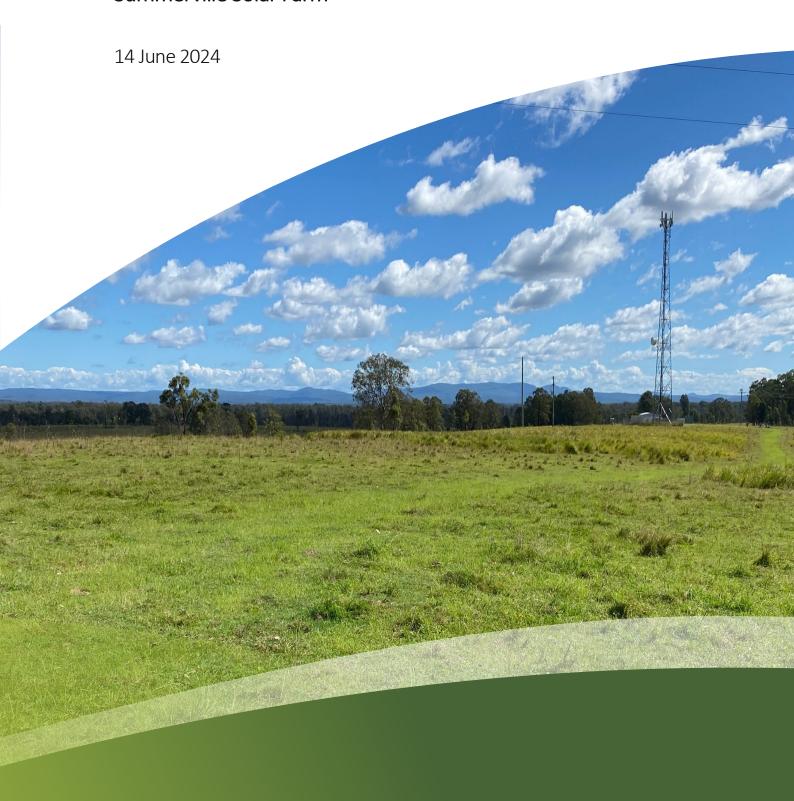




Submissions Report

Summerville Solar Farm



Submissions Report

Summerville Solar Farm

AE1235

June 2024

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Attachments

Attachment A Submissions Register

Attachment B Updated Biodiversity Development Assessment Report [provided separately to this Submissions report]

Attachment C Spider Orchid letter

Attachment D Consultation with Registered Aboriginal Parties

Attachment E Updated Traffic Impact Assessment [provided separately to this Submissions report]

Attachment F Hazard Assessment Memorandum

Attachment G Amended statement of commitments

Abbreviations

Accent Environmental Pty Ltd

AC alternating current

ACHAR Aboriginal cultural heritage assessment report

AEMO Australian Energy Market Operator

AIA agricultural impact assessment

BAL basic left-turn treatment

BAM-C Biodiversity Assessment Method Calculator

BAR basic right-turn treatment

BC Act Biodiversity Conservation Act 2016

BCS Biodiversity and Conservation Science

BDAR Biodiversity Development Assessment Report

BESS battery energy storage system

CLM Act Crown Land Management Act 2016

CSIRO Commonwealth Scientific and Industrial Research Organisation

DA development application

DCCEEW Department of Climate Change, Energy, the Environment and Water (NSW)

DCCEEW (Cth) Department of Climate Change, Energy, the Environment and Water

(Commonwealth)

DPE Department of Planning and Environment

DPHI Department of Planning, Housing and Infrastructure

EcoLogical EcoLogical Australia

EIS environmental impact statement

EMF electromagnetic fields

EP emergency plan

EPBC Act Environmental Protection and Biodiversity Conservation Act 1999

ESCO Pacific ESCO Pacific Holdings Pty Ltd

ESD ecologically sustainable development

ESIP emergency services information package

FEBQ fire engineering brief questionnaire

FRNSW Fire and Rescue NSW

FSS fire safety study

FTE full time equivalent

GHG greenhouse gas

GMR Energy GMR Energy Pty Ltd

ha hectare

hr hour

HIPAP hazardous industry planning advisory paper

ICNIRP International Commission on Non-Ionizing Radiation Protection

IFSR initial fire safety report

IMPACT IMPACT Australia

ISP integrated system plan

kv kilovolt

LALC local aboriginal land council

LCVIA landscape character and visual impact assessment

LSC land and soil capability

LGA local government area

MEG Mining, Exploration and Geoscience

Mendham Consultants

MW megawatt

MWh megawatt hour

NDC nationally determined contribution

NEM National Electricity Market

NSW New South Wales

NSW RFS NSW Rural Fire Service

O&M operations and maintenance

OX2 OX2 Holdings Pty Ltd

Ozark Environment and Heritage

PHA preliminary hazard assessment

QLD Queensland

RAPs registered aboriginal parties

RET Renewable Energy Target

RU1 rural zoned land

RVC Richmond Valley Council

RFS Rural Fire Service

SARET Safety of Alternative and Renewable Energy Technologies

SEPP state environmental planning policy

SHR State Heritage Register

SISD safe intersection sight distance

SOS Save Our Surroundings

SSAL state significant agricultural land

Summerville SF Summerville Solar Farm

TfNSW Transport of NSW

TIA traffic impact assessment

VPA voluntary planning agreement

Executive summary

The Summerville Solar Farm (Summerville SF) is being developed by ESCO Solar Farm 5 Pty Ltd (ACN 652 846 449) as trustee for the ESCO Solar Farm 5 Trust, which is a wholly owned subsidiary of OX2 Holdings Pty Ltd (OX2), formerly ESCO Pacific Holdings Pty Ltd. The Summerville SF comprises the construction and operation of a utility-scale solar farm and integrated battery energy storage system (BESS) facility on a site approximately 3 km east of Rappville and 25 km south of south of Casino, New South Wales (NSW).

OX2 submitted the Environmental Impact Statement (EIS) for the project to the NSW Department of Planning and Environment (DPE) (now the Department of Planning, Housing and Infrastructure – DPHI). The EIS was placed on public exhibition from Thursday 16 November 2023 until Wednesday 13 December 2023 on the DPHI Major Projects website and submissions have been received from regulatory agencies, council and the public.

This Submissions Report has been prepared to fulfil the requirements of Schedule 1 of the *Environmental Planning and Assessment Act 1979* and in accordance with the *State Significant Development Guidelines – Preparing a Submissions Report* (DPHI 2024).

The project received a total of 54 submissions in response to the public exhibition of the EIS – comprising 40 from the community, one from Richmond Valley Council (RVC) and 13 from government agencies.

None of the submissions received from public agencies or RVC were objections to the project. Four of the public agencies and RVC requested additional information to assist with their assessment.

A total of 36 submissions were received from community members and four from organisations and special interest groups. Of these, 38 objected to the project and two (both community members) supported the project. Concerns raised by the objectors included the potential environmental impacts of the project, concerns over renewable energy, and potential economic and other costs to the community.

In response to the submissions received OX2 has undertaken actions including:

- updating the Biodiversity Development Assessment Report
- providing clarification in relation to the Aboriginal Cultural Heritage Assessment Report
- updating the Traffic Impact Assessment for the project
- providing clarification in relation to the Preliminary Hazard Analysis.

In addition, further consultation has been undertaken in relation to the above, including with the community, DPHI, NSW Department of Climate Change, Energy, the Environment and Water, Transport for NSW and RVC.

Since the submission of the EIS, a number of project refinements have also been proposed, including an approximate 7 ha reduction in the development footprint (primarily due to additional exclusion of areas of biodiversity value), a commitment to adopting UL9450A-certified battery technology, and minor changes to the main site access and emergency access

points. Key aspects of the project, such as proposed generation capacity and project area, remain unchanged from the EIS.

Based on the additional actions, consultation and project amendments, a number of additional impact mitigation commitments have been made by OX2 to complement those set out in the EIS.

The EIS and this Submissions Report, in combination, demonstrate that the Summerville SF will generate significant net benefits, locally, regionally and at a state level.

1 Introduction

1.1 Context

The Summerville Solar Farm (Summerville SF) is being developed by ESCO Solar Farm 5 Pty Ltd (ACN 652 846 449) as trustee for the ESCO Solar Farm 5 Trust, which is a wholly owned subsidiary of OX2 Holdings Pty Ltd (OX2), formerly ESCO Pacific Holdings Pty Ltd. The Summerville SF comprises the construction and operation of a utility-scale solar farm and integrated battery energy storage system (BESS) facility on a site approximately 3 km east of Rappville and 25 km south of south of Casino (Figure 1.1).

An Environmental Impact Statement (EIS) (Accent 2023a) was prepared for the project under Schedule 2 of the Environmental Planning and Assessment Regulation 2021 to support the development application (DA) for the project. The EIS was submitted by OX2 to the NSW Department of Planning and Environment (DPE) (now the Department of Planning, Housing and Infrastructure – DPHI) on 23 October 2024. The EIS was exhibited on the DPHI Major Projects website and submissions have been received from regulatory agencies and the public (including community members and organisations/interest groups).

This Submissions Report has been prepared to fulfil the requirements of Schedule 1 of the Environmental Planning and Assessment Act 1979 and in accordance with the State Significant Development Guidelines – Preparing a Submissions Report (DPHI 2024) (Submissions Guidelines). As outlined in the Guidelines, the Submissions Report should provide the applicant's response to the submissions posted on the Major Projects website including:

- accurately summarising the issues raised in submissions
- providing a proper response to these issues
- updating the justification and evaluation of the project, having regard to any relevant issues raised in submissions and the applicant's response to these issues.

1.2 Project overview

The Summerville SF will occupy up to approximately 244 hectares (ha) of rural land currently used for grazing and comprising two allotments west of Summerland Way. The solar farm will¹ have a generation capacity of approximately 90 megawatt (MW) alternating current (AC) and an associated BESS facility with a capacity of approximately 90 MW_{AC} and four hours storage (360 megawatt hours (MWh)). General information about the project is provided in Table 1.1.

¹ The use of 'will' rather than 'would' in this EIS is for stylistic purposes and is not intended to imply that the outcomes of either the project approvals process or the detailed design process are known.

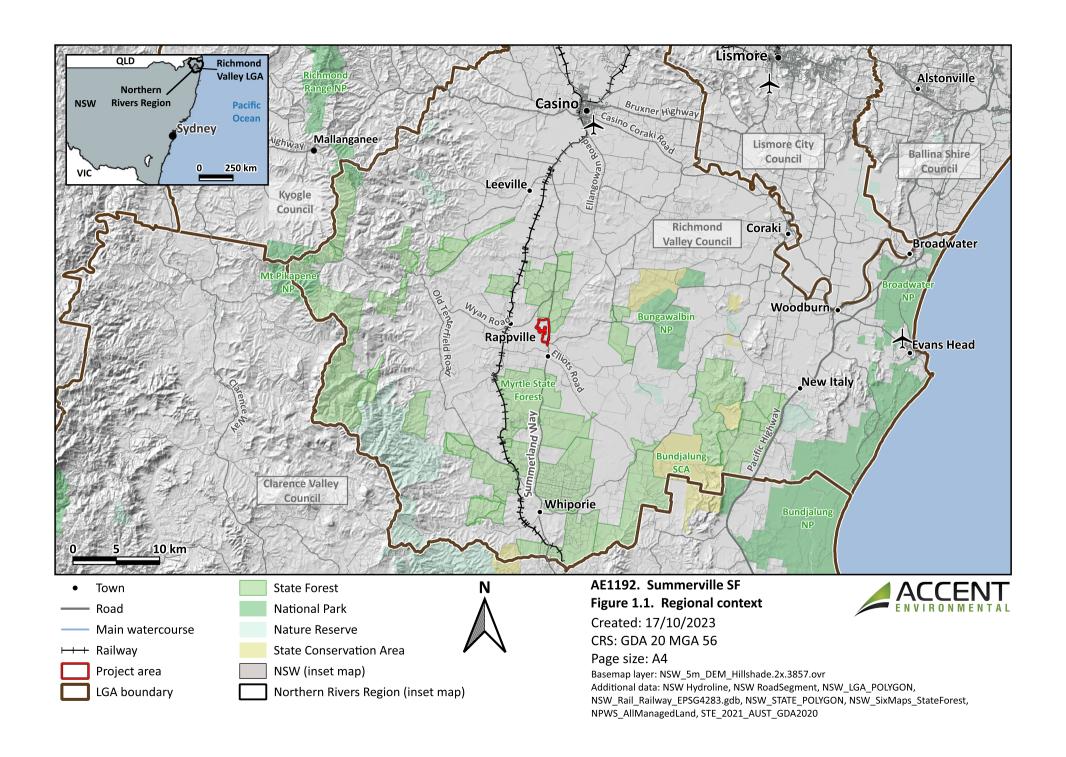


Table 1.1 Summerville SF project overview

Project aspect	Description	
Address	7605 Summerland Way, Rappville, NSW 2469	
Applicant	ESCO Solar Farm 5 Pty Ltd (ACN 652 846 449) as trustee for the ESCO Solar Farm 5 Trust Level 4, 13 Cremorne Street, Cremorne, Victoria 3121 Australia	
Local government area	Richmond Valley Council (RVC)	
Titles	The development footprint will utilise two listed lots: Lot 2 DP808274 Lot 59 DP755621	
Lot areas	 Approximately 364 ha, comprising: Lot 59 – 225 ha (northern lot) Lot 2 – 139 ha (southern lot) 	
Project area	Approximately 244 ha	
Development footprint	Approximately 183 ha	
Subdivision	Lot 59 (northern lot) – OX2 has signed an Option to Lease part of Lot 59 and a lease subdivision is expected to be required. Lot 2 (southern lot) – OX2 has signed an option to purchase Lot 2. However, a freehold subdivision will be required around the switchyard which will be a Transgrid asset.	
Land use zoning	Rural zoned land (RU1)	
Existing and future land use	Existing land use – predominantly cattle grazing. Future land use – after project operation ceases and the site is decommissioned and rehabilitated, a return to existing land use is anticipated.	
Permissibility	The solar farm is permissible on land zoned RU1 under State Environmental Planning Policy (Transport and Infrastructure) 2021	
Proposed solar farm capacity	Up to 90 MW _{AC} generation	
Proposed BESS facility capacity	Up to 90 MW _{AC} /4 hour (hr) storage (360 MWh)	
Solar array layout	Approximately 215,000 photovoltaic modules (solar panels). Panels will be mounted in north-south aligned rows (solar arrays), between 70 m and 120 m in length, and will rotate from east to west each day. Arrays will have a height of up to 4.2 m at full solar panel tilt.	
Site access	Site access will be directly off Summerland Way via an access point located in the southern section of the site. Provision will also be made for emergency site access/egress.	

Project aspect	Description	
On-site infrastructure	On-site infrastructure will include solar arrays, BESS, electrical collection systems, substation, switchyard, operations and maintenance facility, site access point and internal vehicle tracks.	
Connection	A 132 kV underground cable will connect the proposed substation to the existing Lismore – Koolkhan Transgrid 132 kV transmission line, which is located adjacent to the site.	
Construction timing	Construction and commissioning of the project is expected to take approximately 15 to 18 months.	
Workforce	Construction – up to 200 jobs during peak construction period.	
	Operation – up to seven full time equivalent jobs.	
Community benefits	Community benefits will include:	
	 increased prosperity from local employment, economic benefits for local businesses and accommodation providers due to workforce expenditure 	
	 benefits related to community investment and involvement (e.g. due to the proposed Community Benefit Sharing Plan). 	
Council agreements	Discussions with RVC have indicated they would like to use the Section 7.12 mechanism. OX2 are waiting for written confirmation from RVC about this and details on the process moving forward.	
Decommissioning and rehabilitation	It is expected that decommissioning and rehabilitation will be able to restore the project area to its pre-project land capability.	
Waterways	A number of minor, ephemeral waterways cross the project area. The main waterway within the project area crosses the site from east to west between the northern and southern development footprints.	
Screening	Due to natural screening provided by existing vegetation and the low visual impact of the project, screening is not proposed.	

The project area is adjacent to the existing 132 kilovolt (kV) above-ground transmission line. The transmission line is owned and operated by Transgrid (Line No. 967) and runs from Lismore to Koolkhan. The line provides a suitable grid connection point for the project due to its available network capacity.

Project infrastructure includes solar panels, inverters, transformers, underground cabling, an integrated BESS facility of approximately 360 MWh, an operations and maintenance (O&M) building, site office, internal access roads, road and electrical easement crossings, perimeter security fencing, and a substation and switchyard to connect the solar farm to the existing transmission line.

The site is in the centre of the Richmond Valley local government area (LGA), approximately 570 km north of Sydney in the Northern Rivers area of northern NSW. It is approximately 80 km south of the Queensland (QLD) border and approximately 40 km inland from the coast (see Figure 1.1).

The project is a large infrastructure project that is expected to create up to 200 jobs during construction and up to seven full time equivalent (FTE) jobs when operational. Construction is expected to take approximately 16 to 19 months.

2 Analysis of submissions

2.1 Exhibition details

The EIS was publicly exhibited on DPE's Major Projects website (https://www.planningportal.nsw.gov.au/major-projects/projects/armidale-battery-energy-storage-system) from 16 November 2023 to 13 December 2023.

2.2 Overview of submissions received

During the public exhibition period, DPHI received a total of 54 submissions. Of these, 36 submissions were made by individual members of the public, four were made by community organisations, and 14 were state government agency and council submissions. A summary of these submissions is provided in Table 2.1.

One submission in relation to biodiversity impacts and offsets from an organisation was made outside the exhibition period. The late submission is not included in the analysis below; however, the issues raised in the submission have been considered, as relevant, in the updated Biodiversity Development Assessment Report (BDAR) (Attachment B) and the submission is included in the submissions register (Attachment A).

Responses to the submissions received from state government agencies and RVC are provided in Chapter 4. The submissions received from members of the community (individuals, organisations and special interest groups) are analysed in Section 2.3, below. Responses to community submissions are provided in Chapter 5.

Table 2.1 Summary of submissions

Category	Responses received
 Government agencies: DPHI Crown Lands DPHI Hazards Department of Climate Change, Energy, the Environment and Water (DCCEEW) Water DCCEEW Biodiversity and Conservation Science (BCS) Directorate Fire and Rescue NSW (FRNSW) NSW Rural Fire Service (NSW RFS) Mining, Exploration and Geoscience (MEG) Heritage Council of NSW Heritage NSW Transport for NSW (TfNSW) Department of Primary Industries (DPI) Agriculture 	13 submissions were received from state government agencies, each agency with one submission. None of the submissions were objections. Four agencies requested more information: DPHI Hazards DCCEEW BCS Heritage NSW TfNSW

Category	Responses received
DPI Fisheries	
Council: Richmond Valley Council	There was one submission by Richmond Valley Council, requesting further information.
Individual community members	36 submissions were received by individual members of the community. 34 submissions were objections, two were in support of the project.
Organisations and special interest groups: Climate and Energy Realists Queensland Rainforest Reserves Australia Save Our Surroundings (SOS) Save Our Woodlands	Four community organisations/special interest groups made submissions. All four objected to the project.

2.3 Analysis of community submissions

Community submissions received by DPHI included those from both individual members of the public and community organisations/special interest groups. All 40 submissions are publicly found on the DPHI Major Projects website.

There were no form letters or petitions submitted to DPHI regarding the project.

Due to the number of submissions by community members and organisations/interest groups and the wide variety of issues that they covered (including within individual submissions) these submissions have been subjected to analysis, as outlined below.

2.3.1 Methodology

Each community submission has been grouped into categories and sub-categories to identity and address each of the issues raised. As per the *State Significant Development Guidelines* – *Preparing a Submissions Report - Appendix C* (DPHI 2024), the submissions were separated into five broad categories:

- the project (e.g. the site, the project area, the physical layout and design, key uses and activities, timing)
- procedural matters (e.g. level or quality of engagement, compliance with the SEARs, identification of relevant statutory requirements)
- the economic, environmental and social impacts of the project (e.g. amenity, air, biodiversity, heritage)
- the justification and evaluation of the project as a whole (e.g. consistency of project with Government plans, policies or guidelines)
- issues that are beyond the scope of the project (e.g. broader policy issues) or not relevant to the project.

The comments were then further separated into more specific sub-categories:

- air quality
- biodiversity
- bushfire
- cumulative impact
- decommissioning
- economic
- engagement
- hazards
- heritage
- land and soil
- noise
- other matters
- social
- traffic
- visual
- water
- human health
- waste.

Responses were prepared for each issue with input as required from information provided by the specialist technical assessments prepared for the EIS and the additional specialist work undertaken in support of this Submissions Report.

The analysis of community submissions is provided in Sections 2.3.2 and 2.3.3 below.

2.3.2 Analysis by location

A geographical analysis of the community submissions found that 22.5% were from individuals or organisations that are local to the site (i.e. located <5 km from site) and 77.5% were from the broader community (i.e. located >100 km from site). No submissions were received from locations within a regional distance of the site (5-100 km). Nine submissions came from people located within the RVC LGA.

The ranges of distance defining 'local', 'regional' and 'broader' are as defined in the Submissions Guidelines.

A summary of each submission location and its objection/support status is represented in Table 2.2.

It was noted that six of the public submissions were submitted from interstate locations. While these submissions are not from NSW, two are considerably closer to the project site than most NSW submissions, as they were submitted from Bundall and Highfields (QLD), approximately 125 km and 207 km from site, respectively.

Table 2.2 Locations of public submissions and their objection/support status

LGA	Location	Objection	Support	
Local (<5 km from the site)				
Richmond Valley Council	Ellangowan, NSW	8		
	Rappville, NSW		1	
Broader community (>100 km fro	om the site)			
Armidale Regional Council	Armidale, NSW	1		
	Guyra, NSW	1		
City of Parramatta	Old Toongabbie, NSW	1		
Ku-ring-gai Council	Warrawee, NSW	1		
Mid-Western Regional Council	Gulgong, NSW	3		
Newcastle	Mayfield West, NSW	1		
North Sydney Council	Waverton, NSW	1		
Northern Beaches Council	Forestville, NSW	1		
	Dee Why, NSW	2		
	Collaroy, NSW	1		
Uralla Shire	Yarrowyck, NSW	1		
Wagga Wagga	Kooringal, NSW	1		
	Lake Albert, NSW	1		
Walcha Shire	Walcha, NSW	1		
Warrumbungle Shire	Uarbry, NSW	2		
	Coolah, NSW	3		
	Dunedoo, NSW	1		
	Mollyan, NSW	2		
City of Gold Coast	Bundall, QLD	1		
Crows Nest	Highfields, QLD		1	
Tablelands Council	Lake Barrine, QLD	1		
Alpine Shire	Dederang, VIC	1		
Macedon Ranges	Lancefield, VIC	1		
Yarriambiack Shire	Rupanyup, VIC	1		
Total		38	2	

2.3.3 Analysis by DPIE categorisation

The categorisation of public submissions into the five broad categories listed in Section 2.3.1 is displayed graphically in Figure 2.1. The majority of submission comments (66.15%) discussed the 'economic, environmental and social impacts of the project'. Both 'procedural matters of the project' and 'issues that were beyond scope' were equally the least raised issues (4.62%).

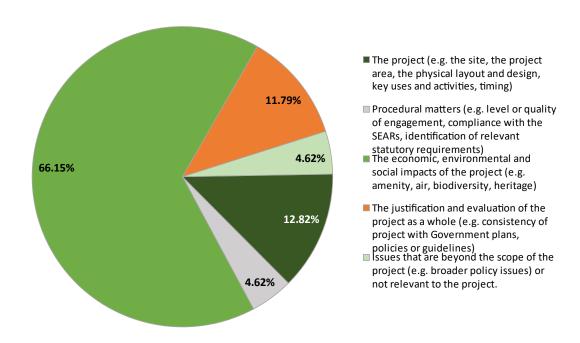


Figure 2.1 Pie chart of broad categories raised by community submissions

The submissions that fell within the category 'economic, environmental and social impacts of the project' were then broken down into sub-categories, and their frequencies were calculated. This is shown graphically in Figure 2.2. Submissions were received in relation to 17 sub-categories.

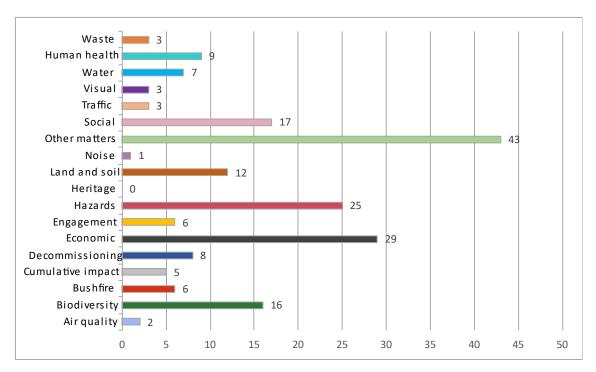
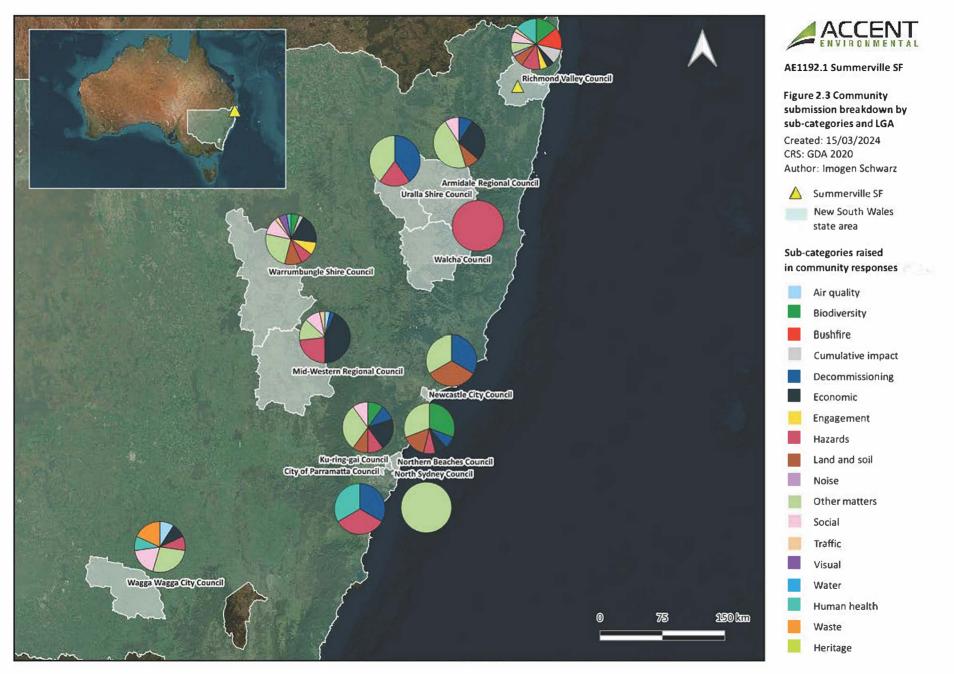


Figure 2.2 Frequency of sub-categories raised from public submissions

Of the 195 identified comments from all members of the public and organisation/special interest groups, some of the most common sub-categories raised were economic (14.9%) and hazard (12.8%). However, the largest proportion of issues raised (22.1%) were regarding 'other matters' or comments that were out of scope. Heritage issues were the least raised sub-category, with no comments. Overall, there was a wide range of sub-categories raised by the community submissions.

The main concerns raised by members of the community and organisations within NSW are displayed in Figure 2.3 below, where sub-categories are collated based on LGAs.



3 Actions taken since exhibition

3.1 Additional investigation/consultation

The following additional investigations/consultation were undertaken by OX2 to support the response to submissions.

3.1.1 Biodiversity Development Assessment Report

The Biodiversity Development Assessment Report (BDAR) (Attachment E of the EIS) was updated by EcoLogical Australia (EcoLogical) to include:

- the outcomes of additional field investigations, conducted in discussion with DCCEEW Biodiversity and Conservation Science (BCS) Directorate
- the exclusion of additional areas of biodiversity significance from the development footprint
- other changes to the development footprint (see Section 3.2, below)
- updated biodiversity assessment method calculations (BAM-C) to determine vegetation offset obligations.

The updated BDAR is included as Attachment B.

In addition, a letter has been prepared by EcoLogical in response to DCCEEW BCS concerns regarding the potential (although unlikely) presence within the project area of the Spider Orchid (*Dendrobium Melaleucaphilum*).

3.1.2 Aboriginal Cultural Heritage Assessment

A memorandum was prepared by OzArk Environment & Heritage (OzArk) to address comments received from Heritage NSW in relation to the Aboriginal Cultural Heritage Assessment Report (ACHAR) (Attachment F of the EIS).

The Aboriginal cultural heritage memorandum is included as Attachment D.

3.1.3 Traffic Impact Assessment

The Traffic Impact Assessment (TIA) (Attachment J of the EIS) was updated by IMPACT Australia (IMPACT) to include:

- updated traffic growth rates to reflect anticipated design year (2025) and associated traffic analysis
- updated site access design to include removal of turn arrows, updated edge lines, updated BAL shoulder to 3.0 m and include road reserve layers
- updated the safe intersection sight distance (SISD) assessment for the site access point and the emergency access point
- update of the cumulative analysis to include updated traffic numbers

- included a concept for possible use of shuttle buses in the event that the peak construction periods of the Summerville, Myrtle Creek and Richmond Valley solar farms overlapped
- included a strategic design of the emergency access
- discussed construction traffic access to road reserve/powerline easement during construction of cut-in to existing 132 kV transmission line and provided concept design for the transmission line access.

The updated TIA is included as Attachment E.

3.1.4 Preliminary Hazard Assessment

A memorandum was prepared by Mendham Consultants (Mendham) to address comments received in relation to the Preliminary Hazard Assessment (PHA) and project hazards.

The hazards memorandum is included as Attachment F.

3.1.5 Additional stakeholder engagement

Stakeholder engagement continues with stakeholders such as local authorities, government agencies, the local community and neighbouring landowners. An overview of engagement activities carried out during and after the public exhibition period of the EIS is provided in Section 6.

3.2 Project refinements

OX2 is proposing a number of changes to the Summerville Solar Farm project from that described in the October 2023 EIS. The changes include a change to the applicant's name. These changes are primarily in response to submissions received during the EIS exhibition period, the outcomes of further engagement with regulators, and the findings of the additional studies outlined in Section 3.1, above.

The changes to the project are summarised in Table 3.1 and are listed along with a number of key aspects (such as generation capacity and project area) which will remain unchanged. Figure 3.1 shows the proposed changes to the project layout.

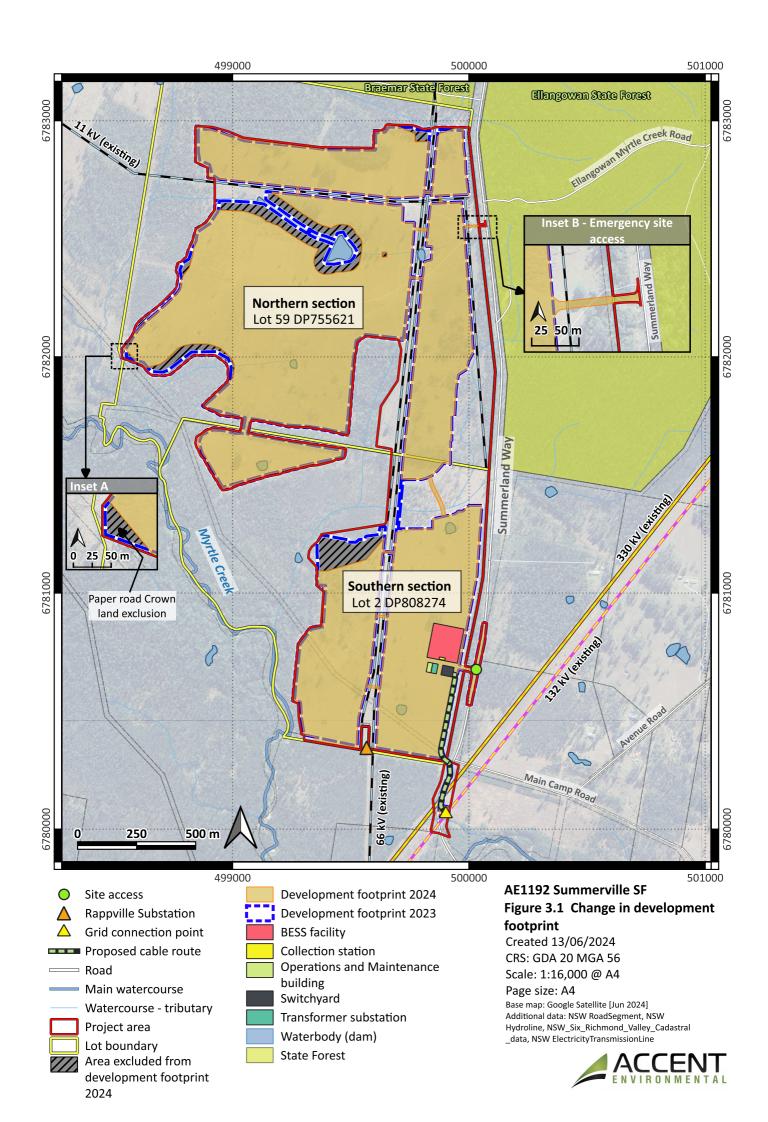
The project refinements are described further in the Summerville Solar Farm Amendment Report (Accent 2024) along with their implications for the environmental assessment and proposed environmental management of the project.

Table 3.1 Summary of proposed changes for Summerville SF

Element	EIS phase (original)	Proposed
Applicant name change	ESCO Solar Farm 5 Pty Ltd (ACN 652 846 449) as trustee for the ESCO Solar Farm 5 Trust, which is a wholly-owned subsidiary of ESCO Pacific Holdings Pty Ltd (ESCO Pacific).	ESCO Solar Farm 5 Pty Ltd (ACN 652 846 449) as trustee for the ESCO Solar Farm 5 Trust, which is a wholly-owned subsidiary of OX2 Holdings Pty Ltd (OX2).

Element	EIS phase (original)	Proposed
Generation capacity	Solar farm: approximately 90 MWAC generation BESS facility: approximately 90 MWAC/4 hour storage (360 MWh)	No change
Project area	Approximately 244 ha	No change
Development footprint	Approximately 196 ha	Approximately 183 ha The revised development footprint is shown in Figure 3.1, below. The net reduction in area due to a combination of: • refinements to avoid biodiversity (predominant reason for overall footprint reduction) (see Section 4.1.4) • inclusion of emergency access as part of development footprint and project area (very minor addition of area) • avoidance of interaction with the crown paper road along the western side of the northern parcel (very minor reduction in area).
Battery container separation distances	In the PHA prepared as part of the EIS (Attachment M of the EIS), a first principles fire modelling consequence analysis was undertaken to determine separation distances. A BESS supplier was not specified.	OX2 has now committed to adopting a UL9450A-certified battery technology. New separation distances have been adopted based on UL9540A-certified battery technology as outlined in Section 4.1.2. No changes are required to the BESS facility area or location, which remains as described in the EIS.
Location of site access point	Construction and operational access is directly off Summerland Way via a new access point located in the southern section of the site. This is included in the development footprint. Section 3.2.7 of the EIS describes two emergency access points (one at an existing farm entrance in the northern lot and one at an existing farm entrance in the southern lot).	The main site access point remains as described in the EIS. The southern emergency access point is no longer included in the project design as it is considered that the main site access point and northern emergency access point meet site access requirements. The northern emergency access point has been included as part of the development footprint (see Figure 3.1 and Section 4.1.11).
Site access point	Basic left-turn treatment (BAL) and basic right-turn treatment	No change to treatment, but additional considerations integrated into design in line with TfNSW response, specifically:

Element	EIS phase (original)	Proposed
intersection treatment	(BAR) on Summerland Way at site access point.	 turn arrows will not be installed the edge line of the southbound lane will continue through the intersection for the BAR treatment BAL shoulder will be 3.0 m wide. The BAR/BAL treatment will still fit within the development footprint and the existing road reserve. See Section 4.1.11.
Grid connection	A 132 kV underground cable will connect the proposed substation to the existing Lismore – Koolkhan Transgrid 132 kV transmission line at a connection point approximately 220 m south of the site.	No change – however more specific detail has been provided concerning the cut-in works as requested by Transgrid (see Section 4.3.3).



4 Responses to government agencies and council

4.1 Government agency submissions

Table 4.1 to Table 4.12 below list queries and additional information requested in the submissions made by the government agencies and provide OX2's responses.

4.1.1 DPHI Crown Lands

The queries raised in the DPHI Crown Lands submission are listed in Table 4.1 along with OX2's responses.

Table 4.1 DPHI Crown Lands comments and OX2 responses

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R1	Crown land	A mapped waterway being potentially Crown waterway - Myrtle Creek – adjacent and west of Lot 2 DP 808274. The proposal states there will be a minimum of a 10m APZ buffer along the creek line. Myrtle Creek is mapped as a Crown non-tidal waterway (CADID 106758824). Certainty around waterway ownership must be established by the proponent. This can be done by lodging a Status Search with DPE – Crown Lands – being for Ad medium filum aquae (Order a search on the status of Crown land Crown Lands).	 It is noted that Myrtle Creek is separated from the development footprint by more than just the 10 m width of the APZ (see Figure 3.1). Due to the separation distances between the development footprint and creek, there is no interaction between the project and the Crown land along the creek. 	-

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R1	Crown Land	Crown roads are located on the westerly side of Lot 59 DP 755621 within the property boundary. These roads are under a current enclosure permit number 22007 and are not part of the project footprint. (CADID 105539202, 107072942, part of 107072943 & 107072946).	 The location of unformed Crown roads on the westerly side of Lot 59 DP 755621 within the property boundary but outside the development footprint is noted. A small area of the northern section of the development footprint was identified by OX2, subsequent to EIS submission, as potentially overlapping a Crown road with enclosure permit to the west of the northern section of the project site. There was uncertainty as to whether or not there was an overlap as a cadastral survey had not yet been conducted in that area. As a precautionary measure, the area of potential overlap has been excised from the development footprint to avoid any potential for interaction with the unformed Crown road (see Figure 3.1). 	

4.1.2 DPHI Hazards

The queries raised in the DPHI Hazards submission are listed in Table 4.2 along with OX2's responses.

Table 4.2 DPHI Hazards OX2 and responses

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R3	Hazards	The assumption of fire only emitting from the top of the batteries is requested to be revised. The current model is potentially underestimating the heat radiation consequences for uninsulated areas of batteries.	 The Preliminary Hazard Analysis (PHA) included preliminary information based on BESS units of an undecided type. A first principles approach was initially undertaken with recommendations based on previous CFD modelling and project specific analytical assessment by Mendham. This showed the primary fire release location was at the top of the BESS units emanating from a fire and smoke plume based on radiant heat and not the sides where convected heat is the dominated heat transfer. Since DPHI reviewed the submitted PHA, OX2 has selected BESS units compliant to UL9540A, where the test certificate indicates 'no external flames were observed' during thermal runaway tests by the testing authority. The assumptions made in the PHA are no longer relevant since the selection of a specific BESS type certified to UL9540A has been made by the proponent. 	
	the	Clarify the separation distance to place the battery back-to-back, as shown in figure 3.2 in the EIS, is appropriate.	 Since the DPHI review of the submitted PHA, the proponent has selected BESS units compliant to UL9540A, where the test certificate indicates the manufacturer must include all separation distances in their installation manual. 	-

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R3	Hazards		The applicable installation manual indicates that a 'back to back' (i.e. the 'back' of the BESS units being the longest side/s) separation distance of 100mm (Minimum) to 250mm (Maximum) is required. (Refer Pg. 15/33 Sol Bank Installation Manual V1.6).	
		Confirmation 1.9 hectares allocated to the BESS is sufficient with consideration of the separations between batteries and equipment within the area.	 OX2/Accent have provided Mendham Consultants with a layout (including BESS /inverter/transformer dimensions and separation distances) to confirm that the required separation distances are met or exceeded, and that BESS facility fits within area available (see Figure 4.1, below). 	-
		Please provide the dimensions of the layout in Figure 3.1 of the EIS and determine the area requirements for a group of batteries.	Refer Items 2 and 3 (above).	-
		Provide qualitative assessment on the potential toxic risk if the battery is involved in fire event. in particular its impact to surrounding land use, if any.	 Since DPHI reviewed the submitted PHA, the proponent has selected BESS units compliant to UL9540 and certified to UL9540A, where the test certificate indicates 'no external flames were observed' by the testing authority during the thermal runaway tests. 	-
			 The assumptions made in the PHA in relation to toxic risk are no longer relevant, since the selection of a specific BESS type certified to UL9540A. 	
			 Both atmospheric toxic release and ground flow toxic release are of a low likelihood due to the UL9540A test results indicating no external flames observed during testing under laboratory conditions. 	

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R3	Hazards	Modify or remove the following statements (or similar statements) that suggests consultation with regulatory agencies to determine the maximum number of batteries simultaneously involved in a fire.	 The PHA stated the following: "The number of fire involved BESS units permitted in any one (1) single fire event through fire spread is at the discretion of the proponent in consultation with regulatory authorities." The original PHA considered BESS units of an unknown type and therefore considered the possibility of firespread between units. The regulatory authority the statement above was intended to be directed towards was the Rural Fire Service (RFS). If the ability of the local RFS was inadequate to control fire spread between BESS units, the proponent may have considered providing increased separation distance between individual BESS units to prevent more than one BESS unit becoming fire involved. With the selection of UL9540A certified BESS units, that do not display external flames during thermal runaway, this situation is now less likely to occur. 	



Figure 4.1 BESS layout showing dimensions

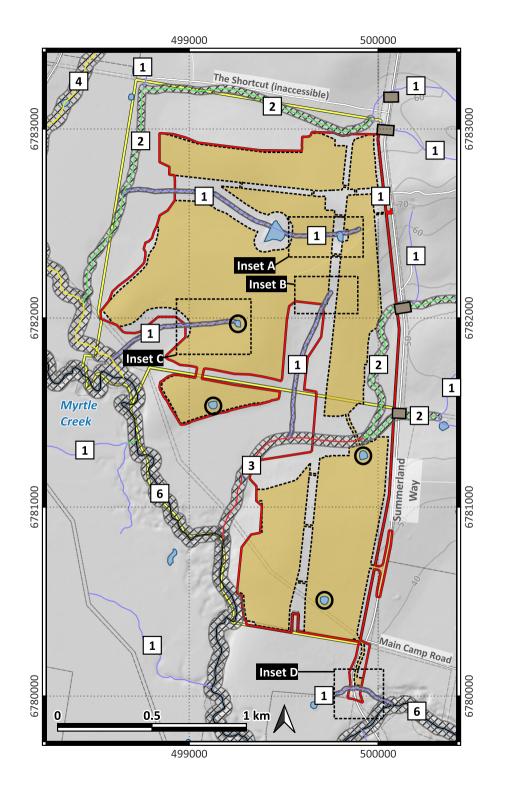
4.1.3 DCCEEW Water

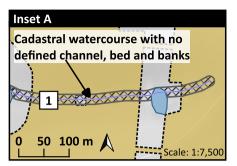
The queries raised in the DCCEEW Water submission are listed in Table 4.3 along with OX2's responses.

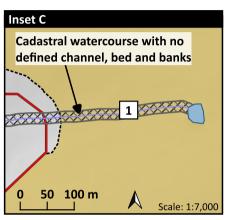
Table 4.3 DCCEEW Water comments and OX2 responses

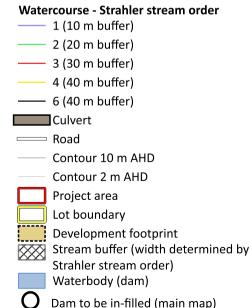
ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R2	Water supply	Water Supply Recommendation - pre-determination The proponent should clarify the ability to obtain the necessary water volumes from the site or confirm a viable supply is available for the supply, via an indication of an agreement from a water supplier. Explanation Insufficient information has been provided to understand if the proposed sources of onsite harvestable rights dams or third-party supplier trucking water to the site is a viable option. The proponent should provide an assessment of the availability of water from harvestable rights dams and provide evidence that third parties are able to provide water including estimated volumes.	 OX2/Accent has held discussions with several commercial water suppliers from within the Richmond Valley LGA regarding their capacity to meet the water requirements of the project (an estimated 43 ML across the 15-month construction period and 4.4 ML/year during operation). The discussions have established that there is sufficient capacity within the current licensed allocations of the water suppliers to meet project needs without the need to use local or on-site surface water or groundwater resources (such as water from roof runoff or on-site dams). An agreement from a local supplier has been secured and can be provided on request. The project will not be reliant on on-site surface water or groundwater resources. However, should OX2seek to supplement its water supply from these sources based on harvestable rights, this would be the subject 	

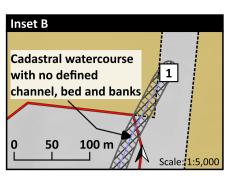
ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
			of a subsequent water access licence under the under the Water Management Act 2000.	
	Waterfront Land	Waterfront Land Recommendation - pre-determination The proponent should clarify the proposed infrastructure layout to meet the buffer requirements from watercourses as defined in the Guidelines for Controlled Activities on Waterfront Land.	 Figure 4.2, below, shows the waterway classifications within the project area and associated riparian corridors (buffers). Figure 4.2 shows that watercourse buffer requirements have been allowed for in the development footprint (both the footprint presented in the EIS and the current revised footprint) in accordance with the Guidelines for Controlled Activities on Waterfront Land. 	-
R2	Waterfront Land	Recommendation – post approval Works within waterfront land need to be carried out in accordance with the Guidelines for Controlled Activities on Waterfront Land. Explanation All works within Waterfront land should be carried out in accordance with the Guidelines for Controlled Activities on Waterfront Land. This includes the project layout incorporating setbacks which does not appear to currently have been considered. The EIS notes that watercourse crossing design and construction will be in accordance with the Guidelines which DPE Water supports.	 As discussed above, appropriate riparian corridors (buffers) along watercourses have already been incorporated into project design. The EIS contains a commitment (in Section 6.2.6) to designing waterway crossings in accordance with <i>Policy and Guidelines for Fish Friendly Waterway Crossing</i> and a number of the specific <i>Guidelines for Controlled Activities on Waterfront Land</i>. This commitment will be amended to include not just waterway crossings, but any works within waterfront land. 	Works within waterfront land will be carried out in accordance with the Guidelines for Controlled Activities on Waterfront Land, and waterway crossings will additionally be designed in accordance with Policy and Guidelines for Fish Friendly Waterway Crossing

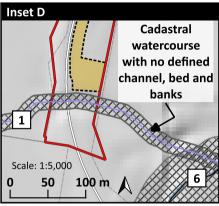












AE1192 Summerville SF Figure 4.1 Strahler stream order and the development footprint

Created 03/06/2024 CRS: GDA 20 MGA 56

Scale: 1:20,000 @ A4 (Main map)

Page size: A4

Base map: NSW_5m_DEM_Hillshade_2xVE.GDA94.grey. 2023-10-23

Additional data: NSW_Six_Richmond_Valley_Cadastral _data, NSW RoadSegment, NSW HydroArea and NSW Hydroline.



4.1.4 DCCEEW Biodiversity and Conservation Science

The queries raised in the DCCEEW BCS submission have been addressed in Appendix B of the updated BDAR (Attachment B).

The DCCEEW BCS concerns regarding the potential (although unlikely) presence within the project area of the Spider Orchid (*Dendrobium Melaleucaphilum*) have been addressed in a letter from EcoLogical (Attachment C).

4.1.5 Fire and Rescue NSW (FRNSW)

The queries raised in the FRNSW submission are listed in Table 4.4 along with OX2's responses.

Table 4.4 Fire and Rescue NSW comments and OX2 responses

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measure
R5	Fire and rescue	Should this project be approved FRNSW make the following recommendations: That a Fire Safety Study (FSS) is developed in accordance with the requirements of Hazardous Industry Planning Advisory Paper (HIPAP) No.2 and submitted to FRNSW for review.	Noted. This is already a commitment in the EIS (see Section 6.10.6): "Developing a comprehensive Fire Safety Study in accordance with the requirements of Hazardous Industry Planning Advisory Paper (HiPAP) No. 2 and to meet the requirements of FRNSW".	-
		The FSS is to be developed to the satisfaction of FRNSW prior to any further submission being made to FRNSW; this includes: an Initial Fire Safety Report (IFSR) and / or Performance-Based Design Brief / Fire Engineering Brief Questionnaire (FEBQ).	Noted and will be a pre- construction commitment.	The Fire Safety Study will be developed to the satisfaction of FRNSW prior to any further submission being made to FRNSW; this includes: an Initial Fire Safety Report (IFSR) and / or Performance-Based Design Brief / Fire Engineering Brief Questionnaire (FEBQ).
		 The FSS should be prepared consistent with the FRNSW Fire Safety Guideline Technical Information – Large scale external lithium-ion battery energy 	Noted and will be a preconstruction commitment.	The Fire Safety Study will be prepared consistent with the FRNSW Fire Safety Guideline Technical Information – Large scale external lithium-ion battery

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measure
R5	Fire and rescue	storage systems – Fire safety study considerations.		energy storage systems — Fire safety study considerations.
		Prior to occupation or commissioning an Emergency Plan (EP) is developed for the site in accordance with HIPAP No.1.	Noted and will be a pre- operation (pre- commissioning) commitment.	An Emergency Plan (EP) will be developed for the site in accordance with HIPAP No.1 prior to occupation or commissioning.
		Prior to occupation or commissioning an Emergency Services Information Package (ESIP) be prepared in accordance with FRNSW fire safety guideline – Emergency services information package and tactical fire plans.	Noted and will be a pre- operation (pre- commissioning) commitment.	An Emergency Services Information Package (ESIP) will be prepared in accordance with FRNSW fire safety guideline – Emergency service information package and tactical fire plans prior to occupation or commissioning.
		 Prior to occupation or commissioning an Emergency Responders Induction Package is developed for the site in consultation with, and to the satisfaction of FRNSW. The OFFICIAL www.fire.nsw.gov.au Page 2 of 2 OFFICIAL package should inform first responders of site-specific features and safety measures to ensure they are able to undertake their duties effectively in accordance with agency specific Standard Operational Guidelines. The format of the Induction Package should be such that it can be readily shared across all agencies. 	Noted and will be a preoperation (precommissioning) commitment.	Prior to occupation or commissioning an Emergency Responders Induction Package will be developed for the site in consultation with, and to the satisfaction of FRNSW.

4.1.6 NSW Rural Fire Service

The queries raised in the NSW Rural Fire Service submission are listed in Table 4.5 along with OX2's responses.

Table 4.5 NSW Rural Fire Service comments and OX2 responses

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R6	Fire	The New South Wales Rural Fire Service (NSW RFS) has reviewed the EIS and provides the following comments: • The recommendations (table 3) of the Summerville Solar Farm Bush Fire Strategic Study prepared by Cool Burn Pty Ltd dated 22 May 2023 are supported and included in any approval granted. Further, a trafficable defendable space shall be established within the 10 meter perimeter APZ footprint.	Noted. A 10 m APZ is already a commitment in the EIS (see Section 6.10.6) and will comprise a trafficable, defendable space.	-

4.1.7 Mining, Exploration & Geoscience

The queries raised in the Mining, Exploration & Geoscience (MEG) submission are listed in Table 4.6 along with OX2's responses.

Table 4.6 MEG comment and OX2 responses

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R7	MEG	Mining Exploration and Geoscience (MEG) has reviewed the EIS for the Summerville Solar Farm and has no comments or issues to raise in relation to the project.	Noted.	-

4.1.8 Heritage Council of NSW

The queries raised in the Heritage Council of NSW submission are listed in Table 4.7 along with OX2's responses.

Table 4.7 Heritage Council of NSW comment and OX2 responses

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
Heritage	Council of NSW			
R8	Heritage	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 relics. Therefore, no heritage comments are required. The Department does not need to refer subsequent stages of this proposal to the Heritage Council of NSW.	Noted.	-

4.1.9 Heritage NSW

The queries raised in the Heritage NSW submission are listed in Table 4.8 along with OX2's responses.

Table 4.8 Heritage NSW comments and OX2 responses

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R9	Aboriginal Cultural Heritage	 Minor clarification is required in relation to consultation with the Registered Aboriginal Parties (RAPs). This includes the following: The table included in Appendix 1 specifies that the Stage 2 and 3 assessment information was sent to multiple Aboriginal parties. However, the ACHAR lists only 4 RAPs for the project. Please clarify that the Stage 2 and 3 documents were sent to a broad range of Aboriginal organisations but that there were subsequently only 4 registrations of interest received. 	This is correct. On 6 May 2023, 15 individuals or organisations were posted or emailed a letter asking if they wished to be consulted about the project. These stakeholder names had been received by OzArk from the government agencies contacted. Of these 15, two were 'return to sender' and only Aaron Talbott & Natalene Mercy formerly registered to be consulted on 6 May 2023. Three RAPs were added by OzArk to the consultation register to ensure a broad community representation (Bogal Local Aboriginal Land Council (LALC), the Casino Boolangle LALC, and the Banjalang Aboriginal Corporation); although none of these organisations formerly registered.	
		 Please provide evidence of provision of the draft ACHAR to all RAPs. Appendix 1 includes a sample letter but please provide proof of provision such as emails to RAPs. 	Email records of all RAPs being issued with the ACHAR on 21 September 2022 and the Revised ACHAR on 11 October 2023 are provided in Attachment D.	-
		Further information is required to demonstrate that consultation	Following the 21 March 2023 meeting, the following consultation has occurred:	-

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R9	Aboriginal Cultural Heritage	regarding the project has been ongoing (defined as having no greater gap between consultation events than 6 months). The last noted consultation event referenced in the ACHAR is a meeting with Bandjalang Aboriginal Corporation on 21 March 2023. Please provide information on any subsequent consultation that has occurred with all RAPs.	 30.3.23 - Banjalang Aboriginal Corporation, emailed meeting minutes 11.10.23 - Aaron Talbott & Natalene Mercy, Bogal LALC, Casino Boolangle LALC, and the Banjalang Aboriginal Corporation, emailed Stage 4 revised Final ACHAR 11.10.23 - Aaron Talbott & Natalene Mercy, received "Thank you for email. Hope all is well. Talk soon.' The consultation phases have run: ACHCRs Stages 1 and 2, and 3: 21 April 2022 to 19 July 2022 ACHCRs Stage 4: 21 September 2022 to 24 October 2022 ACHCRs Stage 4 consultation with the Banjalang Aboriginal Corporation: 10 October 2022 to 30 March 2023 Consultation on the Revised ACHAR: 11 October 2023. Emails to RAPs providing project update: 5 June 2024. While there have been breaks in consultation slightly longer than six months, consultation has been on-going from April 2022 to the present. 	
		 Should these matters be able to be satisfactorily addressed, we have included recommended draft Conditions of Approval in Attachment A for your consideration. 	Noted.	-

4.1.10 Transgrid

The queries raised in the Transgrid submission are listed in Table 4.9 along with OX2's responses.

Table 4.9 Transgrid comment and OX2 responses

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R11	Transgrid	Please be advised this a Transgrid Customer project. Transgrid will continue to consult with the customer directly. If you have any questions please do not hesitate to contact our team.	Noted. Separate communication between OX2 and Transgrid concerning the cut-in infrastructure for the grid connection is discussed in Section 4.3.3.	-

4.1.11 Transport for NSW

The queries raised in the TfNSW submission are listed in Table 4.10 along with OX2's responses.

Table 4.10 TfNSW comments and OX2 responses

ID	Aspect	Detail of submissions	OX2 responses	Additional mitigation measure
R12	Transport	TfNSW has reviewed the information and does not support the proposed development in its current form. Transport's reasons are set out in Attachment 1. Attachment 1 comments:	Noted.	-
		 Trip Generation The TIA assumes that during the construction peak only 10 light vehicles will access the site, and that a significant number of workers will access the site via 16 minibuses (see Page 25 of the TIA). Details including pick-up and drop-off points, the size of the proposed minibus vehicles and the proposed arrangements/operators will need to be provided. 	Daily traffic workforce traffic volumes during construction have been revised in Section 5.1.3 of the updated TIA (Attachment E), including an update of Table 7.1. The updated figures conservatively assume that shuttle buses will not be used to transport Summerville workers to site. It is assumed that individual vehicles will be used, with an average vehicle occupancy rate of 1.5. Traffic numbers and terminology have also been aligned to the DPHI definition of a single vehicle movement as comprising an inbound and outbound trip.	

ID	Aspect	Detail of submissions	OX2 responses	Additional mitigation measure
R12	Transport	If these details cannot be provided, the TIA should conservatively assume that every worker arrives in their own light vehicle (as depicted in Scenario 1) while assuming that peak construction of nearby projects are also occurring at the same time. This may have implications on the turn warrants assessment and the proposed access treatment.	Section 5.2 (Traffic Impact) and 5.3 (Turning Lane Assessment) of the updated TIA (Attachment E) assesses two scenarios: • Scenario 1: Considers only Summerville Solar Farm site generated traffic without shuttle buses	-
			 Scenario 2: Considers both neighbouring developments occur during the same peak construction period, with these developments utilising shuttle buses to transport staff to/from site. 	
			Scenario 2 is more conservative than described in the EIS as it assumes (if construction peaks coincide) that shuttle buses are used only by the Myrtle Creek and Richmond Valley solar farms and that Summerville workers continue to travel to site in their individual vehicles (assuming a vehicle occupancy rate of 1.5).	
			The assessment shows that under both scenarios, the proposed BAL/BAR treatments are appropriate. It is noted that the peak construction periods of the Myrtle Creek and Richmond Valley solar farms are highly unlikely to coincide with that of Summerville SF, as the	

ID	Aspect	Detail of submissions	OX2 responses	Additional mitigation measure
R12	Transport		Summerville SF is further advanced along its development timeframe.	
		 Traffic volumes The TIA refers to traffic volumes from the Summerland Way Corridor Study (see Page 27). Further clarification on the background traffic growth rate is required as a part of the revised TIA. 	The use of the traffic growth rate from the Summerland Way Corridor Strategy was further discussed with TfNSW and the use was accepted as valid by TfNSW. The growth rate has been extended to 2025 in the updated TIA to coincide with the expected start of project construction.	-
		 Strategic design of access Turn arrows must not be installed at this intersection location and should be removed from the intersection. The edge line of the southbound lane should continue through the intersection for the BAR treatment. 	The strategic design has been amended in accordance with these three comments.	-
		 The BAL shoulder should be 3.0 m wide due to the number of turning trucks that will utilise the BAL. This would enable left turning vehicles to get clear from the through lane. 		
		 Geotechnical investigation into the proposed pavement widening will be required. The investigation will need to include the adjacent existing pavement. A Pavement Report with 	Geotechnical investigations into pavement widening will be undertaken post consent and prior to construction.	-

ID	Aspect	Detail of submissions	OX2 responses	Additional mitigation measure
R12	Transport	recommended pavement design options will need to be submitted.		
		It is unclear whether the proposed BAL/BAR treatment will fit within the road reserve. The updated strategic design will need to show the extent of the road reserve in relation to the proposed treatment. See the TfNSW strategic design requirements factsheet for further information.	The revised concept design of the proposed site access presented in Section 5.3 (Turning Lane Assessment) and Appendix A of the updated TIA (Attachment E) demonstrates that the BAL/BAR treatment fits within the existing road reserve.	-
		 Safe Intersection Sight Distance (SISD) The SISD for the access may be affected by vegetation and the gradient of the road at the access location. Further investigation will be required to determine whether these aspects impact on SISD and whether mitigation measures such as cutting/trimming vegetation will be required. TfNSW notes that the SISD assessment was primary based upon a desktop assessment and that further investigations may be needed. 	The SISD for the site access point has been updated by a field assessment and consideration of road gradients, as outlined in Section 4.3 of the updated TIA (Attachment E).	-
		 Further details of the works required for the proposed underground 132kV cable that will provide a connection between the solar farm and the existing Transgrid Lismore-Koolkhan 132kV transmission line must be submitted to TfNSW for review. This is because the works will involve horizontal boring and directional drilling under Summerland Way. TfNSW consent under Section 138 of the Roads Act, 1993 will 	Further details of the works required for the proposed 132kV cable under Summerland Way will be provide to TfNSW after project consent and prior to construction. The proposed design of the transmission line access for construction vehicles is	-

ID	Aspect	Detail of submissions	OX2 responses	Additional mitigation measure
R12	Transport	be required for all works under the TfNSW road reserve.	provided in Appendix E of the updated TIA (Attachment E).	
			The proposed cut-in works at the grid connection point are described in Section 4.3.3 of this Submissions Report.	
		 Oversize Overmass Vehicles Due to the height of the vehicle and laden load (5.369 metres, as documented in the OSOM Vehicle Route Assessment prepared by EMM and dated September 2023), there will need to be further investigations and details of pinch points, vertical clearance to ensure that clearances along the proposed route are adequate. 	Any defined overhead clearances (e.g. bridge as well as pinch points) are addressed in the OSOM assessment (Appendix B of the updated TIA – unchanged since the EIS was submitted). Any other undefined overhead clearances, (e.g. overgrown trees, utility/services) will be subject to field test which can be conducted as part of the NHVR application by the transport contractor.	
		 Further consultations will be required where TfNSW infrastructure may be affected by the proposed OSOM movement such as the mounting of kerbs, roundabouts and median islands, the temporary removal of signage or cuts to medians. Where works within the State road reserve are required, Section 138 consent from TfNSW will be required and affected assets will likely require a condition assessment prior to any work commencing. 	These further consultations will occur after project consent and prior to construction once the transport contractor has been selected.	-

ID	Aspect	Detail of submissions	OX2 responses	Additional mitigation measure
R12	Transport	Additional comments TfNSW notes that the Accommodation and Employment Strategy identifies a current occupancy rate of 49% in larger accommodation establishments within Richmond Valley LGA, and recommends that workers who do not reside within proximity to the development be encouraged to utilise vacant accommodation that is within commuting distance in order to reduce the impact on the State road network.	OX2 makes a commitment to local hiring, provision of training and apprenticeship opportunities for local workers, and partnerships with local employment and training services with an aim of reducing the need for outsourcing of workers. As documented in the Accommodation and Employment Strategy (AES) (Attachment P of the EIS) a local employment strategy will be prepared and will include a focus on facilitating workforce development opportunities and developing industry partnerships to support regionally based businesses and workforce. One of the strategies outlined in the AES is to encourage non-local workers to be accommodated in surrounding towns (within commuting distance) to further reduce the impact on the closest towns	
		 TfNSW recommends consultations with Richmond Valley Council on the proposed OSOM routes to ascertain whether OSOM transport through Lismore Township will be appropriate. 	The OSOM assessment (Appendix B of the updated TIA – unchanged since the EIS was submitted) has identified a suitable route via the Lismore and Casino townships. RVC and Lismore City Council will be consulted during the pre-construction	RVC and Lismore City Council will be consulted during the pre- construction period once the timing of the OSOM

ID	Aspect	Detail of submissions	OX2 responses	Additional mitigation measure
R12	Transport		period once the timing of the OSOM movement has been confirmed.	movement has been confirmed.
		 Council should be consulted where parking spaces need to be kept vacant to ensure OSOM transit (including the Neeld Street/Compton Road intersection at Wyalong, and the Peak Hill Road/Thomas Street intersection at Parkes). 	Councils will be consulted once the timing of the OSOM movement has been confirmed.	Councils will be consulted where parking spaces need to be kept vacant, once the timing of the OSOM movement has been confirmed.
		 TfNSW strongly supports the proposal to utilise shuttle buses to transport workers because this will reduce the impact to the State road network. 	Noted.	-

4.1.12 DPI Agriculture

The queries raised in the DPI Agriculture submission are listed in Table 4.11 along with OX2's responses.

Table 4.11 DPI Agriculture comments and OX2 responses

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R13	Agriculture	NSW DPI Agriculture makes the following further recommendations:	-	-
		While the potential reduction of agricultural productivity impacts through 'agrisolar' is in principle supported, this should not come at the expense of long-term (i.e. post-decommission) conservation of agricultural resources at the site. If grazing of the site is undertaken, a Grazing Management Plan should be prepared to detail how management of livestock on the site will not result in deterioration of the long-term land, water and soil resource health. The design of the solar infrastructure will greatly influence the productivity potential of grazing operations and the ability to maintain resource health.	Noted and will be a pre-operation commitment.	A Grazing Management Plan will be prepared prior to operation if grazing of the site is undertaken, and will detail how livestock will be managed to avoid deterioration of the long-term land, water and soil resource health.
		 A minimum groundcover target of 70% should be committed to across the site (outside of actively disturbed areas) to support other long- term land and soil resource health and water management commitments. This target should be considered and maintained in the case that grazing is implemented at the site. 	Noted and will be a pre-construction commitment.	A minimum groundcover target of 70% will be committed to across the site (outside of actively disturbed areas) to support other long-term land and soil resource health and water management commitments (including if grazing is implemented at the site).

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R13	Agriculture	 As stated in our previous advice, the proponent should commit to removal of all above and below ground infrastructure upon decommissioning, unless there is significant justification for retaining it. This is consistent with the key principles for decommissioning and rehabilitation from the Large-Scale Solar Energy Guideline 2022 (pg. 31). 	Noted and will be a decommissioning commitment.	All above and below ground infrastructure will be removed at decommissioning unless there is significant justification for retaining it.
	Decommissioning and Rehabilitation Management Plan of restoring the site to its pre-development agricultural productivity potential' or similar (as opposed to broader wording such as 'establish conditions that are able to support [grazing] use). The Statement of Commitments should also include the following recommended mitigation measure from the AIA: Stock fences, dams and access tracks to be reinstated in consultation with the landholder Moted and will be a decommissioning commitment. Noted and will be a decommissioning commitment. During decommissioning commitment.	Decommissioning and Rehabilitation Management Plan of restoring the site to its pre-development agricultural productivity potential' or similar (as opposed to broader wording such as 'establish conditions that are	decommissioning	The Decommissioning and Rehabilitation Management Plan will seek to restore the site to its pre- development agricultural productivity potential' or similar.
		During decommissioning, pre- disturbance stock fences, dams and access tracks will be reinstated as required in consultation with the landholder to accommodate a post project land use of grazing.		

4.1.13 DPI Fisheries

The queries raised in the DPI Fisheries submission are listed in Table 4.12 along with OX2's responses.

Table 4.12 DPI Fisheries comments and OX2 responses

ID	Aspect	Detail of submissions	OX2 response	Additional mitigation measure
R14	Fisheries	DPI Fisheries has reviewed the proposal and considers that potential direct and onsite indirect impacts on aquatic habitats should be mitigated with the implementation of the mitigation measures outlined within section 6 of the EIS, in particular:	-	-
		The biodiversity management and mitigation measures outlined in Table 6.9, particularly item B09 which related to water crossing design and construction.	Noted.	-
		The soil and land-use management and mitigation measures within Table 6.19.	Noted.	-
		The hydrology and water management and mitigation within Table 6.22.	Noted.	-

4.2 Richmond Valley Council submission

Table 4.2 provides the comments received from Richmond Valley Council and their respective responses by OX2.

Table 4.13 Responses to Richmond Valley Council's comments

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council	Richmond Valley Council welcomes the opportunity to provide comments concerning the Summerville Solar Farm. Council provided advice in relation to the scoping report and preparation of SEARS for the project, these comments remain valid for the project. Further Council provides additions, comments and requests the Department give consideration to the following matters in its assessment and include appropriate consent conditions should the application be approved. Visual Amenity The Summerland Way is the main road to and from Casino connecting to rural communities and the town of Grafton to the south. It is noted the proposed location of the BESS, switchyard,	The Landscape Character and Visual Impact Assessment (LCVIA) (see EIS Attachment L) found that landscaping to mitigate visual impacts at the project site is not required. This is primarily due to the natural screening	-
		transformer, operations, and maintenance infrastructure is in close proximity to the Summerland Way. Council requests consideration be given to ensuring the visual character of the existing landscape is retained in this location, and landscape screening of these facilities is provided as necessary to ensure the facilities are not visible from the Summerland Way.	 effect of the existing vegetation which surrounds almost the entire project site. The visual sensitivity of road users travelling along this road is low due to the high speed at which vehicles are travelling and the transient nature of impacts. In line with DPE visual impact assessment guidelines this impact does not require mitigation due to 	

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council		the low visual impact magnitude (gaps in vegetation equivalent to the entrance driveway widths) and low receiver sensitivity which would lead to a very low to low visual impact rating (NSW guidelines only require mitigation of visual impacts that are moderate or high). • Screening to lessen the visual impacts of the	
			site access points is not practical due to the need for direct and unimpeded site access.	
		A landscaping plan and its implementation should be required by way of consent conditions.	 The Landscape Character and Visual Impact Assessment (LCVIA) (see EIS Attachment L) found that landscaping to mitigate visual impacts at the project site is not required and thus a Landscaping Plan is not required for the project. 	-
		Council is aware of emerging hazard and contamination issues associated with battery storage. It is requested consideration be given to the implications of fires in the battery storage area and the provision of measures such as bunding to ensure the spread of contamination from water running into the environment does not occur.	As noted in R5, Table 4.1, the EIS contains a commitment to developing a comprehensive Fire Safety Study in accordance with the requirements of Hazardous Industry Planning Advisory Paper (HiPAP) No. 2 and to meet the requirements of FRNSW. The Fire Safety Study will include consideration of requirements for fire water management.	See R5, above.
		The development should be designed and adjust operations including the provisions of mitigation	If development consent is granted, the project will have been approved in accordance with applicable guidelines at the time of consent. However, the environmental	The environmental management plans for the construction and operation of the project

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council	measures, as best practice and any new guidelines are developed into the future.	management plans to be developed for the construction and operation of the project will incorporate a philosophy of continuous improvement and will consider changes in leading practice as well as the introduction of new guidelines.	will incorporate a philosophy of continuous improvement and will consider changes in leading practice as well as the introduction of new guidelines.
		Waste		
		 Whilst Council supports the safe storage of oils, fuels and chemicals and collection by licensed waste collection contractors, On-site sewage management pump out style systems are generally not supported. 	There is no sewer access at the site. It is standard practice at solar farm sites that wastewater generated from construction ablution blocks are pumped out given that it is a temporary facility.	-
		 Council's preference would be that all wastewater generated from ablution units, the washdown of vehicles and the cleaning of equipment is dealt with satisfactorily on-site through an approved on- site sewage management system, designed in accordance with Council's Onsite-sewage and Wastewater Management Strategy. 	It is proposed that an on-site sewage management system be installed for the operational amenities. This would be designed in accordance with Council's Onsite-sewage and Wastewater Management Strategy.	
		 Any proposed vehicle washdown facility should incorporate the design and pre-treatment requirements specified in section 5.3.3.1 of the NSW Liquid Trade Waste Management Guidelines – 2021. 	Section 5.3.3 of the NSW Liquid Trade Waste Management Guidelines appears to be most relevant to a permanent washdown facility. During project construction, vehicle washdown will be undertaken on a temporary, open-air, graveled wash pad, primarily for the purpose of weed control. Washdown requirements will be set-out in	During project construction, vehicle washdown for weed control will be undertaken on a bunded, open-air, graveled wash pad with drainage controls (such as a sump)

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council		 the applicable construction environmental management plan. Washdown waters will be contained and allowed to seep into the ground. Washdown facilities are not expected to be required during project operation as vehicle movements will be generally restricted to site roads. Subcontractors involved in activities such as grass or weed management will be required have their own weed management protocols (potentially involving the use of Council or commercial washbays). 	to contain washdown waters. The washdown bay will be subject to site weed control measures.
		A S68 application for both the vehicle washdown and the on-site sewage management system should be submitted to Council and approved prior to commencement of work.	Noted and will be pre-construction commitment.	A S68 application will be submitted to Council and approved prior to commencement of operations for the on-site sewage management system installed at the operations and maintenance building.
		Biodiversity		
		Offsets - The proposed development will impact up to 124.33 hectares of native vegetation requiring 78.8ha of offsetting. Council requests consideration be given to the offsets being located/obtained within the Richmond Valley area.	 Council's request is noted. A review was conducted by Eco Logical of the areas of suitable vegetation within 50 km of the development footprint (see Section 8 of updated BDAR in Attachment B). The review indicated that there are large areas of 	-

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council		suitable vegetation available for land-based offsets, including within the RVC LGA. Local offsetting is currently OX2's preferred strategy. However, a final decision on the offsetting strategy is yet to be made.	
		Connectivity - Section 2.3 of the BDAR indicates landscape features providing connectivity and movement corridors exist on the site and are to be retained and are contiguous with larger tracks of suitable habitat within the wider forested landscape as referenced in Figure 1. Council requests the Department be satisfied any proposed fencing does not obstruct fauna movement through the identified connectivity corridors as indicated in Figure 1 of the BDAR.	The key connective corridor for fauna movement within the project site is found along the waterway between the northern and southern development footprints. OX2 will avoid fencing the internal access road that connects the northern and southern footprints so that fauna movement is not obstructed within this area of retained vegetation.	The internal access road that connects the northern and southern footprints of the project site will not be fenced so as not to impede fauna movement within the corridor of retained native vegetation.
		Rehabilitation, land capability, social and economic: The project is identified as being temporary in nature and accordingly the consent should be time limited to ensure the project commitments, impacts and objectives are satisfied.	This is a matter for DPHI consideration.	-
		The EIS indicates the proponent is committed to rehabilitation of the site back to agricultural land use at the end of operations. It is further noted the EIS identifies decommissioning and rehabilitation of the site at the end of the project life is a key mitigation measure in relation to environmental issues including, biodiversity, land capability and stability, hydrology, and water quality, social and	Noted. A goal of rehabilitation will be to allow as full a range as is practical of future agricultural activities and of associated agricultural infrastructure, as agreed with the landholder and regulators.	Site rehabilitation will be undertaken to allow as full a range as is practical of future agricultural activities and any associated infrastructure.

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council	economic. Therefore, any rehabilitation strategy should ensure the land is decommissioned to ensure the full range of any future agricultural activities and any associated infrastructure is possible.		
		Consideration of future uses should not be limited to grazing and the development should not compromise future land use opportunities, rather it should ensure productivity of the land, enable diversity in primary production and emergence of new farming systems and enterprise. In this regard Council requests rehabilitation outcomes include the removal of the below ground infrastructure and include financial security of rehabilitation for example a rehabilitation bond be required as conditions of consent	Noted. The matter of financial security (such as a requirement for a rehabilitation bond) is a matter for DPHI consideration.	• See commitment in R13 Table 4.1
		The proposal should be time limited consistent with the EIS indications excepting for rehabilitation works to continue post effective life and/or closure of the development. Regular reporting and monitoring of the rehabilitation work, including evaluation of their effectiveness is recommended.	 The time-limiting of the project is a matter for DPHI consideration. The EIS (Section 6.15.3) includes a commitment to prepare a Decommissioning and Rehabilitation Management Plan which includes a post-rehabilitation monitoring and maintenance program. 	-

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council	 Contributions and benefits sharing Council has recently contacted Andy Nixey in relation to the application of developer levies in accordance with Councils 7.12 contributions plan. A copy of our email dated 5.12.2023 is attached for your information. Council has requested the Departments support in the application of the Contributions Plan to the proposed development and are awaiting their reply. Should the development be approved Council requests a consent condition requiring the payment of levies in accordance with the Richmond Valley Council Section 94A Contributions 	OX2 have met with RVC on multiple occasions to discuss contributions and benefit sharing. Discussions with RVC have indicated they would like to use the Section 7.12 mechanism in lieu of a Voluntary Planning Agreement (VPA). OX2 are waiting for written confirmation from RVC about this and details on the process moving forward.	-
		Plan be included in any consent notice. Rural Road Numbering Rural road numbering should be assigned to enable identification and location by Emergency Services, staff/visitors at the site. Rural Road numbering will	Noted.	-
		be determined by Richmond Valley Councils once the final location of the entrance is confirmed.		

ID	Aspect	Detail of submission	OX2 response	Additional mitigation measures
R10	Richmond Valley Council	Council requests a condition of consent providing that the proponent may make application to Council for allocation of a Rural Road number and that such numbering be displayed prominently at the property entrance prior to operations	 An application for road numbering will be made once development consent is achieved and numbering will be displayed prominently. 	 The Applicant will submit an application to Council for a rural road number once development consent is achieved.
		commencing.		 The rural rod number will be displayed prominently at the property entrance prior to operations commencing.

4.3 Information requests received after submission period

A number of information requests were received after the formal period for submissions. Such information requests will be addressed by OX2, as relevant, on an ongoing basis. Although not part of the formal submissions response process, OX2's responses to a number of these requests are documented below.

4.3.1 DPHI

An additional information request was received from DPHI in an email dated 7 June 2024 to assist with their assessment of the project. The information requested is set out in Table 4.14 along with OX2's responses.

Table 4.14 OX2 responses to DPHI additional information request

Topic	DPHI comment	OX2 response
es	The Department notes that the EIS lists four options for transportation routes for major components – two options from Port of Brisbane and two options from Port of Newcastle. The Department also notes that the Traffic Impact Assessment (TIA) provides a recommendation to avoid transport through the townships of Lismore and Grafton (page 7, TIA). Could you please: • Advise the Department which proposed routes would be implemented for the transport of major components from the respective ports (i.e. whether transport through Lismore/Grafton is proposed). Should the proposed transport routes	This information will be provided to DPHI subsequent to the submission of this report.
1.Access Routes	that go through Lismore and Grafton townships be proposed, please provide a clear figure showing the roads to be used within the respective townships.	
1	Should the transport routes that avoid Lismore and Grafton townships be proposed, please confirm whether the regional roads to be used by heavy vehicles are pre-approved for GML, CML and HML vehicles.	
	 Provide a clear figure showing the proposed transport routes for light vehicles, heavy vehicles, and heavy vehicles requiring escort. 	

Topic	DPHI comment	OX2 response
2.Workforce Accommodation	The Department notes that the EIS indicates that 50% of the construction workforce is anticipated to be sourced non-locally. Attachment P of the EIS states that the accommodation for non-locally hired workers is anticipated to be sourced through available rental and motel accommodation in Casino, Lismore, Grafton and surrounding areas. Could you please provide evidence of consultation with Lismore City Council and Clarence Valley Council regarding the proposed use of the short-term accommodation in the respective LGAs.	Evidence of consultation with Lismore City Council and Clarence Valley Council regarding the proposed use of the short-term accommodation in the respective LGAs will be provided to DPHI subsequent to the submission of this report.
3.Viewshed Analysis	We note that Figure 6.23 of the EIS presents viewshed analysis for the proposed ancillary infrastructure (substation height 10m and BESS height 3m). We note that Section 4.1.2 of the Landscape Character and Visual Impact Assessment (LCVIA) states the following in regards to the viewshed analysis included in the LCVIA: "A viewshed analysis provided a "Zone of theoretical Influence (ZTI)" for the solar farm which is demonstrated in Figure 4.3. The ZTI was calculated for a 5 km radius of the site for a target height (representing the solar panel height) of 4.2 m and an observer height of 1.6 m using an open-source digital elevation model (DEM) with a 1 m resolution." Could you please confirm whether the potential visual impacts associated with the transformer substation were considered and/or reflected in the ZTI presented in the LCVIA, as well as in the broader assessment of the impacts associated with the proposed substation (including photomontages)?	 The ZTI in Figure 4.3 was based on the maximum solar panel height of 4.2 m. As this height exceeds the BESS height of 3 m, the ZTI can be considered to also cover the BESS. A substation height of 10 m was taken into account during the viewpoint assessment and the photomontages considered all infrastructure. It is noted that the residential viewpoints do not have direct lines of sight to the substation and BESS due to the intervening vegetation. In the case of the residences closest to the substation and BESS (to the east of the development footprint), the intervening vegetation is dense forest. The only viewpoint where the substation and BESS are expected to be visible are along Summerland Way, with views largely confined to the site access point.

Topic	DPHI comment	OX2 response
4.Glint and Glare Assessment	We note that the Glint and Glare assessment identified receptor OP1 as having a potential high impact. We also note that Receiver OP1 is identified as a residential receiver within the assessment. Based on the location of the receiver shown on the figures, the receiver appears to be within the Braemer roadside rest area. Could you please confirm the receiver type of OP1?	 We confirm that OP1 is the Braemar roadside rest area and not a residential receiver.

4.3.2 TfNSW

An additional information request was received from TfNSW in an email dated 22 March 2024 following a Microsoft Teams meeting between OX2, IMPACT and TfNSW on 6 March 2024 regarding TfNSW comments on the EIS (see Section 6.2). The information requested is set out in Table 4.15 along with OX2's responses.

Table 4.15 OX2 responses to TfNSW additional information request

TfNSW comment	OX2 response
The Oversize /Overmass (OSOM) route was provided for the transformer coming from Victoria. The route appears acceptable for the size of the vehicle however further information needs to provided:	
 Axle loads and axle group loads in terms of both tonnes and Equivalent Standard Axles (refer to Austroads Guide to Pavement Technology). 	Axle loads and axle group loads will be calculated once a transformer supplier and transport contractor has been selected.
 Bridge and culvert Assessments for any at risk bridges on the classified road network due to dimensions and weight of OSOM vehicles. 	A bridge and culvert assessment will be completed once a transformer supplier and transport contractor has been selected.
 Assessment of heights (including clearance to overhead obstructions such as structures, utilities and vegetation. Assess suitable locations where the OSOM vehicle will need to be lowered or raised. This will need to occur outside of the travel lanes. 	Any defined overhead clearance, e.g. bridge, is addressed in the EMM OSOM assessment (Appendix B of Attachment E). Any other undefined overhead clearances, (e.g. overgrown trees, utility/services) will be subject to field test which can be conducted as part of the NHVR application by the transport contractor.
Note there are road works occurring in Parkes and Dubbo which may impact on the proposed route for the OSOM movement. The applicant is required to confirm with Program Delivery	The roadworks at Parkes and Dubbo will be notified to the OSOM transport contractor

TfNSW comment	OX2 response
managers and Network Operations managers in Regions for information when during preparation of a Construction Traffic Management Plan.	consulted as part of the NHVR application for the OSOM delivery.
It is important to address these matters during EIS stage before consent. It is possible to leave till after consent however if these matters that still need to be addressed shows that road upgrades are required, then a modification would be required.	OX2 acknowledges that there is the possibility of a modification being required if some aspects of heavy vehicle transportation are unable to be confirmed prior to project consent but considers this risk to be low based on current information.
 Emergency access to a State classified road Must identify how the access will be managed (i.e gates) to prevent the use of the access for other vehicles associated with the development during peak of construction and operation. 	Section 4.2.3 of the updated TIA (Attachment E) includes a strategic design of the emergency access point (the northern of the two emergency access points shown in the EIS – the proposed southern emergency access point is no longer included in the project).
 Identify the emergency design vehicle and provide a swept path analysis identifying concurrent movements can occur into and out of the access. 	
 Provision of sufficient storage at the throat of the access to allow for the emergency vehicle to store within the access and not within the through lane or shoulder. 	
Provide a strategic design of the emergency access.	
Identify compliance with SISD for the design speed (posted speed+10km/hr) in accordance with Austroads Guide to Road Design Part 3.	

4.3.3 Transgrid

In correspondence provided directly to OX2 dated December 2023, Transgrid requested further details regarding the cut-in infrastructure and confirmation that the cut-in infrastructure had been allowed for in the development footprint. Transgrid requested that the description of the infrastructure be included in the Submissions Report.

OX2 subsequently provided to Transgrid a schematic diagram showing the proposed cut-in infrastructure to the existing 132kV transmission line in relation to the development footprint (see Figure 4.3 below) and the following wording:

"For the connection of the Summerville SF into Transgrid's existing 132 kV Transmission Line 967, two new cable to overhead line (OHL) transition poles (structures 226D & 226E) will need to be constructed to facilitate the loop-in-loop-out arrangement of the Summerville 132/33 kV Substation. A third new pole (structure 226C) will also need to

be constructed between existing poles 226 and 227 to facilitate the cut-in to the 132 kV Transmission Line. The construction of all three poles will be within the nominated development footprint area."

Transgrid confirmed to OX2 via email on 25 January 2024 that they were comfortable with the description of the works and the proposed development footprint.



Figure 4.3 Schematic diagram showing proposed cut-in infrastructure to existing 132 kV transmission line in relation to the development footprint

5 Responses to community submissions

Table 5.1 summarises the key matters raised by the community submissions, grouped under the 17 sub-categories for which comments were received (see Section 2.3.3), and sets out OX2's responses.

Table 5.1 Key matters raised by community submissions and their respective responses from OX2

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
1	Justification of renewable energy	Twenty-two submissions expressed opposition to renewable energy sources. The issues raised encompassed: Doubts regarding the effectiveness of solar energy. A preference for alternative technologies such as nuclear, coal, and gas. Disagreement with government policies promoting the rapid transition to renewables. Assertions that the project is unsuitable for its intended purpose. Five submissions raised concerns with the speed and method of the government's approach to renewable energy transition.	The project supports strategic objectives at three levels of government in relation to the transition from fossil fuel-based energy generation to renewable energy. At the Commonwealth level, the project supports Australia's commitment to its nationally determined contribution (NDC) of greenhouse gas (GHG) reduction for the 2015 Paris Agreement and the renewable energy target (RET). At the state level, the project supports commitments made in the NSW Government's Net Zero Plan Stage 1: 2020 – 2030 and the Energy Security Target described in the NSW Electricity Strategy. The project is also consistent with the State strategies for renewable energy development described in the North Coast Regional Plan 2041, Electricity Infrastructure Roadmap and A 20-Year Economic Vision for Regional NSW. At the local level, the project is consistent with the development goals of the Richmond Valley Local Environmental Plan 2012, the Richmond Valley Development Control Plan and the Richmond Valley Local Strategic Planning Statement. The base case scenario outlined in the 2022 Integrated System Plan (ISP) by the Australian Energy Market Operator (AEMO), anticipates that all coal-fired generation capacity in NSW (approximately 8,000 MW) will be retired by 2040, with 60% likely to be withdrawn by 2030. The contribution of the 90 MWAC solar energy generation capacity of the Summerville SF to the grid is significant, as is the addition of 90 MWAC/4 hour energy storage capacity. It is primarily through the addition of multiple, utility-scale renewable energy projects that the generation capacity of the closing coal-fired power stations can be replaced. The proposed BESS will provide reliability and security to the National Electricity Network (NEM) by storing energy for dispatching when it is most required (i.e. when the demand is high) and provide firming services. As Network Service Providers face challenges in managing load flows to maintain network stability,

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
			combined energy generation and energy storage becomes vital as it provides flexibility that renewable generation alone does not. Nuclear power stations are currently prohibited in Australia by both the Commonwealth Australian Radiation Protection and Nuclear Safety Act 1998 and the Environment Protection and Biodiversity Conservation Act 1999. There are likely to be long time frames associated with any development of nuclear power in Australia given the legislative, technical and commercial challenges it faces and issues of community acceptance (including in relation to the management of radioactive waste).
2	Ethical sourcing of materials	Nine submissions have voiced concerns regarding the ethical procurement of materials for the project, highlighting potential issues such as forced or exploitative labour, including child labour, in the production of panels.	 OX2 is firmly committed to upholding environmental, social, and governance standards and ethical business practices, as evidenced by the following: OX2 actively participates in the United Nations Global Compact, an influential policy initiative emphasising principles related to human rights, labour standards, environmental protection, and anti-corruption measures. These principles are integrated into OX2's Sustainability Governance Policy and Code of Conduct, which aim to prohibit any involvement, whether direct or indirect, in activities associated with exploitative labour practices, forced labour, child labour, and human rights abuses. The company maintains a strict stance against child labour, forced labour, and human trafficking, with its Supplier Code of Conduct aligning with internationally recognized standards and guidelines. This code, based on frameworks such as the UN Global Compact, the UN Guiding Principles for Business and Human Rights, and the OECD Guidelines for Multinational Enterprises, sets forth fundamental sustainability expectations for OX2's suppliers while reflecting the company's core values and ethical standards. OX2 adopts a zero-tolerance approach to corruption, as outlined in its Policy Against Corruption. The company is committed to conducting its business affairs with professionalism, fairness, and integrity across all operations and

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
			relationships, and it actively implements and enforces robust systems to combat corruption. • Additionally, OX2 is a proud member of the Clean Energy Council, a prominent consortium of leaders in the renewable energy sector in Australia. Under the Commonwealth Modern Slavery Act 2018, entities based or operating in Australia with an annual consolidated revenue exceeding \$100 million are mandated to annually report on the risks of modern slavery within their operations and supply chains, along with measures taken to address these risks. Other entities operating in Australia may opt to report voluntarily.
3	Human health impacts and toxicity risks	Thirteen submissions raised concern for the health and safety of nearby residents upon exposure to the site. Specifically, submissions were concerned about: electromagnetic fields (EMF) heavy metals, toxic fumes and chemical leaks herbicides and pesticides.	A Preliminary Hazard Assessment (PHA) was prepared for the EIS (see EIS Attachment M) The PHA and followed the assessment process outlined in Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (HIPAP 6) and Assessment Guideline – Multi-Level Risk Assessment. The PHA showed that risks to the public associated with the operation of the solar farm (including the BESS) can be effectively managed by establishing appropriate BESS separation distances and by adopting standard management measures for hazardous chemicals and EMFs. Since the EIS was submitted, OX2 has committed to select BESS technology that conforms to the international standard UL90540 and has been tested and certified in accordance with standard UL90540A (see Attachment F to this report). The PHA included an assessment of EMF risk against the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields. The report concluded that a separation distance of just 1 m between electrical equipment (BESS units, transformers, substations etc.) and the project site boundary would be more than sufficient to meet safe exposure requirements. The project site will be surrounded by an asset protection zone of at least 10 m, the cable connecting the facility to the existing, external 132 kV transmission line will be underground until it reaches the existing transmission line easement. The level of EMF exposure to the general

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
			public at the site boundary, or along the 132 kV underground cable connecting to the existing Transgrid network is insignificant based on the published guidance.
			The PHA also included assessment of risks associated with heavy metals, toxic fumes and chemical leaks and concluded that offsite risks were sufficiently low without the requirement for additional (non-standard) management measures. As outlined in Table 4.2, OX2 has committed to select BESS units compliant to UL9540A, where the test certificate indicates 'no external flames were observed' during thermal runaway tests by the testing authority. Atmospheric toxic release and ground flow toxic release are of a low likelihood due to this commitment to select UL9540A-compliant BESS units.
			Any proposed use of herbicides and pesticides on site will be in accordance with the requirements of the <i>Pesticides Act 1999</i> , the Pesticides Regulation 2017 and associated guidance. The <i>Pesticides Act 1999</i> is the primary legislation controlling the use of pesticides (including herbicides) in NSW.
4	Loss of agricultural land	Thirteen submissions raised concerns regarding agriculture and the loss of productive farmland as a direct result of altering the site. In particular, the comments raised: • the nature of the project not being temporary, and having a long lifespan on agricultural land • the land being defined as 'State Significant Agricultural Land' (SSAL)	An Agricultural Impact Assessment (AIA) was prepared as part of the EIS (see EIS Attachment H). The AIA included on-site verification and soil analysis. The operational life of the project is expected to be 35 years and will result in the temporary removal of up to 244 ha of agricultural land. The AIA estimated a resultant direct loss of agricultural output of between \$16,376 and \$100,414 per year. This equates to a percentage loss of total agricultural output of 0.02%-0.1% within the Richmond Valley LGA. It is likely that Agrisolar practices (in the form of sheep grazing) will be implemented on site. Such practices will enable agricultural activity to continue at the site and offset the loss of primary production. At the end of the project life, it is expected that the effective implementation of procedures for decommissioning and rehabilitation will be able to restore the project area to its pre-project land capability. The AIA categorised the development footprint as land and soil capability (LSC) class 4 (moderate capability) and class 6 (low capability) land. LSC classes 4 and 6

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
		 the project being a threat to Australia's food security concerns of economic damage to Australia's agricultural industry. 	are not consistent with SSAL which "represent the most capable, fertile and productive agricultural lands in the state" (DPI 2021). As the project represents a minor, temporary loss of moderate to low value agricultural land (a loss that will be partially offset if Agrisolar practices are adopted), it is not considered to pose a threat to Austalia's food security or cause damage to Australia's agricultural industry. Further, analysis undertaken by the NSW Agriculture Commissioner of likely and worst-case land use changes to 2051 as a result of renewable energy production in NSW (NSW AC 2022) did not indicate a material impact on agricultural production, concluding that: "It seems unlikely that the conversion of land currently used for production will exceed 80,000 ha, and more likely be in the vicinity of 55,000 ha. This is 0.1% of rural land."
5	Fire hazards	Nine submissions raised concerns about fire hazards that could be associated with the project. The issues raised were: • fire and rescue services not being adequately trained in fighting solar and BESS fires • the project site being considered 'Category 1 bushfire prone land' • highly combustible elements within solar farm infrastructure.	During the detailed design phase for the Summerville SF, a comprehensive Fire Safety Study will be prepared in accordance with the requirements of FSS Hazardous Industry Planning Advisory Paper No 2 Fire Safety Study Guidelines (HiPAP 2) (DoP 2011) (see R5 in Table 4.1). FRNSW has also produced a technical information document on Large-scale external lithium-ion battery energy storage systems - Fire safety study considerations (FRNSW 2023). In addition, an Emergency Plan will also be developed in accordance with Hazardous Industry Planning Advisory Paper No 1 Emergency Planning (HiPAP 1) prior to occupation or commissioning, an Emergency Services Information Package (ESIP) will be prepared and an Emergency Responders Induction Package will be developed (see R5 in Table 4.1). No Category 1 bushfire prone land (the highest risk category) is located within the development footprint. Bushfire risks have been considered in the Bushfire Strategic Study prepared for the project (see EIS Attachment N) and will be further considered, as applicable, in the preparation of the above documents. The Bushfire Strategic Study outline mitigation measures to

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
			minimise the chance of bushfire ignition due to the project, and to reduce the severity of potential impacts if a bushfire occurs within the site. With the application of these mitigation measures, bushfire risk will be reduced to an acceptable level and comply with the aims, objectives and specific performance criteria of the Rural Fire Service's Planning for Bushfire Protection 2019.
			Implementation of the above documents will minimise fire risk, ensure that there is adequate site access and equipment for emergency services to respond to any fires, and will provide the information required for local fire services to plan for fire emergencies.
			FRNSW is currently leading a collaborative research program on the Safety of Alternative and Renewable Energy Technologies (SARET). Partnering with other fire services, government agencies, research institutions and industry from around the world, the program is looking at best practice fire brigade response to issues such as lithium-ion battery related fires and fire propagation in BESSs (FRNSW 2024).
6	Destruction of ecology and biodiversity	Twelve submissions highlighted concern for the ecology, biodiversity and the general protection of environmental values within the project site as well as its surrounds. These responses showed concern for: Ioss of native grassland, woodland and other flora within the area as a result of	The BDAR prepared for the project (see EIS Attachment E) described and quantified the impacts of the project on biodiversity, including threatened communities and species, in accordance with requirements under the NSW <i>Biodiversity Conservation Act 2026</i> , the Biodiversity Assessment Method and the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> . Requirements for offsetting impacts were also determined in accordance with the Biodiversity Assessment Method. To minimise the impacts of the project on biodiversity, OX2 followed the principles of impact avoidance and mitigation. The development footprint was developed to avoid as far as practical areas of biodiversity significance.
		 land clearing native fauna such as koalas, native birds, insects and migratory species being 	Since the submission of the EIS, OX2 has further modified the development footprint in discussion with the DCCEEW BCS to avoid additional areas of biodiversity significance (see R4, Table 4.1). A revised BDAR has been prepared and offset obligations have been recalculated (see Attachment B to this report).

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
		harmed as a result of the project the project threatening endangered ecological communities (including the coastal emu) and habitats.	The development footprint occupies land that has been predominantly cleared for grazing. Due to the disturbed nature of the site and the practice of avoidance, losses of native flora and fauna, and endangered ecological communities and habitats, have accordingly been minimised. Koala use trees were identified within the development footprint. However, no koalas were identified during targeted koala surveys. Emus are not known to be associated with the plant community types mapped on the site.
7	Waste concerns	Eleven submissions showed concern for waste generated by the project, this incudes concerns such as: the disposal of hard waste during and after the life of the project the capacity of landfills to accept solar waste toxicity of solar panel waste impacting the environment.	As summarised in Section 6.15.5 of the EIS, the project will generate a range of wastes during construction, operation and decommissioning which will be managed as far as practicable in accordance with the waste hierarchy and applicable legislation and guidelines. Many of the wastes generated are expected to be suitable for reuse or recycling. OX2is committed to recycling the solar panels and the lithium-ion batteries used in the project, where recycling opportunities exist, when they have reached the end of their life. The commitment to recycling will minimise the amount of waste disposed to landfill. A Waste Management Plan is being prepared by OX2 in consultation with RVC and will be completed prior to project construction. The WMP will initially cover project construction but will be updated prior to the commencement of project operation. Procedures for waste management during decommissioning (including opportunities for re-use and recycling) will be outlined in a Decommissioning and Rehabilitation Management Plan to be prepared no later than two years before operations cease. Any toxic risks associated with waste from the solar farm (including the BESS facility) will be considered during the preparation of the waste management plans and managed in accordance with sound risk management principles, regulatory requirements and applicable guidelines.

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
8	Economic viability	Seven submissions discussed the economic viability of the project and expressed concerns such as: • the project (and other renewables projects) being too costly • the local community not receiving any economic benefits, or the local community being negatively economically impacted • the project negatively affecting nearby property values • the revenue from the solar farm and BESS declining with the degradation of the project.	OX2 is seeking to develop the Summerville SF because of its commercial viability. Future market projections and any degradation of the solar and BESS have been considered in the financial modelling. Once operational, the solar farm will generate electricity from solar power. Renewables such as solar are the cheapest form of electricity available in the national energy market (Graham et. al. 2023) (see 'Electricity prices' below). The economic assessment undertaken for the EIS (see EIS Section 6.12) identified a number of positive local economic impacts including: \$312 million in investment over the 15 to 18-month construction phase with up to 10% (\$31.2 million) expected to flow directly to the local economy through direct contracts and labour wages 100 full, time equivalent (FTE) workers on average during construction (up to 200 FTE during peak construction) with about 50% of these workers sourced locally 7 FTE workers during operation, generating up to \$31.5 million in additional wages over the 35-year operational life the generation of significant indirect jobs (i.e. jobs that indirectly support the project such as accommodation and retail services). A wide range of factors affect property values over time, including factors at an individual property, local, regional and macroeconomic level. There is no significant research on the impact of renewable energy infrastructure on neighbouring property values in an Australian setting. The most relevant research available demonstrates that renewable energy facilities, such as wind farms and solar farms, have a negligible impact on property prices. Research has been undertaken in the USA and Canada on the impact of solar farms (Al-Hamoodah et al. 2018; CohnReznick 2018) and wind farms (Hoen et al. 2009; Hoen et al. 2013; Vyn and McCullough 2014). Al-Hamoodah et al. (2018) researched the impact of utility-scale solar installations on the value of nearby

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
			homes in the USA. They surveyed 37 property assessors in relevant locations on the potential impacts of utility-scale solar farms on property values within 3 miles (4.8 km) of the installation. The survey considered installation size, distance from the solar installation, size and height of the photovoltaic modules and presence of fencing or visual barriers. The research indicated that proximity to a utility-scale solar installation had no impact on home values (Al-Hamoodah et al. 2018). CohnReznick (2018), a valuation advisory service, undertook a property value impact study in the USA. This study analysed the impact of eight solar farms in Illinois, Indiana and Minnesota on the sales of adjoining properties, compared to the sales of comparable properties not located near a solar farm. This study found that there was little to no measurable and consistent difference in property values between those located adjacent to a solar farm. The study concluded that property values were not adversely affected by their proximity to a solar farm (CohnReznick 2018).
			A recent study of six states in the United States of America found that residential homes within 0.5 miles (800 m) of a large scale solar farm experience an average home price reduction of 1.5% compared to homes 2 to 4 miles (3.2 to 6.4 km) away (Elmallah et. al. 2023). These effects were only measurable in three of the six states assessed. Vegetation screening was identified as a mitigation measure and it is noted that for the Summerville SF, existing vegetation already screens almost the entire site.
			OX2 have met with RVC on multiple occasions to discuss contributions and benefit sharing. Discussions with RVC have indicated they would like to use the Section 7.12 mechanism in lieu of a Voluntary Planning Agreement (VPA). OX2 are waiting for written confirmation from RVC about this and details on the process moving forward.

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
9	BESS construction and lifecycle	One submission highlighted concerns regarding the BESS infrastructure, in particular comments raised concerns about: • materials used for BESS infrastructure being too expensive • the lifecycle of the BESS being uncertain or too short.	The Summerville SF, including the construction and operation of the BESS facility, is a commercial venture that takes into account the cost of the BESS units and their expected operating life. The battery containers and other components of the BESS contain valuable materials such as lithium, copper and steel. At the end of the operational life of the BESS facility it is anticipated that most of the component parts of the BESS facility will be able to be recycled.
10	Quality of life of the surrounding community	Five submissions raised concerns about quality of life impacts arising from the project. Specifically, the public was concerned about the rural character of the area as well as division within the community.	OX2 recognises that the community is concerned about impacts from the project's construction and ongoing operation, and how this will affect their quality of life. The traffic, noise and air quality impacts of the project will be temporary in nature as they will primarily occur during construction. As outlined in the Landscape Character and Visual Impact Assessment prepared for the project(see EIS Attachment L) no significant adverse visual impacts to nearby receivers are predicted as a result of the project. Accordingly, the project is not expected to alter the rural character of the area, as experienced externally to the project site. At the end of the project life, it is expected that decommissioning and rehabilitation procedures will be able to restore the current character of the project site. The main impacts on the community (anticipated to be mainly positive) are expected to be experienced during the 15 to 18-month construction phase when an average of 100 FTE workers will be present on site. Once this period has ended and the site is operated by an estimated 7 FTE workers, impacts on the community are expected to be minimal.
11	Flood hazards	Four submissions raised concerns regarding flood hazard within the project site, particularly for solar	Flood modelling and assessment was undertaken for the project(see EIS Attachment I). As summarised in Section 6.6.5 of the EIS, the modelling indicates that increases in flood levels following project construction will be small, where

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
		farm infrastructure altering current runoff dynamics, increasing flood vulnerability.	present, and contained within the project area. As such, the Myrtle Creek flood regime is expected to be unchanged and no flood impacts on the wider community are anticipated. Project infrastructure will be designed with consideration of the flood modelling results to ensure that the risk of flood-related impacts is minimal.
12	Community engagement	Four submissions raised concerns regarding the community engagement from OX2 and the local council. These included concerns regarding a lack of social licence.	OX2 places a strong emphasis on community engagement and used a range of engagement mechanisms to consult with stakeholders including local landholders, neighbouring property owners, RVC, community groups and local service providers during the EIS period. This is detailed in Section 5 of the EIS. Post the completion of the EIS and in preparation for lodgment of the Submissions Report, engagement has continued with the project team as detailed in Section 6. OX2 will continue to engage with the community and other stakeholders through the remaining approvals and pre-construction phases. Community engagement plans will be developed for the construction and operation phases of the project. The project website for the Summerville Solar Farm (https://www.ox2.com/projects/summerville-solar-farm) provides company contact details for stakeholders wishing to provide feedback on the project or raise concerns via a contact form.
13	Cumulative impacts (noise, visual)	Five submissions raised concerns regarding the cumulative noise and visual impacts of the project to nearby residents. In particular these comments raised concerns about: • noise impacts from the construction and operation of the project	A cumulative impact assessment was undertaken as part of the EIS. As concluded in Section 6.15.5 of the EIS, the parallel development of one or both of the nearby Myrtle Creek and Richmond Valley solar farms alongside the Summerville SF is considered to present the greatest risk of cumulative impacts. Based on OX2's current knowledge of the likely timing of the Myrtle Creek and Richmond Valley solar farms, it is considered very unlikely that construction peaks will coincide, and there will most likely be no or only limited overlap of construction timeframes. There is therefore considered to be a low risk of cumulative noise impacts during construction. During operation, cumulative operational noise levels are predicted to exceed applicable criteria at seven receivers.

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
		 views of the project impacting nearby residents as well as scenic values and lifestyles. 	Section 6.14.4 of the EIS commits to updating construction and/or operation noise modelling for the Summerville SF to assess noise impacts on sensitive receivers and determine whether any additional noise mitigation measures are required should the Myrtle Creek or Richmond Valley solar farms commence construction and operation prior to the Summerville SF.
			As the Summerville SF is not expected to result in any significant visual impacts, it will not be a significant contributor to cumulative visual impacts. In addition, there are not expected to be any locations from which the Summerville SF and the Myrtle Creek or Richmond Valley solar farms are visible.
14	Other solar projects within the area	Four submissions raised concerns with the accumulation of solar and renewable projects being proposed within nearby areas.	The potential for cumulative impacts as a result of the development of projects in parallel to the Summerville SF has been discussed above. The number of renewable energy projects being developed locally and in the region is a matter for the NSW government.
15	Foreign ownership of the developer	Three submissions raised concerns about foreign ownership of the developer.	ESCO Pacific was acquired by OX2 in May 2023. OX2's mission is to accelerate access to renewable energy and become the leading provider of renewable energy solutions globally. OX2 has seven solar farms currently in operation in NSW and Queensland and Victoria. A further ten solar farms are under development (including Summerville Solar Farm).
16	Decommissioning	Four submissions raised concerns regarding the decommissioning of the solar farm and its impacts at the end of its lifecycle.	At the end of the project life, it is expected that the effective implementation of procedures for decommissioning and rehabilitation will be able to restore the project area to its pre-project land capability. OX2 would be responsible for decommissioning and rehabilitating the land within the development footprint. No cost is expected to be borne by Council or rate payers. At the end of the operational life of the project it is anticipated that most of the project components will be able to be recycled. In particular, it is considered likely that more mature markets and options for solar panel and lithium-ion battery

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
			recycling will exist by the time the majority of panel and battery waste is generated at the end of project life.
17	General suitability of the location	Two submissions raised concerns regarding suitability of the location for a solar farm. Issues include: • electricity should be generated where it is needed so that transmission lines don't cross agricultural land • rural regions are bearing the burden of producing energy for use in metropolitan areas • suitability of location given that it is located on bushfireand flood- prone land, located on strategic agricultural land, and will cause environmental and social impacts.	Achieving the correct balance between agricultural land requirements and renewable energy land requirements in rural areas is a strategic and planning issue for the NSW government. However, land in rural areas will be required to meet the energy requirements of metropolitan areas. As outlined above, it has been estimated that the loss of agricultural land to renewable energy generation in NSW is expected to result in the loss of 0.1% of agricultural land (NSW AC 2022). As outlined in Section 6.5 of the EIS, the land occupied by the development footprint is not located within a flood zone and is categorised as LSC class 4 (moderate capability) and LSC class 6 (low capability) land. The project predominantly occupies land that has previously been cleared for agriculture and it largely avoids areas of biodiversity significance. The economic loss from agricultural production will have an overall negligible impact within the RV LGA and will be partially offset if Agrisolar practices are successfully implemented at the site. At the end of project life, decommissioning and rehabilitation is expected to restore current agricultural use at the site. Additionally, the project is consistent with the existing use of the area for electricity transmission. For these reasons, the site is considered suitable for the development of a solar farm As outlined in 'fire hazards', above, no Category 1 bushfire prone land is located within the development footprint. Bushfire risks have been considered in the Bushfire Strategic Study prepared for the project (see EIS Attachment N) and will be further considered, as applicable, in the preparation of a Fire Safety Study and

(community submissions	Details of key matter raised	OX2 responses
			related documents that will minimise fire risk and enable emergency services to respond to any fires.
	Photovoltaic heat island effect	Two submissions raised concerns regarding the heat that will be produced by the solar farm infrastructure and how it will impact neighboring agriculture and horticulture land through the 'photovoltaic heat island effect'. This included concerns that the effect will: • dry out the heavy fuel loads surrounding the project site and increase bushfire risk • result in a need for farming practices to change in adjoining sites and/or result in loss of primary agricultural or horticultural production • affect the health of people or livestock.	The purpose of solar panels is to capture the energy from the sun and convert it into electricity. Accordingly, PV panels are designed to minimise energy lost as reflected heat or light. However, solar farms can result in photovoltaic heat island impacts due to changes to solar reflectivity (albedo²) associated with large-scale PV installation. The change in albedo can cause localised 'micro-climate' changes within the development footprint and potentially adjacent land when compared to pre-existing conditions. Barron-Gafford (2018) provided a Statement of Evidence to the Victorian Planning Panel on solar heat islanding issues. The statement provided a review of literature regarding solar heat island effects and concluded that while solar farms can create a heat island effect, the spatial extent of the effect is constrained (Yang et al. 2017, Fthenakis and Yu 2013, Barron-Gafford et al. 2016). The heat island effect is largely driven by the absence of vegetation, and colocation of vegetative grasses within a solar array reduces the heat island effect. The statement identified that heat island effect was indistinguishable from air temperatures over native vegetation when measured at a distance of 30 m from the edge of the solar panel array. The PV panels at the Summerville SF are located more than 30 m from agricultural land in adjacent lots along almost the entire perimeter of the development footprint (see Figure 3.1). The nearest residential receiver is 394 m from the project area. For the Summerville SF, it is intended that the land beneath and between the panels remains vegetated, with a commitment to retaining 70% of groundcover. The retention of grass will be essential if agrisolar practices are implemented at

 $^{^{\}rm 2}$ Albedo is the fraction of sunlight that is diffusely reflected by a body.

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses	
			the site, but will also be a key component of other land management objectives such as the retention of land capability, stormwater management and erosion control.	
			The presence of grass under the PV panels and in other parts of the site (such as within asset protection zones), as well as the presence of vegetation within the designated biodiversity exclusion zones (see Figure 3.1) and surrounding the project site are expected to significantly reduce the risk of heat island effects.	
			Heat island effects, if they do occur, are accordingly not expected to impact nearby agricultural land, adjacent forested areas or residences. The limited number of studies on the urban heat island effect within solar projects show variable results due to their site- and project-specific nature. Some research indicates that PV systems might cause a cooling effect on the local environment, influenced by the efficiency and placement of the PV panels. In contrast, other studies show a warming effect (Barron-Gafford et al., 2016). Additionally, other research finds that while air temperatures may rise within the solar farm, they	
19	Not enough consideration given to impacts	Three submissions raised concerns regarding inadequate impact assessment and management, including that: • solar farms are dangerous and stronger regulation of impacts and liabilities is required • proposed management measures are profoundly insufficient and detailed management plans should	quickly return to ambient levels beyond its perimeter (Fthenakis and Yu 2013). OX2 has prepared the EIS and this Submissions Report in accordance with regulatory requirements, the scope of work set out in the SEARs, applicable guidance documents such as the Large Scale Solar Energy Guideline, and taking into account community and other stakeholder issues as identified by the company's engagement program and the government and public submissions received after EIS exhibition. OX2 considers that the impact assessment and proposed management measures align with current leading practice for solar farms and BESS facilities. Should the project be granted development consent, detailed environmental management plans will be prepared (in discussion with Council where relevant) and approved by DPHI.	

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
		have been prepared and provided for public comment.	
20	Traffic and road safety	Two submissions raised concerns regarding traffic and road safety impacts, including: • the safety of motorists in relation to project-related heavy vehicle movements, and glint and glare, bushfire and flooding risks • the damage that will done to roads (and the question of who bears the cost) • increases in travel times.	A glint and glare assessment was undertaken for the project and appended to the Landscape Character and Visual Impact Assessment (see Attachment 2 of EIS Attachment L). Modelling predicted that no glint and glare impacts will be experienced on local roads provided that the panel resting angles committed to in the EIS (see EIS Section 6.9.5) are adopted. The flood assessment undertaken in support of the EIS (see EIS Attachment I) did not identify any flooding risks associated with the project. As outlined in 'fire hazards', above, no Category 1 bushfire prone land (the highest risk category) is located within the development footprint. Bushfire risks have been considered in the Bushfire Strategic Study prepared for the project (see EIS Attachment N) and will be further considered, as applicable, in the preparation of a Fire Safety Study and related documents that will minimise fire risk and enable emergency services to respond to any fires. The site access routes for heavy vehicles and for oversize overmass transportation will be authorised for such transport by Transport for NSW and follow major transportation routes designed to accommodate heavy vehicles. The site itself will be directly accessed off an arterial road – Summerland Way. Accordingly, no significant impacts on the road network are anticipated. Increases to local traffic volumes as a result of the project, even during construction, are not excepted to result in a significant increase in travel times. The updated Traffic Impact Assessment appended to this report (see Attachment E) predicts an increase in traffic volumes along Summerland Way of 23.5% during the peak construction period. Analysis presented in the TIA ('degree of saturation' and 'level of service' at the intersection) shows that the new site access point will have minimal impact on the flow of traffic along Summerland Way.

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
21	Rooftop solar alternatives	Two submissions raised concerns suggesting solar should be placed on rooftops as this will have less impact on our farmlands and our environment.	Achieving the correct mix between rooftop solar energy and stand-alone solar farms to meet the State's energy needs is a matter for the NSW government.
22	Presence or lack of jobs	One submission raised concerns related to the short-term employment provided during project in comparison with ongoing employment for locals.	The project is expected to require 100 full time equivalent (FTE) workers on average during construction (up to 200 FTE during peak construction) with about 50% of these workers sourced locally. Whilst construction will only last for 15 to 18 months, it is expected that 7 FTE workers will be employed during the 35 years operational life of the project.
23	Conflicts with planning policy	Two submission raised concerns that the project directly conflicts with the local and state planning policy provisions that encourage the "rural and scenic character of the land" to be maintained.	The scenic character of the land within the development footprint will be altered during the 35 years of project operation from a predominantly agricultural landscape hosting electrical infrastructure (transmission lines and substation) to a landscape dominated by electrical generation and storage infrastructure. However, the Landscape Character and Visual Impact Assessment (LCVIA) prepared in support of the EIS (see EIS Attachment L) found that the external visual impacts of the project are low primarily due to the natural screening effect of the existing vegetation which surrounds almost the entire project site. At the end of project operation, decommissioning and rehabilitation is expected to return the project site to its pre-existing landscape character.
24	Air quality	One submission raised concerns regarding infrastructure getting on fire and affecting breathing of neighboring people.	As outlined in Section 4.1.2, atmospheric toxic release from a potential BESS fire are of a low likelihood due to OX2's commitment to selecting BESS units compliant to the international standard UL9540A, where the test certificate indicates 'no external flames were observed' during thermal runaway tests by the testing authority. The risk of other project infrastructure catching fire is low due to the bushfire and other fire control measures to be implemented on site (see 'Fire hazards' above).

ID	Key matter raised in community submissions	Details of key matter raised	OX2 responses
25	Electricity prices	One submission raised concerns regarding how renewable energy will have impact on wholesale prices and how much it is dependent on weather.	Renewable energy generated by solar power and on-shore wind is the cheapest form of electricity generation in Australia, based on the recently released stakeholder consultation draft of GenCost 2023-24 (Graham et. al. 2023), a report prepared by Commonwealth Scientific and Industrial Research Organisation (CSIRO) in collaboration with the Australian Energy Market Operator (AEMO). The report finds that renewable energy is cheaper than coal or gas, even when the costs of integrating new renewables projects into an upgraded grid system are taken into account. Solar projects, particularly those such as the Summerville SF which include BESS
			facilities for energy storage, will play an important role in minimising future wholesale energy prices.

6 Consultation and stakeholder engagement

Stakeholder engagement continues with stakeholders such as local authorities, government agencies, the local community and neighbouring landowners. An overview of engagement activities carried out during and after the public exhibition period of the EIS is provided in Section 6.1 and Section 6.2.

6.1 Engagement with the community

The following additional consultation was undertaken with community members during the exhibition period and as part of the preparation of the Submissions Report. Further details are provided in Table 6.1:

- A community drop-in information session was held during the exhibition period. This
 allowed members of the public to learn more about the project and the submission
 process and ask questions. Approximately 9 members of the community attended.
- A paid advertisement was placed in the Northern Rivers Times to advertise details on the community information session and via the Richmond Valley Council Facebook page.
- Direct letters and emails were sent to a number of neighbours of the project addressing concerns and offering to meet to discuss the project further.
- Letters were provided to State Member for Clarence and Federal Member for Page in early December to provide details on the project and to offer a briefing. The State Member for Clarence requested a briefing which was held in February 2024.
- Further consultation with community members who reside in close proximity to the project who expressed interest in the project.

Table 6.1 Summary of community engagement

Community member Group	Engagement Method and Date	Key Aspects Discussed	Response to key aspects and where this has been addressed in the submissions report
Summerville Community	Newsletter Mid November 2023	Invitation to the Community Dop-In Session and provision of information on the project and the planning application process	-
Summerville Community	A paid advertisement was placed in the Northern Rivers Times	Invitation to the Community Dop-In Session and provision of information on the project and the planning application process	-

Community member Group	Engagement Method and Date	Key Aspects Discussed	Response to key aspects and where this has been addressed in the submissions report
	15 November 2023 and 22 November 2023		
Summerville Community	Information session 27 November 2023	Employment, advertising methods for future events, visual impacts, cumulative impacts, heat island effect, fire concerns, health impacts, hydrological impacts, ecological management.	Table 5.1, (ID 3, 5, 6, 10, 11, 12, 13, 14 & 18)
Near Neighbours	Further consultation with the identified community members in close proximity to the project who expressed concern relating to the project in their submission between September 2023 and January 2024	This consultation comprised providing additional information and responding to specific concerns relating to matters such as visual impacts, cumulative impacts, heat island effect, fire concerns, health impacts, hydrological impacts, ecological management.	Table 5.1, (ID 3, 5, 6, 10, 11, 12, 13, 14 & 18)
Associated landowners	Regular emails and phone calls providing project updates	-	-
Henribark	Meeting - 23 March 2024	Discussed Henribark's submission on the EIS (received outside of the formally exhibition period) and offsetting opportunities at Biodiversity Stewardship Site BA449 'Ermelo' located in close proximity to Summerville SF.	Attachment B
Ark Energy – proponent for Richmond Valley SF	Meetings and phone calls between October 2023 and March 2024	Discussed proposed project schedules to understand potential for cumulative impacts relating to construction traffic and accommodation availability.	Table 5.1, (ID 20)

6.2 Engagement with government and other stakeholders

Engagement with key government and regulatory stakeholders continued during and post exhibition of the EIS and is summarised in Table 6.2.

Table 6.2 Summary of government and regulatory stakeholder engagement

Stakeholder	Engagement method	Key outcomes
Richmond Valley Council	Briefing – 28 November 2023	Briefing to Council officers on the project location and key information.
	VPA meeting – 7 December 2023	Meeting to discuss use of VPA or S7.12 for Benefit Sharing.
	VPA / S7.12 meeting – 21 December 2023	Discussion on use of S7.12 mechanism.
	S7.12 proposal – 7 March 2024	OX2 provided draft terms of the Benefit Sharing proposed.
	S7.12 Meeting – 26 March 2024	Meeting to discuss the proposed Benefit Sharing.
Neighbouring councils	Letter and offer of briefing – 21 March 2024	Letter outlining the project details and the offer of a briefing provided to Clarence Valley Council and Lismore City Council.
DCCEEW BCS	On Site Meeting – 5 December 2024	BCS representatives Gene Mason, Dimitri Young and Don Owner attended the site with ELA ecologists Phoebe Smith and Ronnie Hill. The site inspection comprised of the following:
		Inspecting locations and landform patterns of each PCT and vegetation zone
		Inspecting the floristic elements of identified EEC's and their locations, and advice on refining
Inspecting local species identification		Inspecting locations and habitat of threatened flora species identified and advice on species polygon mapping
		Inspecting locations and habitat of SAII species and advice on avoiding all habitat
		Inspecting threatened fauna species habitat, including forested areas, dams and waterways.
DCCEEW BCS	Letter to BCS – 23 February 202	ELA provided a Summary Report to BCS on 23 February 2024. The purpose of the summary report was to seek BCS feedback on proposed revisions to the project design and EIS/BDAR in response to the issues BCS raised in their letter dated 21 December 2023.

Stakeholder	Engagement method	Key outcomes	
	Letter from BCS – 25 March 2024	BCS provided a letter response dated 25 March 2024.	
2 April 2024 Species polygons for Swamp F tripartita BAM-C approach for dual liste		ELA and BCS had a further meeting to discuss: Species polygons for Swamp Foxglove and <i>Rotala</i> tripartita BAM-C approach for dual listed TECs Advice on subtropical floodplain mapping.	
TfNSW	Teams Meeting – 6 March 2024	A meeting was held between TfNSW, OX2, Accent and Impact regarding TfNSW comments on the EIS.	
	Email correspondence	A follow up email was provided by TfNSW clarifying a number of their comments. The Traffic Impact Assessment has been updated to address TfNSW comments (add reference).	
DPHI Crown Lands	Teams meeting – 21 February 2024	Meeting held between Crown Lands and OX2 to clarify Crown Lands comments on the EIS.	
State and Federal Members	Email correspondence – 6 December 2023	Letters and a newsletter were provided to State Member for Clarence and Federal Member for Page in December to provide details on the project and to offer a briefing, if required.	
State Member for Clarence	Briefing – 12 February 2024	Briefing provided to the State Member for Clarence.	

7 Updated project justification

7.1 Additional commitments

OX2 has committed to a number of mitigation measures in addition to those that were set out in the EIS statement of commitments, as described in Sections 4 and 5. An amended statement of commitments is provided in Attachment G. Colour-coding is used to indicate new commitments, or where commitments already set out in the EIS have been modified.

7.2 Statutory justification

As the changes to the project described in Section 3.2 are considered minor, the Summerville SF project continues to align with Commonwealth, state and local planning and environmental policies. This includes the:

- objects of the Environmental Planning and Assessment Act 1979 (NSW), including the principles of ecologically sustainable development (ESD)
- requirements defined in specific State Environmental Planning Policies (SEPPs), including the Resilience and Hazards SEPP (updated Preliminary Hazards Analysis based on updated information about the on-site BESS)
- land use objectives for RU1-zoned land within the Richmond Valley Local Environmental Plan 2012 (Richmond Valley LEP)
- additional land use provisions that apply to the land under the Richmond Valley LEP, such as building heights, flooding, terrestrial biodiversity and waterways
- other Commonwealth and state regulation that apply to this project, such as *the Crown Land Management Act 2016 (NSW)* (CLM Act) (avoidance of Crown paper road).

This project is considered a 'controlled action' requiring assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act). Refinements to the project (described in Section 3.2) have been made to further reduce impacts to biodiversity values found on site. An updated BDAR, consistent with the requirements in Part 7.9 of *the Biodiversity Conservation Act 2016 (NSW)* (BC Act) has been provided as Attachment B.

7.3 Project benefits

The project will support the Commonwealth and state government achieve their respective goals for greenhouse gas (GHG) emissions and economic development and will contribute to energy security and transition to renewables, as well as economic development.

At the **Commonwealth** level, the increased penetration of renewables into the National Electricity Market (NEM) from projects such as Summerville SF will allow the Commonwealth to meet its Nationally Determined Contribution goals of net-zero emissions by 2050.

At the **state** level, the project will support GHG reduction and renewable energy commitments described in the Net Zero Plan Stage 1: 2020 – 2030, the NSW Electricity Strategy and the

Electricity Infrastructure Roadmap. The Summerville SF also supports the state in achieving the emissions reduction targets set out in the *Climate Change (Net Zero Future) Act 2023 (NSW)*. From an economic development perspective, the project will also continue to support the development of regional NSW's renewable energy industry, in line with the North Coast Regional Plan 2041, A 20-Year Economic Vision for Regional NSW.

The project will also support the state government and the Australian Energy Market Operator (AEMO)'s objectives for energy security in NSW. This includes plans and strategies that have been updated since the publication of the Summerville SF EIS, such as Transgrid's 2023 Transmission Annual Planning Report and AEMO's 2023 Electricity Statement of Opportunities.

Locally, the project is consistent with the development objectives outlined in the Richmond Valley LEP and the Richmond Valley Local Strategic Planning Statement – Beyond 20-20 Vision.

8 References

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Graham, P., Hayward, J. and Foster J. (2023). GenCost 2023-24: Consultation draft, CSIRO, Australia.

Guoqinga, L., Hernandez, R.R., Blackburn, G.A., Davies, G., Hunt, M., Whyatt, J.D., Armstrong, A. (2021). *Ground-mounted photovoltaic solar parks promote land surface cool islands in arid ecosystems*. Renewable and Sustainable Energy Transition 1 (2021) 100008.

NSW AC (2022). Renewable energy generation and agriculture in NSW's rural landscape and economy – growth sectors on a complementary path. A report by the NSW Agriculture Commissioner. 8 November 2022.



Attachment A: Submissions Register

Table A.1 Submission Register

Name	Location	Tables where issues addressed in report			
Government agencies	Government agencies				
Department of Planning, Housing and Infrastructure – Crown Lands	-	Table 4.1			
Department of Planning, Housing and Infrastructure - Hazards	-	Table 4.3			
Department of Climate Change, Energy, the Environment and Water – Water	-	Table 4.2			
Department of Climate Change, Energy, the Environment and Water – Biodiversity and Conservation Department (BCD)	-	Table 4.4			
Fire and Rescue NSW	-	Table 4.5			
NSW Rural Fire Service	-	Table 4.6			
Mining, Exploration and Geoscience	-	Table 4.7			
Heritage Council of NSW	-	Table 4.8			
Heritage NSW	-	Table 4.9			
Transgrid	-	Table 4.10			
Transport for NSW	-	Table 4.11			
NSW Department of Primary Industries – Agriculture	-	Table 4.12			
NSW Department of Primary Industries – Fisheries	-	Table 4.13			

Name	Location	Tables where issues addressed in report		
Council	council			
Richmond Valley Council	-	Table 4.14		
Individual community members				
Withheld	Uarbry, NSW	Table 5.1 – ID 1		
Withheld	Uarbry, NSW	Table 5.1 – ID 1		
John McBratney	Lancefield, VIC	Table 5.1 – ID 1, 2, 6 & 7		
Withheld	Kooringal, NSW	Table 5.1 – ID 1, 2, 3, 4 & 5		
Withheld	Lake Albert, NSW	Table 5.1 – ID 1, 2, 5, 6 & 7		
Janet Norton	Armidale, NSW	Table 5.1 – ID 1 & 8		
Sally Edwards	Coolah, NSW	Table 5.1 – ID 1, 4, 6, 7, 8, 10 & 12		
Withheld	Ellangowan, NSW	Table 5.1 – ID 1, 3, 4, 5, 11, 13, 17, 18, 19, 20 & 24		
Bill Stinson	Warrawee, NSW	Table 5.1 – ID 1, 2, 4, 5, 6, 7, 15 & 22		
Withheld	Guyra, NSW	Table 5.1 – ID 2, 4, 7, 15 & 21		
Withheld	Forestville, NSW	Table 5.1 – ID 3, 4 & 19		
Withheld	Dee Why, NSW	Table 5.1 – ID 1, 4, & 6		
Withheld	Collaroy, NSW	Table 5.1 – ID 1, 4, 6 & 16		
Withheld	Mayfield West, NSW	Table 5.1 – ID 4, 7 & 16		
Withheld	Old Toongabbie, NSW	Table 5.1 – ID 2, 3, & 7		
Withheld	Coolah, NSW	Table 5.1 – ID 1 & 6		

Name	Location	Tables where issues addressed in report
Withheld	Coolah, NSW	Table 5.1 – ID 3, 4, 5, 8, 10, 13 & 14
Withheld	Dederang, VIC	Table 5.1 – ID 1 & 3
Emma Bowman	Dunedoo, NSW	Table 5.1 – ID 1, 4, 13, 16 & 17
Withheld	Dee Why, NSW	Table 5.1 – ID 1, 3, 7, 16 & 21
Withheld	Ellangowan, NSW	Table 5.1 – ID 3, 8, 12 & 14
Withheld	Gulgong, NSW	Table 5.1 – ID 2 & 3
Withheld	Gulgong, NSW	Table 5.1 – ID 1
Ian McDonald	Walcha, NSW	Table 5.1 – ID 7
Withheld	Ellangowan, NSW	Table 5.1 – ID 14
Alex Mathews	Rupanyup, VIC	Table 5.1 – ID 5, 7, 12, 13, 23
Withheld	Ellangowan, NSW	Table 5.1 – ID 6
Withheld	Mollyan, NSW	Table 5.1 – ID 1
Withheld	Ellangowan, NSW	Table 5.1 – ID 3 & 6
Withheld	Mollyan, NSW	Table 5.1 – ID 1 & 3
David Cook	Rappville, NSW	Table 5.1 – ID 6
Withheld	Ellangowan, NSW	Table 5.1 – ID 4
Amanda Williamson	Ellangowan, NSW	Table 5.1 – ID 5, 10 & 11
Withheld	Waverton, NSW	Table 5.1 – ID 1
Laura Hitchcock	Ellangowan, NSW	Table 5.1 – ID 3, 4, 5, 6, 8, 10, 11, 12, 13, 14 & 18

Name	Location	Tables where issues addressed in report	
Organisations and special interests groups			
Climate and Energy Realists Queensland	Bundall, QLD	Table 5.1 – ID 1 & 2	
Rainforest Reserves Australia	Lake Barrine, QLD	Table 5.1 – ID 1, 5, 6, 11, 12, 19 & 23	
Save Our Surroundings (SOS)	Gulgong, NSW	Table 5.1 – ID 1, 2, 3, 5, 7, 8, 9, 10, 15, 20 & 25	
Save Our Woodlands	Yarrowyck, NSW	Table 5.1 – ID 1, 6 & 8	
Henribark (received outside the formal submissions period)	Ellangowan, NSW	Updated Biodiversity Development Assessment Report (BDAR) (Attachment B)	



Attachment B:
Updated Biodiversity
Development Assessment
Report [provided separately
to this Submissions report]



Attachment C: Spider Orchid letter





3 June 2024

Our ref: 600-23COF7268

North East NSW Branch
Biodiversity, Conservation and Science
Department of Climate Change, Energy, the Environment and Water
Level 8, 24 Moonee Street, (Locked Bag 914),
Coffs Harbour NSW 2450

Attention: Dimitri Young - Senior Team Leader Planning North East

Dear Dimitri,

Proposed targeted flora survey for *Dendrobium melaleucaphilum* (Spider Orchid)

Eco Logical Australia Pty Ltd (ELA) prepared the initial Biodiversity Development Assessment Report (BDAR) for the Summerville Solar Farm (the project) which was submitted to the NSW Department of Planning and Environment (DPE) in October 2023. The proponent received comments from DPE's Biodiversity and Conservation Division now known as the Biodiversity Conservation, and Science group (BCS) within the Department of Climate Change, Energy, Environment, and Water (DCCEEW) for the project (SSD-46982232) on the 21/12/2023. The proponent is OX2 Holdings Pty Ltd (OX2), formerly ESCO Pacific Holdings Pty Ltd.

Based on the recommendations received from BCS on 21/12/2023, and later a second response from BCS to ELA's proposed actions on 25/03/2024 this letter has been prepared as a formal response to Recommendation 4.1: The presence of spider orchid (Dendrobium melaleucaphilum) be determined in all areas of potential habitat by either completing targeted surveys during the time specified in the TBDC, or by assuming presence, or by obtaining an expert report and whichever approach is taken, be documented in the BDAR.

Additionally, the BCS second letter responded with an additional option:

• if the assessor wishes to seek a variation to the survey timing specified in the TBDC, by receiving an approval for the variation from the BOS Helpdesk.

ELA lodged a request to BOS helpdesk regarding this matter on 28/03/2024 detailing the justification provided within the BDAR and ELA's response in the summary report to BCS. ELA received a response from BOS helpdesk on 29/05/2024 stating:

In accordance with the BAM, the modification to the survey timing outside the TBDC must be adequately justified in the BDAR.

We note that advice has been sought from orchid expert, Lachlan Copeland. However, if BCS have raised issues with the justification and evidence provided to modify the survey timing for this species within the BDAR and have requested surveys be conducted in accordance with the specified survey timing and methods within the TBDC, targeted surveys should be conducted in accordance with the BAM.

ELA are still of the opinion that adequate justification was provided in the 'Response to BCD Comments Summary Report' dated 23/2/2024 and would welcome the opportunity to discuss this matter further. However, if BCS requires additional survey, ELA propose to undertake the required survey for *Dendrobium melaleucaphilum* post submission of the Submissions Report in August/September 2024. Targeted surveys would be focussed on 'suitable' habitat only, targeting any areas within the Development Footprint (2024) that contain PCT 837 'Wet Variant', PCT 780 'Moderate', areas within a 50m buffer of creeklines, and areas that contain *Melaleuca* spp. or *Casuarina glauca*. It should be noted all areas of PCT 1235 have now been entirely avoided (Development Footprint 2024) and no survey would be required within these areas as per BAM 2020.

It is considered highly unlikely that *Dendrobium melaleucaphilum* would occur within the Development Footprint (2024) for the following reasons :

- Dendrobium melaleucaphilum is not associated with any new east coast commensurate PCTs (incl. PCT 4016) for the Subject Land.
- No *Dendrobium* spp. including stems or pseudobulbs were identified during the targeted flora survey/s undertaken in January and October 2022.
- Dendrobium melaleucaphilum is known to only occur on host species Melaleuca styphelioides
 and Casuarina glauca within the North Coast and SE QLD IBRA Bioregions (pers. comm Lachlan
 Copeland). No M. styphelioides were identified within the Subject Land, and the PCT 1235 that
 is characterised by Casuarina glauca is entirely avoided within the Development Footprint
 (2024).
- No records occur within a 10km radius BioNet search. The closest records occur approximately 40 km east at Evans Head.

Based on the above, it is unlikely an amended BDAR would be required post targeted surveys, however, a precautionary approach has been adopted and a species polygon has been developed (Figure 1). This is based on potential suitable habitat within the Development Footprint 2024. The total area of the species polygon for *Dendrobium melaleucaphilum* is 0.97 ha. This has been calculated within the BAM-C as requiring a total of 18 credits. These credits will only be required should *Dendrobium melaleucaphilum* individuals be identified.

Regards,

Phoebe Smith Senior Ecologist

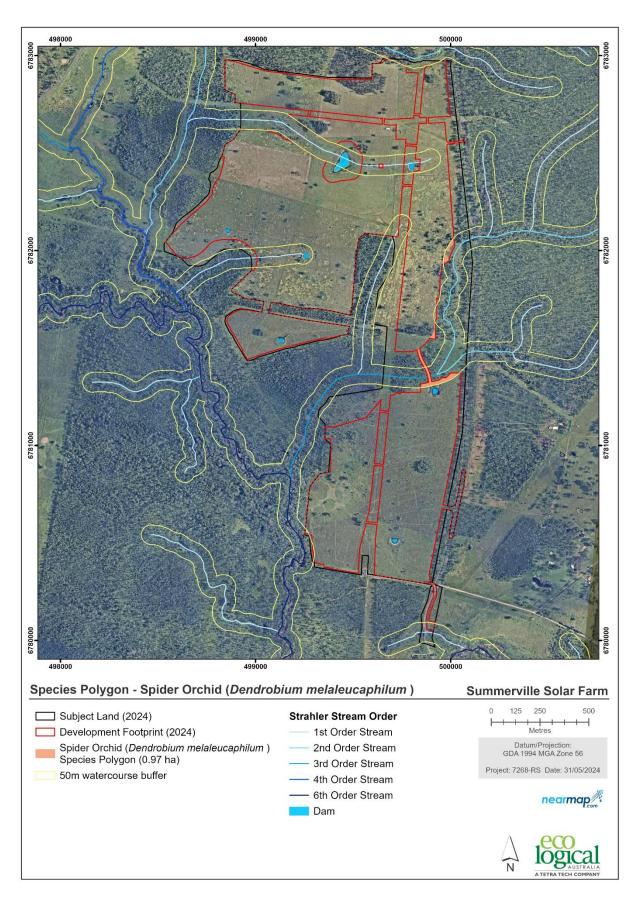


Figure 1: Dendrobium melaleucaphilum species polygon



Attachment D: Consultation with Registered Aboriginal Parties

Stage 4 Methodology - Summerville Solar Farm

Catherine Burrowes </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D73BCAAE1C6948AAAA0E964CEDECA522-CATHERINE D>

Wed 9/21/2022 2:17 PM

To:bandjalangceo1@gmail.com <bandjalangceo1@gmail.com>

2 attachments (2 MB)

Banjalang Aboriginal Corporation Stage 4 Cover Letter.docx; V2.3_SummervilleSF_ACHA_Draft_2022.pdf;

Hello Members,

Please find attached the draft ACHAR for Summerville Solar Farm.

The period for providing any feedback on the assessment methodology closes on **Monday 24th October 2022**, and is much appreciated.

If you have any further questions or queries, feel free to email me or contact the OzArk office at (02) 6882 0118. Kind Regards,

Catherine

Catherine Burrowes

Office Manager/ Community Liaison





OzArk Environment & Heritage PO Box 2069 DUBBO 2830 02 6882 0118

Catherine@ozarkehm.com.au;

www.ozarkehm.com.au



OzArk and staff respectfully acknowledge the Traditional Owners and Custodians of the Country on which we work.

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Summerville Solar Farm - ACHAR (Final)

Catherine Burrowes </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D73BCAAE1C6948AAAA0E964CEDECA522-CATHERINE D>

Wed 10/11/2023 2:33 PM

Bcc:Aaron Talbott <ngurrugu74@outlook.com>;bogallalc@bigpond.com <bogallalc@bigpond.com>;ceo@clalc.com.au <ceo@clalc.com.au>;bandjalangceo1@gmail.com <bar/>bandjalangceo1@gmail.com>

1 attachments (2 MB)

V3.0_Final_Summerville Solar Farm_Assessment Methodology_2022.pdf;

Hello Members,

Attached you will find the revised final ACHAR with Banjalang Aboriginal Corporation input for your records.

ESCO Pacific are planning to submit the EIS to the NW department of Planning by the end of this month.

We thank you for your contribution so far, and we will continue to consult with you regarding the project as the planning approval progresses.

Please reach at out at any time if you have queries or concerns.

Regards, Catherine

Catherine Burrowes

OzArk Environment & Heritage Office Manager (02) 6882 0118



Attachment E:
Updated Traffic Impact
Assessment [provided
separately to this
Submissions report]



Attachment F: Hazard Assessment Memorandum



Safety, Risk and Reliability Engineers

OCX2 c/o Accent Environmental Level 2, 100 Cubit Street Cremorne, VIC 3121

Attention: Michael Cramer

20th May 2024

RE: Summerville Solar Farm – Memorandum in response to DPHI Comments in reference to Mendham Consultants PHA

Dear Michael,

In response to queries from DPHI in relation to the Preliminary Hazard Analysis report for the Summerville Solar Farm, please find the following information:

50101 1 0	Solar Farm, please find the following information:				
Ref#	DPHI Query				
1	The assumption of fire only emitting from the top of the batteries is requested to be revised. The current model is potentially underestimating.	The <u>Preliminary</u> Hazard Analysis (PHA) included <u>preliminary</u> information based on BESS units of an undecided type.			
	the heat radiation consequences for uninsulated areas of batteries.	A first principles approach was initially undertaken with recommendations based on previous CFD modelling and project specific analytical assessment by Mendham. This showed the primary fire release location was at the top of the BESS units emanating from a fire and smoke plume based on radiant heat and not the sides where convected heat is the dominated heat transfer.			
		Since DPHI reviewed the submitted PHA, the proponent has selected BESS units compliant to UL9540A, where the test certificate indicates 'no external flames were observed' during thermal runaway tests by the testing authority.			
		The assumptions made in the PHA are no longer relevant since the selection of a specific BESS type certified to UL9540A has been made by the proponent.			
2	Clarify the separation distance to place the battery back-to-back, as shown in figure 3.2 in the EIS, is appropriate.	Since the DPHI review of the submitted PHA, the proponent has selected BESS units compliant to UL9540A, where the test certificate indicates the manufacturer must include all separation distances in their installation manual.			
		The applicable installation manual indicates that a 'back to back' (i.e. the 'back' of the BESS units being the longest side/s) separation distance of 100mm (Minimum) to 250mm (Maximum) is required. (Refer Pg. 15/33 Sol Bank Installation Manual V1.6).			
3	Confirmation 1.9 hectares allocated to the BESS is sufficient with consideration of the separations	OX2/Accent have provided Mendham Consultants with a layout (including BESS /inverter/transformer dimensions and separation distances) to confirm that the required			



Safety, Risk and Reliability Engineers

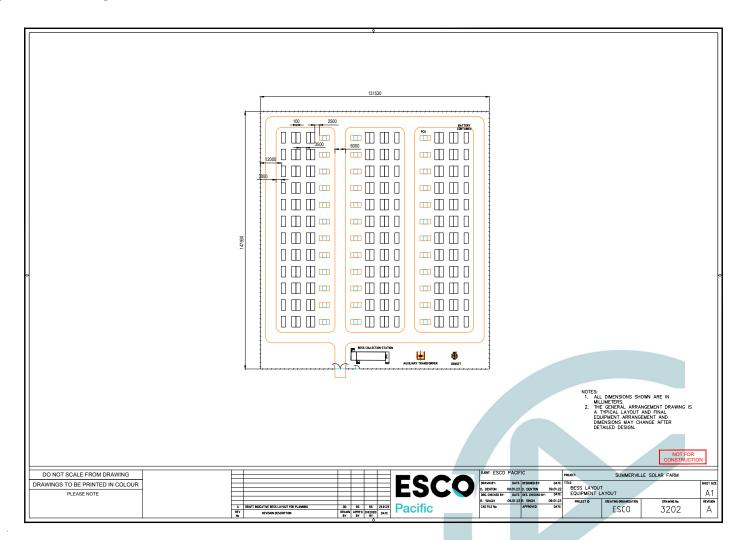
Ref#	DPHI Query	
	between batteries and equipment within the area.	separation distances are met or exceeded, and that BESS facility fits within area available. (See Appendix I)
4	Please provide the dimensions of the layout in Figure 3.1 of the EIS and determine the area requirements for a group of batteries.	Refer Items 2 and 3 (above).
5	Provide qualitative assessment on the potential toxic risk if the battery is involved in fire event. In particular, its impact to surrounding land use, if any.	Since DPHI reviewed the submitted PHA, the proponent has selected BESS units compliant to UL9540 and certified to UL9540A, where the test certificate indicates 'no external flames were observed' by the testing authority during the thermal runaway tests.
		The assumptions made in the PHA in relation to toxic risk are no longer relevant, since the selection of a specific BESS type certified to UL9540A.
		Both atmospheric toxic release and ground flow toxic release are of a low likelihood due to the UL9540A test results indicating no external flames observed during testing under laboratory conditions.
6	Modify or remove the following statements (or similar statements) that suggests consultation with regulatory agencies to determine the maximum number of batteries simultaneously involved in a fire.	The PHA stated the following: "The number of fire involved BESS units permitted in any one (1) single fire event through fire spread is at the discretion of the proponent in consultation with regulatory authorities."
		The original PHA considered BESS units of an unknown type and therefore considered the possibility of fire-spread between units.
		The regulatory authority the statement above was intended to be directed towards was the Rural Fire Service (RFS). If the ability of the local RFS was inadequate to control fire spread between BESS units, the proponent may have considered providing increased separation distance between individual BESS units to prevent more than one BESS unit becoming fire involved.
		With the selection of UL9540A certified BESS units, that do not display external flames during thermal runaway, this situation is now less likely to occur.





Safety, Risk and Reliability Engineers

Appendix 1: BESS Diagram





Yours faithfully,

Dr Frank Mendham

Director Mendham Consultants Pty Ltd +61 421 407 633

frank@mendhamconsult.com www.mendhamconsult.com





Attachment G: Amended statement of commitments

Table G.1 Updated statement of commitments

Phase	Measure No.	Mitigation measure
General		
In all phases	G01	The environmental management plans for the construction and operation of the project will incorporate a philosophy of continuous improvement and will consider changes in leading practice as well as the introduction of new guidelines.
Biodiversity (EIS Secti	on 6.2)	
Construction	B01	To reduce the risk and extent of biodiversity impacts during construction, a Biodiversity Management Plan (BMP) will be prepared that will include guidance for avoiding and minimising impacts on threatened flora, ecological communities, and fauna habitats within the development footprint. The BMP will include the following construction management measures:
	B02	 scheduling timing of construction activities where practical to avoid critical life cycle events such as breeding or nursing
	B03	 instigating clearing protocols including preclearing surveys, daily surveys and staged clearing, and using a trained ecological or licenced wildlife handler during clearing
	B04	 relocate habitat features (e.g. fallen timber, hollow logs) from within the development footprint to adjacent retained remnant vegetation
	B05	 adopting clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance
	B06a	erecting temporary fencing to protect significant environmental features such as riparian zones

Phase	Measure No.	Mitigation measure
	B06b	 the internal access road that connects the northern and southern footprints of the project site will not be fenced so as not to impede fauna movement within the corridor formed by the biodiversity exclusion zone
	B07	 conducting staff training and site briefings to communicate environmental features to be protected and measures to be implemented
	B08	 making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development footprint
	В09а	 constructing waterway crossings that are sensitive to aquatic habitat and designed in accordance with Policy and Guidelines for Fish Friendly Waterway Crossing (DPIE 2022b), Guidelines for riparian corridors on waterfront land; Guidelines for watercourse crossings on waterfront land; and Guidelines for Controlled Activities on Waterfront Land – Riparian Corridors (DPIE 2022c)
	B09b	 works within waterfront land will be carried out in accordance with the Guidelines for Controlled Activities on Waterfront Land, and waterway crossings will additionally be designed in accordance with Policy and Guidelines for Fish Friendly Waterway Crossing
	B10	 implement sediment and erosion control procedures as outlined under 'soils and landuse', below
	B11	 implement weed and pest animal management measures as outlined under 'soils and landuse', below
	B12	 implement noise management measures to minimise impacts on fauna as outlined under 'soils and landuse', below
	B13	 implement light-spill management measures to minimise impacts on fauna as outlined under 'visual amenity and landscape character', below
	B14	 implement dust management measures to minimise impacts on vegetation as outlined under 'soils and landuse', below

Phase	Measure No.	Mitigation measure
	B15	 develop a traffic management plan (see 'traffic and transport', below) that includes measures to reduce the likelihood of vehicle strikes on fauna
	B16	• implement hazardous materials and fire management measures as outlined under 'hazards', below.
Operation	B17	The measures outlined in the BMP for construction will also be adopted, as applicable, during operation.
Decommissioning	B18	The measures outlined in the BMP for construction will also be adopted, as applicable, during decommissioning.
	B19	Decommissioning will largely focus on reinstatement of the development footprint to its original (preconstruction) condition and land capability. Consideration will be given to enhancing biodiversity values to the extent that they do not conflict with the proposed final land use.
Aboriginal cultural he	Aboriginal cultural heritage (EIS Section 6.3)	
In all phases	AH01	All works proposed will be constrained to within the project area including access tracks and laydown areas.
	AH02	Any works proposed outside of the project area will require further Aboriginal archaeological assessment.
	AH03	The Bandjalang Aboriginal Corporation will be involved in the development of site induction material including unanticipated finds training.
	AH04	A cultural values study / oral history study of the general area will be facilitated by ESCO Pacific should the Bandjalang Aboriginal Corporation identify the appropriate people to be involved (discussions on this recommendation are ongoing).
	AH05	All topsoil (i.e. A Horizon soils) must be retained within the project area and used in site rehabilitation works; in the low likelihood that this soil may contain Aboriginal objects this will ensure that they stay within the project area.
	AH06	Options will be explored for ongoing land management using both cultural burns and/or managed sheep grazing to limit the density of ground covers currently visible across the project area.

Phase	Measure No.	Mitigation measure
	AH07	An Aboriginal Cultural Heritage Plan (ACHMP) will be developed in consultation with the RAPS following development consent. This will detail the ongoing management of Aboriginal cultural heritage within the project area and include an Unanticipated Finds Protocol, an Unanticipated Skeletal Remains Protocol, and induction policies for work crews to include a cultural heritage awareness procedure to ensure they recognise and avoid harm to Aboriginal objects.
Historic heritage (EIS S	Section 6.4)	
In all phases	HH01	All works proposed must be constrained to within the project area, including access tracks and laydown areas.
	HH02	If ground disturbance activities are to occur outside the area assessed in the heritage study, then further archaeological assessment will be required.
	НН03	The development of a Historic Heritage Management Plan (HHMP) prior to construction containing:
	HH04	 an unanticipated finds protocol should any items suspected of having historical heritage significance be uncovered
	HH05	 inductions for staff undertaking construction activities to ensure work crews recognise and avoid harm to historic items should they be discovered.
Soils and landuse (EIS	Soils and landuse (EIS Section 6.5)	
Design	L01	Internal access roads and other project infrastructure will be designed with adequate runoff controls to prevent erosion from concentrated flows.
	LO2	ESCO Pacific will investigate the potential to integrate solar panel installation and livestock grazing (Agrisolar) at the Summerville SF as a means of further mitigating impacts to agriculture.

Phase	Measure No.	Mitigation measure
Construction	L03	Potential erosion and sedimentation impacts as a result of construction will be managed in accordance with a soil and water management plan (SWMP) for the project. The SWMP will be developed in accordance with the requirements of <i>Managing Urban Stormwater: Soils and Construction, Volume 1</i> , 4 th Edition (Landcom 2004). The SWMP will include the following measures to reduce potential impacts on soils, land capability and agricultural land from erosion and sedimentation:
	L04	 areas of disturbance will be minimised and temporary disturbance areas will be revegetated with grass and pasture species as installation of solar panels proceeds across the site, if practical, or otherwise immediately once installation of the panels is complete
	L05	 underground cabling trenches will be progressively backfilled to minimise the time they are left open
	L06	 at locations where ground disturbance is necessary (such as earthworks for the construction of the BESS facility, transformer substation, switchyard and O&M building), appropriate erosion and sediment controls (including sediment ponds or retention basins as required) will be put in place in accordance with Landcom (2004) and detailed in area-specific erosion and sediment control plans (ESCPs)
	L07	 sediment-laden stormwater within sediment ponds or retention basins will be treated using flocculants where required to settle the suspended sediment prior to release.
	L08	the preservation and stabilisation of drainage lines for surface water flow and the minimisation of the extent and duration of any surface disturbance in these drainage lines will be prioritised.
	L09	 sodic soils will be managed as follows: earthworks will be designed and undertaken to minimise the exposure of sodic subsoils as far as practical

Phase	Measure No.	Mitigation measure
		 where sodic subsoils are exposed, gypsum will be applied as an ameliorant at a suitable application rate to displace the sodium and provide the soil with a stronger aggregate and hold structure when wet if cable trenching is to occur through dispersive subsoils, the guidance in <i>Appendix P Land-based pipeline construction</i> in <i>Best Practice Erosion and Sediment Control</i> (IECA 2015) will be followed to minimise erosion risk, including favouring cable alignments that minimise longitudinal gradient to minimise the potential for tunnel erosion, and diverting clean run-on water away from cable trenches (if practical), or ensuring water passes through the trenched area in a controlled manner
	L10	 all pasture areas disturbed during construction that are not in active use for over three months will be sewn with grass and pasture species with starter fertiliser to provide stabilising ground cover and a healthy topsoil, to provide long term protection against erosion.
	L11	The SWMP will also outline measures for the management of topsoil and subsoil, consistent with Landcom (2004), including:
	L12	 soil that is proposed to be disturbed during the project will be stripped and stored in small stockpiles for use in rehabilitation
	L13	 topsoil and subsoil will be stockpiled separately and reinstated in the correct order (clay subsoils that have been stripped should be used exclusively as a subsoil, and encapsulated by the loamy topsoils with which they were originally capped)
	L14	soil will be stripped in a slightly moist condition and not in either an excessively dry or wet condition
	L15	 soil to be temporarily stockpiled will be pushed into windrows or small stockpiles using graders, where practical, to minimise compression, and left in as coarsely structured a condition as possible to promote infiltration and minimise erosion

Phase	Measure No.	Mitigation measure
	L16	 temporary stockpiles of soil or construction materials will be located away from flow paths where possible
	L17	 if a surface water flow is anticipated to interact with stockpiled soil, a flow diversion bank or catch drain will be placed up-slope of a stockpile to direct surface water flows away
	L18	 where necessary, silt fences or cleared vegetation (including mulch or chipped vegetation) will be installed around topsoil stockpiles or stripped areas for erosion and sediment control
	L19	 stockpiles will generally have maximum heights of 3 m, with clayey soils stored in lower stockpiles for shorter periods of time compared to coarser textured sandy soils
	L20	 long-term stockpiles (i.e. stockpiles in place for longer than three months) will be seeded (e.g. using an annual cover crop species) and fertilised as soon as possible
	L21	 topsoil will be respread and seeded as soon as practical, with larger areas of reinstatement lightly contour ripped to create a "key" between the soil and underlying material.
	L22	Dust generation during construction will be minimised by adopting standard dust control measures for construction sites, such as outlined in Section 6.3.10 'Control of Wind Erosion' in Landcom (2004) (i.e. wetting down internal access roads and other exposed surfaces, particularly during dry and windy conditions).
	L23	A Biodiversity Management Plan (BMP) will be prepared for the project and will include mitigation measures to address weeds and pest animals. Control measures during construction will include:
	L24	 implementing biosecurity controls and procedures for project components imported to Australia in accordance with requirements under the <i>Biosecurity Act 2015</i> and the guidance provided in the DPI fact sheets (DPI 2021b)
	L25	identifying prior to construction the types and prevalence of weeds within the project area
	L26	 identifying and implementing methods for controlling weeds and pathogens (e.g. herbicides, physical removal, grazing)

Phase	Measure No.	Mitigation measure
	L27	 identifying and implementing methods for pest animal control
	L28	 implementing a vehicle hygiene protocol for vehicles entering the site to ensure vehicles and earthmoving machinery are free of debris, sediment and weeds
	L29	 prior to re-spreading stockpiled topsoil onto disturbance areas, assessing weed infestation on stockpiles and weed management requirements
	L30a	implementing routine weed monitoring and inspection programs
	L30b	 during project construction, vehicle washdown for weed control will be undertaken on a bunded, open-air, graveled wash pad with drainage controls (such as a sump) to contain washdown waters
	L30c	the washdown bay will be subject to site weed control measures.
	L31a	An unexpected finds protocol will be developed for managing contamination encountered during construction. This will include the development and implementation of an Asbestos Management Plan to manage asbestos and asbestos containing material if it is encountered during construction. This will include handling and disposal procedures in accordance with NSW EPA guidelines, Australian Standards, and relevant industry codes of practice.
	L31b	A Grazing Management Plan will be prepared prior to operation if grazing of the site is undertaken, and will detail how livestock will be managed to avoid deterioration of the long-term land, water and soil resource health.
	L31c	A minimum groundcover target of 70% will be committed to across the site (outside of actively disturbed areas) to support other long-term land and soil resource health and water management commitments (including if grazing is implemented at the site).

Phase	Measure No.	Mitigation measure
Operation	L32	The SWMP will be updated for operation and include the following measures to reduce potential impacts on soils, land capability and agricultural land from erosion and sedimentation:
	L33	undertaking regular inspection of drains and erosion and sediment control structures
	L34	 maintaining vegetation cover across the project area to minimise soil exposure and reduce erosion potential (including inspecting and maintaining revegetated areas until stable and self-sustaining)
	L35	 maintaining healthy soil biology across the site during operation by:
		- routine vegetation monitoring and maintenance
		- implementing erosion and sediment controls outlined in the SWMP to preserve topsoil
		 routine monitoring and management of visible surface erosion, such as rilling caused by concentrated flows from infrastructure
		- promotion of grass cover in spacing between each of the solar panel array rows
		 weed management strategies as outlined in the BMP to promote continued presence of pasture species and seedbank within topsoil.
Decommissioning	L36	Management and mitigation measures to be implemented as part of decommissioning will be similar to those implemented during construction. Decommissioning will largely focus on reinstatement of the project area to its original (pre-construction) condition and land capability.
		A Decommissioning and Rehabilitation Management Plan will be developed as outlined under 'decommissioning and rehabilitation', below.

Phase	Measure No.	Mitigation measure	
Hydrology and water	Hydrology and water resources (EIS Section 6.6)		
Design	W01	The outcome of flood modelling will be considered during the detailed design phase to ensure assets are set to an appropriate height above ground to avoid flooding from local runoff and confirm that there is no detrimental increase in flood levels downstream of the site and outside the project boundary.	
	W02	Panels within the 1% AEP flood extent will be placed at least 500 mm above the modelled flow depth. Outside the flood extent, panels will be placed at least 300 mm clear of the ground level to minimise the risk of interaction with floodwaters.	
	W03	The panel structures will be designed to withstand the flood velocities expected at the site and no infrastructure will be placed within 20 m of any Strahler 3 (or above) order streams.	
Construction	W04	Potential impacts on water and water resources as a result of construction will be managed in accordance with the SWMP, as outlined under 'soils and landuse', above. The SWMP will include the following mitigation measures in relation to hydrology, flood risk, water quality and water resource use:	
	W05	 areas of disturbance will be minimised and temporary disturbance areas will be revegetated with grass and pasture species as installation of solar panels proceeds across the site, if practical, or otherwise immediately once installation of the panels is complete 	
	W06	 underground cabling trenches will be progressively backfilled to minimise the time they are left open 	
	W07	 at locations where ground disturbance is necessary (such as earthworks for the construction of the BESS facility, transformer substation, switchyard and O&M building), appropriate erosion and sediment controls (including sediment ponds or retention basins as required) will be put in place in accordance with Landcom (2004) and detailed in area-specific erosion and sediment control plans (ESCPs) 	

Phase	Measure No.	Mitigation measure
	W08	 installing effective stormwater management and control measures during construction, in accordance with Landcom (2004)
	W09	maintaining existing flow paths across the site wherever practical
	W10	 locating temporary stockpiles of soil or construction materials away from flow paths
	W11	 where access roads cross flow paths within the project area, constructing rock causeways to provide low maintenance access with limited impact on the waterway
	W12	 infilling farm dams on the project area with a gentle batter that is consistent with the local ground slope and directs runoff into the natural drainage path on which the dam is located
	W13	 re-profiling (if required) and revegetating disturbed areas not occupied by project infrastructure to match pre-existing topography
Construction	W14	 storing and handling all chemicals, fuels and oils used on-site in accordance with the most stringent requirements (in each case) set out in:
		 all relevant Australian Standards (including AS1216:2006: Dangerous Goods and AS1940:2017 Flammable Liquids Storage and Handling) the NSW EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook (DECC 2007) if the chemicals are liquids relevant safety data sheet (SDS) applicable Safe Work NSW codes and guidelines
	W15	 maintaining an up-to-date SDS register and keeping copies at the site access gate, compound buildings and chemical storage cabinets
	W16	 covering and bunding hazardous chemical storage areas and locating them at least 40 m away from water bodies and drainage lines
	W17	 refuelling plant and machinery at locations at least 40 m away from water bodies and drainage lines

Phase	Measure No.	Mitigation measure
	W18	 servicing equipment and plant over impervious surfaces to prevent any oil or fuel drips to the land surface causing soil or groundwater contamination
	W19	 implementing a spill response plan which will include spill containment and remediation procedures, placement of spill kits and safety data sheets (SDSs), and training requirements for staff
	W20	 disposing all hazardous chemicals and waste offsite in accordance with relevant NSW government regulations and guidelines
	W21	daily inspection of all machinery and plant to ensure no leakage of fuels, lubricants or other liquids
	W22	 ensuring all water used on site is obtained and used in accordance with the Water Management Act 2000
	W23	 reaching agreement with the landholder regarding any use of farms dams as water sources during construction and ensuring the estimated maximum harvestable right dam capacity is not exceeded.
Operation	W24	Where the poles supporting the solar arrays and transmission lines are located in areas that exceed flood depths of 0.3 m and flow velocities of 1.0 m/s (e.g. in small watercourses around the project area where overland flow is concentrated), undertaking monitoring to identify and repair any erosion which may occur during flow events.
	W25	Updating the SWMP for operation.
	W26	Maintaining vegetation cover under all solar panel arrays to maximise water infiltration.
	W27	Storing and handling all chemicals, fuels and oils used on-site in accordance with the standards and guidance documents outlined above for construction.
	W28	Maintaining an up-to-date SDS register and keeping copies at the site access gate, compound buildings and chemical storage cabinets.
	W29	Undertaking regular inspection of equipment and facilities to identify spills or leaks.

Phase	Measure No.	Mitigation measure
	W30	Updating the spill response plan for operation.
	W31	Ensuring the EP for the project includes procedures to be followed in the event of flooding within the project area or surrounding area, including information on safe evacuation routes.
	W32	Ensuring all water used on site is obtained and used in accordance with the Water Management Act 2000.
Decommissioning	W33	Management and mitigation measures to be implemented as part of decommissioning will be similar to those implemented during construction. Decommissioning will seek to re-establish pre-existing slopes (where modified by the project) and drainage. A Decommissioning and Rehabilitation Management Plan will be developed as outlined under 'decommissioning and rehabilitation', below.
Traffic and transport (EIS Section 6.7)	
Pre-construction	T01	Re-assessing traffic volumes along Summerland Way at the Summerville SF site access point prior to construction if the project construction timeframe overlaps with that of the Myrtle Creek and/or Richmond Valley solar farms (or the Clarence Valley Solar Farm if it generates traffic past the site access point).
	T02	If required based on the above re-evaluation of traffic volumes, ESCO Pacific would work with other solar farms to implement measures to reduce traffic impacts such as staggering peak construction periods and the use of shuttle buses.
	Т03	Confirming, as part of the NHVR application process, the temporary traffic management measures (such as escort vehicles and pilot cars) that will be required for the OSOM delivery to site.
	T04	Confirming that there is no vegetation impeding the integrity of the available SISDs and trimming vegetation if required.
	T05	Preparation of a TMP for the construction phase, in consultation with TfNSW, RVC and DPE that includes the following:
	T06	project construction timeframe and work stages
	T07	expected traffic volumes generated by the project for all work stag

Phase	Measure No.	Mitigation measure
	T08	identification of all heavy vehicle and OSOM vehicle haulage routes for all work stages
	Т09	 a mechanism to review identified haulage route road conditions prior to the commencement of works
	T10	 agreements (if deemed necessary in pre-construction discussions with Council and TfNSW) for ESCO Pacific to assist with the maintenance of haulage route roads and road infrastructure, including local public roads used by site traffic, during construction works and to reinstate roads to at least pre- construction conditions
	T11	any requirements for specific work stage construction TMPs
	T12	any requirements for OSOM vehicle permits and related traffic management
	T13	 the monitoring and maintenance (by vegetation trimming) of required sight distances along Summerland Way
	T14a	 measures for safely managing traffic movements within the site and for minimising traffic-related amenity issues such as dust and noise.
	T14b	RVC and Lismore City Council will be consulted during the pre-construction period once the timing of the OSOM movement has been confirmed.
	T14c	Councils will be consulted where parking spaces need to be kept vacant, once the timing of the OSOM movement has been confirmed.
	T14d	The Applicant will submit an application to Council for a rural road number once development consent is achieved.
Construction	T15	Constructing the site access point along with the agreed turn treatments on Summerland Way in accordance with the <i>Austroads Guide to Road Design</i> (as amended by TfNSW supplements) and to the satisfaction of TfNSW.
	T16	Ensuring (through contractual conditions) that all vehicles travelling to site are road-worthy.

Phase	Measure No.	Mitigation measure
	T17	Reinforcing (through contractual conditions) that road rule and speed limits should be adhered to on the way to site and once on site.
	T18	Erecting appropriate traffic management signage at the site access points and within the site, in accordance with applicable standards.
	T19	Ensuring access roads within the site are properly engineered and maintained.
	T20	Minimising traffic impacts on biodiversity, as outlined under 'biodiversity', above.
	T21	Minimising traffic-related dust generation, as outlined under 'traffic and transport', above.
	T22	Minimising traffic-related noise impacts, as outlined under 'noise and vibration', below.
Operation	T23a	Standard traffic management measures will be implemented during project operation, as outlined above for construction.
	T23b	The rural road number will be displayed prominently at the property entrance prior to operations commencing.
Decommissioning	T24	Standard traffic management measures will be implemented during project decommissioning, as outlined above for construction.
Noise and vibration (E	IS Section 6.8)	
Construction	N01	Monitoring and mitigating construction noise in accordance with the best practice requirements outlined in the ICNG, including incorporating the most advanced and affordable technology, where feasible and reasonable, to minimise noise emissions.
	N02	Preparing an NMP to manage noise and vibration issues during construction that:
	N03	identifies nearby residences and other sensitive land uses
	N04	describes approved hours of work and what work will be undertaken
	N05	describes work practices that will be applied to minimise noise

Phase	Measure No.	Mitigation measure
	N06	describes the complaints handling process.
	N07	Undertaking construction works during the ICNG standard daytime construction hours (i.e. 7.00 am to 6.00 pm Monday to Friday and 8.00 am to 1.00 pm on Saturdays).
	N08	Maintaining all plant and equipment used on site or in connection with the development in a proper and efficient condition (including replacement of engine covers, repair of defective silencing equipment, tightening of rattling components, repair of leakages in compressed air lines), and operating all plant and equipment in a proper and efficient manner.
	N09	Locating and orienting noise sources such as mulchers, generators, etc. away from potentially noise affected neighbours.
	N10	Avoiding, where practical, the simultaneous operation of noisy plant and equipment in the vicinity of potentially noise affected neighbours.
	N11	Switching off plant and equipment (e.g. vehicles and generators) when not in use.
	N12	Ensuring that all doors/hatches are shut during operation of plant and equipment, that door/hatch seals are in good working order and that doors close properly against seals.
	N13	Implementing additional noise source mitigation measures, as required, such as:
	N14	 fitting plant and equipment with noise control devices, such as acoustic lining of engine bays, residential-grade mufflers on plant, and air intake / discharge silencers
	N15	 using alternatives to 'beeper' style reversing alarms, such broadband style alarms ('quacker' alarms)
	N16	 where practical, adopting alternative, low-impact construction techniques such as ripping or cutting/sawing and grinding instead of rock hammering, using vacuum excavation instead of small scale earthworks, or using electric equipment instead of diesel or petrol powered equipment
	N17	 avoiding dropping materials from height, dampening or lining metal trays, using dampened bits on impulsive tools such as jackhammers to avoid 'ringing' noise, and fitting delivery vehicles with straps rather than chains for unloading.

Phase	Measure No.	Mitigation measure
	N18	Promoting workforce awareness of noise issues and management requirements through inductions, toolboxes and targeted awareness training.
	N19	Contacting potentially noise affected neighbours at the earliest possible time before any site work begins and informing them about the nature of the construction stages and the expected timing and duration of noisier activities (e.g. mulching, rolling and compacting, piling).
	N20	Providing contact details on a site board at the front of the site.
	N21	Where there are complaints about noise, investigate the source of the noise, review and implement additional control measures (such as those outlined above), where feasible and reasonable, and record the complaint in a complaints register.
Operation	N22	Maintaining all plant and equipment used on site or in connection with the development in a proper and efficient condition, and operating all plant and equipment in a proper and efficient manner.
	N23	Where practical, locating and orienting noise sources such as vent outlets, generators, etc. away from potentially noise affected neighbours.
	N24	Switching off plant and equipment (e.g. vehicles and generators) when not in use.
	N25	Ensuring that all doors/hatches are shut during operation of plant and equipment, that door/hatch seals are in good working order and that doors close properly against seals.
	N26	Where there are complaints about noise, investigate the source of the noise, review and implement additional control measures (such as those outlined above), where feasible and reasonable, and record the complaint in a complaints register.
	N27	Short-term attended noise monitoring will also be undertaken at potentially noise affected neighbours if required to help resolve any noise complaints, as described above for construction.
Road traffic (all	N28	Appropriate scheduling and routing of vehicle movements.
phases)	N29	Keeping truck movements to a minimum (i.e. that trucks are fully loaded on each trip).
	N30	Requiring drivers (through contractual and/or other means):
	N31	to behave responsibly in regard to noise generation

Phase	Measure No.	Mitigation measure
	N32	to comply with speed limits while driving to the project area and within the site
	N33	 to avoid of the use of engine compression brakes, particularly when approaching the site access point
	N34	 not to arrive on site or queue near sensitive receivers prior to the 7:00 am start time (unless required by road safety considerations).
Decommissioning	N35	Management and mitigation measures to be implemented as part of decommissioning will be similar to those implemented during construction.
Visual amenity and la	ndscape charact	ter (EIS Section 6.9)
Design	V01	Apply urban design principles and objectives during detailed design phase.
	V02	Investigate colour combinations for infrastructure items to aid visual obscurity.
	V03	Ancillary structures: minimise reflective surfaces with a preferred use of muted colours.
Construction	V04	Installation of demarcation and exclusion fencing around trees and vegetation to be retained.
	V05	Limiting disturbance and rehabilitating disturbed areas.
	V06	Minimising light spill from the development into adjacent visually sensitive properties by directing construction lighting into the construction areas and ensuring the site is not over-lit (including the sensitive placement and specification of lighting to minimise any potential increase in light pollution).
	V07	Removing temporary hoardings, barriers, traffic management and signage when no longer required.
	V08	Keeping the site tidy and well maintained, including removing all rubbish at regular intervals and ensuring there is no storage of materials beyond the construction boundaries.
Operation	V09	Modifying the resting angles of solar panels contributing to glare risk, as follows:
	V10	 adopting a resting angle of 8 degrees for the PV arrays along the eastern extent of the project area that were denoted as the 'Summerville 3' area in the glint and glare assessment

Phase	Measure No.	Mitigation measure
	V11	 adopting a resting angle of 6 degrees for the PV arrays in the north of the project area that were denoted as the 'Summerville 5' area in the glint and glare assessment.
	V12	Restricting external lighting to the areas where the O&M building, BESS facility, site office, and switchyard are located.
	V13	Ensuring all external lighting around buildings faces downwards and inwards to minimise impacts to neighbouring properties.
Decommissioning	V14	A Decommissioning and Rehabilitation Management Plan will be developed to return the site to its pre- existing condition, as outlined under 'decommissioning and rehabilitation', below.
Hazards (EIS Section 6	.10)	
Design	H01	Separating all BESS units from the site boundary by 26.3 m (25.7 m if BESS units are externally accessed) and BESS unit groupings from each other by 2.5 m – unless prescriptive or engineered fire controls are incorporated into project design to allow separation distances to be reduced.
	H02	Taking current and emerging standards for BESS facility design into account during the project's detailed design phase.
	H03	Providing a minimum 10 m APZ inside the perimeter of the development footprint to protect all structures and associated buildings/infrastructure.
	H04	Incorporating a defendable space or APZ, exceeding 20 m where practical, into the project design to avoid modelled flame contact to the solar array. The 'Flame Zone' is modelled out to 19 m from forested areas.
	H05	Providing all buildings (BESS facility, substation buildings, management and operational buildings) with minimum ember protection consistent with Bushfire Attack Level 12.5 construction standards (AS3959-2018).
Construction and operation	H06	Preparing a Bushfire and Emergency Management Operation Plan for the solar farm in consultation with the local NSW RFS District Office and communicating the plan to relevant stakeholders. The Bushfire and Emergency

Phase	Measure No.	Mitigation measure
		Management Operation Plan will guide annual monitoring of the fire mitigation works for the solar farm and surrounding landholding, including:
		• access
		• water
		landscape management.
	H07	Developing a comprehensive Fire Safety Study in accordance with the requirements of Hazardous Industry Planning Advisory Paper (HiPAP) No. 2 and to meet the requirements of FRNSW.
	H08	Monitoring and reducing potential fuel loads within the development footprint (including the APZ) via ongoing management activities (e.g. slashing, grazing) (to be outlined in the Bushfire and Emergency Management Operation Plan).
	H09	Installing and maintaining the APZ for the life of the development to the standard of an Inner Protection Areas (IPA) as outlined within Appendix 4 of Planning for Bushfire Protection (NSW RFS 2019) and the NSW RFS document Standard for asset protection zones (NSW RFS undated).
	H10a	Constructing and maintaining site access point and internal roads to provide safe, reliable, and unobstructed access to BESS units and other project components in accordance with NSW RFS and FRNSW requirements to enable access by emergency vehicles (including Cat 1 firefighting vehicles).
	H10b	The Fire Safety Study will be developed to the satisfaction of FRNSW prior to any further submission being made to FRNSW; this includes: an Initial Fire Safety Report (IFSR) and / or Performance-Based Design Brief / Fire Engineering Brief Questionnaire (FEBQ).
	H10c	The Fire Safety Study will be prepared consistent with the FRNSW Fire Safety Guideline Technical Information – Large scale external lithium-ion battery energy storage systems – Fire safety study considerations.
	H10d	An Emergency Plan (EP) will be developed for the site in accordance with HIPAP No.1 prior to occupation or commissioning.
	H10d	An Emergency Services Information Package (ESIP) will be prepared in accordance with FRNSW fire safety guideline – <i>Emergency service information package and tactical fire plans</i> prior to occupation or commissioning.

Phase	Measure No.	Mitigation measure
	H10f	Prior to occupation or commissioning an Emergency Responders Induction Package will be developed for the site in consultation with, and to the satisfaction of FRNSW.
	H11	Managing the storage and use of hazardous chemicals as outlined under 'hydrology and water resources', above.
Operation	H12	Restricting access to BESS units to competent, trained employees and supervising contractors.
	H13	Undertaking APZ performance monitoring on a regular basis (e.g. via the Bushfire and Emergency Management Operation Plan to identify additional potential risk and mitigation actions.
	H14	Strategically locating a minimum 20 kL steel tank dedicated water storage in consultation with NSW RFS, to allow for permanent emergency supply and ease of access. The tank is to have fast fill water connections (65 mm stroz fittings) and suitable access provisions for Cat 1 fire fighting vehicle (weight load and manoeuvrability).
Social impact assessm	ent (EIS Section	6.11)
All phases	S01	A monitoring and management framework will be implemented to track and measure the effectiveness of proposed impact management measures and enable their adaptation if needed. The impact management measures will need to evolve as the socio-economic characteristics of RV LGA change over the life of the project. The proposed monitoring and management framework included the following elements:
	S02	tracking the implementation of mitigation and management strategies
	S03	assessing actual project impacts against predicted impacts
	S04	identifying information types along with capture methods for reporting purposes
	S05	defining key performance indicators, targets and outcomes
	S06	identifying responsible parties
	S07	developing mechanisms for ongoing adaption of management measures when and if required.
	S08	To ensure the effectiveness of the management measures, a continuous improvement approach may be adopted enabling the ongoing review and adaption of impacts, management measures and outcomes. This

Phase	Measure No.	Mitigation measure
		approach ensures stakeholders from various sections of the community are regularly informed and can participate in and collaborate in the ongoing management of social impacts.
	S09	The project community and stakeholder engagement plan will incorporate a range of communication approaches and opportunities for the community to provide feedback.
Economic assessment	(EIS Section 6.1	2)
All phases	E01	Promotion of Agrisolar, as per mitigation measure LO2 in Section 6.5.5.
	E02	Adopting local and indigenous employment strategies.
	E03	Implementing a local procurement strategy.
	E04	Implementation of the AES which been prepared by ESCO Pacific. The AES includes strategies for maximising local opportunities for employment, for effectively accommodating the non-local workforce and for minimising any potential adverse economic impacts, such as on local tourism. The AES would be reviewed (and updated as necessary) in consultation with RVC and local accommodation providers closer to the commencement of construction.
Waste management (EIS Section 6.13	
Pre-construction	WM01a	A S68 application will be submitted to Council and approved prior to commencement of operations for the on-site sewage management system installed at the operations and maintenance building,
Construction	WM01b	A Waste Management Plan (WMP) is being prepared in consultation with RVC, that sets out:
	WM02	 measures to minimise waste, including opportunities to avoid, reuse, recycle, recover, or treat waste
	WM03	expected waste outputs in detail, including quantity and classification of expected wastes
	WM04	measures to separate waste into appropriate categories on site to allow appropriate disposal

Phase	Measure No.	Mitigation measure		
	WM05	 disposal methods, including which waste facilities they will be transferred to, and expected costs and approvals required 		
	WM06	details of contractor for collection and disposal of waste.		
	WM07	A key objective of the WMP will be to ensure that any use of local waste management facilities does not disadvantage local businesses and, more generally, the local community, by exhausting any available capacity at these facilities. Consultation with RVC, neighbouring councils and licensed waste management facilities will continue throughout the implementation of the WMP.		
	WM08	The WMP will also include appropriate consultation frameworks with RVC, neighbouring councils and licensed waste management facilities to maintain communication and forward planning and provide a grievance mechanism through which any identified adverse impacts can be addressed.		
Operation	WM09	Modifying the construction WMP to cover waste management during operation.		
	WM10	Regularly reviewing and updating waste management procedures to take into account:		
	WM11	 new policy and guidelines, such as product stewardship schemes 		
	WM12	 the availability of new technologies and/or facilities for recycling. 		
Decommissioning	WM13	Procedures for waste management during decommissioning (including opportunities for re-use and recycling) will be outlined in a Decommissioning and Rehabilitation Management Plan, as outlined under 'decommissioning and rehabilitation', below.		
Cumulative impacts (EIS Section 6.14)				
Construction	C01	Monitoring the timing and location of other developments in the region and, if a risk of adverse cumulative impacts during project construction is identified, holding discussions with council, relevant regulatory authorities and/or other project proponents to consider ways of minimising such impacts (such as cooperation to jointly manage the issue).		
	C02	Re-assessing traffic volumes along Summerland Way at the Summerville SF site access point and re- evaluating the adequacy of the proposed BAR/BAL treatment if the project construction timeframe overlaps		

Phase	Measure No.	Mitigation measure
		with those of the Myrtle Creek or Richmond Valley solar farms (and the Clarence Valley Solar Farm if it generates traffic past the site access point).
	C03	If the above re-evaluation of traffic volumes indicates a potential need for a higher level of road treatment at the site access point (once any additional mitigation measures such as increased use of shuttle buses have been considered) ESCO Pacific will work with other solar farms to implement measures to reduce traffic impacts to acceptable levels, such as by staggering peak construction periods and the use of shuttle buses.
	C04	Should the Myrtle Creek or Richmond Valley solar farms commence construction and operation prior to the Summerville SF, then updating construction and/or operation noise modelling for the Summerville SF to assess noise impacts on sensitive receivers and determine whether any additional noise mitigation measures are required.
	C05	Considering the potential for cumulative impacts with other developments, in discussion with RVC, during the preparation, of the Summerville SF waste management plan.
	C06	Updating the AES prepared for the Summerville SF prior to construction to determine the level of current workforce being accommodated in the region on projects which have already begun construction and how this is impacting occupancy rates.
	C07	Considering the potential for a combined approach to a CBSP during construction with the Myrtle Creek and /or Richmond Valley solar farms.
Operation	C08	Monitoring the timing and location of other developments in the region and, if a risk of adverse cumulative impacts during project operation is identified, holding discussions with council, relevant regulatory authorities and/or other project proponents to consider ways of minimising such impacts (such as cooperation to jointly manage the issue).
	C09	Implementing noise mitigation measures required based on the outcomes of cumulative noise modelling (as referred to above).

Phase	Measure No.	Mitigation measure		
	C10	Considering the potential for a combined approach to a CBSP during operation with the Myrtle Creek and /or Richmond Valley solar farms.		
Decommissioning	C11	The potential for and management of cumulative impacts will be factored into the planning for site decommissioning.		
Decommissioning and rehabilitation (EIS Section 6.15)				
Construction	R01	Progressive rehabilitation will be undertaken in accordance with: • the biodiversity management measures outlined under 'biodiversity', above		
	RO2	the soil and land use management measures outlined under 'soils and landuse', above		
	R03	 the drainage management and hazardous chemical management measures outlined under 'hydrology and water resources', above. 		
Decommissioning	R04a	A Decommissioning and Rehabilitation Management Plan will be prepared no later than two years before site operations cease in consultation with the associated landholders, RVC, regulatory agencies and Transgrid.		
	R04b	Site rehabilitation will be undertaken to allow as full a range as is practical of future agricultural activities and any associated infrastructure.		
	R05a	The Decommissioning and Rehabilitation Management Plan will include the following information: site information and setting rehabilitation objectives rehabilitation obligations and commitments stakeholder identification and engagement final land uses retained facilities/infrastructure rehabilitation criteria 		

Phase	Measure No.	Mitigation measure
		 environmental controls during decommissioning/rehabilitation
		 decommissioning activities, including management of demolition materials
		final rehabilitation activities
		 post-rehabilitation monitoring and maintenance program.
	R05b	All above and below ground infrastructure will be removed at decommissioning unless there is significant justification for retaining it.
	R05c	The Decommissioning and Rehabilitation Management Plan will seek to restore the site to its predevelopment agricultural productivity potential or similar.
	R05d	During decommissioning, pre-disturbance stock fences, dams and access tracks will be reinstated as required in consultation with the landholder to accommodate a post project land use of grazing.
	R06	The Decommissioning and Rehabilitation Management Plan will include the actions set out above, in relation to decommissioning, final rehabilitation and rehabilitation monitoring and maintenance.