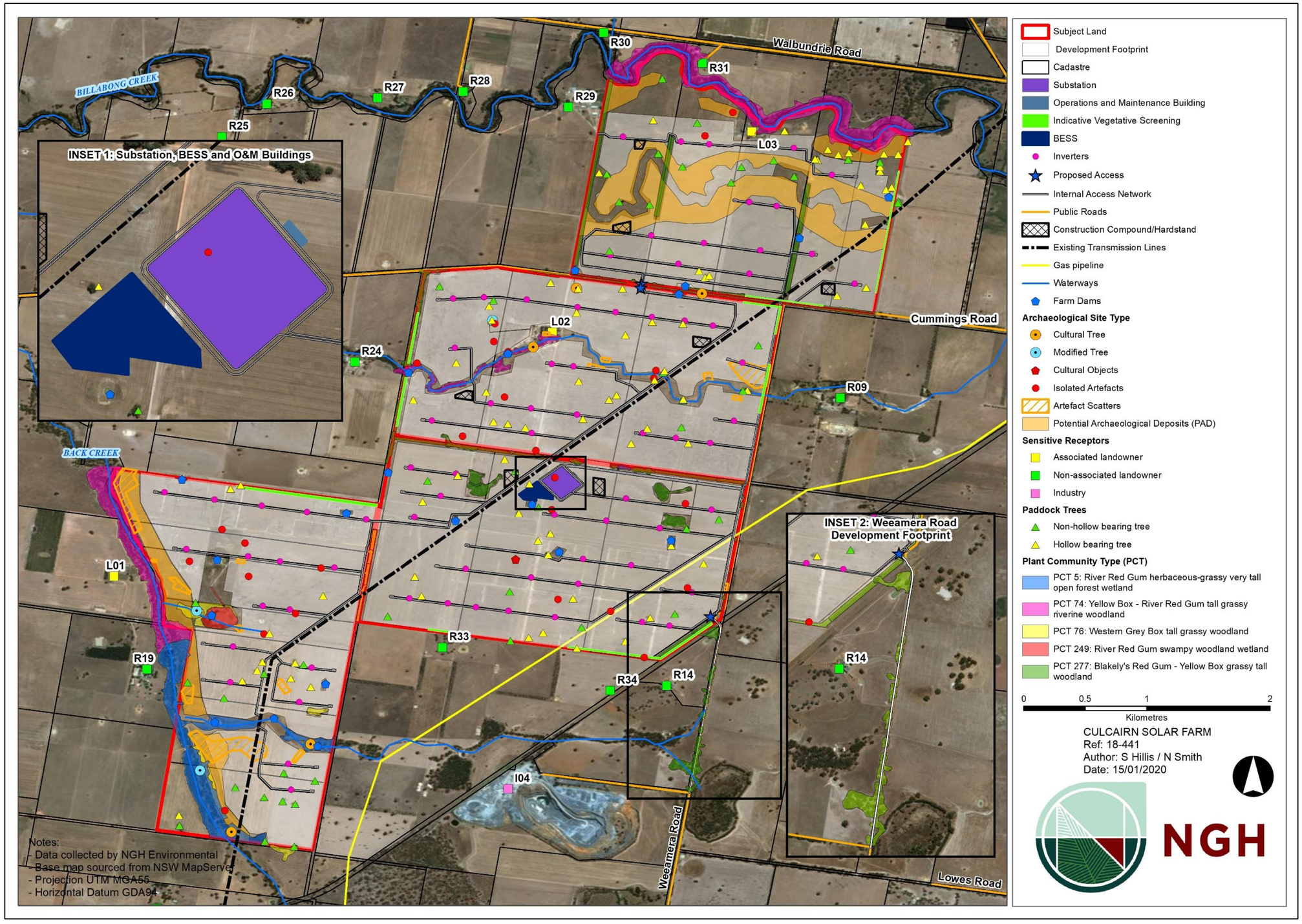


Figure 2-1 Constraints map and original proposed layout

2.3. PROJECT JUSTIFICATION

2.3.1. Broad benefits

The broad project benefits remain as detailed within Section 2 of the EIS, which include:

- Reducing Green House Gas (GHG) emissions, assisting the transition towards cleaner electricity generation.
- Provision of a renewable energy supply that would assist the Australian and NSW Governments to reach Australia's Large-Scale Renewable Energy Target (LRET) and other energy and carbon mitigation goals.
- Embed electricity generation supply into the Australian grid closer to identified consumption centres.
- Diversification of land use and economic activity in regional NSW.

Specifically, the proposal would:

- Generate approximately 800,000 MWh of renewable electricity per year.
- Establish regional leadership capabilities and expertise in a new high skilled industry
- Create significant employment opportunities for tradespeople and apprenticeships
- Supply enough power each year to service approximately 189,800 households (assuming average household consumption of 4,215 kWh p.a.).
- Save around 267,000 tonnes of carbon dioxide (CO_2) per year, assuming generation would otherwise use brown coal with a carbon factor of 0.33372 tonnes per MWh (DOEE 2017).
- A solar energy facility that displaces 267,000 tonnes of CO_2 per annum is the equivalent of taking about 117,700 cars off the road each year, based on an average car in NSW travelling 14,000 km per year with CO_2 emissions of 162 g/km (or 2.268 tonnes of CO_2 emissions per car per year) (DIT 2011).

2.3.2. Local benefits

Local social and economic benefits that would be associated with the construction and operation of the proposal include:

- Direct and indirect employment opportunities during construction and operation of the solar farm. This includes up to 500 employees at the peak of construction (up to 12 months) and five to ten operational staff for the life of the project.
- The proposal would provide significant participation opportunities for businesses and workers located in the area.
- Direct business volume benefits for local services, materials, and contracting (e.g. accommodation, food and other retail).
- Assistance in meeting the future national electricity demands.
- Council rates revenue associated with the solar farm would be subject to negotiations between Greater Hume Shire Council and the Proponent.
- Introduce additional sources of employment and income to the region.
- Increase tourism opportunities, with visitors accessing the observation platform and information facility at site.
- A Voluntary Planning Agreement and Community Benefit Fund.

Additionally, the proposal would address the environmental constraints of the site appropriately. It would be designed to:

- Preserve biodiversity features through minimising tree and vegetation community removal.

- Preserve Aboriginal cultural heritage through maintaining important features.
- Minimise impacts to soil and water, through pile driven panel mounts rather than extensive soil disturbance and excavation.
- Minimise visual impacts to neighbours, incorporating vegetation screens located in consultation with neighbours, where required.
- Preserve agricultural production values, being highly reversible at the end of the project's life and utilising the area for grazing for the lifetime of the project.

2.3.3. Regional benefits

At a regional Greater Hume Shire level, the solar farm has the potential to contribute to economic development in Culcairn, Walla Walla and the surrounding region by:

- Diversifying land use opportunities in the Shire resulting in varying sources of income for both community members and the Council and, ultimately, improving economic resilience to agricultural commodity market fluctuations, or drought.
- Increased Council rates revenue associated with the solar farm.
- Council Voluntary Planning Agreement will provide capital funding to the Council.
- Community Benefits Fund will provide direct community funding.
- Local Participation Plan to foster participation and maximise community involvement.
- Direct and indirect employment opportunities during construction and operation of the solar farm.
- The proposal is consistent with the Greater Hume Shire Economic Development and Social Plan 2017 – 2022, which cites the exploration of options for solar powered installations across the shire to improve long term sustainability for community organisations.

2.3.4. Site suitability

As detailed above, the proposal would assist in reducing Australia's GHG and in meeting future energy demands. It would contribute to Australia's renewable energy targets and support a global reduction in GHG emissions. It would contribute to economic development in Culcairn and the surrounding region.

Key considerations for site selection are detailed within the *NSW Large-scale Solar Energy Guideline for State Significant Development* (DPIE 2019), including:

- The proposal is not highly visible or located on high ground or within a valley. Natural screening occurs along Cummings Road. Screening of an appropriate width is proposed for sensitive receivers adjacent to the proposal where there are views of the proposal.
- Minimal impacts to biodiversity are expected due to the historical disturbance and agricultural activities. Patches of remnant vegetation throughout the site would be retained.
- The proposal is not classified as being ecologically sensitive as it has already been heavily disturbed from past and current agricultural activities. Although the final design avoids the majority of remnant native vegetation, habitat of threatened species and ecological communities, planned mitigation measures for vegetation screening could enhance ecological corridor creation around the proposal site.
- There would be no land use conflicts due to zoning.
- The proposal is not located on Strategic Agricultural Land and is located on Class 4 Agricultural land:
    - The proposal is not expected to adversely affect the biophysical nature of the land.
    - The proposal would positively affect soils by providing many of the benefits of long-term fallow, including increasing soil moisture, building soil carbon levels, allowing structural recovery and improving soil biota.
    - The proposal would not result in the permanent removal of agricultural land.

    - The proposal would not result in rural fragmentation given it will not permanently alter the existing or surrounding environment.
    - Adjacent farming operations are compatible.
    - Strategic sheep grazing will be used within the development site. Grazing would be used to reduce vegetation biomass and put grazing pressure on weeds adjacent to the solar panels.
- The site is shown to comprise flood prone land in modelling of the existing environment (WSP 2019). Minor flooding occurs adjacent to channels with an existing flood depth of less than 0.25 m. However, development is not expected to adversely impact drainage on the site.
- The proposal is not located on prospective resource developments.
- The proposal is located on Crown land, with Crown Roads (CADID 105500159 and 105271469) traversing the centre of the subject land in an east-west direction. It is intended that this Crown Road will be purchased by Landowner 2 and thereafter will not form part of the proposal.
- The community will benefit from a proposed Community Benefit Fund.

3. CONSIDERATION OF SUBMISSIONS

3.1. RESPONSE SUMMARY

During the exhibition period, DPIE received submissions from a total of 11 agencies, 2 organisations/special interest groups and 229 members of the public (Table 3-1). 147 of these submissions were objections, including one from Greater Hume Shire Council. Agency and organisation submissions are provided in full in Appendix A, with all submissions summarised in Section 4.

Table 3-1 Response summary for submissions received by DPIE

Category	Number of responses received
Community groups	**(2)**
• East Australian Pipeline Pty Ltd	1
• NSW Farmers Billabong Branch	1
Individual members of the public	**(229)**
• Support	81
• Objection	147
• Comment	1

Agency submissions
• NSW Greater Hume Shire Council
• NSW Biodiversity and Conservation Division (BCD)
• Transport for New South Wales (TfNSW)
  ○ South West Region
  ○ Land Use Planning and Development
• NSW Department of Primary Industries
• NSW Crown Lands
• Heritage Council of NSW
• NSW Water and Natural Resources Access Regulator (NRAR)
• NSW Geological Survey of NSW
• NSW Environmental Protection Authority
• Fire and Rescue NSW
	11

The issues raised in each submission received are summarised below in Section 4.1 (public submissions) and Section 4.2 (agency submissions). The full submissions can be found on the Major Projects website: https://www.planningportal.nsw.gov.au/major-projects/project/10916

The majority of public submissions came from within the Greater Hume Shire (n = 154, 67%), where the project development is proposed. As shown in Table 3-2, the majority of community submissions came from NSW (n = 187, 82%), with a small number from other states (18%), of which 73% of interstate submissions came from Victoria.

To categorise all submissions, 36% of the community submissions were in support of the project, 63% objected and 1 submission provided comments that noted the changes to the landscape and economic benefits brought on by the project. The majority of opposing submissions from the community came from within the Greater Hume Shire LGA (n = 119, or 80.9%).

The most commonly raised concerns related to claims the development is taking the place of productive agricultural land. Amenity impacts, bush fire risks, disruption to local businesses in the agricultural supply

chain and concerns relating to the local environment were common themes. Adjacent neighbours were also concerned with the potential for property values to decline and the various disruptions created through the construction and operational phases.

Table 3-2 Distribution of Objections from the public

State	Percentage (%)	Support	Object	Comment
NSW	82.5	55	133	1
VIC	12.6	15	14	-
QLD	2.6	6	0	-
SA	2.2	5	0	-
TOTAL		**81**	**147**	**1**

3.2. ADDITIONAL CONSULTATION

Further consultation was undertaken while preparing this report, to assist in understanding concerns and directing the investigations and proposed changes to the project. These are documented below.

3.2.1. Neighbour consultation

Neoen has kept in regular contact with the neighbours of the Proposal, post exhibition of the EIS and leading up to the delivery of the RTS. Neoen made themselves available for face to face meetings at individuals request, meeting them at their homes or other locations.

The following consultation post exhibition of the EIS has been conducted:

Table 3-3 Neighbour consultation log summary

Date (2020)	Communication type	Participants	Themes
28-30 Jan	Email	Email sent to database (supporters and opposition)	Information for community members that had registered their interest to receive project updates, including: • Confirmation that Public Exhibition commenced 30th January. • Attached guidance on 'how to lodge a submission' with 'walk-through' infographics (designed by Neoen) of the Major Projects portal.
30 - 31 Jan	Face to face	Meeting with six surrounding neighbours/ landowners and host landowners	• Project updates. • Further requests including revegetation, construction disruption payment, noise impacts and livestock and wildlife impacts. • Issues raised included construction impacts and opposition to the concept of a construction disruption payment. Seeking a schedule to be informed of different stages of construction so they can adjust their operations.
10 Feb	Email	Email sent to entire database	• Expression of interest in bus tour to Numurkah Solar Farm scheduled for 18 February 2020.

Date (2020)	Communication type	Participants	Themes
			• Bus tour for the public was subsequently delayed due to cancellations and then covoid19 interrupted plans to reschedule. Intention is to reschedule when it is safe to do so.
20 March	Email	Correspondence Email sent to 8 surrounding neighbours/ landowners	Email group established and sent correspondence to neighbours of the project to establish shared means of communicating with all parties collectively.
7 May	Email	Project neighbours	15 letters sent to reiterate Neoen's offer the construction disruption payment offer.
Ongoing	Phone and face-to-face	Project neighbours	Additional one-on-one consultation was undertaken with neighbours throughout this period

3.2.2. Community consultation

As well as neighbour consultation, Neoen have conducted broader community and industry consultation. This allows maximum industry participation and overall input in the development and construction of the proposed solar farm.

The following consultation post exhibition of the EIS has been conducted:

Table 3-4 Community and industry consultation log summary

Date (2020)	Communication type	Participants	Themes
30 Jan	Face to face meeting	Southern NSW Industry Capability Network (ICN)	Local industry network group to assist in the development of a Local Participation Plan and understand wider regional context.
30 Jan	Face to face meeting	Local agronomist	• Whole of farm approach to agrisolar. • Holistic design of solar farm.
31 Jan	Face to face meeting	Meeting with 3 representatives from Walla Walla Development Committee	Discussion of project timelines and input to discussion of Community Benefit Fund, including administration.
31 Jan	Face to face meeting	Meeting with 3 representatives from Culcairn Development Committee	Discussion of project timelines and input to discussion of Community Benefit Fund, including administration.
31 Jan	Face to face meeting	Meeting with small group of locals sympathetic to solar farm at a Culcairn cafe	Discussion of solar farm timelines and provision of accurate information, including assistance for public submission process.

19 Feb	Face to face meeting	Included reps from RFS, local contractor, sheep farmer from Culcairn, local recruitment company Programmed Skilled Workforce	Site management and agrivoltaic opportunities.
18 March	Onsite Workshop - Numurkah Solar Farm	Included representatives from Downer, Fire and Rescue NSW, Culcairn Fire Station, Country Fire Authority, Greater Hume Council; Rural Fire Service Volunteer and Culcairn Rural Fire Service .	Fire management workshop held at one of Neoen's existing solar farms to learn lessons for Culcairn Solar Farm, and for NSW RFS and FRNSW input as per Council requirements.
20 March	Email	Email sent to entire database	Proposal outlined to offer online workshops for larger contractors e.g. civil engineering etc. and another for smaller local businesses to understand solar farm opportunities and requesting EOI for participation in bus tour to Numurkah post-covoid19.
1-30 April	Phone	Entire database New contacts	• Phone calls made to database members to update them on project progress and confirm business details for Culcairn solar farm business registry. • Approximately 40 local businesses on registry contacted to update information and additional 20 contacted to add to registry.
15 April	Email	R08	Conversation about adjustments to the design and their interest in grazing rights for sheep.
22 April	Email	REROC Regional Development Australia – Murray TAFE NSW Farmers for Climate Action Industry Capability Network (ICN)	Project update letter sent.

3.2.3. Greater Hume Shire Council

Neoen have kept in regular contact with the Greater Hume Shire Council (GHS), to ensure Council concerns have been addressed and to maintain a positive working relationship.

The following consultation post exhibition of the EIS has been conducted:

Table 3-5 Greater Hume Shire Council consultation log

Date (2020)	Communication type	Participants	Themes
30 Jan	Face to face meeting	Director and Acting General Manager	Community benefit fund – GHS request that the Voluntary Planning Agreement (VPA) incorporate the Community Benefit (CB) Fund. Also discussed roadwork costs, classification of land and neighbour compensation.
19 Feb	Face to face meeting	Councillors and Senior Executive GHS Public	Council ordinary meeting – motion passed to object to the development of the Culcairn Solar Farm as described in the Environmental Impact Statement (EIS) for the Culcairn Solar Farm (https://www.youtube.com/channel/UCHqSb4_Se6wPgy-ig_dQcKw).
10 March	Email	GHS Councillors	Invitation extended to all Councillors to attend a bus tour to Numurkah Solar Farm.
15 March	Email	Director	Email advising that GHS Councillors are unavailable to visit Neoen Numurkah site.
20 March	Email	Director and General Manager	Update provided of outcomes of fire management workshop 18 March.
25 March	Email	Director	Clarification of status of neighbour consultation (follow up email on 26 March and 15 April to GHS and general update from Neoen following the Covid19 situation).
7 April	Email	Director and General Manager	Update on project progress.
14 & 15 April	Email	Director and General Manager	Discussion of access works on Weeamera Road.
16 April	Email	Director and General Manager	Draft VPA received from Council.

3.2.4. Biodiversity and Conservation Division

NGH held a phone conference with representatives of the BCD on 29 April 2020 to discuss the approach and proposed response to the issues raised in their submission. Key points from the meeting include:

- BCD recognised the attempt in avoiding the removal of paddock trees post EIS. BCD stressed that where this vegetation is associated with PCT 277, indirect impacts (such as increased fragmentation and reduced condition) need to be assessed as part of the potential for SAII.
- BCD would be supportive of using supplementary planting and stewardship to enhance connectivity across the landscape.
- This is particularly important when addressing the SAII on threatened ecological communities (TEC) within the development site. BCD consider that the proposal to clear ~75 scattered paddock trees will have a SAII on the candidate Box Gum Woodland PCT 277 because it increases the impact of Principles 1 and 2 of cl.6.7 of the Biodiversity Conservation Regulation 2017. NGH are invited to design measures to mitigate that harm including enhanced revegetation and stewardship of PCT 277 on the development site.
- The paddock trees being removed that are associated with PCT 277, and remnants of PCT 277 that are retained (including scattered paddock trees that are retained/avoided) need to be considered when addressing SAII. BCD consider that retained vegetation associated with PCT 277 (including scattered paddock trees that are retained/avoided) is likely to be indirectly impacted by the proposal (increased fragmentation, decline in function and condition and population), and therefore should be included in the assessment of potential for SAII.
- Measures for mitigation detailed within the EIS (revegetation plan, buffers) are likely to mitigate indirect impacts (They mitigate the increased fragmentation, mitigate the decreased ecosystem function and mitigate the decline in condition) yet were not cited in the BDAR as mitigation measures. For example, revegetation, screening and buffers, the Landscape Plan etc may be managed to overcome indirect impacts and SAII. The objective of these measures should be to enhance connectivity and increase habitat function and condition at the site.

3.2.5. NSW Rural Fire Service and Fire Rescue NSW

The Proponent held an interstate Fire Services Workshop in March 2020 at the operational Numurkah Solar Farm, Victoria. Representatives from the NSW Rural Fire Service, Fire Rescue NSW and the Country Fire Service were in attendance.

A summary of the agenda and meeting minutes are as follows, with the full minutes available in Appendix A:

- Management plans and effectiveness were discussed. Tour of monitoring systems and automatic control systems.
- Discussion over site layout and training.
- Discussion over the strategy and management of sheep.
- Tour of solar farm layout with relevant safety features (access, gates, internal access tracks etc.)
- Discussion over protocols for entering site during a fire event:
  - Including the need to meet with site manager when responding to develop containment strategy.
  - Collaboration on experience and site expertise.
  - Disabling underground AC and inverters, though solar panels will remain active.
  - Containment strategies.
- Discussion on water tanks. Suggestion made on installation of nozzle-fitting points being raised.
- Discussion on vegetation growth under panels.
- Perimeter inspection.
- View primary fire defence equipment.

3.3. AMENDMENT REPORT – CHANGES PROPOSE TO THE PROPOSAL

Changes to the design, layout and infrastructure have been proposed as a result of community comments and the agency submissions. These are summarised below and detailed within the Amendment Report (AR). The AR will be submitted to DPIE and is intended to be read with this RTS.

3.3.1. Infrastructure and development amendments

As a result of ongoing discussions with the local community, neighbours, project landholders, agencies and other stakeholders, the Proponent has made a number of modifications to the development footprint as described in the DA and EIS (Figure 3-1),, including the removal of the north-eastern array area near Billabong Creek. The expected outcome of this revision is to reduce the visibility of project infrastructure to neighbours and reduce impact to the native pasture and habitat corridor along the creek by creating additional distance from the project boundary.

Adjustments have also been made to the western side of the development, to increase the setback of solar infrastructure from Receiver 24 by an additional 80m (with the closest panel infrastructure located approximately 520m from the residence) This additional setback of solar infrastructure is also supported by an additional 5m of additional vegetation screening to Receiver 24. The setback of solar infrastructure from Receiver 29 has also been increased by 70m (with the closest panel infrastructure located approximately 350m from the residence).

Additional screening is also proposed in the south-western corner of the proposal, to supplement existing vegetation screening along Back Creek and reduce overall views for Receivers 17 and 19. The existing screening along Back Creek consists mostly of upper-stratum species, with little in the mid and lower storeys to assist in screening. It is proposed to supplement the existing riparian vegetation with mid and lower stratum species.

With the PV module technology continuing to mature at a rapid pace, the project is committed to incorporate the latest generation of PV modules in its design. Recent developments have allowed Neoen's design team to consider PV modules with a higher watt rating (430 Wp) than was originally anticipated (380 Wp) during the preliminary design stages of the project in 2019.

The latest generation of PV modules considered by Neoen's procurement market appraisal are bifacial, whereby the solar panel equips solar cells on both the top and the bottom of the panel. This design provides the ability to transform sunlight into electrical energy on both its top and bottom sides to deliver increased module and design efficiency. This reduces the quantity of panels installed from approximately 1,049,000 to 930,000 modules, representing a reduction of approximately 12%. The reduction facilitates the removal of panels in the north-eastern array near Billabong Creek without affecting the overall output of the project.

As a result of these efficiencies, the project layout amendment will:

- Increase the setback distance from the key habitat corridor of Billabong Creek in the north-eastern corner
- Increase the setback distance to receivers in the north-eastern corner by 70 and 80 m respectively.
- Increase the vegetation buffer width by 5 m along the western boundary.
- Maintain the targeted generating capacity of up to 350 MW AC, thus achieving sufficient economies of scale to deliver the most cost-effective electricity price for consumers.

The Proponent is also in the process of considering/drafting Option Deeds with some sensitive receivers, to mitigate or offset any potential risk.

Revision of the project layout has also reduced the overall size of the development footprint, from 1126 ha to 1084 ha. This represents a saving of 42 ha and reduces the clearing of paddock trees from 99 to 77 trees.

It was originally proposed to upgrade Weeamera Road from the Boral Quarry to the site entrance with a 6m formation with light spray seal. On consultation with Greater Hume Shire Council, it has been agreed to update this requirement and seal the road to a 7m sealed carriageway with minimal shoulders.

Key changes are detailed further within the Amendment Report.

3.3.2. Key areas of additional investigation

Specific additional investigations were undertaken in response to the feedback received as part of the EIS stakeholder reviews. The outcomes of these studies have been used to respond to specific issues raised and have assisted to inform the changes to the proposal as detailed below and summarised in Table 3-6.

Table 3-6 Key areas of additional investigation and outcomes for the proposal

Additional investigation				Resultant changes to the proposal, based on investigation outcomes
	Study	**Motivation**	**Outcome**	
1	Agricultural Impact Statement, April 2020	To address and clarify points raised by Council (Section 4.2.1) and also by some organisations (Section 4.1.1) and public / community submissions (Section 4.1.4)	It was found that the proposed Culcairn Solar Farm would not have any deleterious effects on current agricultural production, both within the development site and to surrounding practices. The emerging co-sheep grazing approach in Australia is the most suitable for solar farms. This approach reflects the intent of the Proposal. Other alterative production systems would not better mitigate the production ramifications of co-locating agricultural and solar energy production. More information on the study can be found in Appendix A and Sections 2.1 of the Amendment Report.	Although the assessments determined that the proposal would not have any deleterious impact on agricultural production, the Proponent has sought ways to improve the project for the community and refinements have been made that reduce impacts. These include: • Reinforcing the landowner's commitment to co-locate sheep grazing with solar infrastructure. • Reinforced commitment to removing all cables and underground infrastructure as required. • Development of a Local Participation Plan to maximise community participation and employment, throughout the construction and operation of the Proposal. Refer to Section 3.4 of this report for more details.

Additional investigation				Resultant changes to the proposal, based on investigation outcomes
	Study	**Motivation**	**Outcome**	
2	Updated Biodiversity Development Assessment report (BDAR) April 2020	To fulfill the requirements of the BCD (Section 4.2.2)	Additional survey and plots were undertaken, to meet the requirements of the Biodiversity Assessment Methodology, and the resultant BDAR updated to reflect. The amended layout also has seen a significant decrease in clearing of both vegetation patches and paddock trees. This has also resulted in a significant decrease in required species and ecosystem credits. More information on the study can be found in Appendix B and Sections 2.2 of the Amendment Report.	As well as a decrease in clearing and credit requirements, the Proponent has committed to a number of additional mitigation measures including: • BD15 – Use of plain wire as required. • BD16 – supplementary planting to enhance site connectivity. • BD17 - Installation of hollows. • BD18 – Rehabilitation Plan.
3	Category 1 Land Assessment	To fulfill the requirements of the BCD (Section 4.2.2)	An assessment was undertaken to confirm land within the original BDAR was classified as Category 1 Exempt Land, as defined under the *Local Land Services Act 2013*. It was confirmed that there was enough evidence to suggest that all of the proposed lots have been under regular rotational cropping, hay production or grazing since 1990, and was therefore Category 1 Exempt Land. Evidence of revegetation or native regeneration was classified as Category 2 Land. More information on the study can be found in Appendix C and Sections 2.3 of the Amendment Report.	As the assessment confirms the majority of the development footprint is Category 1 Exempt Land, the Proponent has reinforced its commitment to retain its current land use by co-locating sheep grazing with solar infrastructure.
4	Updated Noise Assessment	Update the Operational Noise Assessment completed due to amended project layout (Section 2.4 of the Amendment Report) and updated substation requirements.	Panels were removed from the north-eastern corner of the proposal near Receiver R8 and relocated further away from Receiver R24 and R29. Correspondence with TransGrid also suggests that the predicted dB(A) levels for the substation were too low. As such, an updated Operation Noise Assessment was completed. It was determined there would be no operational noise exceedances during the day and evening, with	The changes to the layout of the proposal modelled within the updated noise assessment have been adopted. A once-off noise validation monitoring assessment forms an existing mitigation measure **NS6**.

Additional investigation				Resultant changes to the proposal, based on investigation outcomes
	Study	**Motivation**	**Outcome**	
			minor reductions in overall dB(A) for receiver R29. Three noise exceedances during the evening remain, during operation of the Battery Energy Storage System (BESS). However, this assumes the BESS would be running at full capacity. More information on the study can be found in Appendix D and Sections 2.4 of the Amendment Report.	

These investigations are provided in full in Appendix A and summarised within the Amendment Report, and referenced in the responses to submissions in Section 4 where relevant.

3.4. ADDITIONAL DETAILS THAT NOW FORM COMMITMENTS

Based on recent consultation with landowners and agencies, the following now form a commitment of the proposal:

- Reduction of panels in the north-eastern corner of the proposal (Section 1.1 of Amendment Report).
- Panel infrastructure further setback from Receivers 24 and 29 (Section 1.1 of Amendment Report).
- Additional 5m vegetative screening buffer in the vicinity of Receiver 24 (Section 1.2 of Amendment Report).
- Additional on and off-site riparian screening proposed in the vicinity of Receivers 17 and 19 (Section 1.2 of Amendment Report).
- Supplementary screening for habitat connectivity (Section 1.4 of Amendment Report).
- Incorporate more efficient solar panels with a higher output to justify the removal of panels in the north-eastern corner (Section 1.3 of Amendment Report).
- Option Deeds with Receivers.
- Reduction of development footprint by 42 ha (Section 1.1 of Amendment Report).
- Reduction of clearing of paddock trees from 99 to 77 (Section 1.1 of Amendment Report).
- Increased proposed width of Weeamera Road to 7m (Section 1.5 of Amendment Report).
- Local Participation Plan (Section 1.6 of Amendment Report).
- Construction Disruption Payment (Section 1.7 of Amendment Report)

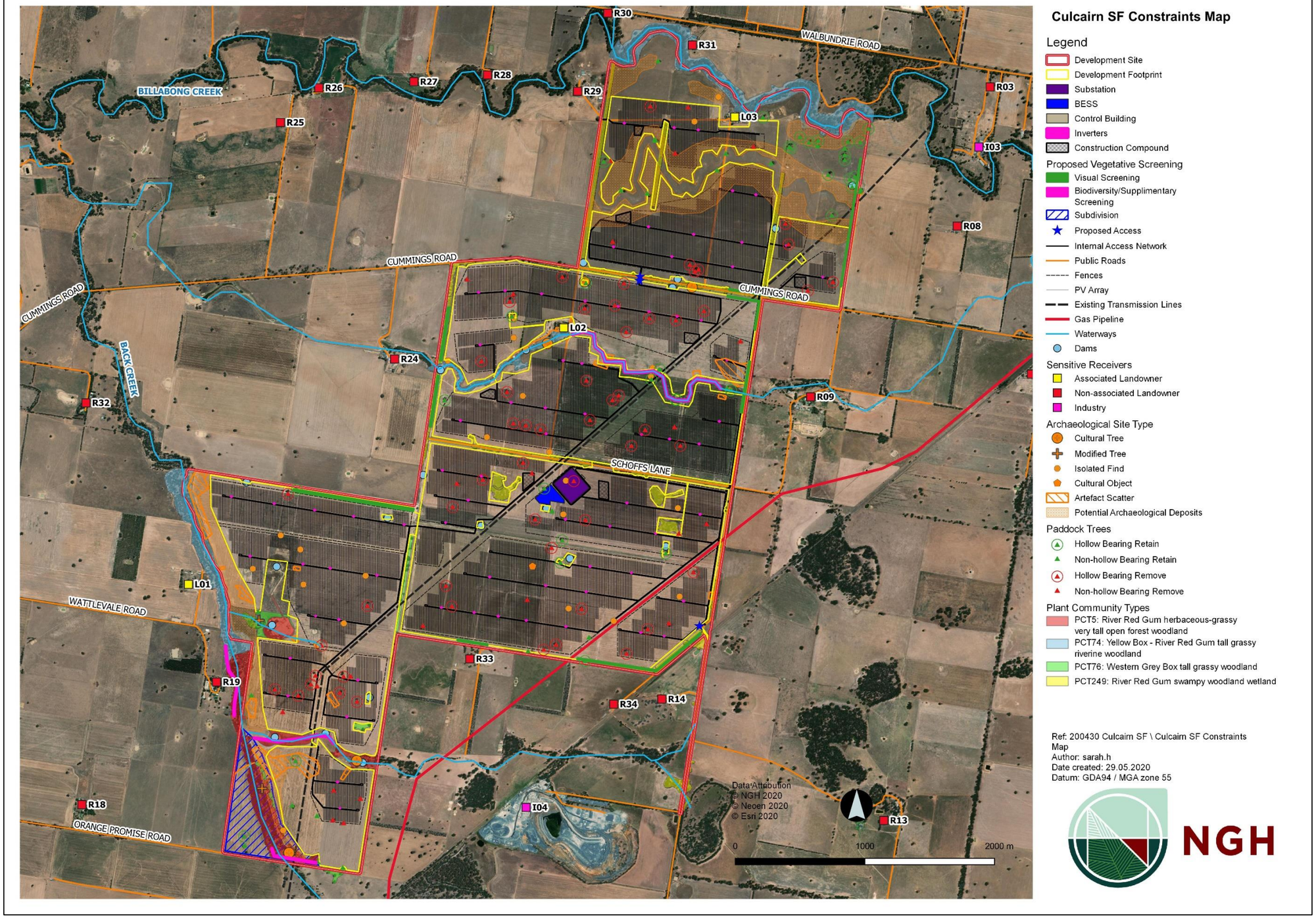


Figure 3-1 Updated constraints map and layout

4. RESPONSE TO SUBMISSIONS

4.1. PUBLIC SUBMISSIONS

The public submissions received have been divided into the following:

- Community group submissions.
- Individual community submissions, in support of the proposal.
- Individual community submissions, objecting to the proposal.
- Individual community submissions, providing comment on the proposal, neither supporting nor objecting.

4.1.1. Organisation Submissions

Two community group submissions were received, as set out below. The issues raised are paraphrased and the proponent's response provided.

East Australian Pipeline Pty Ltd (APA)

Issue	Response
APA is the beneficiary of a pipeline easement within the proposal area. APA need to ensure the easement is managed to an appropriate standard. **APA does not object to the proposed development subject to the following conditions being included with any approval issued for the proposal:** 1. **No Improvements within the pipeline easement without consent of the APA. No structure or vegetation will be permitted that prohibit APA maintenance.** 2. **A Safety Management Study in accordance with the Australian Standard 2885 (Pipelines – Gas and Liquid Petroleum) is required by the Proponent to the satisfaction of APA. All cost associated with the study are to be borne by the applicant.** 3. **Prior to development, the applicant must conduct electrical hazard studies in accordance with Australian Standard 4853-2012 (Low Frequency Induction and Earth Potential Rise). Validation testing upon completion of construction will be required.**	An additional mitigation measure **HA9** is provided in Section 5 to commit to this action as required**.**

Issue	Response
4. **The applicant must conduct Electrical Interference Studies in accordance with the requirements of Australian Standard 2832 once design is complete.** 5. **The applicant must amend design to comply with Australian Standards and above completed studies.** 6. **The applicant must make good (at the cost of the applicant) any hazard or risk to the pipeline caused by powerlines.** 7. **Prior to construction, any landscape plans must be submitted and approved by APA. A three-metre minimum clearance between the pipeline and any mature vegetation with a mature height of greater than 0.5 m must be maintained.** 8. **Prior to any works within 50 m 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 with APA.** • **Avoid significant vibration, heavy loadings stored over the pipeline, and heavy vehicle crossings.** • **Be endorsed by APA where the works are within or crossing the relevant pipeline easement.** 9. **Design shall minimise encroachment on the pipeline easement. An Application for an APA permit for an easement crossing will be required to demonstrate that an alternative route is not feasible.** 10. **During construction, the boundary of the easement must be clearly delineation on site.** 11. **All plans must have the pipeline easement clearly identified and labelled.** 12. **Access to the easement must be maintained at all times.**	

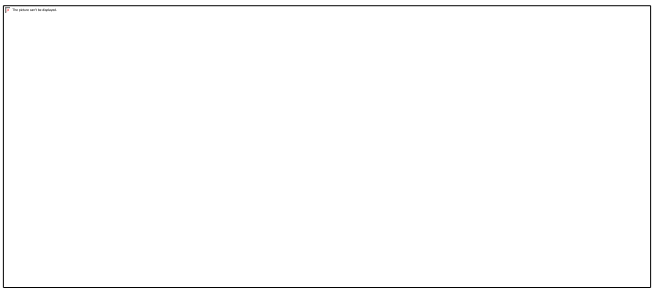
NSW Farmers Billabong Branch

Issue	Response
The loss of production caused by large scale developments cumulatively with the impact of severe drought in NSW, fires and Murray Darling Basin issues may cause further negative impacts to food production in our state. Farmers are already suffering in other areas of NSW though increased cost and lack of availability of fodder and grain exacerbated by recent fires.	Neoen have a strong and proven ability to commit to the continuation and co-location of sheep within solar developments, as is evident through current commercial operations at the Dubbo, Parkes and Numurkah Solar Farms. Neoen continue to refine the design of their enterprises to suit these systems, to ensure best outcomes for landowners and the surrounding communities. The development does not represent a total loss of production. Both the Proponent and current landowners are committed to the continuation of sheep grazing. The AIS indicates approximately 10% of the development site would be temporarily removed from production (due to roads, buildings, hardstands etc.), not the entire site, with overall capacity reduced by a conservative estimate of 25%. Pasture will be maintained for sheep feed, as well as additional benefits such as dust and erosion control. While all current and potential cropping activities on the land post-development, the AIS states changes in land use are typical of what happened across the broader farming region with cropping land being converted to livestock production and vice vera with seasons, market and other driving forces. As such, no deleterious impacts are expected from converting current cropping practices to grazing.
The NSW Solar Guidelines for State Significant Development references Important Agricultural Land with Soil Capability (LSC) Classes 1, 2 and 3 as being areas of constraint for development. **Concern is raised that soil data is outdated and incorrect:** • **Previous Rural Land Capability Mapping (K A Emery) has determined the land proposed is Class 1.** • **Class 4 is incorrect due to strong cropping capacity.** • **Inspections by Council would indicate that the land is high quality agricultural land.** **Prior to determination of any large-scale development, DPI should determine the Riverina Murray Important Agricultural Land Mapping using the appropriate measures**	The NSW Department of Primary Industries (DPI) is undertaking a mapping program across NSW to recognise the value of Important Agricultural Land (IAL). The program is intended to: • Provide certainty for agribusiness to remain, invest and grow. • Reduce land use conflict. • Enable compatible development in zones that permit agriculture. • Choose appropriate zones for non-agricultural development. • Support essential agricultural assets and the agricultural supply chain. • Identify future opportunities for agricultural industries. The proposal was not initially indicated in the Draft Riverina Murray Important Agricultural Land Mapping as IAL, and the final report has not been released. However, DPI released a draft “final” spatial layer of the

Issue	Response
outlined in their guidelines, including stakeholder engagement from local industry professionals.	Riverina Murray IAL which indicates the proposal is now mapped as IAL. Despite this, the proposed solar farm does not derogate from the objectives of the IAL program in that: • The Proposal provides certainty for the existing landowners, to remain in the area, invest in compatible infrastructure and grow their current practices through diversifying their income. • The Proposal does not conflict with current and surrounding land uses, in that there is no requirement for reclassification of land, do not result in the generation of new dwellings or major subdivisions, do not impact surrounding agricultural practices and they still allow agricultural practices through an agrivoltaic system. • The RU1 zone is a prescribed rural zone under the ISEPP that allows for electricity generating works. • The GHLEP permits industrial activities in the RU1 zone, with the consent of the Council. While the planning framework supports the protection of strategic agricultural land from non-agricultural uses, there are numerous examples of permitted non-agricultural uses within the RU1 zone. Whilst many of the listed permissible land uses do not contribute to primary production, they remain permissible uses in the zone that are considered to be acceptable. • The Proposal supports essential agricultural assets and the agricultural supply chain, through the continuation of sheep grazing as a dual use agrivoltaic system. • Solar farms are a proven successful opportunity for select landowners, to diversify income streams and still maintain their agricultural practices As part of the Response to Submissions process, and AIS was completed to address agency, council, organisation and public concerns, including landscape mapping, quality and land capacity (Appendix X of Amendment Report). The AIS noted that the broadscale landscape mapping does not serve as a basis when quantifying the agricultural impact on the site. As such, the AIS assessment is based on actual agricultural production

Issue	Response
	capabilities of the land before and after development, not outdated or proposed landscape mapping.
While these developments are permissible under the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP), attention is drawn to the aims of the *State Environmental Planning Policy (Primary Production and Rural Development) 2019* and the *Greater Hume Local Environmental Plan 2012.*	From a town planning perspective solar farms are compatible with agricultural land use given the only practical location that large-scale solar farms can be located is within a non-urban area. Solar farms are not susceptible to adverse amenity impacts that are problematic and constrain agricultural activities as they do not result in the generation of new dwellings or lead to the fragmentation of land. The solar farm proposal would occupy an area of 1086 ha of the subject land. The current landowners would continue agricultural practices on surrounding land, including grazing activities on the solar farm site. It is considered that the reduction in agricultural output of 1086 ha represents a small fraction of the agricultural output of the region and would result in a negligible reduction in its overall productivity. Furthermore, it is also considered that the proposal would not significantly impact the agricultural operations of neighbouring landholders given the relatively low impacts associated with the proposed solar farm project site. Thus, the inherent capability of the land would not be affected. It is considered that the introduction of solar energy would contribute to a more diverse local industry, thereby supporting the local economy and community in developing lands for primary production. Pursuant to clause 11, land identified as *State significant agricultural land* is listed in Schedule 1. Currently, Schedule 1 does not identify any land. Given the solar farm's non-destructive nature and that there will remain opportunities for ongoing grazing activities within and adjoining the development envelope, the proposal does not compromise the aims of the Primary Production SEPP.
It is questioned if the economic analysis adequately reflects the loss of agricultural production including associated expenditure through local communities and the multiplying economic effect post farm gate through the supply chain, from the manufacturing of agricultural machines and products through to the purchase of food	As detailed above, an AIS was completed to address agency, council, organisation and public concerns, including economic impact (Appendix A of Amendment Report). The estimated agricultural impact on the economy post-development included a reduction in annual gross revenue of $280,000 (farm gate) and annual reduction of $610,000 in related economic activity pre and post-farm gate) assuming the adoption of agrisolar and a

Issue	Response
products by the end consumer, associated employment and other benefits.	25% reduction in pasture productivity. The estimated reduction on local annual direct expenditure is also expected to be $450,000. The impact outlined in the report will be mitigated by the rental payments received from the Proponent, with a portion expected to be reinvested in the farm business with related economic activity benefits. As detailed within the Economic Impact Assessment (Appendix O of the EIS), the following is expected to mitigate any agricultural loss of the proposal over its operational life: • The proposal will invest $640 million during the construction phase, supporting 350 direct full time equivalent (FTE) jobs, and 560 indirect FTE jobs. • Of this, $64 million is expected to be invested locally, including wage stimulus, during construction. • Once operational, 7 direct FTE jobs and 20 indirect FTE jobs will be supported. • Construction workers are also expected to inject $7.9 million in additional spending over the construction phase, supporting 50 indirect jobs in the service sector. • Council and community benefits are estimated to be $300,000 annually (or 10 million over 30 years (13.2 CPI adjusted)). • Ongoing wage stimulus associated with the 'net' additional operational workers is estimated at $160,000 annually (or 7.1 million over 30 years).
The "Do Nothing Approach" in the EIS document is not a valid argument. Placing these developments appropriately in less arable would have the advantage of achieving both an economic benefit whilst also retaining the food production capacity.	The" Do Nothing Approach" in the EIS (Section 2.4.1 of the EIS) details the consequence of not proceeding with the proposal. This weighs the benefits of the proposal (such as reducing GHG emissions, renewable energy supplies, additional electricity generation and social and economic benefit) against the environmental drawbacks (such as vegetation impacts, construction noise and dust, and temporary reduction in agricultural production). Given the net benefit outweighed the negatives, the proposal was considered to be ecologically sustainable and justifiable. Also, as detailed within the EIS, the proposal is constructed in such a way that would reduce impact. The development is highly reversible and involves little ground disturbance. It does not remove the potential to use the land for primary production at the end of its operational life. Upon decommissioning of the proposal, the development footprint would be

Issue	Response
	rehabilitated to restore land capability to pre-existing agricultural use. A commitment was also made in the EIS, and further committed to within the AIS and this RTS that sheep grazing would be continued throughout the operation of the Proposal.
The Renewable Energy Action Plan – Goal 2 is to "Build community support for renewable energy". In order to gain community acceptance, development in our area appear to have taken the marketing approach to offer community funds to towns rather than use funds towards the mitigation of impacts to affected neighbours.	The Proponent is in the process of negotiating a Community Benefit Fund with community members of Walla Walla and Culcairn, and a Voluntary Planning Agreement with Greater Hume Shire Council. This will benefit the community by directly injecting upwards of $10 million over the 30 years of operation.  In addition to this, Neon have committed to a Community Relations Plan and a Local Participation Plan, to: • Protocols to keep the community updated about the progress of the project and project benefits. • Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc.) • Protocols to respond to any complaints received. • Foster participation and maximise community involvement and employment. To support these plans, Neoen have compiled a detailed registry of all potential businesses, health care providers and accommodation providers that would be able to benefit from the proposal. As discussed above in Section 3.2.1, the Proponent has been in constant contact with all neighbours surrounding the Proposal. In addition to the Community Benefit Fund, the Proponent is currently in negotiation with each potentially affected neighbour, to mitigate any impact or risk of the proposal. This includes: • Offering Construction Disruption Payments. • Vegetative screening. • Offsetting panel infrastructure from the property boundaries. • Discussions in detail with neighbours interested in grazing rights.

Issue	Response
The possible mental health impacts these developments may bring to previously strong farming communities should be carefully considered due to industrialisation and the loss of rural amenity and peaceful lifestyle from huge construction activities.	It is acknowledged that any new land development has the potential to divide and estrange members of the community and generate a level of anxiety, that may be exacerbated by other local stressors such as drought and fires. The proponent has taken extensive steps to involve the local community and neighbouring landholders and to obtain feedback on the project and areas of concern. Evidence of this engagement is provided in Section 3.2 of this report and has also contributed to the various amendments proposed in this RTS. As detailed within the VIA, the form of the solar infrastructure, low (generally less than 4 m) and in rectangular arrays, is not incongruous with the existing low-lying rectangular forms in the agricultural area. Dominant views would continue to be grazed and cropped agricultural land. As there is little variation in elevation across the proposal, infrastructure will not be highly visible like other alternatives such as wind farms or subdivision/housing estates. As detailed within Sections 6 and 7 of the EIS, strategies have been proposed/adopted to avoid rural amenity impacts. This includes: • Vegetative screening in strategic locations (both on and off-site) to break up views of the proposal. • Design requirements such as non-reflective materials, keeping with the materials and colours of the landscape etc. • Dust control. • Rehabilitation of disturbance areas. • Ground cover maintenance. • Restriction of night lighting. • Confining operational noise impacts. • Since the exhibition of the EIS, the Proponent has consulted with all affected landowners that may have a visual impact. The following measures have been adopted, and are further explored within the AR: • Removal of the north-eastern array near Billabong Creek. • Increased setbacks for Receivers 24 and 29. • Increased screening width in the vicinity of Receiver 24. • Supplementary planting within Back Creek riparian zone to reduce views for Receivers 17 and 19.

Issue	Response
	• Option Deeds with some sensitive receivers.
Net benefit should be achieved through placing developments in communities with arid or poorly producing land and targeted Renewable Energy Zones with these features. Infrastructure to allow development in these areas such as transmission lines must be a serious priority of the NSW Government for this to occur.	As detailed within the AEMO Power System Limitations in North Western Victoria and South Western New South Wales Report (AEMO 2019), the Western Murray area is remote and considered "electrically weak" as part of the National Energy Market (NEM). Transmission infrastructure in these areas are insufficient to allow access to all the generation that is seeking to connect. being productively combined with utility-scale solar. Neoen have extended an open invitation to community members to visit the Numurkah Solar Farm where agrisolar is being successfully practised.
There is concern that due to the financial return achieved by environmental companies in completing EIS documents that wording may be intended to be construed in developers' favour. In order to ensure impacts are not endured, independent ground truthing of data and primary considerations in the EIS proven. True mitigation measures or appropriate compensation to address impacts to production and livelihood of neighbours must be addressed	NGH prides itself on its high professional ethical integrity and responsibility, and are a company completely independent of the Proponent, Neoen. All subcontractors who had input into the EIS are also completely independent professionals, with excellent reputations. In addition to this, all NGH documents are reviewed and have input from a Certified Environmental Practitioner (CEvnP). A CEnvP is a dedicated professional who has demonstrated their environmental professionalism beyond the standard requirements of education and has been judged on their professional merits and experience by fellow senior level environmental practitioners. Central to all CEnvPs is the EIANZ Code of Ethics (https://www.cenvp.org/about-us/code-of-ethics-professional-conduct-2/) which will provide case studies and examples of sheep grazing being productively combined with utility-scale solar. Neoen have extended an open invitation to community members to visit the Numurkah Solar Farm where agrisolar is being successfully practised.

4.1.2. Individual community submissions (in support)

Of the 229 submissions received, 81 were in support of the proposal.

The most commonly raised themes of support related to acknowledging the role that new renewable energy developments play in protecting future generations and the environment, whilst meeting the State's immediate energy demands. Those supporting the project also referred to the job-creation and flow-on benefits associated with the project's construction and operational phase. In addition, many submissions expressed encouragement towards the Community Benefit Fund, anticipating the development will provide a boost to the region's economy. Various submissions also praised the continuation of agricultural (sheep grazing, or agrivoltaic) practice that coincides within the solar farm area.

A summary of the most frequently raised matters in submissions supporting the project is provided in Table 4-1.

Table 4-1 Individual community submissions: Support

Theme of Support	Quantity
Renewable energy generation and subsequent environmental benefit	51
Local and regional economic benefits	45
Stance against opposition tactics	32
Continuation of agricultural (sheep grazing) practices within the project site	23
Community Benefit Fund to boost local development initiatives	19
General support for the project	17
Site suitability	17
Beneficial long term implications for the community	4
Additional tree planting efforts to boost local environment	3

4.1.3. Individual community submissions (comment)

Of the 229 individual submissions received, one provided general comment on the proposal raising several points – these were neither in support of nor objecting to the proposal. These comments are provided in Table 4-2.

Table 4-2 Individual community submissions: general comments raised and associated proponent responses

Comment	Proponent Response
Based on the assumption of improving community sustainability, climate change and continuing community demand for power, all levels of government must work to allow the efficient development of solar power generation.	As detailed within Sections 2.3 of this RTS and Section 2 of the EIS, the Federal and State Governments have multiple initiatives for renewable energy. These include: • United Nations Paris Agreement on Climate Change. • National Renewable Energy Plan. • Independent Review into the Future Security of the National Electricity Market (Finkel Report). • NSW Renewable Energy Action Plan. • Climate Change Fund Draft Strategic Plan. • NSW 2021: A Plan to Make NSW Number One. In addition to the above, in March 2020, the NSW State Government also introduced the Net Zero Plan Stage 1: 2020-2030. The aim of the Plan is to set a goal of net zero emissions by 2050 and fast-track emission reduction by 35% over the next decade.

Comment	Proponent Response
	The NSW Government plans to deal with the financial, social and environmental challenges posed by climate change using solutions based on science, innovation and economics.
The proposal will have some negative impacts on visual amenity – all development does. Farming has changed the landscape over the last 150 years. The negative impact is overstated and will not be what is claimed. Any approval must take into account strategies to minimise impact.	As detailed within Section 6.2 of the EIS, strategies have been proposed/adopted to avoid visual impacts. This includes: • Vegetative screening in strategic locations (both on and off-site) to break up views of the proposal. This includes multiple rows and depth of screening, native vegetation of differing heights, timing to ensure success and maintenance and monitoring. • Design requirements such as non-reflective materials, keeping with the materials and colours of the landscape etc. • Dust control. • Rehabilitation of disturbance areas. • Ground cover maintenance. • Restriction of night lighting. Since the exhibition of the EIS, the Proponent has consulted with all affected landowners that may have a visual impact. The following measures have been adopted, and are further explored within the AR: • Removal of the north-eastern array near Billabong Creek. • Increased setbacks for Receivers 24 and 29. • Increased screening width in the vicinity of Receiver 24. • Supplementary planting within Back Creek riparian zone to reduce views for Receivers 17 and 19. • Bilateral agreement with Receiver 14.
The development will have positive long-term impacts on employment and economic activity and will benefit the broader community.	As detailed within the EIS and the Economic Impact Assessment, the community will benefit from 350 full time equivalent (FTE) direct and 560 FTE indirect jobs over the construction period. Once operational, 7 FTE direct and 20 FTE indirect jobs will be supported. A number of these jobs will be sourced from the local community. The total economic benefit of the construction and operation phases of the proposal would equate to around $84.3 million over a 30-year period.
Decisions need to be made on reasonable facts, not the emotional debate.	As part of the approval process, DPIE will complete an assessment post RTS in accordance with Government legislation, policies and guidelines. Their assessment is based on the merits of the proposal, not emotional debate. However, DPIE will consider public submissions, and what the Proponent has done to mitigate concern. As is the case of the proposed Culcairn Solar Farm, the Independent Planning Commission (IPC) is the consent authority. Post DPIE assessment and recommendation, the IPC will conduct its own assessment and determination of a Development Application. Assessment is based on the merits of the proposal, not emotional debate.

Comment	Proponent Response
	In addition, it is acknowledged that any new development has the potential to rouse emotion within the community, and this may be exacerbated by other local stressors such as fire and drought. Taking this into consideration, the Proponent has kept in regular contact with the neighbours, broader community and agencies as part of the post exhibition RTS process to try to identify and mitigate community concern where possible.
Widespread adoption of solar is occurring around the world and needs to be accepted. Governments must step up and make decisions about developments based on the good of the community and meeting expectations.	NSW policies are providing good direction and strong support to developers of renewables and recognise that the transition to non-fossil fuel power generation to alternative fuels is something that must be considered. Across Australia, companies are recognising renewables and adapting their working practices and procurement strategies to reduce their reliance on fossil fuels. In some cases, financial institutions and even insurers are phasing out their work with companies in the fossil fuel sector. A new report by the Climate Council (Climate Council 18) details the increased speed of a business-led transition to renewables as power bills have increased, with almost half of Australia's large businesses' actively transitioning to cheaper renewable energy. Some examples of Australian businesses transitioning to renewables include: • The Melbourne based Carlton and United Breweries. • NextDC. • Nectar Farms. • Tip Top Butchers. • Bakers Maison. • Proten. • Austchilli. • Sun Metals. • Sandfire Resources NL. • Sundrop Farms.

4.1.4. Individual community submissions (objections)

Table 4-3 Individual community submissions (objections): issues (in order of those raised most frequently)

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
1	Land use compatibility, specifically regarding the use of prime agricultural land for the development	EIS Chapter 6.5	• The proposal will take a large amount of highly productive land out of production. • Agricultural capacity will be reduced. • Highly productive land is needed now due to the drought for fodder production. • Less food for the Nation. • Locked up in solar development for at least 30 years. • Area has good yields without any government financial support or additional irrigation. • No reliable plans for rehabilitation.	As detailed within the AIS, only 10% of the development site will be removed from production, with capacity expected to reduce by an estimated 25%. The landowners intend to continue to focus on farming as their primary source of revenue, and co-locating grazing with solar represents a practically feasible option across the life of the development. Therefore, co-locating solar farm with agricultural sheep grazing is a viable way to ensure that farm activity and farm output is not lost, as well as provide both meat and wool to “feed the nation”, with pasture maintained for sheep feed as well as additional benefits such as dust and erosion control. As detailed in Safeguard and Mitigation Measure **LU3**, a Rehabilitation and Decommissioning Management Plan is to be prepared in consultation with NSW Department of Primary Industries and the landowner prior to decommissioning. The Rehabilitation and Decommissioning Management Plan is to include: • Removal of all above ground infrastructure. • Removal of gravel from internal access tracks where required, in consultation with landowner. • Reverse any compaction by mechanical ripping.	127

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				• Indicators and standards to indicate successful rehabilitation of disturbed areas. These indicators and standards should be applied to rehabilitation activities once the solar farm is decommissioned. This plan is to be created during the decommissioning stage of the Proposal, as the needs and the requirements for rehabilitation cannot be determined prior to impact. As such, this plan will be developed and implemented on decommissioning to best suit the conditions and for best outcomes based on a 30-year operational life.	
2	Visual impacts on the surrounding landscape and amenity	EIS Section 6.2 (Visual Impact Assessment)	• Various neighbours will be impacted by the infrastructure development. • The project is of a very large scale. • Industrial nature of the infrastructure is not aligned with the surrounding amenities • Vegetation buffer screening used may be insufficient if immature and single-height plants are selected • Planting tube stock trees are insufficient to screen views • Certain neighbours have multiple kilometres of shared boundary with the project site	As detailed within the Visual Impact Assessment (VIA) (Chapter 6.2 of the EIS), a number of receivers could potentially be impacted visually. Of all the receivers, R14, R33 and R34 were found to be highly affected, R08 and R24 moderately affected, and all other receivers would have a low impact. Post exhibition of the EIS and through ongoing consultation with landowners, it was evident that R19 and R17 would also have a moderate visual impact given that vegetation along Back Creek was mature and did not provide adequate screening. In response to consultation, the Proponent has entered or is in the process of entering into Option Deeds and Construction Disruption Payments with the majority of potentially affected residences (moderate to highly effected). In addition to this, the Proponent has:	75

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• Project will be visible from Morgan's Lookout	• Removed blocks of PV panel arrays on the north-east corner to allow more separation between infrastructure, Receiver R8 and Billabong Creek. • Moved panels east in front of Receiver R24 and R29, creating a larger vegetative buffer and offset. • Increased the buffer width of screening from 15 m to 20 m within the vicinity of Receiver R24. • Discussed the rights to graze purchased sections of the proposal with interested neighbours • Offered additional on and off-site screening to Receiver 19 and 17, to ensure an effective visual screen. Refer to Appendix B.3 for the updated Landscape Plan. As detailed within the VIA, the form of the solar infrastructure, low (generally less than 4 m) and in rectangular arrays, is not incongruous with the existing low-lying rectangular forms in the agricultural area. Dominant views would continue to be grazed and cropped agricultural land. As there is little variation in elevation across the proposal, infrastructure will not be highly visible like other alternatives such as wind farms or subdivision/housing estates. Plant species chosen for the visual screening were chosen based on the existing Plant Community Types (PCT) on site, the General Native Vegetation Profile for the Walla Walla District, specialist input from a local Landscape Architect and known species available from local nurseries. A letter of recommendation for plating regimes	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				also outlines methods for best success (Appendix A). Species selection was/is also proposed to be a mix of heights, with larger evergreen trees dominating the background, medium evergreen trees in the middle, and shrubs and groundcover scattered throughout. It is expected that the mid-stratum shrubs will be fast growing and dispersing, providing effective coverage prior to establishment of the larger evergreen trees. Tube stock have proven to be a better alternative to established or more mature trees for screening for the following reasons: • Tube stock have a faster growth rate. When comparing growth rates, tube stock will quickly outgrow a more mature planted tree and continue to grow at a faster rate. • Tube stock have been tended to less, so are not accustomed to frequent watering or feeding. Therefore, there is greater success with less watering and fertiliser. • Potted plants often fail because their root system has adapted to growth in a pot. Tube stock have better success at rooting than mature trees. • Tube stock are available at larger quantities than mature trees. As such, a wider variety of species and more trees will be available for planting. • Mature plantings lead to higher plant loss. As shown in Appendix 0, there is a minimal view of the Proposal from Morgan's Lookout. The colour and layout of	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				the proposal is not incongruous/dissimilar to the current views of agricultural paddocks, and blend with the existing landscape. The views of the solar farm infrastructure would be difficult to perceive or indistinct.	
3	Fire risk from the electrical equipment	EIS Chapter 7.4	• Site is within bushfire prone lands • Development will increase potential ignition points • Fire services accessing site may be difficult if internal fire occurs • Some members of local volunteer RFS have expressed concern of entering site in the event of a fire	As part of construction and operations, local firefighting services (NSWRFS and FRNSW) require input to the development and implementation of a Fire Management and Emergency Response Plan (FMERP) and Fire Safety Study (FSS) prior to construction. Through this consultation, access to the site and firefighting measures will be confirmed as appropriate. Accordingly, mitigation measures **HA1**, **HA7** and **HA8** in the EIS commits to development of this FMERP. An additional mitigation measure **HA10** is provided in Section 5 to commit to a FSS as required**.** The proposal has been designed with the appropriate emergency protocols, defendable setbacks (asset protection zones) and adequate access, as detailed within the *NSW Planning for Bushfire Protection Guidelines 2019*. The Proponent invited local member of the NSWRFS and FRNSW to visit an operation solar farm in Numurkah, Victoria. Access to the site, layout, vegetation management, grazing, internal road and firebreak and protocol were all discussed. Any concern for accessing the site during a fire event was resolved, with agreement that a containment strategy with the Site Manager would be planned prior to entering the site. These details will form	68

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				part of and be included in the final FMERP and FSS. A copy of the meeting minutes is included in Appendix A. Solar panels are non-reflective and do not present a risk of ignition from concentrated solar energy. Ignition from other PV equipment is possible from electrical faults, short circuit, arc faults, ground faults and reverse currents. These standard issues are however picked up during the testing phases prior to commission on the solar farm. In addition to this: • All electrical components are required to be manufactured in material that does not allow self-combustion and ignition and should self-extinguish. • The electrical equipment is fitted with over current protection devices and isolation switches along with earth leakage protection devices. • The Battery Energy Storage System (BESS) will be designed with proper disconnects, relays, thermal management, enclosures, layout, monitoring and controls to mitigate the fire risk. • Ground cover will also be maintained, through grazing and mechanical means (such as slashing) to reduce fuel load and potential for ignition. • The solar farm is monitored 24 hours a day, by both maintenance staff and CCTV cameras. The following mitigation measures form a commitment of the proposal, to ensure little risk of electrical fault:	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				• **HA4**: All design and engineering would be undertaken by qualified competent persons with the support of specialists as required. • **HA5**: All electrical equipment would be designed in accordance with relevant codes and industry best practice standards in Australia. Refer to Section 5 below for further detail on the mitigation measures.	
4	Supply chain impact to agricultural sector		• Land has contributed relatively strong yield during recent drought periods, with removal threatening a struggling sector. • Impact to local economy has been underestimated by the proponent. • Vertical supply chain suffers flow-on impacts on both employment and food-availability. • Proponent overly focuses on short-term employment opportunities, with community risking long-term net reduction in employment and benefits.	As detailed above and within the AIS, only 10% of the development site will be removed from production, The landowners intend to continue to focus on farming as their primary source of revenue, and co-locating grazing with solar represents a practically feasible option across the life of the development. Therefore, co-locating solar farm with agricultural sheep grazing is a viable way to ensure that farm activity and farm output is not lost (or removed), as well as provide both meat and wool to "feed the nation", with pasture maintained for sheep feed as well as additional benefits such as dust and erosion control. As detailed within the AIS, the post-development sheep enterprise will generate upstream and downstream benefits at an estimated 25% reduced productivity. All current and potential cropping activities on the land will cease post-development. However, such changes in land use are typical of what happens across the broader farming region, with cropping land being converted to livestock production and vice versa with seasons, market and other forces.	56

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				The landowners will receive rent, which is another source of business income. A significant portion of this rental income could be expected to be re-invested in supporting the productive capacity of the businesses' remaining agricultural enterprises. In addition, a transition from regular production to solar, some service industries will benefit. For instance, fending and civil contractors are likely to experience higher demand for that site than would have been the case, while agronomic and spray and seeding contractors may only experience a marginal downturn, if at all. Businesses relating to grain production will however be affected. As detailed within the AIS, the current agricultural enterprise provides employment for two full time equivalent (FTE) employees, plus some casual employees at peak times. The proposed sheep grazing enterprise is estimated to require 1.5 FTE employees throughout the operational period of the Proposal. The Economic Assessment (Appendix O of the EIS) notes there would be 7 FTE direct and 20 FTE indirect jobs created throughout the operational period of the Proposal. 4 of these indirect jobs are expected to be generated by the proposal within the Greater Hume Shire. As such, it can be expected that the current employment requirements in the area will increase from 2 FTE jobs, to 8.5 FTE direct jobs during the operational phase of the Proposal, with additional flow on benefits to the community.	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
5	An alternative arid location for the project should be considered	EIS Chapter 2.4 and 2.5	• Seek development location on land that is not used for agricultural purposes • Site selection has been driven by proximity to transmission line and in turn profit motives of private company • AEMO's Integrated System Plan report should guide site selection, with Greater Hume Shire not identified as a 'Renewable Energy Zone'.	As detailed within the AEMO Power System Limitations in North Western Victoria and South Western New South Wales Report (AEMO 2019), the Western Murray area is remote and considered "electrically weak" as part of the National Energy Market (NEM). Transmission infrastructure in these areas are insufficient to allow access to all the generation that is seeking to connect. The Australian Energy Market Operator (AEMO) says the scale and pace of solar and wind generators being connected in remote areas of the national grid, such as the Western Murray area, is "presenting unprecedented technical issues" affecting the grid's performance and operational stability. The only practical location that large-scale solar farms can be located is within a non-urban area (i.e. agricultural land), where transmission infrastructure is location to support it. The Culcairn Solar Farm's connection point is considered one of the best connection locations in NSW. This is due to the 'strong' network stability offered by the existing 330 kV transmission line that passes through the project site, with ideal access to large customers in both VIC and NSW energy markets. This is contrast to many regions in the National Electricity Market, with 'weak' connection points that are stalling investment and development plans, due to an inability to export power to consumers and other 'weak' network stability characteristics (AEMO 2019).	53

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				AEMO's draft Integrated System Plan 2020 (AEMO 2020) identifies the proposed site at Culcairn to be within a Category 1 Strategic Renewable Energy Zone (REZ) (N7). This is due to the strong, high voltage connection point the 330 kV transmission line offers. AEMO has identified this transmission corridor to be of strategic importance, with an ability for generators to export power to both NSW and VIC consumers. To realise the opportunity of AEMO's REZ N7, the NSW transmission network service provider TransGrid is developing investment plans to reinforce the high voltage transmission corridor from Wagga Wagga to Bannaby. TransGrid's proposed transmission investment, Hume Link, aims to expand the transmission export capabilities of NSW, unlocking the full capacity of projects of national interest such as the Federal Government's Snowy Hydro Scheme. In doing so, this new corridor from Wagga Wagga to the east coast of NSW will increase Culcairn Solar Farm's ability to deliver energy to NSW consumers. In addition to the above, it is important to note that agricultural capacity is not lost or removed as a result of the proposed solar farm. Current cropping enterprises are proposed to be replaced with sheep-grazing, co-locating stock with the solar farm. This is a viable way to ensure that farming activity and output is not lost.	
6	Unmet expectations and continuity of	EIS Chapter 5	• Long time lapse between the proponent responding to questions from neighbours	It is acknowledged that any new land development has the potential to divide and estrange members of the community and generate a level of anxiety, that may be	51

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
	community engagement by the proponent, particularly in respect to the neighbours.		• Anxieties amongst neighbours and community have created divisions within town	exacerbated by other local stressors such as drought and fires. The time lapse between responding to questions from neighbours resulted from a combination of factors: • Immaturity of the project – a definitive answer was not available at the time of questioning. • Changes to layout and project plans – based on queries and concerns from neighbours and the community. • Responses in differing forums – partial responses provided to the public via the project website. Furthermore, at the onset of the 2019-2020 fire season and with the end-of-year holiday season approaching at the time of EIS submission, the Proponent made a concerted effort to ensure that any correspondence would not lead to further anxieties within the community. This was reflected by requesting the Public Exhibition period be delayed to end-January to ensure this did not present additional distractions for the community. The Proponent conducted stakeholder engagement before, during and after the preparation of the DA and EIS, as detailed extensively in Chapter 5 of the EIS. The proponent has taken extensive steps to involve the local community and neighbouring landholders and to obtain feedback on the project and areas of concern. Evidence of this engagement is provided in Section 3.2 of	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				this report and has also contributed to the various amendments proposed in this RTS. Prior to key milestones associated with the submission of the EIS and Public exhibition, the Proponent ensured the community was informed via formal and informal correspondence, such as the Community Information Booklet, advertisements in local print media and 'how to lodge a submission' guides that were circulated before and during the Public Exhibition period. Direct lines of communication were also made available to a number of neighbouring landholders and interested community members to get in touch with members of the project team. This also included various open lines of communication that were established by the proponent, including: • Culcairn Solar Farm website https://culcairnsolarfarm.com.au/ • Culcairn Solar Farm email address (contact@culcairnsolarfarm.com.au) • Neoen Community Engagement Officer.	
7	Local environment to be impacted	• EIS Chapter 6.7	• Species of frogs and other migratory species to be impacted. • Wildlife will have difficulty crossing project boundary and fence line.	At its closest point, the development footprint is located 60m from Billabong Creek and 150m from Back Creek. The closest solar infrastructure on both creeks is also located more than 100m away. The smaller tributaries to these creeks have also been avoided, with minimum 20m buffers observed as required	32

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• Threat of chemicals draining into waterbodies, such as Billabong and Back Creek. • Billabong Creek is a passageway and habitat for various species.	by the *Guidelines for Controlled Activities on Waterfront Land 2018.* As there is no impediment to the flow of either creeks or ephemeral tributaries and no clearing of riparian vegetation, there is little risk to passageway and habitat for various aquatic and migratory species. As can be seen from the updated layout map in Appendix B.1, security fences will only be placed around blocks of solar infrastructure. The boundary of the site will remain fenced by basic stock fencing (where not replaced by security fencing), with linear strips of vegetation (such as drainage lines and former crown roads) remaining unfenced. Vegetation in these areas will either be retained in its current state or enhanced through supplementary plantings (as indicated in Figure 3-1), fencing, weed control and/or pest control. This will facilitate movement of wildlife through the site. As such, wildlife will not have difficulty crossing the project boundary. As detailed within the EIS, the use of fuels and other chemicals on site pose a minor risk of surface water contamination in the event of a spill. Chemicals used onsite would include fuels, lubricants and herbicides, none of which are considered difficult to manage. Detention ponds, if required to manage surface water during construction and operation, would be detailed in the design phase, specific to the array layout There would be a low risk of contamination in the event of a chemical spill (fuels, lubricants, herbicides etc.) as	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				storage and emergency handling protocols would be implemented. Operationally as detailed below in Point 15, solar panels contain a mix of metal components, which are enclosed in glass and as such the component parts are not able to mix with air or water in the atmosphere. Therefore, there is little if any risk of chemical release from a solar panel. The following mitigation measures form a commitment of the proposal, to ensure little risk of contaminants entering any waterway: • **BD13**: Sediment barriers and spill management procedures to control the quality of water runoff released from the site into receiving environment. • **WA1**: Staff training for minimisation and management of spills. • **WA2**: All fuels, chemicals and liquids stored at least 50m from any waterway or drainage line in impervious bunded areas. • **WA3**: Adequate incident management procedures incorporated into Management Plans. • **WA4**: Refuelling of plant and maintenance undertaken in impervious bunded areas. • **WA5**: Machinery checked daily to ensure no leaks. Refer to Section 5 below for further detail on the mitigation measures.	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
8	Removal of vegetation and mature trees	• EIS Chapter 6.8	• 99 paddock trees require removal • 71 hollow bearing trees will also be disturbed and removed by the development	As detailed above in Section **Error! Reference source not found.** and the Amendment Report, the layout of the proposal has been reconfigured to reduce the overall impact of the proposal. This includes the reduction of clearing from 99 paddock trees to 77, 58 of which are hollow bearing. The original BDAR presented an area of 0.61 ha of vegetation to also be removed. Refinements made to the development has reduced this clearing to 0.37 ha of vegetation. The development has avoided the removal of vegetation where practicable including the exclusion of approximately 70 ha of native vegetation within the development site. Mitigation measures to further avoid indirect impacts to retained vegetation include: • **BD17** Supplementary plantings (see Figure 3-1). • **BD18** Rehabilitation Plan. The following mitigation measures already form a commitment of the proposal: • **BD1**: Biodiversity Management Plan. • **BD2**: Timing of works to avoid critical life cycle or nursing events. • **BD3**: Implement tree-clearing protocols. • **BD4**: Relocation of habitat features and tree-clearing procedure. • **BD5**: Clearing protocols.	33

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				Refer to Section 5 below for further detail on the mitigation measures.	
9	Weed management	EIS Chapters 6.5 and 6.8	• Weeds may grow throughout site and spread to neighbouring properties • Noxious weeds may grow, impacting on plans to graze sheep within the project site	The proposal would result in the increased movement of vehicles and people to the development site during the construction and decommissioning phases. The primary risk to biosecurity is the spread of weeds that may result from the increased movement of vehicles in and out of the development site. Weed seeds can be transported through and from the development site on the tyres and undercarriages of vehicles and on the clothing of staff. The risk of weed dispersal would primarily be mitigated by the establishment and use of formed access tracks. Strategic sheep grazing has been proven to reduce vegetation biomass and put grazing pressure on weeds adjacent to the solar panels. However, many residences from the community have raised concerns over Silverleaf Nightshade (*Solanum elaeagnifolium*) on site. As with any noxious weeds on site, the Proponent as a land manager must comply with the general biosecurity duties under the *Biosecurity Act 2015* through management of on-site weeds and pests. Prior to commencement of each phase, a Weed Management Procedure would be developed as part of the Biodiversity Management Plan for the proposal to prevent and minimise the spread of weeds. This would include a management protocol for declared priority weeds under the *Biosecurity Act 2015* (including Silverleaf Nightshade) during construction, operation and	30

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				decommissioning stages, and weed hygiene protocol in relation to plant, machinery, and fill. Based on the above, the following mitigation measures are provided in the EIS: • **VA1** - Pruning and weeding would be undertaken as required to maintain the screen's visual amenity and effectiveness in breaking up views. • **LU4** - A Pest and Weed Management Plan would be prepared to manage the occurrence of noxious weeds and pest species across the site during construction and operation. The plans must be prepared in accordance with Greater Hume Shire Council and NSW DPI requirements. Where possible integrate weed and pest management with adjoining landowners. • **LU8** - If possible and practical, managed sheep grazing would be used as a preferred option to control weeds and grass growth, and to maintain agricultural production at the site. • **BD10** - Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas. This will be incorporated into the Pest and Weed Management Plan. • **BD12** - Preparation of a Vegetation Management Plan to regulate activity in vegetation: ○ Weed management. Refer to Section 5 below for further detail on the mitigation measures.	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
10	Potential for Heat Island Effects on neighbouring crops and residencies	EIS Chapter 7.1 and AIS	• Studies based on Australian context for very large utility scale solar farms have not been undertaken • Airflows in the immediate area may change and impact on agricultural production	Several studies have shown that PV panels convert incident solar radiation into heat which can alter the airflow and temperature profiles within and adjacent to the panels. Barron-Gafford (2016) in his Statement of Evidence (SoE) to the Victorian Planning Panel included results on the radius of measured heat effects. This identified that the heating effect was indistinguishable from air temperatures over native vegetation when measured at a distance of 30 m from the edge of the PV array. In conclusion of the Victorian Planning Panel Report (Panel Report 2018), the panel accepted that solar arrays will affect air and soil temperatures within the solar array perimeter, and that in relation to outside of the solar array perimeter a heat island effect is unlikely to occur. It identified that any temperature increase within the solar array will be marginal and recommended a 30 m setback from any neighbouring property boundary. The Culcairn Solar Farm Proposal adheres to the Victorian Planning Panel Report recommendation, with a minimum 30 m setback from the edge of the closest panel to the neighbouring property boundary. This will reduce any impacts on adjacent agricultural production. A literature review by WSP of multiple studies around the world, including one in Australia, found the following patterns in findings: • Temperatures return to ambient several metres above a solar farm.	29

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				• Temperature gradually returns to ambient with distance away from the solar farm. • . In addition, the heat island effect was a concept originally associated with urbanised cities and towns with the prevalence of concrete and other heat retaining surfaces. Multiple studies around the world on the heat effect, including the WSP study, have concluded that vegetation screening is very effective in reducing impacts: • Trees that have a high leaf area density and a high rate of transpiration are the most effective at cooling the environment. • The cooling effect of parks and vegetated areas is determined by species group, canopy cover, size and shape of the vegetated area. • Temperatures decrease with every percentage increase in tree canopy cover.	
11	Impacts on local businesses, particularly those located in close proximity to the site	EIS Chapters 6.4 and 6.5	• Flow on effects to local agricultural businesses are overlooked and will be negatively impacted • External workforce will be used to staff majority of construction/operation roles • Local businesses have been overlooked in the EIS (fuel stations, bank, doctor and	As detailed above and within the AIS, the current agricultural enterprise provides employment for two full time equivalent (FTE) employees, plus some casual employees at peak times. The proposed sheep grazing enterprise is estimated to require 1.5 FTE employees throughout the operational period of the Proposal. The Economic Assessment (Appendix O of the EIS) notes there would be 7 FTE direct and 20 FTE indirect jobs created throughout the operational period of the Proposal. 4 of these indirect jobs are expected to be generated by the proposal within the Greater Hume Shire.	27

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			medical facilities, automotive services, engineering services) • Majority of accommodation will use facilities in Albury / Wagga Wagga, with little benefit to local community	As such, it can be expected that the current employment requirements in the area will increase from 2 FTE jobs, to 8.5 FTE jobs during the operational phase of the Proposal, with additional flow on benefits to the community. Refer to Section 6.4.2 of the EIS. While the construction period will be an additional income stream independent of agriculture, operational income with be co-dependant as the Proponent and current landowners' intent to continue grazing sheep. As detailed within the AIS, the post-development sheep enterprise will generate upstream and downstream benefits at an estimated 25% reduced productivity. The landowners will receive rent. A significant portion of this rental income could be expected to be re-invested in supporting the productive capacity of the businesses' remaining agricultural enterprises. In addition, a transition from regular production to solar, some service industries will benefit. For instance, fencing and civil contractors are likely to experience higher demand for that site than would have been the case, while agronomic and spray and seeding contractors may only experience a marginal downturn, if at all. The Proponent has committed to engage with local accommodation providers and Greater Hume Shire Council to provide additional short term and temporary accommodation at these businesses for the construction period. This will ensure the majority of workforce requiring	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions

				accommodation will be housed within the Greater Hume Shire.
				The above has been reflected in the mitigation measures provided in the EIS:
				• **SE1** - A Neoen Community Relations Plan and Local Participation Plan would be implemented during construction to manage impacts to community stakeholders, including but not limited to:
				  ○ Protocols to keep the community updated about the progress of the project and project benefits.
				  ○ Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc.).
				  ○ Protocols to respond to any complaints received.
				  ○ Foster participation and maximise community involvement and employment.
				• **SE2** - Liaison with local industry representatives to maximise the use of local contractors, manufacturing facilities, materials.
				• **SE3 -** Liaison with local representatives regarding accommodation options for staff, to minimise adverse impacts on local services.
				• **SE4 -** Liaison with local tourism industry and council representatives to manage potential timing	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				conflicts or cooperation opportunities with local events.	
12	Noise will impact surrounding neighbours	• EIS Chapter 6.3 • AR Chapter 1.4	• Construction noise (traffic, pile driving) will impact neighbours. • Livestock may be deafened by pile driving. • Electrical power noises during operation will occur 24/7, impacting sleep of neighbours	It is expected that a number of receivers will be temporarily impacted by noise throughout the construction period of the proposal. Exceedances of the background noise level is expected to be moderate, with no residences being highly noise affected. An updated noise assessment was calculated, given the updated layout (Appendix D of AR). The calculations were based on distance to receiver, and infrastructure operating at full output. This represents an unlikely worst-case scenario, with all infrastructure operating at maximum output at all times. It was determined that there would be zero operational noise exceedances. It is also important to note that the solar farm is only operation during the evenings in summer (daylight savings hours of approximately 6pm to 8pm), and not at all of a night time. As such, there would be no sleep disturbance to any neighbours from electrical activity. A suite of mitigation measures are detailed within Section 6.3.10 of the EIS, to reduce overall impact to receivers and livestock: • **NS1**: Works undertaken during standard working hours. • **NS2**: A Construction Noise and Vibration Management Plan prepared. • **NS3**: Operate plant in a conservative manner.	25

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				• **NS4**: Consult with affected neighbours during all stages of construction. • **NS5**: Regular inspection of equipment. • **NS6**: One-off noise validation assessment. • **NS7**: Where noise-level exceedances can't be avoided, restrict times of construction of periods of repose. • **NS8**: Notify residences within 300m of any operational maintenance works. Refer to Section 5 below for further detail on the mitigation measures.	
13	Increased traffic poses a hazard and will damage roads	EIS Chapter 6.6	• Increased volume of traffic heightens risks associated with road transport and crossings. • Shifting machinery and stock along road and between properties will be complex and unmanageable • Council will bear costs of upgrading and maintaining roads, with flow-on impacts to rate payers	Increases in traffic volume are expected during the construction phase of 16 to 18 months, with access to the site generally confined to standard construction working hours. To reduce any risks associated with construction traffic, the proponent has committed to the following mitigation measures: • **TT1**: A Haulage Plan developed and implemented during construction and decommissioning to assess routes to minimise impact on transport infrastructure, schedule deliveries to minimise safety risk and detail traffic controls. • **TT2**: A Traffic Management Plan developed and implemented during construction and decommissioning to assess and existing road condition and monitor, repair program,	25

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				carpooling/shuttle, scheduling of activities, community consultation, traffic controls etc. As detailed within **TT1**, community consultation regarding traffic impacts for nearby residences and providing a contact to enable issues to be identified is a requirement. However, these commitments have been strengthened and reinforced to consider movement of stock and machinery as part of the consultation process to ensure no impact. The requirements of repairing and maintaining road damage as a result of project traffic and wearing the cost of upgrade and repair forms part of a current commitment of the project as Safeguard and Mitigation Measures **TT5** and **TT6**. As such, there is no cost to Council or ratepayers.	
14	Uncertainty over long term benefits to the community	• EIS Chapter 6.5	• Majority of employment opportunities are available only during construction • Short-term construction opportunities will disrupt established agricultural jobs that are proven to contribute long term to the community • The long-term continuity of the proponent is questionable when considering 30-year project life, particularly as a foreign entity	While the majority of jobs created will be during the construction phase, the operation of the Proposal is expected to create an additional 4 full time equivalent indirect jobs on top of the 7 full-time direct jobs within the region. Up to an additional 16 jobs could be created outside of the region. These are expected to be a mix of agricultural jobs and solar management/maintenance jobs, and will include fencing, weed and pasture control, sheep management, agronomist services etc. This additional 4 full time jobs are expected to inject an additional $160,000 per year into the local economy. The Proponent has also committed to a Community Benefit Fund. The total direct community benefit-sharing	20

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• Long term disruption to neighbours and the community is not compensated beyond the initial phase of construction • Lack of evidence in returning land to original agricultural use following project lifetime	sum totals $10 million over the lifetime of the project, which is split into: • Construction Disruption Payments for neighbours. • Community Benefit Fund. • Voluntary Planning Agreement. Neoen are also a long-term owner and operator of all their renewable energy assets. As such, Neoen make the effort to maximise the long term economic and employment opportunities, and seek to develop and nurture local procurement initiatives, partnerships, and community relationships to ensure a long-term collaboration with the community. As detailed above in Point 1 and in Safeguard and Mitigation Measure **LU3**, a Rehabilitation and Decommissioning Management Plan is to be prepared in consultation with NSW Department of Primary Industries and the landowner prior to decommissioning. The rehabilitation plan must include indicators and standards to indicate successful rehabilitation of disturbed areas. These indicators and standards should be applied to rehabilitation activities once the solar farm is decommissioned. This is to ensure that the development footprint is restored to its pre-existing productive capacity for agricultural land use.	
15	Chemicals from solar and battery	• EIS Chapter 3.5.3	• Natural disasters may damage infrastructure. • Chemicals such as cadmium telluride, lead and others present	Solar panels contain a mix of metal components, which are enclosed in glass and as such the component parts are not able to mix with air or water in the atmosphere.	20

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
	modules create health risks		in cells present risk of leaching into local environment. • Chemicals from panels and batteries will wash into creeks and neighbouring properties. • Size of solar and battery facilities present a significant risk.	Therefore, there is little if any risk of chemical release from a solar panel. Typically, PV panels are made of tempered glass, which is tested and ensured to withstand all inclement weather, including large hail stones. Neoen does not intend to use thin-film solar panels, often made from cadmium telluride. In addition to this, the solar farm is regularly monitored for damage and general maintenance. Any panels that are subject to damage will quickly be repaired or replaced, thus reducing any potential leaching risk. A study on the potential for leaching of heavy metals and metalloids from crystalline silicon PV systems from the Journal of Natural Resources and Development (Robinson, S. Meindl, G. 2019) was conducted to determine whether potentially toxic elements could have the potential to leach into the surrounding environment. Soils were analysed from beneath panels against a control site, away from panels. This was done to determine if soils were being enriched by metals such as lead, cadmium, lithium, strontium etc. and metalloids such as selenium. The results of the findings concluded that there were no significant differences in lead or cadmium levels, with only minor concentration differences in other metals between soil samples under PV panels and the control sample. Despite the minor concentration differences, there would be no risk to nearby ecosystems (thereby no risk to residences) or to current (proposed) or future farming activity.	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				As detailed in Section 3.5.3 of the EIS, the BESS facility will be comprised of sealed lithium-ion batteries house in a secure, climate-controlled units. Each unit is constructed on a concrete hardstand, and self-bunded. As such, there is little risk of leaching of batteries. The BESS will also be located in the centre of the subject land, away from any creek, drainage line or area of inundation.	
16	Flood risks from proximity to Billabong and Back Creek	• EIS Chapter 6.7 and 7.3 and Soil Impact Assessment	• Solar infrastructure will change the water table • Flooding and proximity to existing creek. • Runoff from project site will create erosion	Erosion potential was also determined by the Soil Assessment conducted by DM McMahon. Through a series of soil tests, it was determined that the risk of erosion on-site due to construction activities is considered low due to the low relief and generally low salinity and sodicity of topsoils and subsoils. The Assessment concludes excavation of soils should be limited where possible, and excavated subsoil stockpiled and contained to avoid potential dispersion. Groundcover should also be maintained to reduce erosion and sedimentation risk. The project has committed to preparing a Groundcover Management Plan written in consultation with a soil scientist and agronomist. The maintenance of groundcover forms part of a current commitment of the project as Safeguard and Mitigation Measure **SO2**. The following mitigation measures to reduce erosion across the site are also a current commitment of the project:	20

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				• **WA6**: Erosion and sediment control measures must be in accordance with Managing Urban Stormwater: Soils and Construction (Landcom 2004). • **BD1**: An Erosion and Sediment Control Plan to be prepared and approved by the relevant authority. • **BD13**: Sediment barriers implemented to control quality of water runoff released from the site into the receiving environment. • **SO1**: A Soil and Water Management Plan and Erosion and Sediment Control Plan prepared and implemented. • **SO8**: Best management practice should be employed where applicable to reduce the risk of erosion.	
17	Decommissioning and waste management of infrastructure	• EIS Chapter 7.5	• >1,000,000 solar panels to end up in landfill. • Some sub-surface infrastructure will remain 'in-situ' post-decommissioning and impact on land returning to prior agricultural usage.	As detailed within Chapter 7.5 of the EIS, Solar panels are manufactured using few components; predominantly aluminium, glass and silicon, and over 90% of a panel's weight can be recycled. These materials can be separated and captured, for reuse in the manufacture of other products. The Proponent is committed to its Project Custodian responsibilities across the life of the asset and will do so with an Australian company, such as Reclaim PV Recycling. Companies such as Reclaim PV offer partnership solutions for solar waste management / resource recovery. The Proponent's procurement	20

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				initiatives will include reverse-logistics and recycling of PV modules, inverters and batteries. Items that cannot be recycled or reused would be disposed of in accordance with applicable regulations and to appropriate. Safeguard and mitigation measure **LU7** states that underground cabling and other works to remain in situ following decommissioning of the solar farm would be installed deeper than 500 mm to allow cultivated cropping to resume following decommissioning ***or*** removed as necessary to allow restoration of land capability to pre-existing agriculture. As such, all underground infrastructure will be removed if deemed necessary by the landowner.	
18	Dust impact to community	• EIS Chapter 7.3 and 7.1	• Construction activities will spread dust to neighbouring properties. • Dust will impact health of livestock. • Dust impacts plants and crops growth (herbicide efficacy and photosynthesis). • Dust mitigation will require large amounts of water for suppression. • Heavy vehicles used during construction.	Strong commitments are part of the project to monitor and manage sustained ground cover beneath the panel modules during operation. This commitment is expected to reduce dust generation, in comparison to existing agricultural operations, particularly in dry or drought conditions. The requirements of a Groundcover Management Plan developed in consultation with a soil scientist and agronomist form part of a current commitment of the project as Safeguard and Mitigation Measure **SO2**, with a commitment to maintain 70% groundcover over the life of the proposal.	16

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• High number of vehicles used during construction.	Section 7.1 of the EIA also notes that 'Dust generation would accompany excavation and other earthworks as well as the movement of trucks and work vehicles along the unsealed access road during construction and decommissioning of the proposed solar farm. Dust generation would also occur during the upgrade of Weeamera Road. Earthworks associated with construction and decommissioning are relatively minor and not likely to cause significant dust or emissions. The construction of the solar arrays uses a piling machine which is designed to reduce soil disturbance and corresponding dust pollution.' Reduction of dust-causing agricultural activities will also temporarily cease over the development area (such as canola and wheat harvesting), with groundcover maintained to reduce erosion and dust. As such, overall dust creation on the subject land will decrease. Practical and demonstrated deliverable mitigation measures have been proposed. The requirement of an Adaptive Dust Monitoring Program is a current commitment of the project as Safeguard and Mitigation Measure **BD8**, while controlling dust in response to visual cues is a current commitment of the project as Safeguard and Mitigation Measure **VA4** and **AQ3**. **LU6** also details the requirement for construction and operations personnel to drive carefully and below the designated speed limit according to the Traffic Management Plan to minimise dust generation and disturbance to livestock.	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				Section 3.6.3 of the EIS states approximately 62 ML of water would be required during construction, mostly for dust suppression, but also for cleaning, concreting, onsite amenities and landscaping. The bulk of this water would be commercially available from the Greater Hume Shire Council standpipe and/or the nearby Boral Quarry, and stored on-site in a steel or concrete tank. The Construction Disruption Payment was developed by Neoen in response to community concerns relating to the impact of dust, noise and traffic during the construction period. It was also proposed as a result of lessons learnt from previous projects, and feedback from neighbours living adjacent to the site & the construction traffic route. The one-off payment of $15,000 will be made at the start of construction to enable the residents to mitigate and address these construction-related impacts in whatever way they feel appropriate to their circumstances– for example through house cleaning or additional glazing. This is a new initiative, and Neoen understands it to be a first in the solar industry. It will be monitored and reviewed to understand whether it is effective in addressing these concerns and mitigating construction related impacts for adjacent neighbours.	
19	Cumulative impacts from other solar projects	• EIS Chapter 7.6	• Three additional solar projects are proposed within the Greater Hume Shire, includes: • Walla Walla (300 MWac).	It is acknowledged that there is potential that the possible concurrent construction of the proposal with other SSD or local development would increase pressures on local	15

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• Jindera (120 MWac). • Glenellen (200 MWac). • Neighbours to projects southern boundary submitted concern of being surrounded by Culcairn and Walla Walla solar farms.	community services including accommodation, biodiversity, agriculture and traffic. However, there is also a potential for positive cumulative economic effects from the construction of multiple developments in the area: • Socio-economic benefit in relation to developments in the region will be a continuous ongoing benefit for the community with increased jobs and economic input into local business. • Road upgrades. • Diversifying income streams and agricultural opportunities. • Offsetting through the BAM. Neoen have also committed to a number of mitigation measures to reduce cumulative impact: • Local Participation Plan. • Potential Option Deeds. • Construction Disruption Payments for neighbours. • Community Benefit Fund. • Voluntary Planning Agreement. Depending on other project approvals and timelines, the Proponent would reconsider the cumulative impacts on hosts and neighbours. In particular, if the Walla Walla Solar Farm were to proceeds, the Proponent would look at options to ensure allocation of the Community Benefits Fund for the first year.	

20	Land values will be reduced	• EIS Chapter 6.4	• Concerns that land values will be reduced in proximity to site. • Recent increases to land values within Greater Hume Shire may cease. • Recent droughts and relatively consistent rains within Greater Hume Shire boost land values.	No land value study has been undertaken specific to solar plant development in Australia or specific to the Culcairn Solar Farm proposal. Existing studies in relation to wind farms (which are usually larger renewable energy developments, with taller structures which are generally more visually intrusive on the landscape than a solar plant, but which have the same reversible impacts on agricultural productivity after decommissioning), have found no conclusive evidence to support the claim that wind farms devalue nearby property on the basis of visual impacts (e.g. refer Henderson & Horning Pty Ltd 2006 *Land Value Impact of Wind Farm Development – Crookwell New South Wales* and *OEH 2016 Review of the Impact of Wind Farms on Property Values*). It is acknowledged however, that renewable energy can be a polarising and subjective issue, and this may affect decisions made by individuals to purchase property. The key economic drivers of land value around the proposal is currently agriculture. The proposal will not diminish the key drivers in that the land's agricultural capacity will not be removed and the proposal will not affect adjacent agricultural operations. Construction impacts that may affect amenity for near neighbours will be temporary and mostly confined to peak construction period of 12 to 18 months. Considering operational impacts, additional screening is proposed for the development site, obscuring views of the proposal. The proponent has also been able to achieve zero noise exceedances for all residents surrounding the proposal during normal operations of the proposal. In this	13

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				way, the key impacts on any nearby lifestyle blocks have been assessed and are considered manageable. As detailed within the EIS, during decommissioning, all above and below ground infrastructure and materials would be removed from the site as required. The proposal is considered highly reversible in its ability to return to the pre-existing land use or alternative land use. As such, all amenity impacts would also be reversed at the completion of this stage.	
21	Lack of evidence regarding sheep grazing practices within solar farms		• Carrying capacity potential for sheep within the solar farm is contentious. • Sheep may be injured due to confined spaces amongst solar tracking systems. • Weeds may grow within the project site which will impede sheep grazing and be toxic. • If insufficient vegetation grows within site, sheep will require feedstock and only economic to the company for short periods.	There are many examples of successful operating solar farms that co-locate solar panels with sheep grazing practices worldwide. Neoen have an excellent track record of maintaining groundcover and co-locating sheep for grazing in solar infrastructure, as evident through their current practices at Dubbo, Parkes and Numurkah Solar Farms. The response from the Department of Primary Industries indicates that sheep-grazing is also supported and has been undertaken successfully on a number of solar farms across the State. The AIS noted that the site will continue their previous practice of stocking the site with Merino ethers (or weaner ewes). These are preferable to other breeds due to their temperament and non-wool shedding nature. This option reduces potential damage caused to infrastructure, and therefore decreases any potential risk of injury. As detailed above, strategic sheep grazing has been proven to reduce vegetation biomass and put grazing	13

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				pressure on weeds adjacent to the solar panels. However, many residences from the community have raised concerns over Silverleaf Nightshade (*Solanum elaeagnifolium*) on site (which can be toxic to sheep). As with any noxious weeds on site, the Proponent as a land manager must comply with the general biosecurity duties under the *Biosecurity Act 2015* through management of on-site weeds and pests. Prior to commencement of each phase, a Weed Management Procedure would be developed as part of the Biodiversity Management Plan for the proposal to prevent and minimise the spread of weeds. This would include a management protocol for declared priority weeds under the *Biosecurity Act 2015* (including Silverleaf Nightshade) during construction, operation and decommissioning stages, and weed hygiene protocol in relation to plant, machinery, and fill. Sheep grazing activities on Neoen operating solar farms in NSW and Victoria were also recently assessed by an independent grazier expert: "*No change to the grazing productivity potential is expected…compared to as if the land did not host panels. This is explained by the fact that climate conditions are identical except that concentrated water occurs along the edges of the trackers with the potential of allowing for concentrated feed growth. "* – Phil Graham, Livestock Specialist	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
22	Neighbours are impacted by development's fence line and visual intrusion	• EIS Chapter	• Proximity of neighbours to the project development. • Setbacks are insufficient and inappropriate for an infrastructure project of this size. • Fence shares boundary with some neighbours for multiple kilometres. • One residency is situated on a hill in proximity to the project, with a vantage point looking down on the infrastructure. • Vegetation buffer screening will be insufficient if only immature tube stock is planted.	The closest occupied residences to the site are Receivers R14 and R29, which are both located more than 300 m away from proposed solar infrastructure. Screening has been proposed as a mitigation measure, to reduce the view of the proposal for sensitive receivers (Section 6.2.9 of the EIS). As a minimum, screening would be 15 m wide and planted on the outer perimeter of the security fence to also break up the view of the fence. As detailed above, the plant species chosen for the visual screening based on specialist input from a local Landscape Architect and known species available from local nurseries. A letter of recommendation for plating regimes also outlines methods for best success (Appendix A). Species selection is also proposed to be a mix of heights, with larger evergreen trees dominating the background, medium evergreen trees in the middle, and shrubs and groundcover scattered throughout. It is expected that the mid-stratum shrubs will be fast growing and dispersing, providing effective coverage prior to establishment of the larger evergreen trees. Also as detailed above, tube stock has proven to be a better alternative to established or more mature trees for screening.	12
23	Insurance cost increases to neighbouring properties		• Typical insurance cover taken by residence is $20m and not suitable for liabilities that may	In response to concerns from stakeholders, NGH initiated discussions with the Insurance Council of Australia to determine feedback for these concerns.	11

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			arise from proximity to the utility scale solar farm. • Difficulties in proving negligence pose risk for neighbouring properties in the event of an incident.	In a written response received from the Insurance Council, the following was noted: "*The majority of underwriters signalled that the proximity of the solar farm would, on present understanding, not influence a decision to underwrite, nor would it impact the quantum of the risk premium.'*. The Insurance Council further noted that they are '*unaware of any mandated requirement for a rural policyholder to increase liability coverage in these instances.'* As such, it is anticipated that there will not be any effect on the ability of near neighbours to obtain cost competitive insurance premiums. In addition to this, the Proponent will have its own insurance policy in place to provide coverage in the unlikely event of fire or accidents. A suite of management plans has also been proposed to also mitigate risk: • **SO4 HA1**: Emergency Response Plan. • **SO5**: Spill and Containment Response Plan. • **HA7**: Bushfire Management Plan.	
24	Inadequate community engagement	• EIS Chapter 5.3	• The Proponent has not responded to questions raised by concerned public. • Some members of the community have not been contacted by The Proponent. • 'Kitchen table' discussions are ineffective in communicating to the broader community.	The Proponent has undertaken consultation with the local community in addition to any requirements of the SEARs in line with DPE's *Guidelines for Major Project Community Consultation* (October 2007) and the Australian Renewable Energy Agency's (ARENA's) *Establishing the social licence to operate large scale solar facilities in Australia: insights from social research for industry* (ARENA n.d.).	7

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• Photomontages were not provided to neighbours. • Town Hall meeting in May 2019 was held in a confined space and contributed to frustrations during the event.	As detailed within Section 5.3 of the EIS, the Proponent made every effort to contact all affected neighbours and the broader community and address all concerns. A range of community engagement tools were utilised to ensure contact was made as broadly as possible: • Project website. • Establishment of dedicated contact email address. • Meetings held with the Greater Hume Shire Council on multiple occasions. • Direct engagement with neighbours within 3km through phone calls, letters, emails and face-to-face meetings. Engagement began prior to any community event. • Community drop-in session. • Neighbours invited to attend a Neoen operational solar farm in Numurkah. Not all members of the community are required to be contacted directly by proponent. As detailed above, all residences within a 3km radius of the proposal were directly contacted. However, all members of the community were invited to the Community drop-in session and/or invited to leave feedback on the webpage. If contact was made, a response was sent. Kitchen table discussions were not a means for broader community consultation. That was the intent of the Community drop-in session, dedicated email and the webpage – which was accessible to anyone and widely advertised.	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				Photomontages were provided to the residences who requested them, and from the residence at which they were taken. For privacy reasons, the photomontages were not made available to all neighbours. Public viewpoints were made available through the EIS and VIA.	
25	Proximity to existing gas transmission infrastructure		• Health and safety concerns with large electricity infrastructure in construction and operation close to gas transmission pipeline.	The proponent has been in consultation with APA throughout the development and EIS stages of the Proposal. As detailed through correspondence in Appendix C.2 of the EIS, the APA were supportive of the proposed layout subject to further review during the detailed design phase. In addition to this, the APA request the proponent complete a suite of additional studies and management plans to ensure the safety of both the pipeline and all surrounding residences. The Proponent has committed to these additional measures, which include: • Safety Management Study (SMS). • Risk Assessment, in accordance with Australian Standard 4853-2012. • Electrical Interference Study, in accordance with AS2832. • Landscape Plans. • Construction Management Plan. An additional mitigation measure **HA9** is provided in Section 5 to commit to this action as required**.**	5
26	Electromagnetic Field exposure	• EIS Chapter 7.4	• Health risk due to proximity to power infrastructure.	There is extremely low potential for electric and magnetic fields (EMF) impacts during the construction and	5

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• Very large battery system poses health risks. • Very large solar farm and inverter station will create EMF. 24/7 exposures. • Potential risk of cancer.	decommissioning phases of the project. The maximum magnetic field of the proposed transmission line is well under the limits respectively recommended for public and occupational exposure. Operationally, the site is surrounded by agricultural land. Public access would be restricted by fencing around the site including substation. Given the levels associated with the infrastructure components, and the distance to the site perimeter fence, EMFs from the solar farm are likely to be indistinguishable from background levels at the boundary fence. The underground cabling would not produce external electric fields due to shielding from soil, and its magnetic fields are expected to be well within the recommended public and occupational exposure levels. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) summarises a paper by Tell et al. (2015), which states that the highest levels of EMF within solar farms were detected immediately adjacent to transformers and inverters, which were close to, but still below the International Commission on Non-Ionizing Radiation Protection's (ICNIRP) general public limit. However, at 30 cm from the transformer surface, the measured level dropped to five times lower than the ICNIRP's general public limit (Tell et al. 2015, cited by ARPANSA 2019). The National Cancer Institute (NCI 2020) and the World Health Organisation (WHO 2002) note that power lines and electrical appliances that emit non-ionizing low-	

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				frequency electric magnetic fields (EMF) are present everywhere in homes and workplaces. No mechanism by which low-frequency EMF or radiofrequency radiation could cause cancer has been identified. Unlike high-energy ionizing radiation, EMF cannot damage DNA or cells directly. In addition, the electric currents induced by low-frequency fields (such as those produced by regular powerlines and the proposed solar farm) are normally much lower than the strongest electric currents naturally occurring in the body.	
27	Increased threat of theft and damage to neighbouring properties	• EIS Chapter 7.5	• Expensive infrastructure will attract theft to the region. • Neighbouring properties will be targeted by opportunistic thieves originally attracted to solar farm materials. • Garbage from within the solar farm may blow into neighbouring properties during construction.	To address concerns raised by surrounding landholders in relation to security during construction, the following measures will be implemented: • A zero-tolerance policy on theft will be implemented on-site throughout the project's construction period. • Randomised drug and alcohol testing of staff. • Criminal background checks on all staff, contractors, sub-trades and security guards will be performed. • Surrounding landholders, project landholders and law enforcement will be provided with the primary contractor's contact information. • Surveillance cameras and signs will be implemented to deter vandalism and theft. • Chain mesh security fencing will be installed within the project boundary around the perimeter of the array areas to control access.	5

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
				The requirements of a Waste Management Plan (WMP) form part of a current commitment of the project as Safeguard and Mitigation Measure **WM1**. It is acknowledged that during the construction phase, certain waste such as cardboard packaging can be impacted by winds on site and then be blown into adjacent properties. In addition to the general disposal methods that will be practiced by staff in accordance with the WMP, staff will undertake spot checks within and around the perimeter of the project area to ensure waste does not accumulate in or damage nearby properties. The WMP will detail estimated annual quantities, types/classifications of waste generated by the project, as well as management measures. Collection and storage of waste will be designed to minimise the impact to neighbours and the local community. It is noted that significant quantities of waste generated during construction, such as cardboard packaging and wooden pallets will be suitable for reuse, recycling or alternative use (e.g. chipping of pallets for mulch), which will reduce the volume of waste going into landfill.	
28	Impacts on Aboriginal Cultural & Heritage	• EIS Chapter 5.3.1 and 6.9 and Appendix G (ACHA)	• Proximity to Billabong Creek creates possibility that artefacts are found or disrupted during construction. • Concerns related to adequacy of engagement with local indigenous groups.	Consultation with Aboriginal stakeholders was undertaken in accordance with clause *80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* guide. The process sets out the requirements for all SSD projects and was	2

No.	Issue Raised	Relevant EIS Chapter	Points raised in submissions	Proponent Response	Qty of Submissions
			• Potential removal or construction works surrounding trees of cultural and heritage importance.	deemed appropriate by the regulatory authority and the Registered Aboriginal Parties. There is a potential for artefacts to be found across the site. However, the potential archaeological deposits (PAD) marked and associated with both Billabong and Back Creeks have been avoided by the development layout. If the development layout changes and the PADs along the creek lines will be disturbed, it is a requirement to complete a subsurface testing program. This forms part of a current commitment of the project as Safeguard and Mitigation Measure **AH7**. The requirements of an unexpected finds procedure as part of the Cultural Heritage Management Plan form part of a current commitment of the project as Safeguard and Mitigation Measure **AH1**. As part of the survey effort, all trees are inspected for cultural significance. The development avoids the three modified trees and five cultural tree sites surveyed on site. As part of Safeguard and Mitigation Measure **AH4**, A minimum 10 m buffer should be in place around each modified tree and cultural tree site to prevent any inadvertent impacts to the canopy and root system.	

4.2. AGENCY SUBMISSIONS

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

4.2.1. Greater Hume Shire Council

Issue	Response
1. Council is concerned that that nine neighbouring properties will experience reduced amenity as the outlook from their property will change from being an agricultural landscape to one that is of an industrial appearance. **One resident (R14) will initially be subject to a high inherent visual impact that will reduce to medium through vegetative screening. Council is concerned that it will take many years for the proposed vegetation screening to be of sufficient size to mask the appearance of the solar farm.** **R17 will have a broken view of Culcairn Solar Farm and Walla Walla Solar Farm.**	As detailed within the VIA, the form of the solar infrastructure, low (generally less than 4 m) and in rectangular arrays, is not incongruous with the existing low-lying rectangular forms in the agricultural area. Dominant views would continue to be grazed and cropped agricultural land. As there is little variation in elevation across the proposal, infrastructure will not be highly visible like other alternatives such as wind farms or subdivision/housing estates. Conditions of Consent for recent solar farms require the establishment of an effective screen within 3 years of commencement of operations. The proponent has further committed to this requirement in Safeguard and Mitigation Measure **VA1**. As detailed above, plant species chosen for PCT on site, the General Native Vegetation Profile for the Walla Walla District, specialist input from a local Landscape Architect and known species available from local nurseries. A letter of recommendation for plating regimes also outlines methods for best success (Appendix A). Species selection was/is also proposed to be a mix of heights, with larger evergreen trees dominating the background, medium evergreen trees in the middle, and shrubs and groundcover scattered throughout. It is expected that the mid-stratum shrubs will be fast growing and dispersing, providing effective coverage prior to establishment of the larger evergreen trees. The Proponent is in the process of entering into an Option Deed with some residences, thus negating visual impact to residences. The proponent has also committed to further screening within Back Creek, to ensure there are minimal views of the proposal to Receiver R17.
2. Council is concerned about the potential for social, environmental and economic impacts including:	See responses to each impact below.

Issue	Response
• **Heat island impact adversely impacting upon localised climatic conditions.** • **No details of Australian studies are included.** • **Additional mitigation measures other than setback and planting should be detailed.**	As noted in Section 7.1.2 of the EIS, several studies have shown that PV panels convert incident solar radiation into heat which can alter the airflow and temperature profiles within and adjacent to the panels. Barron-Gafford (2016) in his Statement of Evidence (SoE) to the Victorian Planning Panel included results on the radius of measured heat effects. This identified that the heating effect was indistinguishable from air temperatures over native vegetation when measured at a distance of 30 m from the edge of the PV array. In conclusion of the Victorian Planning Panel Report (Panel Report 2018), the panel accepted that solar arrays will affect air and soil temperatures within the solar array perimeter, and that in relation to outside of the solar array perimeter a heat island effect is unlikely to occur. It identified that any temperature increase within the solar array will be marginal and recommended a 30 m setback from any neighbouring property boundary. The Culcairn Solar Farm Proposal adheres to the Victorian Planning Panel Report recommendation, with a minimum 30 m setback from the edge of the closest panel to the neighbouring property boundary. A literature review by WSP of multiple studies around the world, including one in Australia, found the following patterns in findings: • Temperatures return to ambient several metres above a solar farm. • Temperature gradually returns to ambient with distance away from the solar farm. In addition, the heat island effect was a concept originally associated with urbanised cities and towns with the prevalence of concrete and other heat retaining surfaces. Multiple studies around the world on the heat effect, including the WSP study, have concluded that vegetation screening is very effective in reducing impacts: • Trees that have a high leaf area density and a high rate of transpiration are the most effective at cooling the environment. • The cooling effect of parks and vegetated areas is determined by species group, canopy cover, size and shape of the vegetated area • Temperatures decrease with every percentage increase in tree canopy cover.

Issue	Response
• **Dust nuisance during construction. Council believes that the solar infrastructure will reduce the amount of solar energy reaching the soil and therefore impact vegetation cover which could increase dust impacts.**	Multiple examples of solar farms within Australia and around the globe show successful pasture management under solar panels. This can be seen for the current operational Neoen solar farms including Numurkah, Dubbo and Parkes. As such, ground cover maintenance is considered to be an effective means to control dust on site for the operational period given the right on-site management measures. As detailed within the EIS and the AIS (Appendix A of the Amendment Report), the following inferences were made from previous studies: • Effects of shading is seasonal. • Biomass may increase in the summer months due to retaining soil moisture and mitigating the effects of dry winds. • Panels can also reduce frost impacts and protect pastures coming out of spring into summer. • Altered patterns of moisture availability distribute biomass differently. But overall did not reduce production. • Shade and soil moisture variability needs to be factored into the choices of pasture species mix and paddock rotation. Strong commitments are part of the project to monitor and manage sustained ground cover beneath the panel modules during operation. This commitment is expected to reduce dust generation, in comparison to existing agricultural operations, particularly in dry or drought conditions. The requirements of a Groundcover Management Plan developed in consultation with a soil scientist and agronomist form part of a current commitment of the project as Safeguard and Mitigation Measure **SO2**, with a commitment to maintain 70% groundcover over the life of the proposal. Section 7.1 of the EIA also notes that 'Dust generation would accompany excavation and other earthworks as well as the movement of trucks and work vehicles along the unsealed access road during construction and decommissioning of the proposed solar farm. Dust generation would also occur during the upgrade of Weeamera Road. Earthworks associated with construction and decommissioning are relatively minor and not likely to cause significant dust or emissions. The construction of the solar arrays uses a piling machine which is designed to reduce soil disturbance and corresponding dust pollution.'

Issue	Response
	Reduction of dust-causing agricultural activities will also temporarily cease over the development area (such as canola and wheat harvesting), with groundcover maintained to reduce erosion and dust. As such, overall dust creation on the subject land will decrease. Practical and demonstrated deliverable mitigation measures have been proposed. The requirement of an Adaptive Dust Monitoring Program is a current commitment of the project as Safeguard and Mitigation Measure **BD8**, while controlling dust in response to visual cues is a current commitment of the project as Safeguard and Mitigation Measure **VA4** and **AQ3**. **LU6** also details the requirement for construction and operations personnel to drive carefully and below the designated speed limit according to the Traffic Management Plan to minimise dust generation and disturbance to livestock.
• **The EIS indicates the 500 staff to be employed will be largely drawn from the local community, however the peak employment period is for 12 months, with the numbers employed reducing outside this period.** • **Additional income stream is independent of agriculture.**	As detailed above and within the AIS, the current agricultural enterprise provides employment for two full time equivalent (FTE) employees, plus some casual employees at peak times. The proposed sheep grazing enterprise is estimated to require 1.5 FTE employees throughout the operational period of the Proposal. The Economic Assessment (Appendix O of the EIS) notes there would be 7 FTE direct and 20 FTE indirect jobs created throughout the operational period of the Proposal. 4 of these indirect jobs are expected to be generated by the proposal within the Greater Hume Shire. As such, it can be expected that the current employment requirements in the area will increase from 2 FTE jobs, to 8.5 FTE jobs during the operational phase of the Proposal, with additional flow on benefits to the community. Refer to Section 6.4.2 of the EIS. While the construction period will be an additional income stream independent of agriculture, operational income with be co-dependant as the Proponent and current landowners' intent to continue grazing sheep. As detailed within the AIS, the post-development sheep enterprise will generate upstream and downstream benefits at an estimated 25% reduced productivity. The landowners will receive rent, which is another source of business income. A significant portion of this rental income could be expected to be re-invested in

Issue	Response
	supporting the productive capacity of the businesses' remaining agricultural enterprises. In addition, a transition from regular production to solar, some service industries will benefit. For instance, fending and civil contractors are likely to experience higher demand for that site than would have been the case, while agronomic and spray and seeding contractors may only experience a marginal downturn, if at all.
• **It is felt that benefits from construction employment will not be able to be capitalised upon by Walla Walla and Culcairn community as there is limited temporary accommodation available.**	Through their Local Participation Plan, Neoen aim to draw as many employees from the local region as possible. As such, accommodation will not be required for local employees. However, Neoen have been compiling a business registry which includes accommodation options (30+) in the local area, including Culcairn, Walla Walla, Jindera, Holbrook, Henty, Wagga Wagga, Lavington and Albury (the Study Area). Accommodation managers have been contacted to confirm details. This list continues to grow, as new options become know. The Economic Impact Assessment (Appendix O of the EIS) states the external workforce would be expected to generate accommodation need for 250 workers at the peak of construction, which represents less than 10% of total commercial accommodation rooms in the study area. Further capacity would be available with commercial and private rentals, for longer term staff. It is noted in the ABS QuickStats for the Greater Hume Shire that 14.3% of dwellings are currently unoccupied. As such, it is expected that commercial accommodation and rentals would greatly benefit. Priority would be given to accommodation and rentals in the Greater Hume Shire, being the closest to the site.
• **Council believes that the Council Contribution should be paid in a shorter period of time, and the Community Benefit Fund incorporated as part of the Voluntary Planning Agreement that is referenced within the development consent and registered on the titles of the subject land.**	Neoen does not intend to incorporate the Community Benefit Fund as part of the Voluntary Planning Agreement. Council will be invited to have input into the Community Benefit Fund structure and will have representation on the Community Benefit Fund committee. Neoen is currently exploring available options for the administration of the Community Benefit Fund.

Issue	Response
3. Council has reviewed the DPIE Large Solar Energy Guidelines, which discusses the constraint of agricultural land. • **Council notes that the development site and adjacent land is likely high-quality agricultural land. Due to its impending status as important agricultural land under the Riverina Murray Draft Important Agricultural Land Mapping project, Council believes the site should be considered constrained.**	As detailed above, the NSW DPI is undertaking a mapping program across NSW to recognise the value of IAL The proposal was not initially indicated in the Draft Riverina Murray Important Agricultural Land Mapping as IAL, and the final report has not been released. However, DPI released a draft "final" spatial layer of the Riverina Murray IAL which indicates the proposal is now mapped as IAL. Despite this, the proposed solar farm does not derogate from the objectives of the IAL program objectives. As part of the Response to Submissions process, and AIS was completed to address agency, council, organisation and public concerns, including landscape mapping, quality and land capacity (Appendix X of Amendment Report). The AIS noted that the broadscale landscape mapping does not serve as a basis when quantifying the agricultural impact on the site. As such, the AIS assessment is based on actual agricultural production capabilities of the land before and after development, not outdated or proposed landscape mapping. It was concluded in the AIS that there is little to no potential for deleterious effects on agricultural production when co-locating sheep grazing with solar infrastructure (as is the intent of the Proposal).
• **Whilst the EIS indicates that soil will be benefitted by being rested, Council believes that the land may not benefit from being beneath highly efficient PV cells and may deteriorate if the vegetation is not able to be supported in this environment.**	As detailed within the AIS, cultivation for cropping generally reduces the amount of soil organic matter thereby reducing nutrient availability in soils. As such, crop production can have negative implications for soils health if frequently cultivated. It is noted that there is likely to be some improvement in soil health by ceasing cropping and transitioning land use to improved pasture. The AIS also notes that there is likely to be health trade-offs associated with the effect of shading from PV arrays. The aggregate volume of water reaching the soil will remain, but the distribution will be uneven. Increased retention of soil moisture in areas subject to shading may have a positive effect on soil carbon. In the absence of any study, it is unlikely that shading will have a significant impact (positive or negative) on soil health. Also as detailed above, the requirements of a Groundcover Management Plan developed in

Issue	Response
	consultation with a soil scientist and agronomist form part of a current commitment of the project as Safeguard and Mitigation Measure **SO2**, with a commitment to maintain 70% groundcover over the life of the proposal. Neoen have an excellent track record of maintaining groundcover and co-locating sheep for grazing in solar infrastructure, as evident through their current practices at Dubbo, Parkes and Numurkah Solar Farms. The image below shows the operational Numurkah Solar Farm, with groundcover maintained under solar infrastructure with grazing sheep.
	
• **The EIS states that underground cabling is to be left in situ when decommissioned which does not align with comments from DPI. Council believes the cabling should be removed.**	Safeguard and mitigation measure **LU7** states: Underground cabling and other works to remain in situ following decommissioning of the solar farm would be installed deeper than 500 mm to allow cultivated cropping to resume following decommissioning ***or*** removed as necessary to allow restoration of land capability to pre-existing agriculture.
• **Council believes that due to the loss of high-quality agricultural land the proposed development may not be**	The subject land is located wholly within the RU1 Primary Production zone under the provisions of the

Issue	Response
compatible with the RU1 zone objectives contained in the LEP.	*Greater Hume Local Environmental Plan 2012* (GHLEP). From a town planning perspective, solar farms are compatible with agricultural land use given the only practical location that large-scale solar farms can be located is within a non-urban area. Solar farms are not susceptible to adverse amenity impacts that are problematic and constrain agricultural uses (like dwellings), as they do not result in the generation of new dwellings or lead to the fragmentation of land. Other matters concerning amenity and off-site impacts can be adequately managed by the implementation of appropriate environmental mitigation measures. The GHLEP permits industrial activities in the RU1 zone, with the consent of the Council. While the planning framework supports the protection of strategic agricultural land from non-agricultural uses, there are numerous examples of permitted non-agricultural uses within the RU1 zone. Whilst many of the listed permissible land uses do not contribute to primary production, they remain permissible uses in the zone that are considered to be acceptable.
4. Local residents have raised concerns to Council about bushfire risk proposed by large scale solar farms. The EIS does not review risks posed by bushfire and other sources of fire in the context of responding to comments provided by the NSW Rural Fire Service as part of the SEARS.	A response from NSWRFS during the SEARs was not received. As such, the response for fire within the EIS (Section 7.4) was addressed from SEARs received for Walla Walla Solar Farm. As detailed above, local firefighting services (NSWRFS and FRNSW) require input to the development and implementation of a FMERP and FSS prior to construction. Through this consultation, access to the site and firefighting measures will be confirmed as appropriate. Accordingly, mitigation measures **HA1**, **HA7** and **HA8** in the EIS commits to development of this FMERP. An additional mitigation measure **HA10** is provided in Section 5 to commit to a FSS as required**.** The proposal has been designed with the appropriate emergency protocols, defendable setbacks (asset protection zones) and adequate access, as detailed within the *NSW Planning for Bushfire Protection Guidelines 2019*. The Proponent invited local member of the NSWRFS and FRNSW to visit an operation solar farm in Numurkah, Victoria. Any concern for accessing the site during a fire event was resolved, with agreement that a containment strategy with the Site Manager would be

Issue	Response
	planned prior to entering the site. These details will form part of and be included in the final FMERP and FSS. A copy of the meeting minutes is included in Appendix A.
5. Council does not agree that the removal of 0.61 ha of native vegetation, 99 paddock trees and a total loss of value of 39 items of aboriginal cultural heritage demonstrates the constrained nature of the site of the proposed development.	The process of designing the project was iterative and throughout the process, changes were made to minimise impact including to biodiversity and heritage. This is ultimately balanced against other aspects of the project including noise and visual impacts, and benefits such as economic, greenhouse gas reduction and employment etc. As detailed above in Section **Error! Reference source not found.** and the Amendment Report, the layout of the proposal has been reconfigured to reduce the overall impact of the proposal. This includes the reduction of clearing from 99 paddock trees to 77, 58 of which are hollow bearing. The original BDAR presented an area of 0.61 ha of vegetation to also be removed. Refinements made to the development has reduced this clearing to 0.37 ha of vegetation. The development has avoided the removal of vegetation where practicable including the exclusion of approximately 70 ha of native vegetation within the development site. As detailed within Section 6.4 of the ACHA (Appendix C), while the majority of the stone artefact sites are rated as having total loss of scientific value it is argued that there are likely to be a number of similar sites in the local area and therefore the impact to the overall local archaeological record is considered to be low. Additionally, there are five stone artefact sites that will not be harmed. The stone artefacts have little research value apart from what has already been gained from the information obtained during the present assessment. The information within the ACHA relates more to the presence of the artefacts and in the development of Aboriginal site modelling, which has largely now been realised by the recording. The intrinsic values of the artefacts themselves may be affected by the development of the proposal area. Any removal of the artefacts, or their breakage would reduce the low scientific value they retain. The three modified trees and five cultural tree sites will not be impacted by the proposal as per the proposed design in this report.

Issue	Response
Council's engineers provide the following recommend conditions in the event of the approval of this application: • **At the full cost of the proponent Weeamera Road to the property access be constructed to Council's 'Standard Road Design Typical Cross Section' specification – 7 m paved seal and 9 m road formation.** • **Prepare a traffic management plan.** • **For assessment by Council additional design plans are required for the access points from Cummings Road and Weeamera Road.** • **Under section 138 of the Roads Act 1993 any works occurring within the road reserve require the consent of Council as the road authority.**	Additional consultation with Greater Hume Shire was undertaken in April 2020. Council accepted a reduced footprint for road construction, to reduce biodiversity impact. The Proponent will: • Construct a 7m seal over gravel pavement, with minimal shoulders. • Minimum 14/7mm seal. • Drainage suitably formed. • Construction access suitably signed. **TT4** has been updated to include the requirements of cost of development. The requirements of a TMP form part of a current commitment of the project as Safeguard and Mitigation Measure **TT2**. The requirements of consultation and the need for a 138 Consent forms part of a current commitment of the project as Safeguard and Mitigation Measure **TT3**. Final design plans will be provided to Council for assessment, as part of the Section 138 Consent.
In the event of approval, the following matters should be included as conditions of consent: • **Advanced screening species of two to three-year-old trees shall be utilised.** • **For the period of 1 December to 31 March – a fire unit will be manned onsite with three people to operate a fire tanker.** • **A 12-month weed control plan will be prepared and signed off by 2 agronomists.**	As detailed above, tube stock has proven to be a better alternative to established or more mature trees for screening for the following reasons: • Tube stock have a faster growth rate. • Tube stock have been tended to less, so are not accustomed to frequent watering or feeding. • Potted plants often fail because their root system has adapted to growth in a pot. • Tube stock are available at larger quantities than mature trees. • Mature plantings lead to higher plant loss. Plant species chosen for the visual screening were chosen based on specialist input from a local Landscape Architect and known species available from local nurseries. A letter of recommendation for plating regimes also outlines methods for best success from Jayfields Nursery (Appendix A). The Proponent will continue to consult with FRNSW and the RFS on fire risks to the project, including any concerns they may raise about their capacity. A fire unit will not be manned onsite, unless explicitly directed by FRNSW and the RFS. Neoen have committed to a Pest and Weed Management Plan as Safeguard and Mitigation Measure **LU4**. The Plan would be prepared to manage the occurrence of noxious weeds and pest species and

Issue	Response
	will be prepared in accordance with the Greater Hume Shire Council and the NSW DPI. Where possible, the Plan will integrate management with adjoining landowners. Neoen have already consulted extensively with a locally based agronomist. As such, Neoen will commit to input from one agronomist into the Pest and Weed Management Plan. **LU4** has been updated to include the requirements of agronomist input.

4.2.2. The Biodiversity and Conservation Division (BCD)

Issue	Response
Flooding	
While the EIS does address the Secretary's requirements for flooding, further work is required: • **It is concurred that further hydraulic modelling during the detailed design is needed, but further stipulate that it take an enveloped approach.** • **Once remodelling is complete and new design flood and hazard mapping is produced, it is recommended that infrastructure be designed and located to be compatible with the flood risks and minimise adverse impacts to surrounding properties.**	The Engineering, Procurement and Construction contractor will be required to incorporate hydraulic modelling during the detailed design. An additional mitigation measure **WA8** is provided in Section 5 to commit to this action as required.
Aboriginal Cultural Heritage	
Safeguard and Mitigation Measure AH3 should note that surface salvage of stone artefacts may only occur after project approval, in addition to prior to the proposed construction.	**AH3** has been updated to include the requirements of salvage post-development consent and prior to construction.
Clarification is required for proposed management of Isolated Find 7 (IF7). Tables and figures show conflicting information. Confirm if the site is to be avoided or salvaged.	IF1 will have no impact, being outside of the development footprint, and IF7 will be directly impacted. The updated Aboriginal Cultural Heritage Assessment (ACHA) has been updated to reflect the mistake. Refer to Appendix B.2 of the updated ACHA (Appendix C below).
In Section 8 Legislative Context, it should be noted that an AHIP is not required to impact	Section 8 of the updated Aboriginal Cultural Heritage Assessment (ACHA) has been updated to reflect the

Issue	Response
Aboriginal objects, only when development consent has been granted	requirements of the BCD. Refer to Appendix B.2 of the updated ACHA (Appendix C below).
An Unexpected Finds Protocol (UFP) or a Cultural Heritage Management Plan incorporating an UFP is to be developed prior to the commencement of construction, and to the satisfaction of the Department.	These measures form part of a current commitment of the project as Safeguard and Mitigation Measure **AH1**. However, an UFP has now been attached to the updated ACHA (Appendix B.2 of the updated ACHA (Appendix C below)).
Biodiversity	
Culcairn is in the northeast of the development site, not northwest.	Noted
The Barmah Forest and NSW Central Murray State Forests are downstream within the Murray Catchment, not upstream.	Noted
In the BCD SEARs response dated 2 May 2019, Attachment A table item 4 should read 'as per Appendix 10', not Appendix 11 as stated. We note the emailed request from BCD on 28 January 2020 for the spatial data was consistent with Appendix 10. The data provided is consistent with Appendix 10 (Table 25 and Table 26). No action required.	Noted
The section numbering in the BDAR is not consistent, especially Section 3 Native Vegetation. This has made referencing the comments difficult and makes misinterpretation more likely. **Recommended Action:** **The BDAR section numbering be amended.**	Noted and amended throughout document
The number of vegetation integrity plots is under-representative. **The result is that the sample is too small to be representative of site variability and may have underestimated the vegetation integrity and habitat suitability of the zones. This may have reduced the integrity of assessments later in the BAM.** **Recommended Action:** **Eight vegetation zones require an enhanced survey effort to ensure the vegetation integrity scores are representative of each zone.**	An additional 15 plots were completed in March and May 2020. These were undertaken in areas outside of the development footprint and within the development site including along Weeamera Road. A number of changes were made to the zoning as a result of the survey primarily due to improved seasonal conditions and more representative data. The number of plots has been increased to be representative of the site variability within the development site. This has accounted for the assessment of indirect impacts to areas of retained vegetation within the development site.
Referencing the BDAR Appendices is incorrect and inconsistent.	Noted

<table>
<tr><th>Issue</th><th>Response</th></tr>
<tr><td>Recommended Action:
Referencing to the BDAR Appendices be amended.</td><td></td></tr>
<tr><td>The assessment of prescribed impacts and indirect impacts on scattered paddock trees is not adequate.
Although the clearing of remnants has been avoided to maintain connectivity and minimised to maintain habitat where possible, the BAM requires the assessor to take a holistic approach when assessing indirect impacts, including prescribed impacts, on the loss of 99 scattered paddock trees including the loss of hollows across the development site.
For example, screening and the Landscaping Plan proposed in the EIS have the potential to improve the way habitat in and around the development is managed yet has not been considered in the assessment of indirect and prescribed impacts in the BDAR.
Recommended Action:
A comprehensive assessment of indirect impacts is required, including the impacts prescribed by cl.6.1 of the Biodiversity Conservation Regulation 2017, especially 6.1.1(b), (c) and (f), specifically assessing the impact of loss of scattered paddock trees and hollows across the development site.</td><td>The BDAR has been modified to include a holistic assessment of prescribed and indirect impacts including the removal of paddock trees. The development footprint has been further refined to avoid removal of an additional 22 paddock trees.
An update to the calculator was completed to include 2020 plot data. Changes to the integrity of zones has been reflected in Section 3.4 of the updated BDAR.
An updated credit and impact summary are provided within Sections 7 to 11 of the updated BDAR. Changes to the credit requirements are provided below:
<table><tr><th>Ecosystem credits</th><th>Previous offset requirements</th><th>Updated offset requirements</th></tr><tr><td>PCT 277_derived grassland</td><td>1</td><td>1</td></tr><tr><td>PCT 277_exotic_understory</td><td>10</td><td>3</td></tr><tr><td>PCT 277_native understory</td><td>1</td><td>4</td></tr><tr><td>PCT 277 paddock trees</td><td>92</td><td>73</td></tr><tr><td>PCT 5</td><td>0</td><td>1</td></tr><tr><td>TOTAL</td><td>104</td><td>82</td></tr></table><table><tr><th>Species credits</th><th>Previous offset requirements</th><th>Updated offset requirements</th></tr><tr><td>Small Scurf-pea</td><td>10</td><td>4</td></tr><tr><td>Small Purple-pea</td><td>10</td><td>4</td></tr><tr><td>Silky Swainson-pea</td><td>10</td><td>4</td></tr><tr><td>TOTAL</td><td>30</td><td>12</td></tr></table>
In addition to the offsets produced from the BAM, additional Mitigation Measures have been introduced to further mitigate the loss of hollow bearing paddock trees including:
• BD16 Appropriate supplementary plantings to enhance connectivity and mitigate loss of paddock trees across the development site</td></tr>
</table>

Issue	Response
	• **BD17** Install hollows of felled trees onto younger trees or on ground in retained vegetation patches. • **BD18** A Rehabilitation Plan would be completed to enhance the condition of retained vegetation within the development site
The potential for serious and irreversible impacts (SAII) on the Box-Gum Woodland Threatened Ecological Community (TEC) (PCT 277) is not clear. **The likelihood of SAII on Box-Gum Woodland Threatened Ecological Community (PCT 277) should be assessed in further detail, including a more holistic assessment of indirect and prescribed impacts across the development site including 79 scattered paddock trees associated with the TEC and especially the 58 trees with hollows.**	The updated BDAR is provided in Appendix B of the Amendment Report has been supplied to BCD as a track change document to show the changes made to address these points clearly. Changes include: • The SAII assessment has taken into account removal of paddock trees associated with SAII candidate PCT 277. • All Threatened Ecological Community mapping has been updated in the BDAR. • The BDAR and Submissions Report have been revised to ensure construction and operation actions do not impact or mitigate impacts to native vegetation. • BDAR SAII, direct and indirect impacts have been reviewed.
The assessment requirements of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) are limited to that provided in the BDAR, but the EIS does not address the EPBC Matters of Environmental Significance. We concur that the BDAR provides sufficient evidence that the vegetation integrity of the total area of PCT 277 to be cleared may not form part of the EPBC listing, but note that a paucity of integrity plots is not a good basis for this conclusion. **The overall impact of the development on the EPBC-listed TEC, both direct and indirect, is poorly understood. The cumulative loss of hollows, and the impacts on connectivity and movement of species across the broader landscape are examples. The precautionary approach is to refer the matter to the Department of Environment.** **As the EIS relies on the BDAR to assess Matters of National Environmental Significance, and because the BDAR does not fully address the Matters of National Environmental Significance, we recommend**	Additional surveys and assessment were completed for potential EPBC listed communities within the development site. Two EPBC plots were completed in areas of 277 with a high native understory in the appropriate season. No areas in the development footprint or development site meet the criteria for Box Gum Woodland to be EPBC listed. A detailed assessment has been provided in section 5 of the updated BDAR. A land categorisation assessment was completed in Appendix G of the updated BDAR. The extent of Category 1 land across the development site demonstrates overall condition of Box Gum Woodland within the development footprint. One area of PCT 76 within the development site was unable to be surveyed. This community was assumed to meet the criteria for EPBC listed Inland Grey Box Woodland. This community would be avoided by the development. Indirect impacts were assessed through a Test of Significance. With the implementation of mitigation measures a significant impact is considered unlikely.

Issue	Response
that the applicant refer the proposal to the Australian Government Department of Environment for its consideration.	No referral is considered required to the Department of Agriculture, Water and the Environment.

4.2.3. Transport for NSW (TfNSW)

Issue	Response
South West Region	
Transport for NSW 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):	No response required.
1. The following items shall be included in the proposed Haulage Plan (Item TT1) of Table 6.6.4 (Safeguards and mitigation measures): i) **Require that all vehicular access to the site be via the approved access route.** ii) **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. (Scheduling of deliveries)**	**TT1** has been updated to include the requirements of the Haulage Plan.
2. The following items shall be included in the proposed Traffic Management Plan (Item TT2) of Table 6.6.4 (Safeguards and mitigation measures): i) **Measures to address adverse climatic conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the facility (e.g. fog, dust, wet weather).** ii) **Procedures for informing the public where any road access will be restricted as a result of the project,** iii) **A Driver Code of Conduct to address such items as; appropriate driver**	**TT2** has been updated to include the requirements of the Traffic Management Plan.

Issue	Response
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.	
3. Glint and glare from the solar panels shall not cause a nuisance, disturbance or hazard to the travelling public on the public road network. In the event of glint or glare from the solar plant being evident from a public road, the proponent shall immediately implement glare mitigation measures such as construction of a barrier (e.g. fence) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.	An additional mitigation measure **VA6** is provided in Section 5 to commit to this action as required.
4. Works associated with the development shall be at no cost to Transport for NSW.	**TT4** has been updated to include the requirements of cost of development.
Under the provisions of the Environmental Planning & Assessment Act the Consent Authority is responsible to consider any likely impacts on the natural or built environment. Depending on the level of environmental assessment undertaken to date and nature of the works it may be necessary for the developer to undertake further environmental assessment for any ancillary road works required as a condition on the development.	Under Section 4.55 or Section 4.56 of the EP&A Act, the Proponent will undertake further environmental assessment for ancillary road works as a Modification Application if required.
Land Use Planning and Development	
The RTS should provide the details regarding the location of installing the piles on Lot 1 DP 945904, which is immediately adjacent to the rail corridor. Further information should also be provided on whether the proposed works will be carried out within 25m of the boundary lines of the rail corridor and involving penetration into the ground level in excess of 2m. **Subject to the review of further information prepared as part of the RtS, TfNSW would provide relevant conditions with consideration of the statutory requirements**	As per the map in Figure 3-1 and Appendix B.3 and detailed within the EIS and VIA, there is a minimum 40 m vegetative screen proposed from the boundary of the Proposal Subject Land. Allowing for a minimum 10 m Asset Protection Zone, the minimum distance any infrastructure can be installed to the boundary is 50 m. As such, no ground penetrating works in excess of 2 m is proposed within 25 m of the JHR rail corridor.

Issue	Response
under the provisions of Clause 86 of the ISEPP.	
Clause 85 of the ISEPP states that if the development involves the use of a crane in the air space above the rail corridor, the consent authority must take into consideration any response from the Rail Authority. Cranes, concrete pumps or other equipment must not be used in airspace over the rail corridor when the equipment is in operation. **The Proponent should outline in the RTS as to whether mobile cranes will be used in the air space above the rail corridor.** **Subject to the further information prepared as part of the RTS, TfNSW would provide a condition if there is any intended use of cranes.**	As detailed above, works in the first 50 m of the boundary of the Proposal Subject Land is limited to vegetation screening and the Asset Protection Zone. As such, no cranes, concrete pumps or other equipment will be required in the airspace above the rail corridor.
The Proponent should outline in the RTS as to whether the proposed stormwater management has adverse impacts on the rail corridor by way of its discharge from the site into the rail corridor. If so, the Proponent must provide JHR with written evidence permitting the discharge into the rail corridor.	An additional mitigation measure **WA9** is provided in Section 5 to commit to this action as required**.**
The EIS includes a proposal to carry out works on the location and form of the access road intersection to provide adequate sightlines for vehicles entering and exiting the site. The swept path assessment also demonstrates that Weeamera Road will need to be widened in the proximity to a level crossing at Weeamera road to allow simultaneous two-way movement. The Proposal also highlights potential issues ranging from Council's involvement in entering into licence, Ministerial approval for a closure of the level crossing and the Proponent's involvement in carrying out the works.	As agreed with Greater Hume Shire, Weeamera Road from the Boral Quarry to the site entrance will be upgraded to a 7m seal with minimal shoulders. This will allow two-way simultaneous movement across the level crossing. As part of the Section 138 Application for roadworks, the Proponent will consult with TfNSW to ensure best design of the level crossing to satisfy this requirement.
In order for TfNSW and JHR to gain a clear appreciation for issues involved in the greater context of the Proposal, it is requested that a condition be imposed	An additional mitigation measure **TT7** is provided in Section 5 to commit to this action as required.

Issue	Response
requiring the final design for the proposed works be submitted to and approved by JHR and TfNSW prior to issue of the relevant Construction Certificate.	
It is noted that access to the development land will be via Weeamera Road to the south-eastern boundary. **It is requested that the Proponent be made aware of the access to the rail corridor is strictly prohibited during construction and operation unless otherwise approved in writing by TfNSW or JHR who manages the Country Regional Network in advance.**	An additional mitigation measure **TT8** is provided in Section 5 to commit to this action as required.

4.2.4. NSW Department of Primary Industries

Issue	Response
In assessing this proposal, we ask that DPIE Planning and Assessments consider the impacts to the cropping industries vertical supply chain. Secondary industries have not been addressed in detail in the economic impact report and impacts on critical mass can result in a complete failure of that industry in region.	As detailed within the AIS, the current agricultural enterprise provides employment for two full time equivalent (FTE) employees, plus some casual employees at peak times. The proposed sheep grazing enterprise is estimated to require 1.5 FTE employees throughout the operational period of the Proposal. The Economic Assessment (Appendix O of the EIS) notes there would be 7 FTE direct and 20 FTE indirect jobs created throughout the operational period of the Proposal. 4 of these indirect jobs are expected to be generated by the proposal within the Greater Hume Shire. As such, it can be expected that the current employment requirements in the area will increase from 2 FTE jobs, to 8.5 FTE jobs during the operational phase of the Proposal, with additional flow on benefits to the community. Refer to Section 6.4.2 of the EIS. As detailed within the AIS, the post-development sheep enterprise will generate upstream and downstream benefits at an estimated 25% reduced productivity. All current and potential cropping activities on the land will cease post-development. However, such changes in land use are typical of what happens across the broader farming region, with cropping land being converted to livestock production and vice versa with seasons, market and other forces. The landowners will receive rent, which is another source of business income. A significant portion of this

Issue	Response
	rental income could be expected to be re-invested in supporting the productive capacity of the businesses' remaining agricultural enterprises. In addition, a transition from regular production to solar, some service industries will benefit. For instance, fending and civil contractors are likely to experience higher demand for that site than would have been the case, while agronomic and spray and seeding contractors may only experience a marginal downturn, if at all. Businesses relating to grain production will however be affected.
It is understood that the subdivision of this land is required to enable the lease of the land for solar purposes. DPI does not object to this provided the lots created do not increase the number of dwelling opportunities on the subject land. If further dwelling opportunities are created, it is requested a condition of consent require consolidation of the subject allotments during the decommissioning phase.	Principal development standards contained in the GHLEP guide minimum subdivision lots sizes to ensure land use and development is undertaken on appropriately sized parcels with the objectives of the relevant zone. The subject land is zoned RU1 – Primary Production and the minimum lot size, shown on the lot size map for the subject land is 100ha. Clause 4.2(4) of the GHLEP, prevents the creation of an allotment that would be less than the minimum lot size shown on the *Lot Size Map*, that would contain an existing dwelling. Clause 4.2(5) of the GHLEP, prevents a dwelling from being erected on a lot that is less than the minimum lot size shown on the *Lot Size Map* in relation to that land. Allotments that form part of the subject land are less than the minimum lot size shown on the *Lot Size Map* in relation to that land. Additionally, land proposed for consolidation, to be retained by Landowner 3 is also less than the minimum lot size. Considering the above, there is no opportunity to increase the number of dwelling opportunities given all allotments are less than the minimum lot size of 100ha, being the minimum lot size required for the creation of a dwelling entitlement.
In relation to the decommissioning, it is requested full removal of underground infrastructure be required, either as a condition of consent or, by amendment to the decommissioning plan. This was originally committed to in the scoping report and is required noting in the EIS that the subject land is deep ripped to support cropping. Leaving infrastructure below	Section 3.8 of the EIS stated posts and cabling installed within 500 mm of the surface would be removed and recycled. Equipment below this depth, such as cabling, would be left in situ ***or*** removed as necessary to allow restoration of land capability to pre-existing agriculture. As such, this measures form part of a current commitment of the project as Safeguard and Mitigation Measure **LU7**.

Issue	Response
500mm below ground will impede this use resuming.	
In relation to the strategic grazing program during the operation of the farm; this is supported by DPI and has been undertaken successfully on a number of solar farms across the State.	No response required.

4.2.5. NSW Crown Lands

Issue	Response
Two Crown roads exist within the proposal area. Any Crown road associated with the proposal, for reasons of access; should be transferred to Greater Hume Shire Council. For any Crown Road proposed to be included in the proposal area, the applicant should make application to Crown Lands to close and purchase the road.	Schoff's Lane, a Crown Road, (CADID 105500159 and 105271469) is in the process of being purchased by Landowner 2. The purchase and transfer of the Crown Roads has not been finalised. An additional mitigation measure **TT9** is provided in Section 5 to commit to this action as required.
If the proposal area is expected to occupy and impact the Creeks, or its riparian zone in any way, then a licence application will need to be assessed by Crown Lands, authorising occupation of the land and consenting to any proposed works. The licence application process will need to be undertaken and completed prior to any works commencing.	The proposed development footprint will not extend outside of the proposed subject land (i.e. freehold effected lots) as described in the EIS and Section 2.2 above. No works are proposed within the Billabong Creek riparian zones owned by the Crown.

4.2.6. Heritage Council of NSW

Issue	Response
The subject site is not listed on the State Heritage Register (SHR), nor is it in the immediate vicinity of any SHR items. Further, the site does not contain any known historical archaeological deposits. Therefore, no heritage comments are required. The Department does not need to refer subsequent stages of this proposal to the Heritage Council of NSW.	No response required.

4.2.7. NSW Water and Natural Resources Access Regulator (NRAR)

Issue	Response
The EIS has indicated that the proposal will be provided access by Greater Hume Shire Council to an existing standpipe for water supply, or through an agreement with a local quarry. Consultation is occurring to obtain these agreements; confirmation should be obtained prior to approval of the project.	Appendix A.1 of the EIS provides correspondence between the Proponent and Greater Hume Shire Council, confirming use of the council owned standpipe and proposed quantity of water. Appendix A.2 of the EIS provides correspondence between the Proponent and the Boral Quarry, stating that water could be provided but was dependent on rainfall.
Water use is likely to be around 62ML for construction. If an additional amount of water or access to a different source is required, the proponent must obtain relevant approvals and licences under the Water Management Act 2000 prior to accessing the water.	An additional mitigation measure **WA9** is provided in Section 5 to commit to this action as required**.**
The proponent must obtain relevant approvals and licences under the Water Management Act 2000 before commencing any works which intercept or extract groundwater or surface water (including from on-site dams where necessary) or for any works which have the potential to alter the flow of floodwaters.	As detailed in Section 6.2.7 of the EIS, water would be sourced from a Council owned standpipe or Boral Quarry. As such, any water sources specified under the WM Act are not required. However, for clarity an additional mitigation measure **WA10** is provided in Section 5 to commit to this action.
The proponent should ensure watercourse crossings and riparian buffers are designed in accordance with the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018).	As per Section 6.7.1 of the EIS, Billabong Creek is classified as a seventh order stream, Back Creek is classified as a fifth order stream, and the minor drainage lines/tributaries that traverse the site are classified as first and second order streams under the Strahler Stream Classification System (DPI 2018). As per the Guidelines for Controlled Activities on Waterfront Land, both Billabong Creek and Back Creek have a minimum 40 m vegetation riparian zone, and the minor unnamed tributaries have a minimum 20 m vegetation riparian zone.
The proponent should ensure that potential impacts to watercourses due to flood related impacts, such as flow diversions from project infrastructure are mitigated.	This measures form part of a current commitment of the project as Safeguard and Mitigation Measure **WA6** and **WA7**. However, for clarity **WA7** has been further updated to ensure all impacts to watercourses are appropriately mitigated and considered in the design of drainage controls.

Issue	Response
The Erosion and Sediment Control Plan should be developed in consultation with DPIE Water.	**SO1** has been updated to include the requirement for consultation with DPIE Water.
All works should be completed in accordance with the "Blue Book" (Landcom 2004).	This measures form part of a current commitment of the project as Safeguard and Mitigation Measure **SO1** and **WA7**.

4.2.8. NSW Geological Survey of NSW

Issue	Response
The division has no concerns with the EIS for the Culcairn Solar Farm Project.	No response required.

4.2.9. NSW Environmental Protection Authority (EPA)

Issue	Response
Based on the information provided, the proposed activity is not a scheduled activity under the *Protection of the Environment Operations Act 1977* (POEO Act) and the proposal does not require an Environmental Protection Licence. Greater Hume Shire Council will be the appropriate regulatory authority for matters relating to the POEO Act for this development. **On this basis the EPA has no further comments to make in relation to the proposal and requires no further consultation in relation to this application.**	No response required.

4.2.10. Fire and Rescue NSW (FRNSW)

Issue	Response
FRNSW reaffirm comments and recommendations previously submitted in preparation of the SEARs and maintain that they remain relevant in addressing fire and life safety considerations for the proposed development.	No further response required.
It is recommended that should Development Consent be granted, a Condition of Consent be included that would require the Applicant to prepare a comprehensive fire safety study	An additional mitigation measure **HA10** is provided in Section 5 to commit to this action as required**.**

Issue	Response
(FSS) for the Battery Energy Storage Systems (BESS) component of the development. The FSS should be developed in accordance with the requirements of Hazardous Industry Planning Advisory Paper No.2 (HIPAP No.2), and in consultation with and to the satisfaction of FRNSW.	

5. UPDATED MITIGATION MEASURES

In response to submission received, this report proposes a number of changes to the safeguards and mitigation measures detailed in the EIS. Table 5-1 provides the full list of safeguards and mitigation measures with those amended highlighted in grey. New text is shown underlined and removed text shown with ~~strikethrough~~. Table 5-1 provides the full list of safeguards and mitigation measures as amended.

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

Table 5-1 Revised safeguards and mitigation measures

No.	Safeguards and mitigation measures	C	O	D
VA1	Screening would be required on-site, generally in accordance with the Landscaping Plan developed in consultation with neighbouring landholders. • Barrier plantings would be and where practical, planted on specific sections of the outside of the perimeter fence to break up views of infrastructure including the fencing. • The proposed plant species to be used in the screen are native, fast growing, with spreading habitat and mixed mature heights of 2-4 m, 3-5 m and 5-10 m. Proposed plants derived from the naturally occurring vegetation community in this area. • Plants were selected in consultation with affected near neighbours and a botanist or landscape architect, and/or local Landcare groups. • The timing is recommended to be within 2 months of completion of construction so that actual views of infrastructure can be more certain. The timing of planting should also be chosen to ensure the best chance of survival. • The screen would be maintained for the operational life of the solar farm. Dead plants would be replaced. Pruning and weeding would be undertaken as required to maintain the screen's visual amenity and effectiveness in breaking up views. • Proposed screening will be effective within three years of completion of construction.	**C**	**O**	**D**
VA2	Prior to the commencement of construction, a detailed Landscaping Plan will be prepared including: • Screening location. • Species type. • Planting density and spacing. • Method for planting. • Descriptive measures that would be implemented to ensure vegetative screening is successful (i.e. irrigation or other watering method). • A program to manage, monitor and report on the effectiveness of implemented measures.	**Design stage**		
VA3	The materials and colour of onsite infrastructure would, where practical, be non-reflective and in keeping with the materials and colouring of existing infrastructure or of a colour that would blend with the landscape.	**Design stage**		

No.	Safeguards and mitigation measures	C	O	D
VA4	During construction, dust would be controlled in response to visual cues. Areas of soil disturbed by the project would be rehabilitated progressively or immediately post-construction, reducing views of bare soil.	**C**		
VA5	Construction and operational night lighting would be minimised to the maximum extent possible (i.e. manually operated safety lighting at main component locations. Lighting will comply with *Australian Standard 4282 – Control of the Obtrusive Effects of Outdoor Lighting*, including: • Eliminating upward light spill, directing light downwards and directing light away from sensitive receivers. • Use of shielded light fixtures. • Using asymmetric beams. • Compile and record a complaint register.	**C**	**O**	**D**
VA6	Glint and glare from the solar panels shall not cause a nuisance, disturbance or hazard to the travelling public on the public road network. In the event of glint or glare from the solar plant being evident from a public road, the proponent shall immediately implement glare mitigation measures such as construction of a barrier (e.g. fence) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.	**C**	**O**	**D**
NS1	Works should be undertaken during standard working hours only. (Except for the connection to substation) • Monday – Friday 07:00 to 18:00. • Saturday 08:00 to 13:00. No work on Sundays or public holidays.	**C**		
NS2	A Construction Noise and Vibration Management Plan (NVMP) would be prepared and implemented as part of the CEMP. The CNVMP would generally follow the approach in the Interim Construction Noise Guideline (ICNG) (DECC, 2009). The CNVMP would include the following: • Acoustics-Description and Measurement of Environmental Noise-General Procedures. • Noise measurements would be consistent with the procedures documented in AS1055.1-1997 Acoustics-Description and Measurement of Environmental Noise-General Procedures. Vibration measurements would be undertaken in accordance with the procedures documented in the OEH's Assessing Vibration-a technical guideline (2006) and BS7385 Part 2-1993 Evaluation and measurement for vibration in buildings.	**Prior to construction**		**D**

No.	Safeguards and mitigation measures	C	O	D
NS3	Operate plant in a conservative manner, which includes: • Selection of the quietest suitable machinery. • Avoidance of noisy plant working simultaneously where practical. • Turning off plant and equipment that is not being used. Utilise broadband reverse alarm in lieu of high frequency type.	**C**	**O**	**D**
NS4	All staff on-site should be informed of procedures to operate plant and equipment in a quiet and efficient manner.	**C**	**O**	**D**
NS4	Consult with R30, R31, R29, R24, R19, R33, R34, R14 and R09 during pre-construction to develop suitable mitigation measures.	**C**		
NS5	Regular inspection and maintenance of equipment to ensure that plant is in good condition.	**C**	**O**	**D**
NS6	Complete a one-off noise validation monitoring assessment to quantify emissions and confirm emissions meet relevant criteria.	**C**	**O**	**D**
NS7	Where noise level exceedances cannot be avoided, then time restrictions and/or providing periods of repose for residents must be considered where feasible and reasonable. That is, daily periods of respite from noisy activities may also be scheduled for building occupants during construction hours.	**C**		**D**
NS8	For receivers located within 300 m of development infrastructure during maintenance activities including grass slashing, panel cleaning or major works/repairs: • Receive a written notification letter which may consist of the details of the proposed works, anticipated noise impacts, and the time periods over which these will occur, at least two weeks prior to the commencement of works. Verification of noise and vibration levels following reasonable complaints should be undertaken within a period of 14 days from the commencement of activities.		**O**	
SE1	A Neoen Community Relations Plan and Local Participation Plan would be implemented during construction to manage impacts to community stakeholders, including but not limited to: • Protocols to keep the community updated about the progress of the project and project benefits. • Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc.). Protocols to respond to any complaints received. • Foster participation and maximise community involvement and employment. • Maintain the Culcairn Solar Farm Business Directory	**C**	**O**	
SE2	Liaison with local industry representatives to maximise the use of local contractors, manufacturing facilities, materials.	**C**	**O**	

No.	Safeguards and mitigation measures	C	O	D
SE3	Liaison with local representatives regarding accommodation options for staff, to minimise adverse impacts on local services.	**C**		**D**
SE4	Liaison with local tourism industry and council representatives to manage potential timing conflicts or cooperation opportunities with local events.	**C**		**D**
LU1	Consultation with adjacent landholders would be ongoing to manage interactions between the solar farm and other properties.	**C**	**O**	**D**
LU2	Consultation would be undertaken with TransGrid regarding connection to the overhead energy transmission infrastructure.	**C**		
LU3	A Rehabilitation and Decommissioning Management Plan is to be prepared in consultation with NSW Department of Primary Industries and the landowner prior to decommissioning. The Rehabilitation and Decommissioning Management Plan is to include: • Removal of all above ground infrastructure. • Removal of gravel from internal access tracks where required, in consultation with landowner. • Reverse any compaction by mechanical ripping. Indicators and standards to indicate successful rehabilitation of disturbed areas. These indicators and standards should be applied to rehabilitation activities once the solar farm is decommissioned.			**D**
LU4	A Pest and Weed Management Plan would be prepared to manage the occurrence of noxious weeds and pest species across the site during construction and operation. The plans must be prepared in accordance with Greater Hume Shire Council and NSW DPI requirements, with input from an agronomist. Where possible integrate weed and pest management with adjoining landowners.	**C**	**O**	
LU5	The Proponent would consult with GSNSW in relation to biodiversity offset areas or any supplementary biodiversity measures to ensure there is no consequent reduction in access to prospective land for mineral exploration, or potential for sterilisation of mineral resources.	**C**		**D**
LU6	Construction and operations personnel would drive carefully and below the designated speed limit according to the Traffic Management Plan to minimise dust generation and disturbance to livestock.	**C**	**O**	**D**
LU7	Underground cabling and other works to remain in situ following decommissioning of the solar farm would be installed deeper than 500 mm to allow cultivated cropping to resume following decommissioning or removed as necessary to allow restoration of land capability to pre-existing agriculture.	**C**		
LU8	If possible and practical, managed sheep grazing would be used as a preferred option to control weeds and grass growth, and to maintain agricultural production at the site.		**O**	
TT1	A Haulage Plan would be developed and implemented during construction and decommissioning, including but not limited to:	**C**		**D**

No.	Safeguards and mitigation measures	C	O	D
	• Assessment of road routes to minimise impacts on transport infrastructure. • Scheduling of deliveries of major components to minimise safety risks (on other local traffic). • Traffic controls (signage and speed restrictions etc.). • Require that all vehicular access to the site be via the approved access route. • 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. (Scheduling of deliveries)			
TT2	A Traffic Management Plan would be developed and implemented during construction and decommissioning. The plan would include, but not be limited to: • Prior to construction, a pre-conditioning survey of the relevant sections of the existing road network, to be undertaken in consultation with Council. • Assessment of road condition prior to construction on all local roads that would be utilised. • A program for monitoring road condition, to repair damage exacerbated by the construction and decommissioning traffic. • The designated routes of construction traffic to the site. • Carpooling/shuttle bus arrangements to minimise vehicle numbers during construction. • Scheduling of deliveries. • Community consultation regarding traffic impacts for nearby residents. • Consultation with neighbours to manage scheduling of traffic around existing agricultural activities (movement of stock and machinery). • Consideration of cumulative impacts. • Traffic controls (speed limits, signage, etc.). • Procedure to monitor traffic impacts and adapt controls (where required) to reduce the impacts. • Providing a contact phone number to enable any issues or concerns to be rapidly identified and addressed through appropriate procedures, and to allow neighbours to continue their current agricultural activities unconstrained. • Water to be used on unsealed roads to minimise dust generation through increased traffic use. Following construction, a post condition survey of the relevant sections of the existing road network, to be undertaken to ensure it is of similar condition as prior to construction. • Measures to address adverse climatic conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the facility (e.g. fog, dust, wet weather).	**C**		**D**

No.	Safeguards and mitigation measures	C	O	D
	• Procedures for informing the public where any road access will be restricted as a result of 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.			
TT3	Obtain a Section 138 Consent from the relevant council/agency to perform works within relevant road reserves.	**C**		
TT4	The upgrade would be subject to detailed design and would be designed and constructed to the relevant Australian road design standards. Weeamera Road north of the Boral quarry would be widened to ~~6.0 metres and have a light spray seal applied~~ a 7m seal over gravel pavement, with a minimum seal of 14/7mm. This would allow two-way movement of heavy vehicles and reduce the impacts of dust on nearby dwellings. All works associated with the development shall be at no cost to Transport for NSW or council.	**Design Stage**		
TT6	The Proponent would repair any damage resulting from project traffic (except that resulting from normal wear and tear) as required at the Proponent's cost.	**C**		**D**
TT7	Prior to issue of relevant Construction Certificate, the applicant must submit the final design of the proposed works on Weeamera Road in the vicinity of the level crossing to TfNSW and JHR who manages the Country Regional Network for approval.	**Design**		
TT8	Written consent from JHR will be obtained in advance of construction and operation of the Proposal for access to the rail corridor.	**Pre-construction**	**O**	
TT9	Any Crown public road that may be required for access to the proposal area, either during the construction phase or in an ongoing capacity, would either be transferred to Council or the proponent should make application to close and purchase the Crown public road.	**Pre-construction**		
WA1	All staff would be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	**C**	**O**	**D**
WA2	All fuels, chemicals, and liquids would be stored at least 50 m away from any waterways or drainage lines and would be stored in an impervious bunded area.	**C**	**O**	**D**
WA3	Adequate incident management procedures would be incorporated into the Construction and Operation Environmental Management Plans, including requirement to notify EPA for incidents that cause material harm to the environment (refer s147-153 Protection of the Environment Operations Act).	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
WA4	The refuelling of plant and maintenance of machinery would be undertaken in impervious bunded areas.	**C**	**O**	**D**
WA5	Machinery would be checked daily to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff would be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	**C**		**D**
WA6	Erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with Managing Urban Stormwater: Soils & Construction (Landcom 2004).	**C**	**O**	**D**
WA7	Ensure appropriate drainage controls are incorporated into the design, to mitigate any impact to watercourses (such as flow diversions from project infrastructure).	**Design**		
WA8	A Hydraulic Model is required during the detailed design phase. The model must comprise an enveloping technique that considers both regional and local catchment sources of flooding. Once remodelling is complete and new design flood and hazard mapping is produced, infrastructure will be designed and located to be compatible with the flood risks and minimise adverse impacts to surrounding properties.	**Design**		
WA9	There will be no adverse impacts on the John Holland Rail (JHR) rail corridor by way of its discharge from the site into the rail corridor. If so, the Proponent must provide JHR with written evidence permitting the discharge into the rail corridor.	**C**	**O**	**D**
WA10	The proponent must obtain relevant approvals and licences under the *Water Management Act 2000* before commencing any works which: • Exceed 62 ML per annum for construction. • Obtain water from a difference source than approved in the EIS. • Intercept or extract groundwater or surface water (including from on-site dams where necessary) • For any works which have the potential to alter the flow of floodwaters or surface water flow.	[redacted]	[redacted]	**D**
BD1	The following plans are to be prepared and approved by the relevant authorities: • Biodiversity Management Plan. • Construction and Operational Environmental Management Plan. • Weed Management Plan. • Erosion and Sediment Control Plan. The plans should include but not be limited to the relevant commitments below.	**Pre-construction**	**Pre-operations**	
BD2	Timing works to avoid critical life cycle events such as breeding or nursing:	**C**		

	• Hollow-bearing trees would not be removed during breeding and hibernation season (June to January) to mitigate impacts on all hollow-dependent fauna. • If clearing outside of this period cannot be achieved, pre-clearing surveys would be undertaken by an ecologist or suitably qualified person to ensure no impacts to fauna would occur.			
BD3	Implement clearing protocols including pre-clearing surveys, daily surveys and staged clearing, with a trained ecologist or licensed wildlife handler present during clearing events, including: • Pre-clearing checklist. Tree clearing procedure.	**C**		
BD4	Relocation of habitat features (fallen timber, hollow logs) from within the development site. Tree-clearing procedure including relocation of habitat features to adjacent area for habitat enhancement.	**Preconstruction**		
BD5	Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance; for example, removal of native vegetation by chainsaw, rather than heavy machinery, is preferable in situations where partial clearing is proposed: • Approved clearing limits to be clearly delineated with temporary fencing or similar prior to construction commencing. • No stockpiling or storage within dripline of any mature trees. In areas to clear adjacent to areas to be retained, chainsaws would be used rather than heavy machinery to minimise risk of unauthorised disturbance. • Access to the Box-Gum Woodland EEC would not be permitted via vehicles to reduce understorey impacts and clearing; and • Strict weed protocol must be observed at all times.	**C**		
BD6	Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise. Construction Environmental Management Plan would include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible.	**C**	**O**	**D**
BD7	Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill: • Avoid Night Works. Direct lights away from vegetation.	**C**	**O**	**D**
BD8	Adaptive dust monitoring programs to control air quality: • Daily monitoring of dust generated by construction and operational activities. • Construction would cease if dust observed being blown from site until control measures were implemented. All activities relating to the proposal would be undertaken with the objective of preventing visible dust emissions from the development site.	**C**		**D**
BD9	Temporary fencing to protect significant environmental features such as riparian zones.	**C**		**D**
BD10	Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas. This will also be incorporated into the Pest and Weed Management Plan.	**C**	**O**	

BD11	Staff training and site briefing to communicate environmental features to be protected and measures to be implemented: • Site induction. • Toolbox talks. • Awareness training during site inductions regarding enforcing site speed limits. Site speed limits to be enforced to minimise fauna strike.	**C**	**O**	
BD12	Preparation of a ~~Vegetation~~ Management Plan to regulate activity in vegetation: • Protection, enhancement and monitoring of quality/condition of native vegetation to be retained. • Best practice removal and disposal of vegetation. • Staged removal of hollow-bearing trees and other habitat features such as fallen logs with attendance by an ecologist. • Weed management. • Unexpected threatened species finds. • Rehabilitation of disturbed areas. • Exclusion of vehicles through sensitive areas. • Best practice clearing of overstorey vegetation for construction of the transmission line to avoid understorey impacts. • Adaptive management practices and protocol for corrective actions.	**C**		
BD13	Sediment barriers and spill management procedures to control the quality of water runoff released from the site into the receiving environment: • An erosion and sediment control plan would be prepared and implemented in conjunction with the final design. Spill management procedures would be implemented.	**C**		
BD14	Appropriate landscape plantings of local indigenous species derived from local native plant communities.	**Design Stage**		
BD15	• Plain wire is to be used on security fencing where practicable and where it meets safety and security requirements of the Proposal. • Use plain wire perimeter fencing where this intersects woodland to avoid potential entrapment of fauna on fence	**C**		
BD16	Appropriate supplementary plantings (as indicated in the final constraints map and layout) to enhance connectivity and mitigate loss of paddock trees across the development site: • Landscape plantings will be comprised of local indigenous species • Plantings will be a minimum of 20 m wide	**O**		
BD17	Install hollows of felled trees onto younger trees or on ground in retained vegetation patches: • Hollow tree limbs would be made into nest boxes and placed in retained vegetation patches	**C**		

	• Hollows removed during clearing would be salvaged where possible and remounted to allow continued use by hollow dependant fauna within or adjacent to the project site. A one to one (hollows removed to hollows or nest boxes mounted) would be achieved. • The construction and placement of felled hollows/nest boxes would be managed by a suitably qualified ecologist.			
BD18	• A Rehabilitation Plan in conjunction with the Biodiversity Management Plan would be created to improve habitat within retained vegetation in the development site and include: • Weed control • Replanting or regeneration • Location of hollows from tree removal • Location of nest boxes • Location of logs. Nest box monitoring plan to ensure nest boxes are structurally maintained for the life of the solar farm.	**O**		
AH1	The Proponent should prepare a Cultural Heritage Management Plan (CHMP) to address the potential for finding additional Aboriginal artefacts during the construction of the Solar Farm and management of known sites and artefacts. The Plan should include the unexpected finds procedure to deal with construction activity. Preparation of the CHMP should be undertaken in consultation with the registered Aboriginal parties.	**C**		
AH2	In the unlikely event that human remains are discovered during the construction, all work must cease in the immediate vicinity. OEH, the local police and the registered Aboriginal parties should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.	**C**		
AH3	If complete avoidance of any of the 26 isolated find sites, 16 artefact scatters and single cultural stone site recorded within the proposal area is not possible the surface stone artefacts and cultural stone site within the development footprint must be salvaged. The surface collection salvage of these stone artefacts and cultural stone object must occur post-development consent of the Proposal by DPIE and prior to the proposed construction works commencing for the Culcairn Solar Farm. Until surface collection salvage has occurred a minimum 5 m buffer must be observed around all stone artefact sites and the cultural stone site.	**C**		
AH4	The development avoids the three modified trees and five cultural tree sites. A minimum 10 m buffer should be in place around each modified tree and cultural tree site to prevent any inadvertent impacts to the canopy and root system.	**C**		
AH5	All artefacts recovered from the subsurface testing programme undertaken within the Culcairn Solar Farm proposal are currently in temporary care at the NGH Canberra office and must be reburied in line with Requirement 26 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales and in an appropriate location within the proposal area that will not be subject to any ground disturbance.			

AH6	All objects salvaged, including those recovered from the subsurface testing program, must have their reburial location submitted to the AHIMS database. An Aboriginal Site Impact Recording Form must be completed and submitted to AHIMS following harm for each site collected or destroyed from salvage and/or construction works.			
AH7	If the proposed development footprint is changed and the areas of PAD along Back Creek and Billabong Creek will be impacted, a limited subsurface testing program must be conducted at the PADs not subject to the subsurface testing program undertaken during the current assessment. Excavated material may need to be analysed off site and this is most likely to be undertaken in NGH offices, where the material will be analysed and then subsequently returned to site for reburial.			
AH8	The collection and relocation of the artefacts should be undertaken by an archaeologist with representatives of the registered Aboriginal parties and be consistent with Requirement 26 of the Code of practice for Archaeological Investigation of Aboriginal Objects in New South Wales. A new site card/s would need to be completed once the artefacts are moved to record their new location on the AHIMS database.	**C**		
AH9	A minimum 5m buffer should be observed around all stone artefact sites that cannot be avoided, including those outside the development footprint.	**C**		
AH10	Further archaeological assessment would be required if the proposal activity extends beyond the area assessed as detailed in this report. This would include consultation with the registered Aboriginal parties and may include further field survey.	**C**		
AQ1	Development of a complaints procedure to promptly identify and respond to issues generating complaints.	**C**	**O**	**D**
AQ2	Protocols to guide vehicle and construction equipment use to minimise emissions would be included in construction and operational environmental management plans. This would include, but not be limited to, Australian standards and POEO Act requirements.	**C**	**O**	**D**
AQ3	During construction, operation and decommissioning, dust would be monitored and managed to prevent dust leaving the development site. This includes dust from stockpiled materials.	**C**	**O**	**D**
AQ4	Monitor local weather conditions and manage the site if any conditions will exacerbate air quality (e.g. wind).	**C**		
AQ5	Fires and material burning are prohibited on the development site.	**C**	**O**	**D**
HH1	Should an item of historic heritage be identified, the Heritage Division (OEH) would be contacted prior to further work being carried out in the vicinity.	**C**	**O**	**D**
SO1	A Soil and Water Management Plan and Erosion and Sediment Control Plans would be prepared in consultation with DPIE Water, implemented and monitored during the construction and decommissioning of the proposal, in accordance with Landcom (2004), to minimise soil (and water) impacts. These plans would include provisions such as:	**Prior to and during construction**		**D**

	• At the commencement of the works, and progressively during construction, install the required erosion control and sediment capture measures. • Regularly inspect erosion and sediment controls, particularly following rainfall. • Maintain a register of inspection and maintenance of erosion control and sediment capture measures. • Ensure there are appropriate erosion and sediment control measures in place to prevent erosion and sedimentation occurring within the stormwater channel during concentrated flows. • Ensure that machinery arrives on site in a clean, washed condition, free of fluid leaks. • Ensure that machinery leaves the site in a clean condition to avoid tracking of sediment onto public roads. • In all excavation activities, separate subsoils and topsoils and ensure that they are replaced in their natural configuration to assist revegetation. • During excavation activities, monitor for increases in salinity, reduce water inputs and remediate the site with salt tolerant vegetation. • Stockpile topsoil appropriately to minimise weed infestation, maintain soil organic matter, and maintain soil structure and microbial activity. • Manage works in consideration of heavy rainfall events. Areas of disturbed soil would be rehabilitated promptly and progressively during construction.			

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

SO3	The array would be designed to allow sufficient space between panels to establish and maintain groundcover beneath the panels and facilitate weed control.	**Design**		
SO4	A comprehensive Emergency Response Plan (ERP) would be developed for the site and specifically address foreseeable on-site and off-site emergency incidents. It would detail appropriate risk control measures that would need to be implemented to safely mitigate potential risk to soil, health and safety of firefighters and first responders in the case of a hazardous spill.	**C**	**O**	**D**
SO5	A Spill and Contamination Response Plan (SCRP) would be developed and implemented during construction, operation and decommissioning to prevent contaminants affecting adjacent surrounding environments. It would include measures to: • Manage the storage of any potential contaminants onsite. • Mitigate the effects of soil contamination by fuels or other chemicals (including emergency response and EPA notification procedures and remediation). A protocol would be developed in relation to discovering buried contaminants within the development site (e.g. pesticide containers, if any). It would include stop work, remediation and disposal requirements.	**C**	**O**	**D**
SO6	Any area that was temporarily used during construction (laydown and trailer complex areas) would be restored to original condition or re-vegetated with native plants.	**C**	**O**	**D**
SO7	Sodic soil should be treated with gypsum where required.	**C**		
SO8	Best Management Practices (BMPs) should be employed where applicable to reduce the risk of erosion and sedimentation control: • Preserve and stabilise disturbed areas, drainageways and steep slopes. • Minimise the extent and duration of disturbance. • Install perimeter controls. • Employ the use of sediment control measures to prevent off- and onsite damage. Inspect and maintain sediment and erosion control measures regularly. • Control stormwater flows onto, through and from the site in stable drainage structures. Protect inlets, storm drain outlets and culverts. Provide access and general construction controls.	**C**	**O**	**D**
HA1	A comprehensive ERP would be developed for the site and address: • The foreseeable on-site and off-site fire events and other emergency incidents (such as fires involving solar panel arrays, battery energy storage systems, bushfires in the immediate vicinity) or potential hazmat incidents.	**C**	**O**	**D**

	• The appropriate risk control measures that would need to be implemented to safely mitigate potential risk to the health and safety of firefighters and other first responders (including electrical hazards). Such measures will include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures to be instigated, minimum evacuation zone distances and a safe method for shutting down and isolating the photovoltaic system (either in its entirety or partially, as determined by risk assessment). • Other risk control measures that may need to be implemented in a fire emergency (due to any unique hazards specific to the site) should also be included in the ERP. That two copies of the ERP be stored in a prominent 'Emergency Information Cabinet' located in a position directly adjacent to the site's main entry point/s.			
HA2	Dangerous or hazardous materials would be transported, stored and handled in accordance with AS1940-2004: *The storage and handling of flammable and combustible liquids,* and the ADG Code where relevant. All potential pollutants kept on-site would be stored in accordance with relevant HAZMAT requirements and bunded.	**C**	**O**	**D**
HA3	The design, storage, maintenance and transportation of new and waste lithium-ion batteries would comply with the requirements of the Dangerous Goods Code, including specific 'special provisions' and 'packing instructions' applying to the transportation of Li-ion batteries.	**C**	**O**	**D**
HA4	All design and engineering would be undertaken by qualified competent persons with the support of specialists as required.	**C**		
HA5	All electrical equipment would be designed in accordance with relevant codes and industry best practice standards in Australia.	**C**		
HA6	Design of electrical infrastructure to minimise EMFs through the solar array (underground).	**C**		

HA7	A Bush Fire Management Plan would be developed and implemented during construction, operation and decommissioning, with input from the RFS, and include but not be limited to:
	• Management of activities with a risk of fire ignition.
	• Management of fuel loads onsite.
	• Storage and maintenance of firefighting equipment, including siting and provision of adequate water supplies for bush fire suppression.
	• The below requirements of Planning for Bush Fire Protection 2006:
	  ○ Identifying asset protection zones.
	  ○ Providing adequate egress/access to the site.
	  ○ Emergency evacuation measures.
		C	**O**	**D**

	• Operational procedures relating to mitigation and suppression of bush fire relevant to the solar farm.			
HA8	A comprehensive Emergency Fire Response Plan would be developed and implemented during construction, operation and decommissioning, and include but not be limited to: • Address foreseeable on-site and off-site fire events. • Details appropriate risk control measures that would need to be implemented to safely mitigate potential risk to the health and safety of firefighters and other first responders. Other risk control measures that may need to be implemented in a fire emergency due to any unique hazards specific to the site.	**C**	**O**	**D**

HA9	To ensure the safety and protection of the high-pressure gas line: 1. No Improvements within the pipeline easement without consent of the APA. No structure or vegetation will be permitted that prohibit APA maintenance. 2. A Safety Management Study in accordance with the Australian Standard 2885 (Pipelines – Gas and Liquid Petroleum) is required by the Proponent to the satisfaction of APA. All cost associated with the study are to be borne by the applicant. 3. Prior to construction, the applicant must conduct electrical hazard studies in accordance with Australian Standard 4853-2012 (Low Frequency Induction and Earth Potential Rise). Validation testing upon completion of construction will be required. 4. The applicant must conduct Electrical Interference Studies in accordance with the requirements of Australian Standard 2832 once design is complete. 5. The applicant must amend design to comply with Australian Standards and above completed studies (taking into account other constraints/risks on site). 6. The applicant must make good (at the cost of the applicant) any hazard or risk to the pipeline caused by powerlines. 7. Prior to construction, any landscape plans must be submitted and approved by APA. A three-metre minimum clearance between the pipeline and any mature vegetation with a mature height of greater than 0.5 m must be maintained. 8. Prior to any works within 50 m 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 with APA. • Avoid significant vibration, heavy loadings stored over the pipeline, and heavy vehicle crossings. • Be endorsed by APA where the works are within or crossing the relevant pipeline easement. 9. Design shall minimise encroachment on the pipeline easement. An Application for an APA permit for an easement crossing will be required to demonstrate that an alternative route is not feasible. 10. During construction, the boundary of the easement must be clearly delineation on site. 11. All plans must have the pipeline easement clearly identified and labelled. 12. Access to the easement must be maintained at all times.	**Design stage, prior to construction and construction**	**O**	**D**
HA10	A comprehensive fire safety study (FSS) for the Battery Energy Storage Systems (BESS) will be developed in accordance with the requirements of Hazardous Industry Planning Advisory Paper No.2 (HIPAP No.2), and in consultation with and to the satisfaction of FRNSW.	**Prior to construction**		

WM1	A Waste Management Plan (WMP) would be developed and implemented during construction, operation and decommissioning to minimise wastes. It would include but not be limited to: • Identification of opportunities to avoid, reuse and recycle, in accordance with the waste hierarchy. • Quantification and classification of all waste streams. • Provision for recycling management onsite. • Provision of toilet facilities for onsite workers and how sewage would be disposed of (i.e., pump out to local sewage treatment plant). • Tracking of all waste leaving the site. • Disposal of waste at facilities permitted to accept the waste. Requirements for hauling waste (such as covered loads).	**C**	**O**	**D**

6. REFERENCES

AEMO (2019). *Power System Limitations in North Western Victoria and South Western New South Wales*. Accessed online May 2020 from https://www.aemo.com.au/-/media/Files/Electricity/NEM/Network_Connections/Power-System-Limitations-December.pdf

AEMO (2020). *Draft Integrated System Plan 2020*. Accessed online May 2020 from https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2020-integrated-system-plan-isp

AEMO (2020). *Draft Integrated System Plan.* Accessed online May 2020 from https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/ISP/2019/Draft-2020-Integrated-System-Plan.pdf from https://www.climatecouncil.org.au/wp-content/uploads/2018/05/BusinessRenewables.pdf

Australian Bureau of Statistics (2016). *2016 Census QuickStats – Greater Hume Shire.* Accessed online May 2020 from https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA13340

Climate Council (2018). *Renewables and Business: Cutting Prices and Pollution*. Accessed online May 2020

Department of Primary Industries (2020). *ArcGIS Web Application – Riverina Murray Important Agricultural Lands.* Accessed online May 2020 from https://www.arcgis.com/apps/webappviewer/index.html?id=65e3be0196f44197b0c6c8e91d1c7ae7

Kheifets, Dr. L. *EMF and Cancer: Epidemiologic Evidence to Date.* Accessed online May 2020 from https://www.who.int/peh-emf/meetings/southkorea/en/Leeka_Kheifets.pdf

National Cancer Institute (2020). *Electromagnetic Fields and Cancer*. Accessed online May 2020 from https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/electromagnetic-fields-fact-sheet

Natural Resource Access Regulator (2018). *Guidelines for Controlled Activities on Waterfront Land – Riparian Corridors.* Accessed online May 2020 from https://www.industry.nsw.gov.au/__data/assets/pdf_file/0004/156865/NRAR-Guidelines-for-controlled-activities-on-waterfront-land-Riparian-corridors.pdf

Tell, R.A., Hooper, H.C., Sias, G.G., Mezei, G., Hung, P. and Kavet, R., 2015. Electromagnetic Fields Associated with Commercial Solar Photovoltaic Electric Power Generating Facilities. *Journal of occupational and environmental hygiene*, *12*(11), pp.795-803.

Tillmann, P., Jäger, K. and Becker, C., 2020. Minimising the levelised cost of electricity for bifacial solar panel arrays using Bayesian optimisation. *Sustainable Energy & Fuels*, *4*(1), pp.254-264.

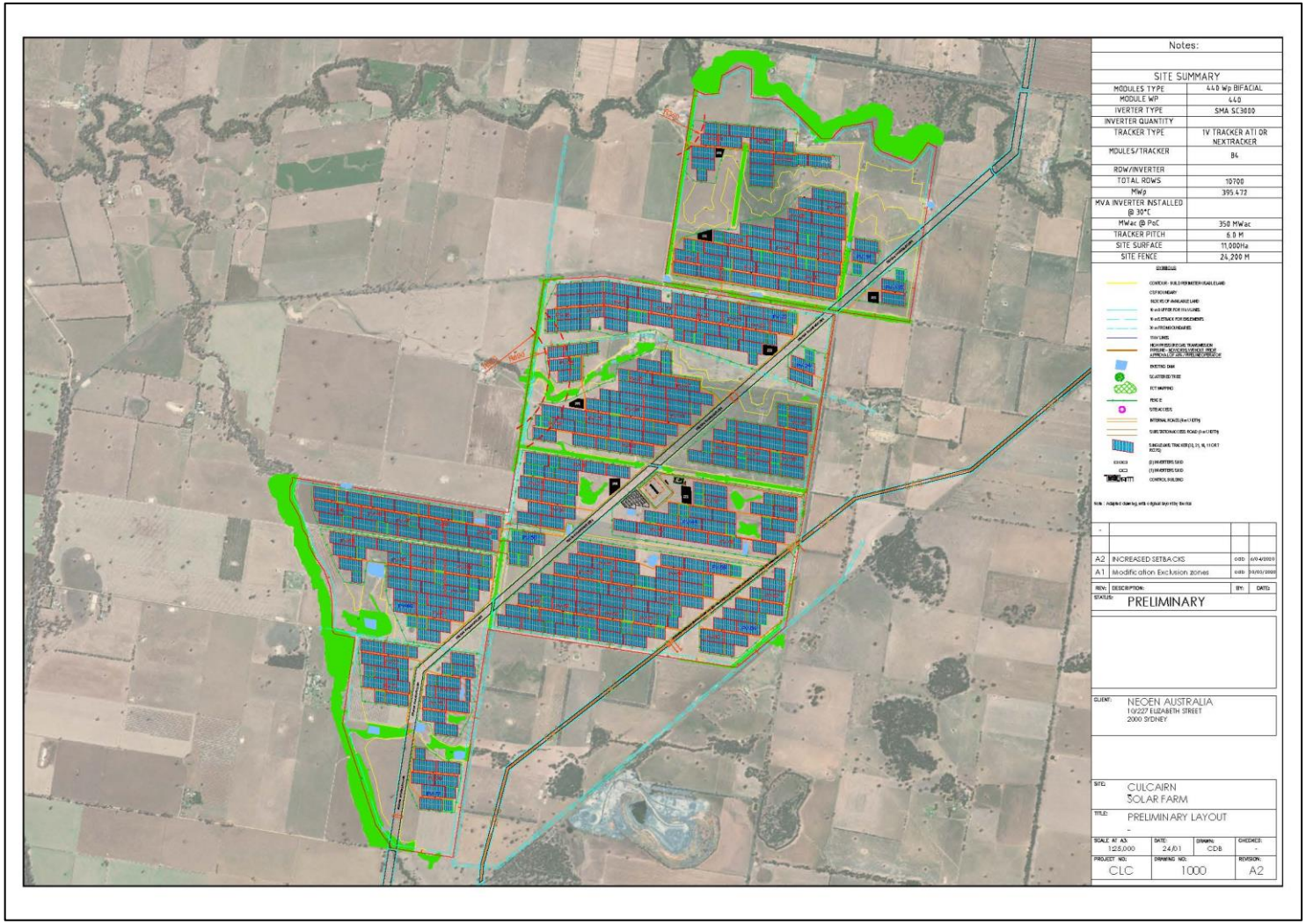
TransGrid (2020), *Hume Link Regulatory Investment Test – Transmission*. Accessed online May 2020 from https://www.transgrid.com.au/humelink

Urbis (2016). *Review of the Impact of Wind Farms on Property Values.* Office of Environment and Heritage. Accessed online May 2020 from https://www.environment.nsw.gov.au/resources/communities/wind-farm-value-impacts-report.pdf

APPENDIX A CONSULTATION

APPENDIX B ADDITIONAL MAPS, DRAWINGS AND IMAGES

B.1 UPDATED PROPONENT LAYOUT



B.2 VIEW FROM MORGAN'S LOOKOUT AND MONTAGE

viewpoint no.19 - site photo

viewpoint no.19 - photomontaged

viewpoint no.19 - extent of visual impact

REVISIONS

NOTES

CLIENT: NGH Environmental

PROJECT: Culcairn Solar Farm

ISSUE: October 2019

DRAWING: View 19 - Visual Impact Study

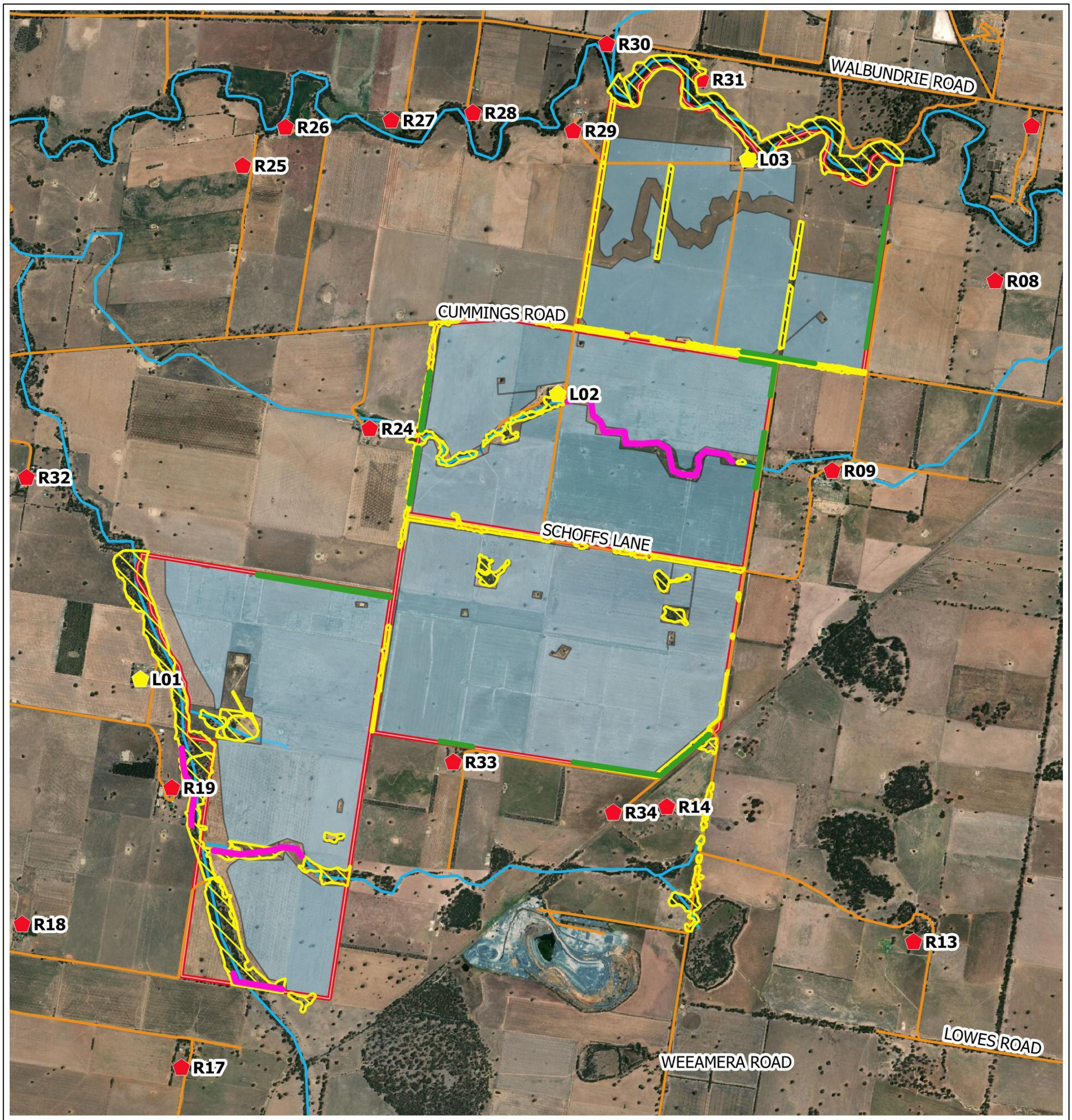
SCALE:

DWG. NO.

urbaine
ARCHITECTURE

urbaine pty ltd , 6/15, The Corso, Manly, NSW 2095: Tel: 02 8355 6770

B.3 UPDATED LANDSCAPE PLAN



Culcairn SF Landscaping

Legend

- Subject Land
- Development Footprint

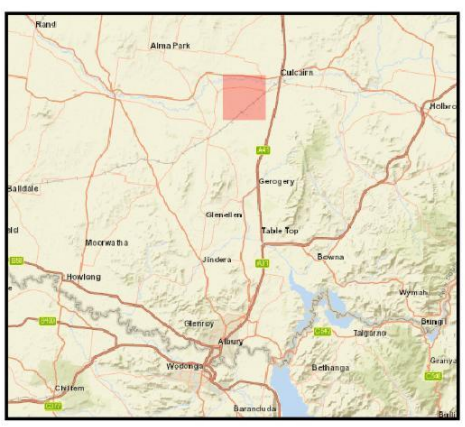
Vegetation Screening

- Visual Screening
- Supplimentary/Biodiversity Screening
- Existing screening

Sensitive Receivers

- Associated landowner
- Non-associated landowner
- Roads
- Waterways

0 0.5 1 km



Ref: 200430 Culcairn SF \ Culcairn SF Landscaping
Author: sarah.h
Date created: 30.04.2020
Datum: GDA94 / MGA zone 55

NGH

APPENDIX C ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT