Walla Walla Solar Farm

State Significant Development Assessment
SSD 9874

September 2020

NSW Department of Planning, Industry and Environment | dpie.nsw.gov.au

Published by the NSW Department of Planning, Industry and Environment

dpie.nsw.gov.au

Title: Walla Walla Solar Farm

Subtitle: State Significant Development Assessment

Cover image: Solar Farm. Source: NSW Department of Planning Industry and Environment Image Library https://images.planning.nsw.gov.au/

Executive Summary

FRV Services Australia Pty Ltd (FRV) proposes to develop a 300 megawatt (MW) solar farm approximately 5 kilometres (km) northeast of Walla Walla in the Riverina region of NSW.

The project site is located in proximity to the Olympic Highway, and has direct access to the electricity network via TransGrid's 330 kV transmission lines which traverse the site. The site is located in a rural area, with three non-associated residences located within 1 km of the development footprint.

Engagement

The Department exhibited the Environmental Impact Statement (EIS) for the project and received 150 submissions, including three from special interest groups (one objection, support and comment respectively) and 147 from the general public (85 objections, 61 supporting and one providing comment). One objection was received from Greater Hume Council (Council) and 11 government agencies provided advice.

The Department also consulted with Council and the relevant government agencies on key issues and inspected the site, met with surrounding landowners and held a community information session on 7 November 2019.

In response to agency advice and submissions on the project, FRV undertook additional assessment and amended the project by removing project infrastructure from the southeast corner of the site and by reducing potential impacts on the high-pressure gas pipeline that traverses the site.

The project amendments would lead to better outcomes and address many of the concerns raised by Council and in public submissions by reducing potential visual and construction noise impacts on receivers to the south and retaining a large portion of the agricultural cropping land without impacting the generating capacity of the project.

Assessment

The Department has undertaken a comprehensive assessment of the merits of the project and considered all potential issues in accordance with the requirements of the *Environmental Planning and Assessment Act 1979*. The key assessment issues identified for the project are land use compatibility and visual impacts.

The project site is 605 hectares (ha) and is currently used for agricultural purposes, including sheep grazing (76 %) and cropping (24 %). The development footprint (421 ha) is primarily located on soils classified as Class 4 or 6 under the *Land and Soil Capability Mapping in NSW* (OEH, 2017).

The Department considers that the project would not significantly reduce the overall agricultural productivity of the region and that the inherent agricultural capability of the site would not be affected, and is satisfied that the site could be returned to agricultural use in the future following decommissioning and rehabilitation. The Department also notes that more than 94 ha of the most productive agricultural land on site would be retained for rotational cropping, and that FRV intends to continue to allow sheep grazing on the remainder of the site during operation of the project.

The solar farm is relatively low-lying (solar panels up to 4 m high) and the site and surrounds comprise gently undulating land that has been highly disturbed from a history of prolonged agricultural practices. The site is mostly cleared of native vegetation, with a large section of good quality riparian native vegetation along Back Creek which traverses the site which would be retained. Existing vegetation

provides partial screening of the project from most nearby receivers including those to the north where the existing vegetation would be supplemented by additional landscape screening. The Department supports FRV's amended layout which has removed project infrastructure from the southeast corner of the site to minimise visual impacts on Orange Grove Gardens (a wedding and function venue), and considers that there would be no significant long-term visual impacts on surrounding residences.

The Department also considered the potential cumulative impacts (including visual amenity, noise, agricultural land, electricity network capacity and traffic) with other State significant development solar projects proposed in the local government area (i.e. Culcairn, Jindera and Glenellen solar farms).

The project would employ up to 250 workers during the 20 month construction period. The Department is satisfied that there is sufficient accommodation in nearby towns, such as Walla Walla, Culcairn, Jindera, Holbrook, Albury and Wagga Wagga, and that the use of this accommodation would stimulate the local economy. However, the Department has recommended a condition requiring FRV to prepare and implement an accommodation and employment strategy to ensure there would be sufficient accommodation to house construction workers, and to prioritise the employment of local workers, in the unlikely event that the construction of the project occurs in conjunction with the construction of other major projects, resulting in cumulative impacts on the availability of accommodation locally.

Given the distance of the project from the proposed Culcairn Solar Farm (approximately 1.2 km to the north of the site), there is potential for the project to result in cumulative visual impacts and construction noise impacts, if the two projects were to be constructed concurrently. The Department considers that potential cumulative visual impacts would not be significant, and would be mitigated by vegetation screening. There is potential for cumulative construction noise impacts at one receiver (R2) in the event that both projects are approved and constructed concurrently, however noise levels would remain below the Environment Protection Authority's noise affected criterion of 45 dB(A).

The project has been designed to largely avoid impacts on vegetation and threatened species in the locality and all unavoidable impacts (including disturbance of 38.6 ha of native vegetation) would be offset in accordance with Government policy, which is included as a requirement in the recommended conditions.

To address the residual impacts of the project, including Aboriginal cultural heritage, traffic, erosion, water, noise and hazards, the Department has recommended a range of detailed conditions, developed in conjunction with agencies and Council, to ensure these impacts are effectively minimised or offset.

Summary

Overall, the Department considers the site to be appropriate for a solar farm as it has good solar resources and available capacity on the existing electricity network and is consistent with the Department's *Large-Scale Solar Energy Guideline.*

The project is also consistent with NSW's *Climate Change Policy Framework* and *Net Zero Plan Stage 1: 2020 - 2030*, as it would contribute 300 MW of renewable energy to the National Electricity Market.

The project would also provide flow-on benefits to the local community, including up to 250 construction jobs, ongoing operational jobs, a capital investment of $399 million, and up to $2.2 million in contributions to Council for community enhancement projects.

On balance, the Department considers that the Project is in the public interest, and is approvable, subject to strict conditions.

Contents

1 Project 1

2 Strategic context 4

2.1 Site and Surrounds 4

2.2 Other Solar Farms 5

2.3 Energy Context 6

3 Statutory context 8

3.1 State Significant Development 8

3.2 Amended Application 8

3.3 Permissibility 8

3.4 Integrated and Other approvals 9

3.5 Mandatory Matters for Consideration 9

4 Engagement 9

4.1 Department's engagement 9

4.2 FRV's engagement 10

4.3 Submissions and Submissions Report 10

4.4 Amended Application 10

4.5 Key Issues – Government Agencies 11

4.6 Key issues – Community 12

4.7 Key Issues – Special Interest Groups 14

5 Assessment 15

5.1 Compatibility of Proposed Land Use 15

5.2 Visual Impacts 18

5.3 Other issues 23

6 Recommended Conditions 32

7 Evaluation 33

Appendices 36

Appendix A – List of referenced documents 36

Appendix B – Environmental Impact Statement 37

Appendix C – Additional Information 38

Appendix D – Submissions 39

Appendix E – Consideration of Community Views 40

Appendix F - Submissions Report 43

Appendix G – Amendment Report 44

Appendix H - Statutory Considerations 45

Appendix I – Recommended Instrument of Consent 47

1 Project

1.1.1 FRV Services Australia Pty Ltd proposes to develop a new State significant development (SSD) solar farm approximately 5 kilometres (km) northeast of Walla Walla in the Greater Hume local government area (LGA) (see **Figure 1**).

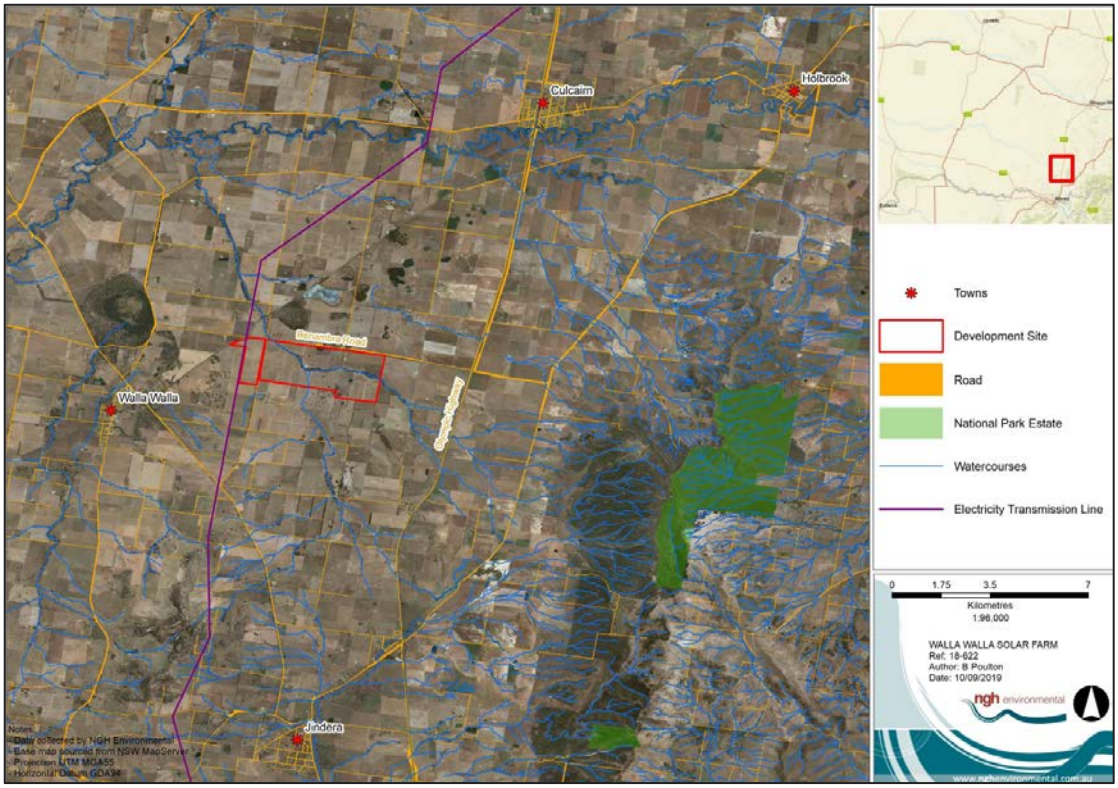

Figure 1 | Regional Context Map

1.1.2 The project involves the construction of a new solar farm with a generating capacity of approximately 300 megawatts (MW). It also involves the upgrading and decommissioning of infrastructure and equipment over time. While the capacity of the project may increase over time as technology improves, the footprint of the development would not be permitted to increase without further planning approval.

1.1.3 The solar farm would connect to TransGrid's existing Wagga Wagga to Jindera 330 kilovolt (kV) overhead transmission line which traverses the site near its western boundary.

1.1.4 The key components of the project are summarised in **Table 1**, shown in **Figure 2**, and described in detail in the Environmental Impact Statement (EIS) (see **Appendix B**), Submissions Report (see **Appendix F**), Amendment Report (see **Appendix G**) and additional information provided during the Department's assessment of the project (see **Appendix C**).

Table 1 | Main Components of the Project

Aspect	Description
Project Summary	The project includes: • approximately 700,000 solar panels (up to 4 m high) and 76 inverter stations (up to 4.5 m high); • an on-site substation and connection to TransGrid's 330 kV transmission line; • internal access tracks, staff amenities, maintenance buildings (up to 6 m high), offices, laydown areas, car park, fire breaks, vegetation screening and security fencing; • an area for potential future battery storage, however no battery storage is currently proposed; and • subdivision of land within the site for the solar farm and the grid substation.
Project area	605 ha (with a 421 ha development footprint)
Access route	Over-dimensional and heavy vehicles would access the site via the Olympic Highway and Benambra Road.
Site entry and road upgrades	• Two new site entry points on Benambra Road would be constructed for access to the site: o one for the site access at the eastern end of Benambra Road; o one for the substation access only at the western end of Benambra Road; • Two crossing points would be constructed along Schneiders Road, to allow access between the western and eastern portions of the site.
Construction	• The construction period would last for up to 20 months. • Construction hours would be limited to Monday to Friday 7am to 6 pm, and Saturday 8 am to 1 pm.
Operation	• The expected operational life of the infrastructure is approximately 30 years. However, the project may involve infrastructure upgrades that could extend the operational life. •
Decommissioning and rehabilitation	The project includes decommissioning at the end of the project life, which would involve removing all infrastructure.
Hours of operation	Daily operations and maintenance would be undertaken Monday to Friday 7 am to 6 pm, and Saturday 8 am to 1 pm.
Employment	Up to 250 construction jobs and 21 operational jobs.
Capital investment value	$399 million

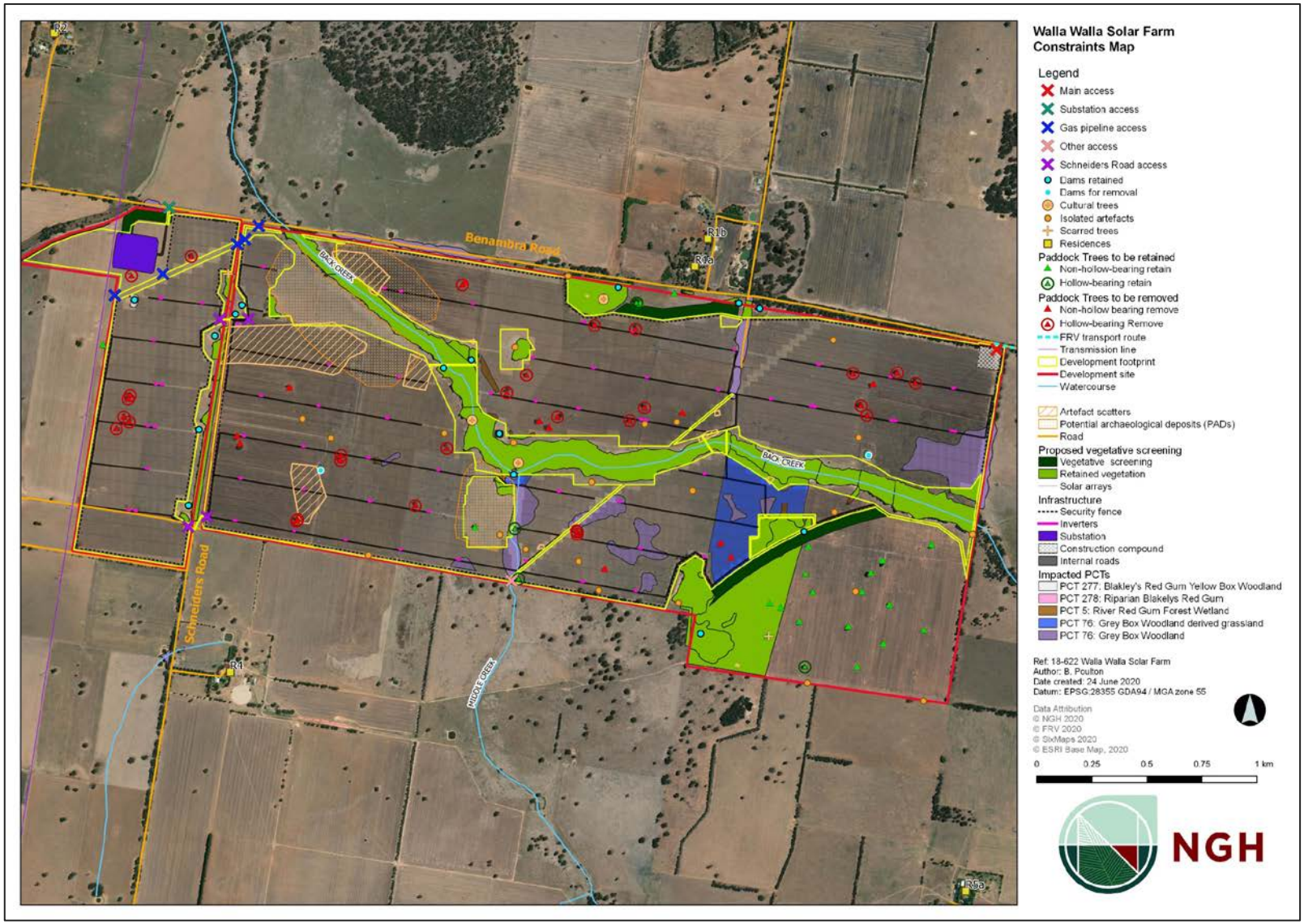

Figure 2 | Project Layout

2 Strategic context

2.1 Site and Surrounds

2.1.1 The project is located on a 605 hectare (ha) site in the Riverina Murray region of NSW. The site (as shown in **Figure 3**) is zoned RU1 – Primary Production under the *Greater Hume Local Environment Plan 2012* (Greater Hume LEP) and is currently used for agricultural purposes, including grazing of sheep and cattle (approximately 76 % of the site), and the cultivation of cereal and oilseed crops, such as canola and wheat (approximately 24 % of the site).

Figure 3 | Project Site as viewed from Benambra Road

2.1.2 The site does not include any mapped Biophysical Strategic Agricultural Land (BSAL). Under the *Land and Soil Capability Mapping in NSW* (OEH, 2017), the land within the development footprint is predominantly Class 4 (land with moderate capability, requiring specialised management practices, expertise, inputs and technology to manage productivity) and Class 6 (severely limited land, generally only suitable for grazing).

2.1.3 The site comprises generally flat and gently undulating land, predominantly cleared of vegetation. The site lies within the Murray River catchment with Back Creek and Middle Creek, ephemeral tributaries of Billabong Creek, traversing the site.

2.1.4 The proposed development footprint within the site is approximately 421 ha and was designed to largely avoid key constraints, including on-site watercourses and farm dams, remnant native vegetation, Aboriginal heritage items of high significance and to reduce visual impacts on nearby receivers.

2.1.5 Land surrounding the site is zoned RU1 and is largely used for agricultural purposes similar to the project site, such as cropping and grazing. Benambra Road abuts the northern boundary of the site, while Schneiders Road dissects the site in a north-south direction. The Olympic Highway is located approximately 2.5 km east of the site and TransGrid's 330 kV transmission line traverses the west boundary of the site.

2.1.6 Four non-associated receivers and two associated receivers are located within 2 km of the proposed development footprint. The closest non-associated residence (R1a) is located approximately 210 m north of the development footprint (at its closest point) and would have views of the site that are partially obscured by existing vegetation. Orange Grove Gardens wedding and function venue is located 1.8 km southeast of the development footprint.

2.2 Other Solar Farms

2.2.1 The Riverina Murray region has attracted considerable interest from solar developers given the presence of major transmission lines and existing electricity substations. There are three proposed SSD solar projects within 50 km of the project site (see **Table 2** and **Figure 4**). While there are another five approved solar projects in the region (including one currently under construction), they are located a significant distance from the proposed project (over 70 km away).

Table 2 | Nearby Solar Farms

Project	Capacity (MW)	Status	Approximate distance from the project (km)
Culcairn Solar Farm	400	Proposed	1
Jindera Solar Farm	120	Proposed	17
Glenellen Solar Farm	200	Proposed	17

2.2.2 Given its proximity to the proposed Culcairn Solar Farm, the project may result in limited cumulative visual and noise impacts ton some nearby residences. These impacts are further considered in **sections 5.2** and **5.3** respectively. Additionally, while the surrounding regional road network may experience an increase in traffic numbers, there would be no significant cumulative impact on the local roads along the proposed transport route from these projects, as discussed further in **section 5.3**. Other potential cumulative impacts with the nearby solar farms include the loss of agricultural land and workforce accommodation. The potential cumulative impact on agricultural land in the region is discussed in **section 5.1**.

2.2.3 There is potential for the construction of the project to overlap with the construction of the proposed Culcairn, Glenellen and Jindera Solar Farms. Culcairn and Jindera Solar Farms have both recently submitted development applications to the Department, while a development application is yet to be submitted for the Glenellen Solar Farm. If approved, workforce accommodation for these projects would likely be sourced from the local and wider region, including neighbouring towns (such as Albury, Wagga Wagga, Culcairn, Jindera and Holbrook) and LGAs, as discussed further in **section 5.3**.

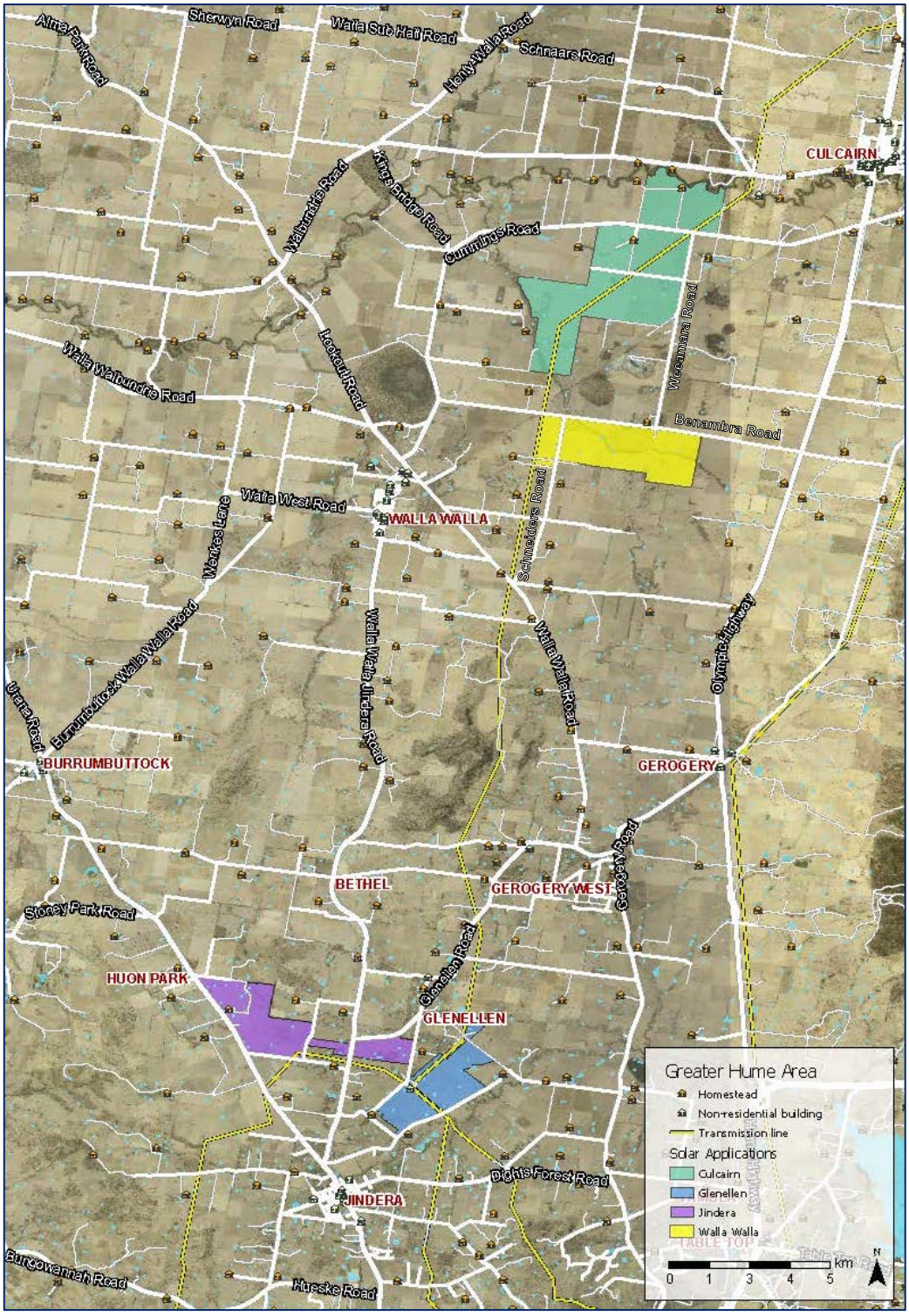

Figure 4 | Nearby Solar Farms

2.3 Energy Context

2.3.1 In 2019, NSW derived approximately 18.7 % of its energy from renewable sources. The rest was derived from fossil fuels, including 76.7 % from coal and 4.1 % from gas. However, there are currently no plans for the development of new coal power stations in NSW, and the development of renewable energy sources, like wind and solar farms, is experiencing rapid growth.

2.3.2 This is highlighted in the 2017 *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review), which outlines a strategic approach to ensuring an orderly transition from traditional coal and gas fired power generation, to power generation with lower emissions. It notes that Australia is heading towards net zero emissions in the second half of the century.

2.3.3 The *United Nations Framework Convention on Climate Change* has adopted the Paris Agreement, which aims to limit global warming to well below 2°C, with an aspirational goal of 1.5°C. Australia's contribution towards this target is a commitment to reduce greenhouse gas emissions by 26% to 28% below 2005 levels by 2030.

2.3.4 The NSW *Climate Change Policy Framework*, released in November 2016, sets an aspirational objective for NSW to achieve net zero emissions by 2050. The *NSW Net Zero Plan Stage 1: 2020 – 2030*, released in March 2020, builds on the framework and sets out how the NSW Government will deliver on this objective, and fast-track emissions reduction over the next decade.

2.3.5 The Department released the *Large-Scale Solar Energy Guideline* in December 2018 to provide the community, industry and regulators with guidance on the planning framework for the assessment of large-scale solar projects, and identify the key planning considerations relevant to solar energy development in NSW.

2.3.6 The Guideline aims to support the growth of the solar industry, whilst ensuring that impacts are adequately assessed, effective stakeholder engagement is undertaken, and that attracting investment is balanced with considering the interests of the community. FRV's assessment is consistent with the principles of the Guideline.

2.3.7 The Guideline also acknowledges that large-scale solar projects could help reduce reliance on fossil fuels, thereby contributing to reductions in air pollution and greenhouse gas emissions, whilst also supporting regional NSW through job creation and investment in communities that may not have similar opportunities from other industries.

2.3.8 NSW is one of the nation's leaders in large-scale solar, with 13 major operational projects and an additional 8 under construction.

2.3.9 In March 2018, the NSW Government's *Transmission Infrastructure Strategy* identified 10 potential Energy Zones across three broad regional areas, including the New England, Central West and South West regions of NSW. While the project is not located within a Renewable Energy Zone, the NSW Government has a clear policy to encourage investment in new electricity infrastructure and unlocking additional generation capacity in order to ensure secure and reliable energy in NSW, subject to appropriate site selection, detailed assessment and community consultation.

2.3.10 The project would be located in close proximity to the South West Energy Zone and would have access to the electrical grid at a location with available network capacity. With a capacity of 300 MW, the project would generate enough electricity to power over 112,000 homes and is therefore consistent with NSW's *Climate Change Policy Framework* and, the *Net Zero Plan Stage 1: 2020 – 2030*.

3 Statutory context

3.1 State Significant Development

3.1.1 The project is classified as State significant development under Section 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is because it triggers the criteria in Clause 20 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), as it is development for the purpose of electricity generating works with a capital investment value of more than $30 million.

3.1.2 Under Section 4.5(a) of the EP&A Act and clause 8A of the SRD SEPP, the Independent Planning Commission (the Commission) is the consent authority for the development as the project has received more than 50 unique public submissions by way of objection, and Greater Hume Council has also objected to the project.

3.2 Amended Application

3.2.1 In accordance with Clause 55 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulations), a development application can be amended at any time before the application is determined. FRV has sought to amend its application, the details of which are summarised in **section 4.4** of this report.

3.2.2 Under clause 55 of the EP&A Regulation, an application can be amended with the agreement of the consent authority (i.e. the Commission for this development), however, under the delegation of 4 August 2020, the Executive Director, Energy, Resources and Compliance can agree to amendments to an application.

3.2.3 The Department has accepted FRV's amended application for the following reasons:

- the project amendments have reduced the impacts of the project as a whole;
- the amended application directly responds to the key issues raised in submissions received by the Department during exhibition of the original application;
- FRV assessed the impacts of the amended project (see **Appendices C** and **G**); and
- the Department made the additional information available online and sent it to relevant stakeholders for comment.

3.3 Permissibility

3.3.1 The site is located wholly within land zoned RU1 - Primary Production under the Greater Hume LEP. The RU1 zone includes various land uses that are both permitted with and without consent. As electricity generating works are not expressly listed as permitted with or without consent, it is a prohibited land use under a strict reading of the LEP. However, the LEP expressly references the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP) and acknowledges that electricity generating works are regulated by the Infrastructure SEPP, rather than the LEP.

3.3.2 Under the Infrastructure SEPP, electricity generating works are permissible on any land in a prescribed rural, industrial or special use zone. Land zoned RU1 Primary Production is a prescribed rural zone pursuant to the Infrastructure SEPP. Consequently, the project is permissible with development consent.

3.4 Integrated and Other approvals

3.4.1 Under Section 4.41 of the EP&A Act, a number of other approvals are integrated into the SSD approval process, and therefore are not required to be separately obtained for the project.

3.4.2 Under Section 4.42 of the EP&A Act, a number of further approvals may be required, but must be substantially consistent with any development consent for the project. These include:

- permits under the *Fisheries Management Act 1994*;
- environmental protection licence under the *Protection of the Environment Operations Act 1997;* and
- approvals for any works under the *Roads Act 1993.*

3.4.3 The project would require approvals under the *Roads Act 1993* for the upgrade of the existing site access and site crossing points.

3.4.4 The Department has consulted with the relevant government agencies responsible for the integrated and other approvals, considered their advice in its assessment of the project, and included suitable conditions in the recommended conditions of consent to address these matters (see **Appendix I**)

3.4.5 FRV considers that the project does not need to obtain approval from the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as surveys undertaken to date have not identified any significant impacts on matters of national environmental significance listed under the EPBC Act.

3.5 Mandatory Matters for Consideration

3.5.1 Section 4.15 of the EP&A Act outlines the matters that a consent authority must take into consideration when determining development applications. These matters are summarised as:

- the provisions of environmental planning instruments (including draft instruments), development control plans, planning agreements, and the EP&A Regulations;
- the environmental, social and economic impacts of the development;
- the suitability of the site;
- any submissions; and
- the public interest, including the objects in the EP&A Act and the encouragement of ecologically sustainable development (ESD).

3.5.2 The Department has considered these matters in its assessment of the project, as well as FRV's consideration of environmental planning instruments in its EIS, as summarised in **section 5**. The Department has considered relevant provisions of the environmental planning instruments in **Appendix H**, and concluded that the project is consistent with objectives of those instruments.

4 Engagement

4.1 Department's engagement

4.1.1 The Department publicly exhibited the EIS from 1 November 2019 until 2 December 2019, advertised the exhibition in the Albury Border Mail, and notified landowners adjacent to the project boundary.

4.1.2 The Department consulted with Council and the relevant government agencies throughout the assessment. The Department also inspected the site and surrounds on 7 November 2019 and met with surrounding landowners including receivers R1, R2 and R5a (Orange Grove Gardens) to further understand their concerns.

4.1.3 The Department notified and sought comment from TransGrid and Transport for NSW (formerly Roads and Maritime Services) and comment was provided by the APA Group (in regard to the high-pressure gas pipeline on the site) in accordance with the Infrastructure SEPP, as discussed further in **section 4.5**.

4.2 FRV's engagement

4.2.1 FRV purchased the project in July 2019, and engagement with the local community undertaken since this time has been detailed in the EIS. This included development of a project website, an online feedback form, dedicated email address and phone number, four community open days, and face to face meetings with adjacent and nearby landholders.

4.2.2 FRV also undertook consultation with the Department and relevant government agencies during the assessment process.

4.3 Submissions and Submissions Report

4.3.1 During the exhibition period of the EIS, the Department received 150 submissions, including:

- 147 public submissions (85 objections, 61 supporting and 1 comment); and
- 3 special interest group submissions (1 objection, 1 supporting and 1 comment).

4.3.2 Of the 85 objections received, 73 were unique submissions, including an online petition opposing the project containing 576 signatures.

4.3.3 Advice was also received from 12 government agencies (including an objection from Greater Hume Council).

4.3.4 Full copies of submissions are attached in **Appendix D**.

4.3.5 FRV provided a response to all matters raised in submissions on the project (see **Appendix F**).

4.4 Amended Application

4.4.1 Following consideration of submissions on the project, FRV removed infrastructure from the south-eastern corner of the project site and amended its application through an Amendment Report (see **Appendices C** and **G**).

4.4.2 In addition, the amended application includes:

- removal of landscaping and tree plantings from within the easement of the high pressure gas pipeline;
- five access gates to provide access to the high pressure gas pipeline that traverses the site; and
- details of a proposed Voluntary Planning Agreement (VPA) with Council.

4.4.3 The amendments to the project are summarised in **Table 3**.

Table 3 | Amendments to the project during the assessment process

Aspect	EIS (October 2019)	Final Proposed Project
Project area (ha)	605	605
Development footprint (ha)	493	421
Distance of panels from receiver R5a (Orange Grove Gardens)	800 m	1.8 km
Site Access Points	• Primary site access point on Benambra Road for the solar farm at eastern end of site. • A dedicated site access point on Benambra Road for the substation. • Two crossing points along Schneiders Road to allow movement between the eastern and western portions of the site.	• Primary site access point on Benambra Road for the solar farm at eastern end of site. • A dedicated site access point on Benambra Road for the substation. • Two crossing points along Schneiders Road to allow movement between the eastern and western portions of the site. • Five access gates along Benambra Road, Schneiders Road and within the site for the high pressure gas pipeline.
Middle Creek	Solar farm infrastructure located in the vicinity of Middle Creek.	20 m setback of solar farm infrastructure from Middle Creek.
Voluntary Planning Agreement (VPA)	Financial contributions in the form of a community enhancement fund.	Financial contributions in the form of a VPA with Council totalling $2.2 m.

4.4.4 Despite the proposed changes, the generating capacity of the project would remain the same, as FRV propose to use higher efficiency solar panels.

4.4.5 The Department provided the Amendment Report to government agencies for review and comment and made it available on the Department's website. As the project amendments would reduce the impacts of the project as a whole, the Department did not exhibit the Amendment Report.

4.4.6 The Department received feedback from five members of the community that they objected to an initial project amendment, which proposed a 1.2 km setback from Orange Grove Gardens in the southeast corner of the site.

4.4.7 Following further consultation with the Department, FRV further amended the project to include a 1.8 km setback, to which no objections were received.

4.5 Key Issues – Government Agencies

4.5.1 **Greater Hume Shire Council** objected to the project, citing that the project would have unacceptable amenity impacts to nearby neighbours, particularly Orange Grove Gardens. Council also objected to the loss of agricultural land associated with the development, advising that it believed the site was composed of high-quality agricultural land.

4.5.2 Other concerns raised by Council included dust, socio-economic impacts, biodiversity, Aboriginal cultural heritage, development contributions, road upgrades and the perception that the solar farm may affect the microclimate for neighbouring properties. These issues are all discussed in **section 5** of this report.

4.5.3 The Department's **Biodiversity & Conservation Division** (BCD) recommended that Aboriginal Cultural Heritage sites to be preserved should be fenced, which FRV accepted and is reflected in the recommended conditions.

4.5.4 BCD initially advised that FRV's Biodiversity Development Assessment Report (BDAR) did not provide sufficient information to properly consider the biodiversity impacts of the project. BCD requested that the BDAR be updated to include revised vegetation integrity scores, additional flora and fauna surveys, and recalculation of biodiversity credits. FRV updated the BDAR accordingly, and BCD was satisfied with the revised BDAR.

4.5.5 **Transport for New South Wales** (TfNSW, formerly Roads and Maritime Services) supported the project, subject to a range of recommendations regarding dust, visual impacts to road users, road repairs, and the preparation of a comprehensive Traffic Management Plan, which have been incorporated into the recommended conditions of consent, where appropriate.

4.5.6 The Department's **Water Group** (DPIE Water) made a number of recommendations regarding the project's water supply, on-site watercourse setbacks, flood mitigation and erosion and sediment control, which are discussed further in **section 5.3** and incorporated into the recommended conditions of consent.

4.5.7 The **Rural Fire Service** (RFS) and **Fire & Rescue NSW** (FRNSW) noted that the project had potential to increase bush fire risk within the landscape, and recommended a number of conditions, including the development of a Fire Management Plan and fire and emergency response conditions, which have been incorporated into the recommended conditions of consent.

4.5.8 The Department's **Crown Land Group** (DPIE Crown Lands) required closure and purchase of a Crown public road on the site, in the event that it is required for access to the project area. In its response, FRV confirmed that the Crown Road was outside of the development footprint and would not be impacted.

4.5.9 The Department's **Division of Resources & Geoscience** (DRG) raised no concerns but requested to be further consulted should biodiversity credits be offset via a biodiversity offset area.

4.5.10 The **Environment Protection Authority**, the **Heritage Council of NSW**, the **Department of Industries – Agriculture** (DPI Agriculture) and **TransGrid** raised no concerns and made no recommendations.

4.6 Key issues – Community

4.6.1 Of the 147 submissions received from the public, 85 objected, 61 supported and one provided comment on the project. A summary of all submissions received from the public is provided in **Table 4**. Of the 85 objections received, 73 were unique submissions including an online petition containing 576 signatures.

4.6.2 Of the 85 objections, around half (48 %) were received from residents located within 5 km of the site, 9 % were from residents between 5 km and 10 km away, 31 % between 10 km and 50 km away, and 11 % were located more than 50 km away. Regardless of proximity to the site, most submissions objecting to the project typically focused on local impacts and matters relevant to the local community.

4.6.3 Of the 61 supporting submissions, 23 % were received from residents within 5 km of the site, 10 % from residents between 5 km and 10 km away, 42 % between 10 km and 50 km, and 25 % were located more than 50 km away.

Table 4 | Summary of Community Submissions

Submitter	Object	Support	Comment	Total
< 5 km	41	14	0	55
5 – 10 km	8	6	0	14
10 – 50 km	27	26	1	54
> 50 km	9	15	0	24
TOTAL	**85**	**61**	**1**	**147**

4.6.4 The key issues raised in public submissions are summarised in **Figure 5**. The most common matters raised in submissions objecting to or commenting on the project include the following:

- socio-economic impacts, including impacts on local businesses and the community, tourism and property values (81 % of all objections);
- land use compatibility, specifically regarding the use of agricultural land and the use of the site for managed grazing (68 % of all objections)
- visual impacts on the surrounding landscape, residents, businesses, and local roads (54 % of all objections); and
- biodiversity impacts, including the level of clearing, the loss of habitat for threatened species, and landscaping proposed by the project (53 % of all objections).

4.6.5 Other issues raised in objections included hazards (particularly fire and flooding), amenity impacts such as noise, dust and traffic, decommissioning and rehabilitation of the site, heritage, community consultation, weed and pest management and a perception that the project may alter the microclimate for adjacent properties.

4.6.6 In addition to issues covered above, the owners of Orange Grove Gardens objected to the project as they considered that the project would reduce venue patronage, both due to impacts during construction (visual, dust and noise), but also during operation due to visual impacts. Orange Grove Gardens stated that lost business would affect the 19 staff members that currently work at the wedding, function and accommodation venue. Concerns about the project's impact on Orange Grove Gardens were also raised in 49 % of public submissions objecting to the project.

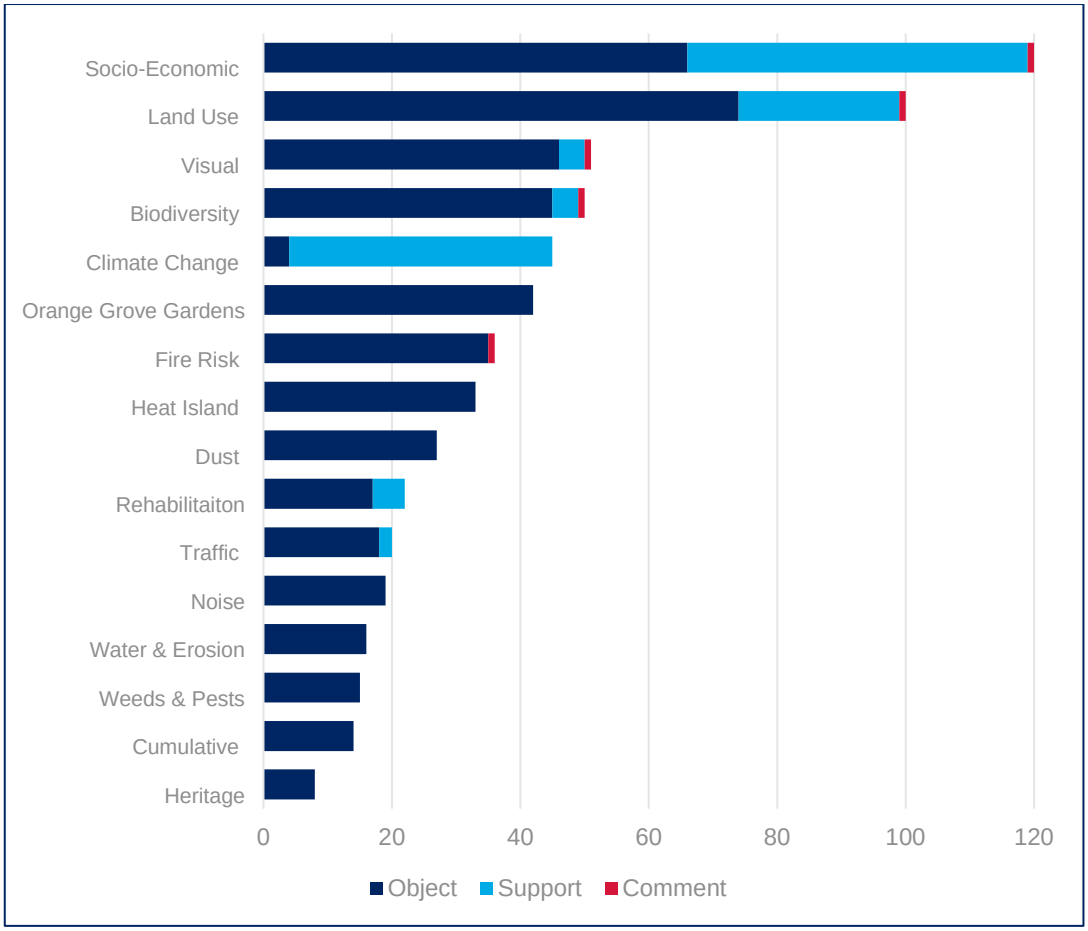

Figure 5 | Key issues raised in public submissions

4.6.7 The key matters raised in supporting submissions included views that:

- the project would make a beneficial contribution to reducing NSW's carbon outputs from energy production, and make positive contributions to tackling climate change;
- the local economy would benefit as a result of the project by creating local jobs and supporting local businesses; and
- the project constituted a good use of land and would continue to support agriculture by managed grazing.

4.6.8 A further breakdown and summary of key issues raised by the public is summarised in **Appendix E**. **Section 5** provides a summary of the Department's consideration of these matters and recommended conditions.

4.7 Key Issues – Special Interest Groups

4.7.1 **APA Group** is responsible for managing gas infrastructure across Australia and provided comment on the Barnawartha - Culcairn high pressure gas pipeline running through the site, which it owns and operates. FRV amended the project in response to APA's feedback, including buffer zones around the gas pipeline, removal of vegetation buffers in the vicinity of the pipeline and five access gates to provide unrestricted access to the pipeline.

4.7.2 The APA Group was satisfied with these changes. However, to ensure compliance with the requirements of *AS 2885 – Pipelines – Gas and liquid petroleum*, the Department has

recommended conditions requiring FRV to complete and implement a Safety Management Study to APA's satisfaction, prior to development.

4.7.3 **NSW Farmers Billabong Branch** objected to the project as it considered that the subject land would be mapped as Important Agricultural Land by the Department of Primary Industries and that the data on which FRV had assessed agricultural capability in the EIS was incorrect. The agricultural capability of the site is discussed in **section 5.1**.

4.7.4 Other issues raised by NSW Farmers Billabong Branch include negative social and economic impacts, loss of amenity to nearby neighbours and bushfire risk. These issues are further considered in **section 5.3.**

4.7.5 **The Gerogery Horse Sports Association** supported the project, highlighting its view that the project would have positive social impacts on the local community.

5 Assessment

5.0.1 The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of the two key issues, being land use compatibility and visual amenity.

5.0.2 The key constraints for the project are shown in **Figure 2**. The Department has considered the full range of potential impacts associated with the project and has included a summary of the conclusions in **section 5.3**. A list of the key documents that informed the Department's assessment is provided in **Appendix A**.

5.1 Compatibility of Proposed Land Use

Provisions of the Greater Hume LEP

5.1.1 The site is located wholly within the RU1 Primary Production zone under the Greater Hume LEP. As discussed in **section 3.2**, a solar farm is a prohibited land use under a strict reading of the LEP.

5.1.2 However, based on a broader reading of the LEP and a consideration of the objectives of the RU1 zone and other strategic documents for the region, the Department considers that there is no clear intention to prevent the development of a solar farm on the project site.

5.1.3 Firstly, the LEP expressly references the Infrastructure SEPP and acknowledges that electricity generating works are regulated by the Infrastructure SEPP, rather than the LEP. As described above, a solar farm is permitted with consent on land zoned RU1 under the Infrastructure SEPP.

5.1.4 Secondly, the project is not inconsistent with the objectives of the RU1 zone, particularly in relation to:

- encouraging diversity in primary industry enterprises and systems appropriate for the area; and
- minimising fragmentation and alienation of resource lands.

5.1.5 While the Greater Hume LGA has traditionally relied upon agriculture, the introduction of solar energy generation would contribute to a more diverse local industry base, thereby supporting the local economy and community.

5.1.6 The project is consistent with the Department's *Riverina Murray Regional Plan 2036,* which identifies the development of renewable energy generation as a future growth opportunity for the region.

5.1.7 The Department considers that development would not fragment or alienate resource lands in the LGA, as the land could easily be returned to agricultural land following decommissioning as the inherent agricultural capability of the land would not be affected in the long-term and FRV propose to continue sheep grazing within the development footprint.

5.1.8 Council objected to the project with a number of concerns, including its view that the development may not be consistent with the objectives of the LEP on the basis that the site contains high quality agricultural land. While the Department considers that the project is compatible with the LEP for the above reasons, the project's impacts on agricultural land are discussed further below.

Potential Impacts on Agricultural Land

5.1.9 The project is located within the Riverina Murray region, which has a strong and diverse agricultural sector, with over 9.1 million ha of the region being used for agricultural output. Currently, the site (605 ha) is predominantly used for grazing of sheep and cattle (76 % of the site), with approximately 24 % of the site used for cropping of cereal, fodder and oilseed crops.

5.1.10 The majority of public submissions, including a submission from the local branch of NSW Farmers Association, raised the loss of agricultural land as a key concern, as well as impacts on surrounding agricultural practices. While DPI Agriculture did not raise any concerns regarding the project, many submissions, including from Council, also considered the site should be classified as prime or important agricultural land, and objected to the long-term use of the site for electricity production over agriculture.

5.1.11 While the site is not mapped as Biophysical Strategic Agricultural Land (BSAL), the Department notes that both Council and members of the public referenced draft agricultural land mapping previously undertaken by DPI Agriculture. The Department notes that as the agricultural mapping of the area has not yet been finalised, exhibited or adopted by NSW Government, it is not directly relevant to the assessment of this project. In addition, the Department notes that DPI Agriculture has not raised any concerns regarding the project.

5.1.12 Under the existing *Land and Soil Capability Mapping in NSW* (OEH), the land within the development footprint is predominantly Class 4 (land with moderate capability, requiring specialised management practices, expertise, inputs and technology to manage productivity) and Class 6 (severely limited land, generally only suitable for grazing) (see **Figure 6**).

5.1.13 FRV propose to continue sheep grazing within the development footprint to manage groundcover and, following consultation with the landholder, have advised that there would be no reduction in the landholder's stock numbers as a result of the project. The project would include an access gate along its southern boundary to provide direct access for livestock from the landholder's property to the south.

5.1.14 In response to submissions on the project, FRV removed a section of solar panels from the south-eastern corner of the project site. Consequently, the amendment has resulted in the retention of over 94 ha of agricultural land capable of cultivation, which would continue to be used for cropping.

Figure 6 | Land and Soil Capability Class

5.1.15 The site is currently used for grazing with intermittent cropping and although the site would continue to support agricultural production, the Department accepts that overall the solar farm would reduce the agricultural output of the site while the solar farm remains operational.

5.1.16 However, the inherent agricultural capability of the land and soils would not be affected by the project due to the limited disturbance of the land to construct and operate the development. To this end, the Department has included requirements to maintain the land capability of the site (including groundcover and maintaining grazing within the development footprint), and to return the land to agricultural use following decommissioning.

5.1.17 FRV proposes to return the land back to existing levels of agricultural capability and the Department has included rehabilitation objectives in the recommended conditions to maintain the productivity of the agricultural land during the construction and operation of the project, and to fully reinstate the agricultural capability of the land following decommissioning of the project, including the requirement to return the site to existing Soil and Land Capability classes (i.e. Class 4 and 6).

5.1.18 Regarding potential cumulative impacts, the development footprint of the project combined with other operational, approved and proposed SSD solar farms in the Riverina Murray region would be up to 8,200 ha if all these projects are approved and developed. Even under this worst-case scenario, the total loss of 8,200 ha of agricultural land represents a very small fraction (0.09 %) of the 9.1 million ha of land being used for agricultural output in the Riverina Murray region[1].

5.1.19 If all four proposed SSD solar projects within Greater Hume LGA are approved, they would have a combined development footprint of approximately 2,300 ha, which is approximately 0.69 % of the 335,000 ha of land being used for agriculture within the Greater Hume LGA.

5.1.20 The potential loss of a small area of cropping and grazing land in the region must be balanced against:

- the broader strategic goals of the Commonwealth and NSW governments for the development of renewable energy into the future;

[1] *Riverina Murray Agricultural Industries Final Report*, Department of Planning and Environment, January 2016

- the environmental benefits of solar energy, particularly in relation to reducing greenhouse gas emissions; and
- the environmental benefits of solar energy in an area with good solar resources and capacity in the existing electricity infrastructure.

5.1.21 Based on these considerations, the Department considers that the proposed solar farm represents an effective and compatible use of the land within the region.

Potential Impacts on Neighbouring Agricultural Activities

5.1.22 Concerns were raised in some submissions about potential impacts on neighbouring agricultural activities. These concerns included potential impacts on livestock and cropping from the spread of weeds, increased flooding, erosion, and potential changes to the microclimate as a result of solar panels, also referred to as "Photovoltaic Heat Island Effect" (PVHI).

5.1.23 While evidence shows that solar panels do increase air temperatures above solar panels, the increase in temperature is localised and minor. The Department notes that a study commissioned by Greater Shepparton Council on the Shepparton Solar Farm (referenced in FRV's EIS) found that lateral temperatures drop very quickly from the perimeter of a solar farm in part due to natural convections, which take warm air upwards.

5.1.24 The study found that changes to air temperatures would be negligible within 30 m of the development footprint, and that any impacts would be further reduced once vegetation screening at the project boundary became effective.

5.1.25 The Department considers that, with the implementation of the recommended conditions of consent, including setback distances and vegetation screening, the project would not result in any material impacts on the agricultural operations of neighbouring landholders given the relatively low impacts associated with the solar farm.

5.1.26 The Department has recommended strict land management conditions to control the growth of weeds, reducing the potential spread of weeds to neighbouring properties. In this regard, FRV would be required to restore groundcover of the site following construction or upgrading, maintain the ground cover with appropriate perennial species and manage weeds within this groundcover. This groundcover would be required to be maintained to an acceptable standard, to reduce the risk of erosion and loss of soil from the project site. The recommended conditions also require FRV to ensure that the solar panels and ancillary infrastructure are designed, constructed and maintained to reduce the impacts of flooding and erosion.

5.1.27 There are also a range of other legislative requirements that apply to the management of land and water that would apply to the solar farm, including mitigating impacts of development on waterfront land, ensuring that the project does not pollute waterways and obtaining any necessary approvals for the project's water use.

5.2 Visual Impacts

5.2.1 Concerns about visual impacts were raised in 54 % of public submissions objecting to the project, and Council also objected to the project's potential visual impacts on neighbouring properties. Most submissions objecting to the project's visual impacts cited impacts on the landscape and scenic quality of the area. 27 % of submissions objecting to the project

specifically referenced the project's visual impacts to the operation of Orange Grove Gardens wedding and function venue.

Visual Context

5.2.2 The site and surrounds comprise flat and undulating cleared agricultural land with isolated patches of remnant native vegetation. The site includes remnant native vegetation, including two isolated stands in the southeast corner of the site, along Back Creek, and along much of the northern and eastern site boundaries, which would be retained.

5.2.3 The site would be located in a relatively isolated area with few nearby receivers. The site would not be visible from the town of Walla Walla (5 km south west) or Culcairn (9.5 km north east).

5.2.4 There are four residences (R1a, R1b and R2 and R5a) within 2 km of the project site, with the closest non-associated receiver (R1a) located approximately 80 m north of the site boundary and 210 m from the development footprint, as shown in **Table 5**. Receiver (R5a) operates as a wedding and function venue. R3 and R4 are associated residences located within 2 km of the site.

Table 5 | Visual Impacts at Surrounding Receivers

Receiver	Distance to site boundary (m)	Distance to development footprint (m)	Unmitigated Visual Impact	Mitigating Factors	Mitigated Visual Impact
R1a	80	210	High	Mature vegetation at the residence, along roadside and additional landscape planting proposed. Setback of solar farm infrastructure from project boundary.	Moderate
R1b	350	480	High		Moderate
R2	800	810	Moderate	Mature vegetation at the residence, site boundary and roadside. Setback of substation from project boundary.	Low
R5a (Orange Grove Gardens Venue & Residence)	800	1800	Moderate	Mature vegetation at receiver, within development footprint and along site boundary. Setback of 1.8 km of solar farm infrastructure from receiver and additional landscape planting proposed.	Low

5.2.5 The Olympic Highway and Main Southern Railway are located approximately 2.5 km east of the site. Benambra Road runs along the site's northern boundary and is primarily used by local traffic and heavy vehicles associated with the Hurricane Hill Hard Rock Quarry, which is located approximately 1.5 km north of the project site.

Visual Mitigation

5.2.6 FRV has proposed the following avoidance and mitigation measures to reduce the potential visual impacts on surrounding receivers:

- setting back project infrastructure from R1a by a further 130 m, providing a minimum separation distance of 210 m between the project and the residence;
- moving the proposed location of the on-site substation approximately 100 m south to reduce visual impacts on R2, providing a separation distance of 900 m;
- setting back project infrastructure 1.8 km from Orange Grove Gardens (R5a);
- retention of mature vegetation within and surrounding the site; and
- installing vegetation screening along sensitive parts of the site boundary, in order to screen views of the project from nearby receivers and road users. All proposed screening would be to a minimum depth of 5 m with more extensive landscaping to a depth of 50 m to reduce views from the most affected receivers (i.e. R1a, R1b, R2 and R5a).

Assessment

Landscape

5.2.7 The solar farm would be located in an area that is largely surrounded by flat agricultural land with undulating hills. The site gently rises to the north and the south from Back Creek, which runs through the site.

5.2.8 Impacts on the local landscape have been reduced through project design, including the buffer distances between project infrastructure and local receivers and the retention of mature native vegetation, both along the perimeter of the site and within the site, notably along Middle Creek.

5.2.9 Public submissions highlight that the landscape is valued by the community for its scenic value and agricultural history. The Department notes however, that the low lying nature of the development and existing and proposed vegetation would serve to minimise its visibility from the surrounding area, and the solar farm would not be visible from any major roads or scenic drives.

5.2.10 The Department notes that Morgans Lookout and Benambra National Park are located approximately 8 km to the northwest and southeast respectively, at their closest points, however given distance, topography and intervening vegetation, the project would not have a significant visual impact on these vistas.

5.2.11 The project would not be visible from vehicles travelling along the Olympic Highway or users of the Main Southern Railway. Views of the project for vehicles travelling along Benambra Road would be screened by existing vegetation, and supplementary plantings along the northern boundary of the project.

5.2.12 The Department recognises that the introduction of the proposed solar farm to a rural landscape would result in a material change to the local landscape, but considers it would have a limited impact on the region, and it would not be visible from the townships of Walla Walla (5 km south east) and Culcairn (9.5 km north east).

Residences

5.2.13 The EIS and Amendment Report include a comprehensive visual impact assessment (VIA) based on 12 representative viewpoints, including photomontages from four surrounding receivers that would be most affected by potential visual impacts. Due to distance, topography and vegetation, it is not likely that the project would be visible from any other residences.

5.2.14 The nature of the proposed development would serve to minimise its visibility from surrounding residences as the solar panels would be relatively low lying (up to 4 m high) and the maintenance buildings, power conversion units and substation would be a similar size to agricultural sheds commonly used in the area. FRV has committed to design and paint buildings to minimise the visual impact on the local landscape and the Department has recommended conditions to ensure this occurs.

5.2.15 While the photovoltaic panels are designed to absorb rather than reflect sunlight, the Department recognises that some project components have the potential to generate glare or reflection, including the galvanised steel used for the solar panel mounting framework, but that this diminishes over time.

5.2.16 The setback distances from nearby receivers, topography, existing well-established intervening vegetation and the proposed vegetation screening would shield or minimise views of the development from surrounding residences, including views of infrastructure with the potential to create glare or reflection.

5.2.17 The VIA identified that, without mitigation, receivers R1a and R1b (collectively referred to as R1) would experience high visual impacts and R2 would experience moderate visual impacts associated with the project. R1 and R2 are located north of the project, along Benambra Road, and both made submissions objecting to the project on visual impact grounds.

5.2.18 The nearest receiver, R1, is located 80 m from the project boundary. Views of the project from R1 would be fragmented by existing vegetation at both residences, and native vegetation retained on-site would also limit the extent of views of solar farm infrastructure.

5.2.19 Given the proximity of the site to R1, FRV has proposed to setback solar farm infrastructure by an additional distance of 130 m, resulting in a setback of 210 m and 450 m between the development footprint and R1a and R1b respectively. Within this setback, FRV proposes extensive vegetation screening to a depth of 50 m, with the remainder to be retained for agricultural use.

5.2.20 In their submission, receiver R2 raised concerns about the visual impact of the project's on-site substation, which would be located approximately 900 m from the residence. While the Department notes that the substation would largely be obscured from view behind existing vegetation to be retained at the site boundary, R2 would still have fragmented views of the substation, owing to its height, and would have minor views of some solar panels.

5.2.21 The Department acknowledges that FRV has proposed additional vegetation plantings to a depth of 50 m around the substation, and a vegetation screen to a depth of 5 m along Benambra Road which would further reduce the fragmented views of the substation.

5.2.22 The Department considers that visual impacts to R1 and R2 would not be significant due to the topography, existing vegetation and additional setbacks and vegetation screening proposed

by FRV. The Department has recommended conditions requiring FRV to establish and maintain a mature vegetation buffer along Benambra Road, to minimise the visual impact from residences R1 and R2.

5.2.23 The Department has recommended conditions requiring the applicant to minimise the off-site visual impacts of the development, including the potential for any glare or reflection, and to ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape. Subject to the recommended conditions, the Department is satisfied that the project would not cause significant glint or glare to nearby receivers.

Visual Impacts on Orange Grove Gardens

5.2.24 Council and 42 public submissions raised concern that potential visual impacts associated with the project would have negative economic impacts on the viability of Orange Grove Gardens wedding and function venue.

5.2.25 The Department notes that Orange Grove Gardens includes a wedding and function room, accommodation and a residence (collectively referred to as R5a).

5.2.26 R5a is located approximately 800 m southeast of the project site, and its function room would have primary views towards the solar farm. While visibility of the solar farm is partially obscured by existing mature vegetation, the VIA assessed that R5a may experience moderate unmitigated visual impacts.

5.2.27 The Department acknowledges that FRV made further amendment to its development application to provide a 1.8 km setback between the solar farm infrastructure and R5a. This setback significantly reduces the visual impact on this receiver as the solar panels would not be dominant in the views from this receiver, and most panels would be obscured by existing vegetation.

5.2.28 FRV has also committed to providing a vegetation buffer with a depth of 50 m to provide additional screening of the solar farm from R5a. The VIA concludes that, with mitigation, the visual impacts would be reduced (ie. low).

5.2.29 Given the above, and following amendments to the project, the Department is satisfied that setback from the solar farm, intervening existing vegetation and proposed additional landscape planting is unlikely to have significant visual impacts on R5a.

Cumulative Visual Impacts

5.2.30 The project is located approximately 1.2 km south of the proposed Culcairn Solar Farm at its closest point. There is potential that the proposed developments could result in cumulative visual impacts on residence R2.

5.2.31 R2 would be located approximately 800 m from the development footprint for both projects. Due to the distance, existing vegetation and topography of the area, views from R2 to both projects would be fragmented. In addition, both projects would be relatively low lying, with panels up to 4 m in height.

5.2.32 The Department notes that FRV has committed to further mitigating visual impacts to R2 with additional vegetation plantings which, over time, would further minimise visual impacts by fragmenting views of solar panels for R2.

5.2.33 In consideration of the low lying nature of the development, the distance from both projects and both existing and proposed vegetation screening, the Department considers that cumulative visual impacts would be minor.

5.2.34 Vehicles using Weeamara Road and Benambra Road to access Walla Walla township would have potential to experience cumulative visual impacts with Culcairn Solar Farm. The Department considers however, given the existing and proposed roadside vegetation along Benambra Road, that cumulative impacts on users of these local roads would be negligible.

Conclusion

5.2.35 To address the residual visual impacts, the Department has recommended a range of stringent conditions requiring FRV to:

- establish and maintain a mature vegetation buffer along parts of the Benambra Road and in the southeast corner of the site, which must:
  - be planted prior to the commencement of operation;
  - consist of a variety of endemic species that would facilitate the best possible outcome in terms of visual screening;
  - minimise views of the solar panels and ancillary infrastructure within 3 years of the commencement of construction; and
  - be properly maintained with appropriate weed management.
- prepare a detailed Landscaping Plan for the site which must include a description of measures that would be implemented to ensure the effectiveness of the vegetation buffer;
- minimise the off-site visual impacts of the development, including the potential for any glare or reflection;
- ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape; and not mount any advertising signs or logos on site, except where this is required for identification or safety purposes; and
- minimise the off-site lighting impacts of the development, and ensure that any external lighting is installed as low intensity lighting (except where required for safety or emergency purposes), does not shine above the horizontal and complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting.*

5.2.36 Subject to the implementation of the recommended conditions, the Department considers that there would be no significant visual impacts on surrounding residences and receivers, and the rural character and visual quality of the area would be preserved as far as practicable.

5.3 Other issues

5.3.1 The Department's consideration of other issues is summarised in **Table 6**.

Table 6 | Summary of other issues raised

Findings	Recommendations
Biodiversity	
• The site is largely comprised of cleared agricultural land with patches of high quality native vegetation along Back Creek, which traverses the site. • FRV has designed the project to avoid approximately 60.4 ha of native vegetation occurring on the site (see **Figure 2**). FRV has also designed the project to avoid 15 of the 17 farm dams used on site, and has committed to designing vegetation buffers to further enhance biodiversity values on the site. • The project would disturb approximately 30 ha of native vegetation including: – 15.1 ha of woodland (12.4 ha of Western Grey Box tall grassy woodland, 2.2 ha of River Red Gum herbaceous grassy woodland, 0.4 ha of Blakeley's Red Gum Yellow Box grassy tall woodland and 0.1 ha of Riparian Blakeley's Red Gum Woodland); – 4.4 ha of wetland (3.3 ha of Western Grey Box tall grassy wetland); – 1.1 ha of River Red Gum herbaceous grassy wetland); – 11.5 ha of grassland (Western Grey Box grassland); and – the removal of 53 paddock trees. • Of the native vegetation disturbed, 28.9 ha is of sufficient quality to require offset under the *Biodiversity Conservation Act 2016* (BC Act), and is predominantly Western Grey Box tall grassy woodland (12.4 ha) and its derived grassland (11.5 ha). • Of the native vegetation requiring offset, 0.2 ha is listed as *White Box- Yellow Box- Blakeley's Red Gum Woodland Endangered Ecological* (EEC) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). However, the EEC is fragmented and heavily grazed, and does not meet the relevant thresholds for further assessment under the *EPBC Act.* • Four threatened species listed under the BC Act have suitable habitat within the site. Of these species, only the squirrel glider was observed on site during targeted observations. Seasonal conditions prevented confirmation of the remaining two fauna species (Little Eagle and Southern Myotis) and one flora species (Pine Donkey Orchid) that may utilise or exist on the site. A conservative approach was adopted, and it was assumed that these species were present and would be impacted. • The site is not considered to include potential Koala habitat. • The impact on native vegetation and native species would generate 341 ecosystem credits and 491 species credits under the BC Act. the final credit requirement would be retired on accordance with the *NSW Biodiversity Offset Scheme* which may include acquiring or retiring biodiversity credits, making payments in an offset fund or funding a biodiversity conservation action. • With these measures, both BCD and the Department consider that the project is unlikely to result in a significant impact on the biodiversity values of the locality.	• Retire the applicable biodiversity offset credits in accordance with the Biodiversity Offsets Scheme. • Prepare and implement a Biodiversity Management Plan in consultation with BCD, including measures to protect and manage vegetation and fauna habitat outside the approved disturbance area.

Findings	Recommendations
Traffic and Transport	
• The transport route to be used by over-dimensional and heavy vehicles for the project during construction and operation is via the Olympic Highway and Benambra Road. • Site access for the majority of construction and operational traffic would be via a single site access point in the north-eastern corner of the site (see **Figure 2**). • An additional access point (substation access point) off Benambra Road would provide a dedicated access point for the on-site substation and would be used by a maximum of two over-dimensional vehicles during construction or decommissioning activities for the transportation of substation components. The substation access point would otherwise only be used by light vehicles. • FRV has designed the location of site access points to reduce traffic impacts to receiver R1a, particularly associated with dust and noise. • Two crossing points would be created on Schneiders Road to permit passage of on-site vehicles across Schneiders Road, between the eastern and western portions of the site. Council requested that it be further consulted regarding the design of these access points, and the Department has included conditions to this effect. • Five access gates would be required in order to permit unrestricted access to the owner (APA Group) of the high-pressure gas pipeline which dissects the north-western corner of the site. These access points would not be used by project-related vehicles at any stage of the project. • The main increase in traffic volumes would occur during the 20 month construction period, with a peak construction period of up to 12 months. During the peak period, the project would generate up to 45 heavy vehicle movements per day and 200 light vehicles per day. Additionally, there would be a total of 9 over-dimensional vehicle movements during construction, upgrading or decommissioning activities. • In order to reduce the number of light vehicles accessing the site during the peak construction period, FRV has committed to implementing a shuttle bus service to and from Walla Walla or other nearby town centres, dependent upon workforce and accommodation requirements, the details of which would be provided in the project's Traffic Management Plan. • Traffic during operations would be negligible, with up to 2 heavy vehicles and 16 light vehicles per day. • While Benambra Road is a local road, it has sufficient capability to accommodate construction traffic associated with the project, and is already used by heavy vehicles associated with the Hurricane Hill Hard Rock Quarry (the Quarry). • Similarly, the intersection of Olympic Highway and Benambra Road has previously been upgraded to accommodate turning vehicles up to 36 m in length, and would not require further upgrades. • As Benambra Road is being used by traffic associated with the Quarry, it has previously been sealed between the Olympic Highway and Weeamara Road, and would not require further upgrades.	• Construct or upgrade the primary site access point and substation access points as rural property access type treatments. • Consult with the relevant roads authority regarding the design of the Schneiders Road crossing points. • Restrict the number of vehicles during construction, upgrading or decommissioning to the peak volumes identified within the EIS. • Ensure the length of vehicles (excluding over-dimensional vehicles) does not exceed 26 m. • Prepare and implement a Traffic Management Plan in consultation with RMS and Council, including measures that would be implemented to address road safety, details of the employee shuttle bus service and strategies to encourage use of the shuttle bus service and car-pooling. • Undertake road dilapidation surveys and repair any damage identified, to the satisfaction of Council.

Findings	Recommendations
• While Council requested that FRV seal the section of Benambra Road between Weeamara Road and Schneiders Road, the Department does not consider that these upgrades would be necessary, given its limited use by approximately two over-dimensional and 20 heavy vehicles associated with construction of the substation. However, the Department has recommended conditions to address dilapidation surveys and repairs of Benambra Road between Weeamara Road and the substation access point. <u>Cumulative Traffic Impacts</u> • The proposed transport route is currently utilised by the quarry, but is also the primary haulage route for the proposed Culcairn Solar Farm. • No other approved or proposed SSD project in the local area would share the common haulage route, except for sections of the Olympic Highway, which has sufficient capacity to absorb the associated traffic volumes. • Benambra Road currently has an average of 134 vehicles (including 33 heavy vehicles) per day. If both solar farms are approved and constructed concurrently, the cumulative peak traffic movements across both projects would be an additional 95 heavy vehicles and 350 light vehicles per day on Benambra Road. • The Department notes that there are no residences along Benambra Road between the Olympic Highway and the proposed site access point for the project, and that FRV's Traffic Impact Assessment indicates that Benambra Road has sufficient capacity to accommodate cumulative traffic volumes. • The Department has recommended conditions requiring FRV to undertake road dilapidation surveys and any repairs required.	
Noise	
• Noise generated by the proposed construction, upgrading and decommissioning activities associated with the project would be below the 'highly noise affected' criterion of 75 dB(A) in EPA's *Interim Construction Noise Guideline* (the ICNG) at all nearby residences. • Two non-associated receivers (R1a and R1b) are predicted to experience noise levels above the 'noise affected criterion' of 45 dB(A) in the ICNG, however these exceedances would be short term and limited to standard construction hours but below the highly noise affected criterion: – R1a would experience maximum noise levels of 51 - 68 dB(A) when activities associated with earthworks, road construction, panel framing, cabling and assembly are undertaken simultaneously in proximity to the residence; – R1b would experience maximum noise levels of up to 49 dB(A) only when earthworks and road construction activities are undertaken in proximity to the residence. • Orange Grove Gardens (R5a) expressed concern about the potential for noise during construction to impact weddings and functions. Prior to the amendment of the layout in the south east corner of the site, construction activities were predicted to result in maximum noise levels of 37 dB(A) at R5a, which is below the noise affected criterion. With the increased the setback of solar panels from R5a (from 800 m to 1800 m) noise impacts	• Minimise noise generated by the construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the ICNG. • Restrict construction hours to Monday to Friday, 7am – 6 pm and Saturday, 8 am – 1 pm.

Findings	Recommendations
during construction at R5a would be less than assessed. Notwithstanding, the Department notes that FRV has committed to consult with Orange Grove Gardens regarding its construction schedule, and this has been reflected in the recommended conditions. • Any noise impacts would be limited to standard construction hours, would be short-term and would be below the highly noise affected criterion. FRV estimates that noise impacts at R1a and R1b would be intermittent and limited to a six-week period. • Consideration of cumulative noise impacts found that no additional receivers would experience exceedances of the noise affected criterion in the event that both the Walla Walla Solar Farm and Culcairn Solar Farm are approved and constructed concurrently. • The Department has recommended conditions requiring FRV to minimise noise during construction, upgrading or decommissioning by implementing best practice noise mitigation work practices set out in the ICNG.	
Heritage	
Aboriginal Cultural Heritage • Surveys identified 39 Aboriginal heritage sites and artefacts, and two potential archaeological deposits (PADs) on the site. All sites and artefacts were assessed as having low or low to moderate significance. • The project has been designed to avoid all known PADs, scarred trees and cultural trees. The project would also avoid two artefact scatters and eight isolated stone artefacts. • 29 artefacts on the site would be impacted, with 28 being of low scientific significance, and 1 of low to moderate significance. FRV has committed to salvage and relocate all impacted items to suitable alternative locations in consultation with Aboriginal stakeholders. • Following advice from BCD, FRV has committed to implement perimeter fencing around scarred and cultural trees with a minimum radius of 5 m. • Consultation with Registered Aboriginal Parties (RAPs) informed the project design and management measures. FRV has committed to provide ongoing management opportunities through a Heritage Management Plan. • If Aboriginal artefacts or skeletal material are identified during construction of the project, all work would cease, and an unexpected finds procedure would be implemented. • With these measures, the Department and BCD consider that the project would not significantly impact the heritage values of the locality. Historic Heritage • Site inspections did not identify any heritage sites or items occurring within or near the development footprint. The nearest listed heritage item of local significance (Zion Lutheran Church and manse) is located approximately 3.7 km southeast of the development site. • The Department is satisfied that the project would not have any adverse impacts on heritage items in the local area. Any unexpected finds of potential heritage significance on site could be appropriately managed by an unexpected finds protocol.	• Salvage and relocate Aboriginal items to suitable alternative locations. • Undertake consultation with Aboriginal stakeholders prior to construction. • Prepare and implement a Heritage Management Plan, in consultation with Aboriginal stakeholders.

Findings	Recommendations
Water and Erosion	
• The site is traversed by a third order ephemeral stream (Back Creek) and a second order ephemeral stream (Middle Creek). The junction of both streams occurs on site. • The project has largely been designed to avoid these watercourses, however crossings of Back Creek and Middle Creek would be required for internal access tracks, electrical cabling and security fencing. • DPIE Water requested that the proposed layout meet minimum buffer requirements for riparian land. In response, FRV amended the project to remove infrastructure along Middle Creek, allowing for a 20 m buffer and has committed to implement buffer zones consistent with *Guidelines for Controlled Activities on Waterfront Land* (NRAR, 2018). • Any erosion and sedimentation risks associated with the project can be effectively managed using best practice construction techniques. • Fuels and chemicals would be stored to prevent water pollution. • The project is not expected to affect groundwater or groundwater dependent ecosystems. • The site is not mapped as flood prone land under the Greater Hume LEP. Flood modelling indicates that flooding for the 1 % AEP would largely follow the alignment of watercourses within the site, but would affect up to 31 % of the site to depths of up to 0.8 m. FRV's flood modelling concluded that the development was unlikely to result in any off-site flooding impacts. • FRV would avoid potential impacts on flooding by locating construction compounds, storage areas, buildings and plant/equipment and flood sensitive infrastructure such as the substation outside of the 1 % AEP. • The project would require around 25 megalitres (ML) of water during construction (primarily for dust suppression) and around 0.8 ML per year during operation (primarily for panel cleaning and plant watering). A static water supply (40,000 litres) would be established and maintained for fire protection. • It is proposed that water used on site would be sourced from the Riverina Water County Council (RWCC) pipeline and water filling station in the Walla Walla township. FRV has provided confirmation that RWCC is able to provide the required quantity of water, and DPIE Water raised no further concerns. • Subject to the recommended conditions, the Department and DPIE Water consider that the project would not result in significant impacts on water resources.	• Design, construct and maintain the project to reduce impacts on surface water and flooding at the site. • Minimise soil erosion in accordance with OEH's *Managing Stormwater: Soils and Construction manual* (Landcom, 2004) and ensure that the project is constructed and maintained to avoid causing erosion on site. • Unless DPIE Water agrees otherwise, ensure all works are undertaken in accordance with *Guidelines for Controlled Activities on Waterfront Land* (NRAR, 2018).
Dust	
• 27 submissions raised concerns about in dust impacts in the local area. Some submissions expressed concerns about the project's potential to generate dust during construction, whilst others were concerned with potential dust impacts during operation of the project in the event that groundcover on site could not be sufficiently established due to overshadowing by solar panels.	• Minimise dust generated by the development. • Establish and maintain groundcover with appropriate perennial species as soon as

Findings	Recommendations
• The construction of the project involves earthworks for site preparation, trenching for cables, construction of access tracks and construction of footings for on-site infrastructure. Other sources of dust would include vehicles travelling on unsealed roads. • The Department is satisfied that dust generated during construction of the project would be minor and could be managed through standard mitigation measures such as use of water trucks and covering loads. • In addition, the Department notes that it has recommended conditions requiring FRV to establish and maintain suitable perennial groundcover over the site during operation which would also minimise erosion and dust generation. The Department has no evidence to suggest that the extent of overshadowing caused by the solar panels would prevent groundcover from being successfully established on the site. • Overall, the Department considers that the nature and extent of disturbance on the site is not fundamentally different to primary agricultural activities that occur in the region, and with suitable mitigation, would not result in any material dust impacts on neighbouring properties or the local community.	practicable following construction.
Other Hazards	
• The development site is not mapped as bushfire prone land. FRV would be required to maintain 10 m of defendable space around all project infrastructure and manage the defendable space and solar array areas as an Asset Protection Zone. FRV would also be required to comply with the RFS's *Planning for Bushfire Protection* (2019) and prepare an Emergency Plan to manage the fire risk. • The Department is satisfied that the bushfire risks can be suitably controlled through the implementation of standard fire management procedures. • The project would also comply with the International Commission on Non-Iodizing Radiation Protection (ICNIRP) guidelines for electric, magnetic and electromagnetic fields.	• Ensure that the development complies with relevant asset protection requirements in the RFS's *Planning for Bushfire Protection* (2019). • Prepare and implement an Emergency Plan in consultation with RFS and FRNSW.
Decommissioning and rehabilitation	
• Some community submissions raised concerns about decommissioning, rehabilitation and use of land after its operational life. • The Department has developed strict conditions for solar farms to cover this stage of the project life cycle, including clear decommissioning triggers and rehabilitation objectives such as restoring land capability to its pre-existing agricultural use. • With the implementation of these measures, the Department considers that the solar farm would be suitably decommissioned at the end of the project life, or within 18 months if operations cease unexpectedly, and that the site would be appropriately rehabilitated.	• Include rehabilitation objectives requiring the site to be rehabilitated within 18 months of cessation of operations.

Findings	Recommendations
Land Values	
• 22 public submissions raised concerns that the project would have an adverse impact on neighbouring land values, particularly due to visual impacts. • The Department notes that: – property values are influenced by a number of factors; – there is no clear evidence to suggest that solar farms in NSW are adversely affecting property values; – the project is permissible with development consent under the Infrastructure SEPP; – a detailed assessment of the merits of the project has found that the project is unlikely to generate significant economic, environmental or social impacts; – the impacts of the project can be further minimised by imposing suitable conditions on the project, and requiring a range of standard mitigation measures, such as vegetation screening, to be implemented; and – the Department considers that the visual impacts of the project on the surrounding residences and road users would not be significant. • Accordingly, the Department considers the project would not result in any significant or widespread reduction in land values in the areas surrounding the solar farm.	• No specific conditions required
Subdivision	
• FRV proposes to amalgamate and then subdivide three lots in the western portion of the project site (Lot 1 DP1069452, Lot A DP376389 and Lot 1 DP933189), to the west of Schneider's Lane. The three newly subdivided lots would be used for the grid substation, project infrastructure and the largest would be retained by the landholder for agricultural use. • As two of the subdivided lots would be below the minimum lot size of 100 ha, the subdivision would be prohibited under a strict reading of the Greater Hume LEP they do not meet the minimum lot size for RU1 land (100 ha). • Notwithstanding, under Section 4.38(3) of the EP&A Act, development consent for the project as a whole can be granted despite the subdivision component of the application) being prohibited by the LEP. • The Department is satisfied that the subdivision should be approved as it: – is necessary for the operation of the substation; – would not result in any additional dwelling entitlements on the subdivided lots; and – is consistent with the key objectives of the RU1 zone as it would encourage diversity and primary industry enterprises and minimise conflict between land uses. • The Department notes that Council raised no concerns in relation to the proposed subdivision.	• Subdivide the proposed lots in accordance with requirements of section 157 of the *Environmental Planning and Assessment Regulation 2000.*

Findings	Recommendations
Workforce Accommodation & Local Employment	
• Up to 250 workers would be required during the construction period. • FRV has committed to source workers from the local community wherever possible and the Department is satisfied that there is sufficient accommodation in nearby towns, such as Culcairn, Holbrook, Wagga Wagga and Albury. • There is potential for construction of the project to overlap with the construction of the proposed Culcairn Solar Farm and Jindera Solar Farm. Should this occur, up to 800 construction personnel may be required in the region. The Department considers that, although possible, it is unlikely that the entire construction periods of these three projects would overlap. • While the Department considers that there is sufficient workers accommodation for this project, to manage cumulative impacts associated with multiple projects in the region and to encourage the employment of locally sourced workers, FRV would be required to develop an Accommodation and Employment Strategy. The Strategy would require FRV to: – propose measures to ensure that there is sufficient accommodation for the workforce associated with the project; – consider the cumulative impacts with other projects in the area; – prioritise employment of local workers; and – monitor and review the effectiveness of the strategy, including regular monitoring during construction.	• Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration of the cumulative impacts associated with other SSD projects in the area.
Socio-economic Impacts	
• Concerns were raised in submissions that the project would have negligible benefits to the local community following construction, and that there would be a lack of local employment opportunities providing benefits to the local community. • The project would generate direct and indirect benefits to the local community, including: – up to 250 jobs during the 20 month construction period and 21 ongoing full-time jobs (including 16 local jobs) during operation of the project; – expenditure on accommodation and businesses in the local economy by workers who would reside in Greater Hume LGA or the adjoining Albury and Wagga Wagga LGAs; and – the procurement of goods and services by FRV and associated contractors. • While FRV has advised that the project would utilise accommodation within the Greater Hume LGA and has committed to sourcing workers from the local region, where possible, the Department has recommended a condition requiring FRV to prepare an Accommodation and Employment Strategy (discussed above) to prioritise these matters. • Public submissions also raised concern that the solar farm would reduce the viability and income of local businesses, particularly those supporting agricultural activities in the region.	• Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration to prioritising the employment of local workers.

Findings	Recommendations
• As discussed in **section 5.1**, managed grazing would continue on the site while the solar farm is in operation, and FRV has since amended the project to retain 94.7 ha of agricultural land suitable for sustained cropping. In any event, as previously discussed, the project site represents less than 0.01 % of the land currently used for agriculture within the Riverina Murray region. • In addition, FRV has offered a VPA with Council, including: – a one-off payment of $700,000 at commencement of the project; – an annual contribution of $50,000 for 30 years, to be adjusted for inflation. • The funding would be administered via a VPA established under Section 7.4 of the EP&A Act. • The money would preferably be used to fund projects in the locality. • Many submitters raised specific concerns about the potential economic impacts on Orange Grove Gardens venue during the project's 20 month construction phase. • Orange Grove Gardens considered that amenity impacts during the construction phase, most notably visual, dust and noise impacts, would result in lost business to the function centre in the short term, but also posed a reputational long-term risk. • The consideration of amenity impacts including visual noise and dust on this receiver have been discussed in **section 5.2** and above in this table. Based on this assessment, the Department considers that the residual impacts on Orange Grove Gardens would not be significant. • The project is unlikely to result in significant demand on community services and infrastructure (excluding roads considered above) given the relatively low level of local employment generated once it is operational. • Overall, the Department considers that the project would result in a broad range of economic benefits for the local community and the region as a whole.	

6 Recommended Conditions

6.1.1 The Department has prepared recommended conditions of consent for the project (see **Appendix I**).

6.1.2 The Department consulted with FRV and the relevant agencies on the conditions for the project.

6.1.3 These conditions are required to:

- prevent, minimise and/or offset adverse impacts of the project;
- ensure standards and performance measures for acceptable environmental performance;
- ensure regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

6.1.4 The recommended conditions use a risk-based approach that focuses on performance-based outcomes. This reflects current government policy and the fact that solar farms require relatively limited ongoing environmental management once the project has commenced operations.

6.1.5 In line with this approach, the Department has recommended conditions to minimise traffic, amenity, water, flooding, biodiversity, heritage and bushfire impacts, and required the following management plans be prepared and implemented:

- Traffic Management Plan;
- Biodiversity Management Plan;
- Heritage Management Plan;
- Landscaping Plan; and
- Emergency Plan.

6.1.6 The recommended conditions also require FRV to provide detailed final layout plans to the Department prior to construction.

6.1.7 Other key recommended conditions include:

- *biodiversity offsets* – retiring biodiversity offset credits in accordance with the *NSW Biodiversity Offsets Scheme;*
- *operating hours* – undertaking construction, upgrading or decommissioning activities on-site during standard construction hours, unless these activities are inaudible at non-associated receivers;
- *visual* – minimising the off-site visual and lighting impacts of the project, including the potential for any glare or reflection, and ensuring the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape;
- *water and flooding* – ensuring the solar panels and ancillary infrastructure (including security fencing) are designed, constructed and maintained to reduce impacts on surface water, flooding and groundwater at the site;
- *fire* – ensure that the development complies with the relevant asset protection requirements in the RFS's *Planning for Bushfire Protection 2019*; and
- *accommodation and employment* – requiring an accommodation and employment strategy be prepared and implemented to ensure there would be sufficient accommodation to house construction workers, and to prioritise the employment of local workers.

7 Evaluation

7.1.1 The Department has assessed the development application, EIS, submissions, Submissions Report, Amendment Report and additional information provided by FRV and advice received from relevant government agencies. The Department has also considered the objectives and relevant considerations under section 4.15 of the EP&A Act.

7.1.2 The project site is located in a rural area, with four non-associated residences located within 2 km of the development footprint.

7.1.3 The site is in proximity to the Olympic Highway and has direct access to the electricity network via the TransGrid transmission line, which traverses the site.

7.1.4 The Department considers the site to be appropriate for a solar farm as it has good solar resources and available capacity on the electricity network.

7.1.5 The project has been designed to largely avoid key constraints, including amenity impacts to neighbouring receivers, good quality agricultural land, remnant native vegetation, watercourses,

on-site farm dams and Aboriginal heritage items. Any residual impacts would be relatively minor and can be managed through the recommended conditions of consent.

7.1.6 The Department acknowledges the amendments made by FRV to further reduce impacts by removing infrastructure along Middle Creek, removing infrastructure and vegetation screening from the vicinity of the high-pressure gas pipeline, and increasing the setback distance between project infrastructure and Orange Grove Gardens to 1.8 km.

7.1.7 Following amendments to the project, the Department is satisfied that with the setback from the solar farm, intervening existing vegetation and proposed additional landscape planting, the project is unlikely to have significant visual impacts on surrounding residences including Orange Grove Gardens.

7.1.8 The project would not result in any significant reduction in the overall agricultural productivity of the region. The project amendments have reduced potential impacts on agricultural land, with 94 ha of land to be retained for continued cultivation. Additionally, FRV would manage ground cover within the site through sheep grazing, the site could be returned to agricultural uses after the project is decommissioned and the inherent agricultural capability of the land would not be affected.

7.1.9 There would be minimal localised cumulative impacts as a result of the proposed development, including visual, noise and traffic.

7.1.10 Importantly, the project would assist in transitioning the electricity sector from coal and gas-fired power stations to low emissions sources. It would generate over 662,000 MWh of clean electricity annually, which is enough to power over 112,000 homes and save over 635,000 tonnes of greenhouse gas emissions per year. It is therefore consistent with the goals of the NSW *Climate Change Policy Framework* and *Net Zero Plan Stage 1: 2020 - 2030.*

7.1.11 To address the residual impacts of the project, the Department has recommended a range of detailed conditions, developed in conjunction with agencies and Council, to ensure these impacts are effectively minimised, managed and/or offset. FRV has reviewed the conditions and does not object to them.

7.1.12 Whilst Council maintains its objection to the project on the grounds of potential impacts to micro-climate, loss of agricultural land and amenity impacts to neighbours, it confirmed that amendments to the project addressed several of its concerns, it did not object to the proposed conditions of consent, and has agreed terms with FRV for a Voluntary Planning Agreement, with the majority of funds proposed to be used on local projects within the Walla Walla and Culcairn townships.

7.1.13 The Department considers that the project achieves an appropriate balance between maximizing the efficiency of the solar resource development and minimising the potential impacts on surrounding land uses and the environment. The project would also stimulate economic investment in renewable energy and provide flow-on benefits to the local community, through job creation, capital investment and substantial contributions to Council for community enhancement projects.

7.1.14 On balance, the Department considers that the project is in the public interest and is approvable, subject to the recommended conditions of consent (see **Appendix I**).

7.1.15 This assessment report is hereby presented to the Independent Planning Commission for determination.

30/9/20 30/9/20

Nicole Brewer
Director
Energy Assessments

Mike Young
Executive Director
Energy, Resources & Compliance

Appendices

Appendix A – List of referenced documents

Walla Walla Solar Farm Environmental Impact Statement, NGH Environmental, November 2019

Walla Walla Solar Farm Amendment Report, NGH Environmental, 1 April 2020

Walla Walla Solar Farm Submissions Report, NGH Environmental, 1 April 2020

Walla Walla Solar Farm Additional Information, NGH Environmental, 27 April 2020

Walla Walla Solar Farm Additional Information Package, NGH Environmental, 26 May 2020

Walla Walla Solar Farm Additional Information, NGH Environmental, 11 September 2020

Appendix B – Environmental Impact Statement

https://www.planningportal.nsw.gov.au/major-projects/project/9931

Appendix C – Additional Information

https://www.planningportal.nsw.gov.au/major-projects/project/9931

Appendix D – Submissions

https://www.planningportal.nsw.gov.au/major-projects/project/9931

Appendix E – Consideration of Community Views

The Department exhibited the Environmental Impact Statement for the project from 1 November 2019 until 2 December 2019 (32 days) and received 147 submissions from the community (85 objections, 61 supporting and 1 comment), and three from special interest groups (1 objection, 1 providing comment and 1 in support).

The key issues raised by the community (including in submissions) and considered in the Department's Assessment Report include the use of agricultural land, and visual impacts economic impacts (including potential impacts on local businesses and property prices).

Other issues are addressed in detail in the Department's Assessment Report.

Many submissions raised specific concern with the project's impacts specifically on the Orange Grove Gardens function venue. In response, FRV setback the project from Orange Grove Gardens by a minimum distance of 1.8 km. Consequently, many issues raised in the submissions have been significantly reduced.

Issue	Consideration
Compatibility of the proposed land use • Use of agricultural land • Impacts on neighbouring agricultural activities (weeds, pests, erosion, noise, PVHI and dust) • Impacts on local agribusiness	*Assessment* • The majority of land within the development footprint is Class 4 and a small section is Class 6. This class of land typically requires active management to sustain cultivation on a rotational basis. • The cumulative loss of agricultural land associated with the project and other approved solar projects in the region represents a very small fraction of the 9.1 million ha of land being used for agricultural output in the Riverina Murray region, therefore resulting in a negligible reduction in the overall productivity of the region. • The site would be returned to agricultural use following decommissioning. • The agricultural operations of neighbouring landholders would not be impacted as weeds would be controlled through strict land management measures, erosion and sediment risks can be effectively managed using best practice construction techniques, water pollution is not permitted, and noise and dust would not be significant and would be minimised. • The panels would not result in any significant impact to microclimate which might affect neighbouring land uses. Any change to the ambient air temperature would be small and, in any event, would not be noticeable 30 m from the solar array. The effects would be further reduced by the established and proposed vegetation buffers surrounding the project. • Amendments to the project also resulted in the retention of over 94 ha of land suitable for cropping that would continue to be used for agriculture. • The Department is satisfied that the project would not result in any significant reduction in agricultural productivity of the region. • The project site is located on land zoned RU1 – Primary Production under the Greater Hume LEP and the project is permitted with consent under the Infrastructure SEPP. *Conditions include*: • Restore land capability to pre-existing use (at least Class 4 land Capability). • Restore the groundcover of the site following construction or upgrading, maintain the groundcover with appropriate perennial species and manage weeds within the groundcover • Minimise any soil erosion associated with the construction, upgrading or decommissioning of the development. • Ensure that the development does not cause any water pollution, as defined under Section 120 of the POEO Act.

Issue	Consideration
	• Ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in with the surrounding landscape, where reasonable and feasible. • Ensure that noise associated with the construction, operation, upgrading and decommissioning of the project complies with the relevant noise criteria. • Minimise dust generated by the development.
Visual impacts	*Assessment* • The site would be located in a relatively isolated area with few nearby receivers. The site would not be visible from Walla Walla (5 km south west) or Culcairn (9.5 km north east). • The closest non-associated residence (R1a) is located about 210 m from the development footprint at its closest point. A further 3 non-associated residences are located within 2 km of the development footprint. A function centre, Orange Grove Gardens, is also located within 2 km of the development footprint. • The project has been designed to minimise potential impacts on the surrounding receivers, including retention of native vegetation on site, extensive vegetation buffers and amending the project to include a 1.8 km setback of solar panels from Orange Grove Gardens. • The solar panels would be relatively low lying (up to 4 m high) and the maintenance buildings, inverters and substations would also be a similar size to agricultural sheds commonly used in the area. • The photovoltaic panels are designed to absorb rather than reflect sunlight, and the Department is satisfied that the project would not cause noticeable glint or glare compared to other building surfaces. • The visual impact at R1a for the views toward the solar farm would be moderate. Solar panels would be set back from the property by a distance of at least 210 m, partially obscured by existing vegetation that would be retained, and further mitigated by the implementation of a vegetation buffer to a depth of 50 m. • The visual impact for all other nearby residences is expected to be low or negligible as distance, topography and vegetation would reduce or block views of the project. • Following the setback of solar farm infrastructure to a distance of 1.8 km, Orange Grove Gardens would experience low residual visual impacts. Intervening vegetation, as well as vegetation retained on-site would minimise views of the project, and would be further mitigated by the implementation of a vegetation buffer to a width of 50 m. • The Olympic Highway is located approximately 2.5 km east of the site at its closest point and would not be significantly impacted by the project. • The Department considers that, subject to the implementation of proposed visual impact mitigation measures, the visual impact of the project on the landscape and local residents would be acceptable. *Conditions include*: • Establish and maintain a vegetation buffer to minimise views from nearby receivers within 3 years of operation. • Ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape, and not mount any advertising signs or logos on site, except where this is required for identification and safety purposes. • Minimise the off-site visual impacts of the development, including the potential for any glare or reflection. • Minimise the off-site lighting impacts of the development, and ensure that any external lighting is installed as low intensity lighting (except where required for safety or emergency purposes), does not shine above the horizontal and complies with *Australian Standard AS4284 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting.*

Issue	Consideration
Socio-economic impacts • Lack of local benefits • Reduction in patronage of Orange Grove Gardens Property devaluation	*Assessment* • The project would generate direct and indirect benefits to the local community, including: o up to 250 jobs during the 20 month construction period and 21 jobs during operation of the project, of which 16 would be based locally; o expenditure on accommodation and business in the local economy by workers who would reside in Greater Hume Shire LGA, or the adjoining Albury City and Wagga Wagga LGAs; and o the procurement of goods and services by FRV and any associated contractors. • FRV has committed to a Voluntary Planning Agreement (VPA) with council, which would consist of an initial one off payment of $700,000, followed by annual payments of $50,000 for an initial period of 30 years. • In response to submissions, the project was amended to remove panels from the southeast corner of the site, resulting in reduced visual impacts to Orange Grove Gardens. • Under the Greater Hume LEP and Infrastructure SEPP, the project is permissible with consent, and the Department's assessment demonstrates the project would not result in any long-term amenity or environmental impacts. Accordingly, the Department considers the project would not result in any significant or widespread reduction in land values in the areas surrounding the project. *Conditions include*: • Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration to prioritising the use of local accommodation and the employment of local workers. • Prior to the commencing construction the Applicant must enter into a VPA with Council.

Appendix F - Submissions Report

https://www.planningportal.nsw.gov.au/major-projects/project/9931

Appendix G – Amendment Report

https://www.planningportal.nsw.gov.au/major-projects/project/9931

Appendix H - Statutory Considerations

In line with the requirements of Section 4.15 of the EP&A Act, the Department's assessment of the project has given detailed consideration to a number of statutory requirements. These include:

- the objects found in Section 1.3 of the EP&A Act; and
- the matters listed under Section 4.15(1) of the EP&A Act, including applicable environmental planning instruments and regulations.

The Department has considered all of these matters in its assessment of the project and has provided a summary of this assessment below.

Aspect	Summary
Objects of the EP&A Act	The objects of most relevance to the Minister's decision on whether or not to approve the project are found in Section 1.3(a), (b), (c), (e) and (f) of the EP&A Act. The Department is satisfied that the project encourages the proper development of natural resources (Object 1.3(a)) and the promotion of orderly and economic use of land (Object 5(c)), particularly as the project: • is a permissible land use on the subject land; • is located in a logical location for efficient solar energy development; • is able to be managed such that the impacts of the project could be adequately minimised, managed, or at least compensated for, to an acceptable standard; • would contribute to a more diverse local industry, thereby supporting the local economy and community; • would not fragment or alienate resource lands in the LGA; and • is consistent with the goals of the *NSW Net Zero Plan Stage 1: 2020 – 2030* and would assist in meeting Australia's renewable energy targets whilst reducing greenhouse gas emissions. The Department has considered the encouragement of ESD (Object 1.3(b)) in its assessment of the project. This assessment integrates all significant socio-economic and environmental considerations and seeks to avoid any potential serious or irreversible environmental damage, based on an assessment of risk-weighted consequences. In addition, the Department considers that appropriately designed SSD solar development, in itself, is consistent with many of the principles of ESD. WSD has also considered the project against the principles of ESD. Following its consideration, the Department considers that the project can be carried out in a manner that is consistent with the principles of ESD. Consideration of environmental protection (Object 1.3(e)) is provided in **section 5.3** of this report. Following its consideration, the Department considers that the project is able to be undertaken in a manner that would at least maintain the biodiversity values of the locality over the medium to long term and would not significantly impact threatened species and ecological communities of the locality. The Department is also satisfied that any residual biodiversity impacts can be managed and/or mitigated by imposing appropriate conditions and retiring the required biodiversity offset credits. Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is provided in **section 5.3** of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality.

Aspect	Summary
State significant development	Under Section 4.36 of the EP&A Act the project is considered a State significant development. Under Section 4.5(a) of the EP&A Act and clause 8A of the SRD SEPP, the Independent Planning Commission (the Commission) is the consent authority for the development as the project received more than 50 unique public submissions by way of objection, and Council has also objected to the project.
Environmental Planning Instruments	The *Greater Hume Local Environment Plan 2012* applies and is discussed in **sections 2.1, 3.3, 5.1 and 5.3** of this report, particularly regarding permissibility, land use zoning, bushfire and contributions. The project is permissible under the Infrastructure SEPP. In accordance with the Infrastructure SEPP, the Department has given written notice of the project to TransGrid and TfNSW. The Department has considered the provisions of the *SEPP (Primary Production and Rural Development) 2019*. Of relevance to the project, the SEPP aims to facilitate the orderly economic use and development of lands for primary production, to reduce land use conflict and sterilisation of rural land and to identify State significant agricultural land. While the location of State significant agricultural land has not been finalised, the Department has considered all of these matters in **section 5.1** of this report. The Department has considered the provisions of *SEPP No. 55 – Remediation of Land*. A preliminary assessment of the land found no contaminated land within the project site, and the Department is satisfied the site is suitable for the development. Greater Hume Council is listed under *SEPP (Koala Habitat Protection) 2019.* FRV's assessment concluded that the vegetation within the site is not considered potential Koala habitat, the Department has considered this in **section 5.4** of this report.

Appendix I – Recommended Instrument of Consent

https://www.planningportal.nsw.gov.au/major-projects/project/9931