



NGH



Submissions Report

Walla Walla Solar Farm

December 2021

Project Number: 21-200



Document verification

Project Title:	Walla Walla Solar Farm
Project Number:	21-200
Project File Name:	20-200 Walla Walla SF Modification RTS_v2

Revision	Date	Prepared by	Reviewed by	Approved by
Final 1.0	12/11/2021	Les Seddon in consultation with FRV	Zeina Jokadar	Zeina Jokadar
Final 2.0	7/12/2021	Les Seddon in consultation with FRV	Fiona McKay	Fiona McKay

NGH Pty Ltd is committed to environmentally sustainable practices, including fostering a digital culture and minimising printing. Where printing is unavoidable, NGH prints on 100% recycled paper.



W. www.nghconsulting.com.au

BEGA - ACT & SOUTH EAST NSW

Suite 11, 89-91 Auckland Street
(PO Box 470) Bega NSW 2550
T. (02) 6492 8333

BRISBANE

T3, Level 7, 348 Edward Street
Brisbane QLD 4000
T. (07) 3129 7633

CANBERRA - NSW SE & ACT

Unit 8, 27 Yallourn Street
(PO Box 62) Fyshwick ACT 2609
T. (02) 6280 5053

GOLD COAST

19a Philippine Parade
Palm Beach QLD 4221
(PO Box 466 Tugun QLD 4224)
T. (07) 3129 7633

E. ngh@nghconsulting.com.au

NEWCASTLE - HUNTER & NORTH COAST

Level 1, 31-33 Beaumont Street
Hamilton NSW 2303
T. (02) 4929 2301

SYDNEY REGION

Unit 17, 21 Mary Street
Surry Hills NSW 2010
T. (02) 8202 8333

WAGGA WAGGA - RIVERINA & WESTERN NSW

35 Kincaid Street (PO Box 5464)
Wagga Wagga NSW 2650
T. (02) 6971 9696

WODONGA

Unit 2, 83 Hume Street
(PO Box 506) Wodonga VIC 3690
T. (02) 6067 2533

NSW • ACT • QLD • VIC

W. www.nghconsulting.com.au

ABN 31 124 444 622 ACN 124 444 622

Table of contents

Acronyms and abbreviations.....	iv
1. Introduction.....	1
1.1 Background.....	1
1.2 Purpose of Submissions Report	1
2. Proposed modification.....	1
2.1 Approved Project	1
2.2 Proposed Modification	1
2.3 Justification.....	2
2.4 Alternative Mitigation Measures considered	3
2.5 Benefits of the project.....	3
2.6 Benefits of the proposed modification.....	4
3. Public Exhibition.....	6
3.1 Exhibition and location.....	6
3.2 Submissions received.....	6
4. Consideration of submissions	7
4.1 Public submissions	7
4.2 Agency advice	25
5. Conclusion	33
5.1 Submission issues raised	33
5.2 Justification for the proposal	34

Figures

Figure 1-1 Location of the Walla Walla Solar Farm	0
Figure 2-1 Approved project layout.....	5
Figure 4-1 Native vegetation within Walla Walla Solar Farm and Benambra Road (along northern boundary). <i>Source: Figure 3-1, Walla Walla Solar Farm BDAR (NGH 2020)</i>	32
Figure C-1 Benambra Rd (at R1) existing view	C-I
Figure C-2 Benambra Rd (at R1) proposed modification superimposed view no screening	C-I
Figure C-3 Benambra Rd (at R1) proposed modification superimposed with vegetative screening Stage 1 - large trees growth at 1m high by 0.5m wide.....	C-II
Figure C-4 Benambra Rd (at R1) proposed modification superimposed with vegetative screening Stage 2 - large trees growth at 2m high by 1.5m wide.....	C-II

Figure C-5 Benambra Rd (at R1) proposed modification superimposed with vegetative screening
Stage 3 - large trees growth at 3m high by 2m wide.....C-III

Tables

Table 4-1 Proponent's response to issues raised by the community.....	7
Table 4-2 Agency submissions and Proponent's response	25
Table 4-3 Planning NSW queries.....	30
Table B-1 Consultation following exhibition of Modification Report	B-I

Appendices

Appendix A Adopted planting guidance	A-I
Appendix B Consultation	B-I
Appendix C Benambra Road vegetation buffer growth stage photomontages	C-I

Acronyms and abbreviations

AC	Alternating current
BC Act	<i>Biodiversity Conservation Act 2016</i> (NSW)
Development Site	The area of land that is subject to the Project
Development Footprint	The area of land that would be directly impacted by the Project including infrastructure, access roads, perimeter fence and vegetation screens
DPIE	Department of Planning, Industry and Environment (NSW)
EIS	Environmental impact statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
ha	hectares
ISEPP	State Environmental Planning Policy (Infrastructure) 2007 (NSW)
km	kilometres
m	metres
LMP	Landscape Management Plan
MW	Megawatt
MWac	Megawatt alternating current
MWdc	Megawatt direct current
O&M	Operations and Maintenance
PPA	Power Purchase Agreement
PV	Photovoltaic
Project	The approved solar farm including the construction, operation and decommissioning of a 300 MWac ground-mounted photovoltaic (PV) solar farm and associated infrastructure
Proponent	Walla Walla Solar Farm Pty Ltd, as established by FRV. FRV is a global renewable energy solutions provider and leading solar developer.
Proposal	The proposed modifications to the approved Project
SSD	State Significant Development
Subject Land	Any and all lots to be directly impacted, in whole or part, by the Project
TMP	Traffic Management Plan

1. Introduction

1.1 Background

Walla Walla Solar Farm Pty Ltd (the Proponent) have applied to modify the Conditions of Consent for the Walla Walla Solar Farm. Walla Walla Solar Farm is located off Benambra Road, approximately 2.6 kilometres (km) west of the Olympic Highway in the Greater Hume Local Government Area (LGA) as shown in Figure 1-1.

The Development Consent for the Walla Walla Solar Farm was approved by the Independent Planning Commission of NSW (IPC) on 27 November 2020 (Application Number: SSD 9874) under Section 4.38 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW).

The existing consent permits the construction, operation and decommissioning of a 300MWac ground-mounted photovoltaic (PV) solar farm and associated infrastructure.

During detailed design, Walla Walla Solar Farm Pty Ltd identified three aspects of the consented project that require amendment. The proposed amendments (Modification) are:

- An increase in the maximum height of solar modules from 4m to 4.85m.
- An increase in the maximum height of substation transmission poles from 21m to 36m.
- An amendment to the construction access and transport route for construction traffic associated with construction of the substation.

A modification application, number SSD-9874-Mod-1, was submitted and exhibited between Friday 24 September 2021 and Thursday 7 October 2021.

Submissions have been collated by the NSW Department of Planning, Industry and Environment (DPIE).

1.2 Purpose of Submissions Report

NGH has prepared this Submissions Report on behalf of the Proponent to respond to all issues raised in the submissions. The report is set out as follows:

- Section 2: Summary of the proposal, its key benefits and justification.
- Section 3: Summary of the submissions received.
- Section 4.1: Responses to the public submissions. As submissions raised several issues, some of which are repeated in other submissions, each issue raised is addressed, rather than each submission.
- Section 4.2: Responses to each government agency submission.

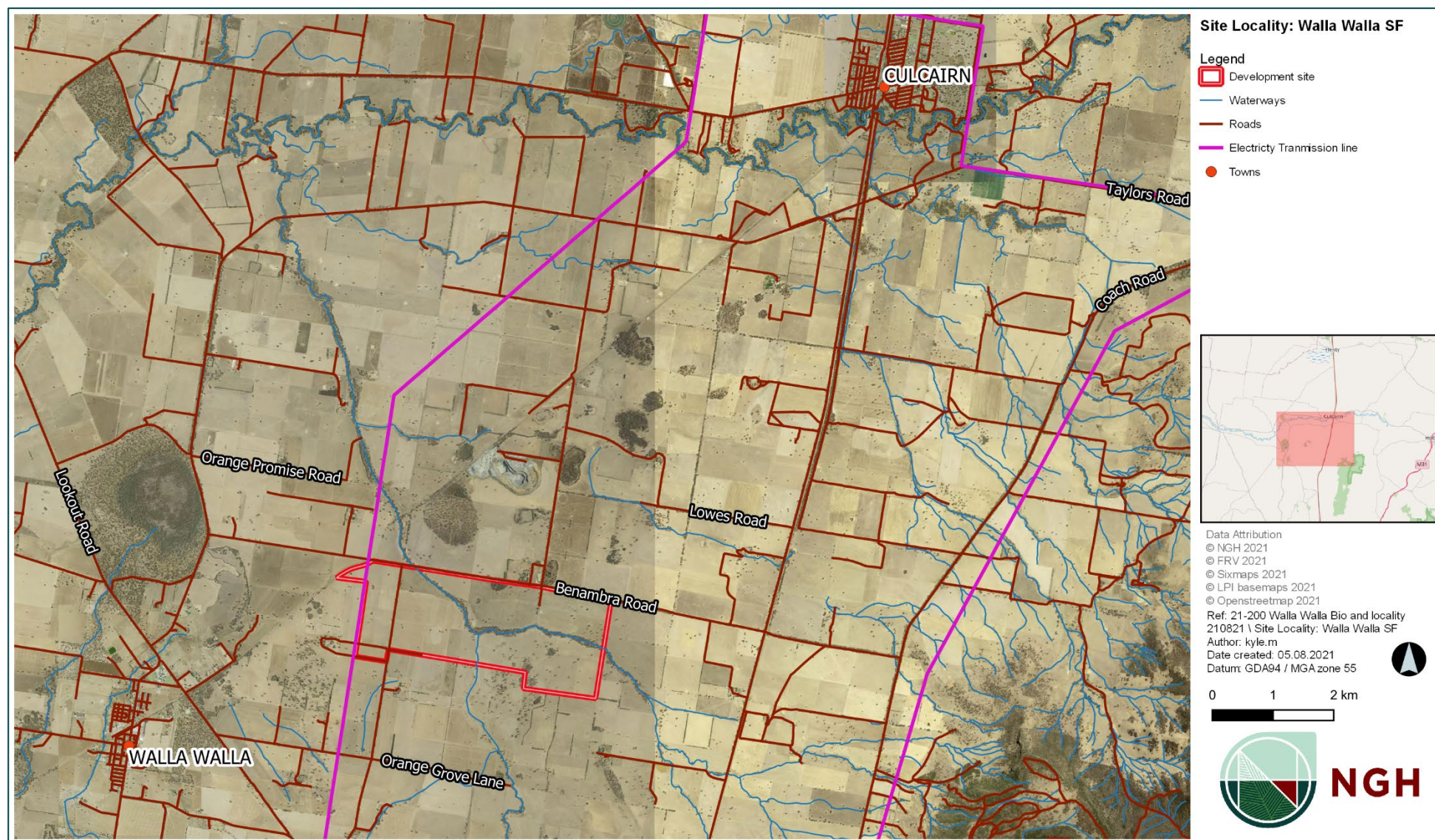


Figure 1-1 Location of the Walla Walla Solar Farm

2. Proposed modification

2.1 Approved Project

The key components of the Walla Walla Solar Farm Project, as approved, include:

- Approximately 700,000PV solar arrays mounted on single axis tracking systems.
- Approximately 76 modular inverter units.
- New TransGrid substation and connection point comprising transformers, associated switchgear, control and protection equipment.
- 33kV/330kV transformer and protection.
- Internal access tracks, operations and maintenance (O&M) building, parking and perimeter fencing.
- Vegetative screening and setbacks.

The approved project layout is shown in Figure 2-1.

2.2 Proposed Modification

The proposed amendments (Modification 1) are:

- An increase in the maximum height of solar modules from 4m to 4.85m.
- An increase in the maximum height of substation transmission poles from 21m to 36m.
- An amendment to the construction access and transport route for construction traffic associated with construction of the substation.

It is also proposed to:

- Modify condition 11 of Schedule 3 to permit the planting of the vegetation buffer to occur within 6 months of the commencement of construction, in order to take advantage of the most ideal climatic conditions and maximise plant health.
- Modify consented mitigation measures to install and maintain shade cloth/mesh screens in the vicinity of the substation and R1 during construction.
- Correct a setback distance listed in the conditions of consent, which incorrectly states that all solar farm infrastructure would be set back from receiver R2 by a distance of 930m (condition 5 of Schedule 2).

The increased panel size is anticipated to result in a decrease in PV solar arrays to between 650,000 to 700,000PV solar arrays, dependent upon final engineering design. All other solar farm infrastructure proposed remains as described in the Development Consent. No changes to the project boundary or development footprint are required.

FRV proposes to commence construction of the substation earlier than the remainder of the site. Whilst no changes to the development consent are required in order to undertake this work, FRV proposes to stage submission of management plans in accordance with both stages.

The project capacity remains the same at 300MWac as dictated by the executed project's grid connection agreement with TransGrid.

2.3 Justification

Primarily, the Modification is required to allow:

- Adoption of the latest available Tier 1 bankable solar panel technology. Increasing the PV solar array height reduces waste generated by the project and increases sustainability of the project. Solar technology has improved rapidly in recent years. The Project timeline has experienced delays that has coincided with Tier 1 technological advances including an industry move in typical panel length from 2m to 2.2m. The previous panels are now out of date and more difficult to source from the global supply chain. Utilising the latest available Tier 1 panels provides more certainty in asset longevity and performance, minimises the risk of replacements/upgrades and avoids wastage whilst requiring fewer panels.
- More reliable outputs to the grid. Whilst the proponent has signed a connection agreement with TransGrid of 300MWac, this signifies a maximum output limit for the project at all times and cannot be exceeded throughout the project lifetime. The project would, at times, produce less electricity than 300MWac – for example, during cloudy weather, during winter months and during morning and evening periods. Whilst the project's maximum output would remain capped at 300MWac, the modification would result in an increase to the peak MWdc installation capacity of the project. This would result in the project reaching its nameplate capacity of 300MWac for longer periods of time, such as early mornings and late afternoons during peak energy demand. This provides additional benefit to the community and the state by providing greater stability and reliability to the grid - including during morning and evening periods when electrical demand is generally higher, but solar irradiation is typically low.
- Safe clearance distances of the transmission poles in accordance with Australian and TransGrid Standards. This requires six 30m poles (217A and 217D) and two 36m poles (217B and 217C) (Figure 5-1). These poles will be similar height to the existing network poles and required by Transgrid's standards.
- TransGrid to undertake construction of the substation prior to other aspects of the solar farm being constructed, including access tracks for the substation. As such, the only viable way to access the proposed sub-station site access (herein referred to as the alternate construction access), is from Benambra Road to the west of Schneiders Road.

A review of the modifications against the conditions of consent was undertaken to determine:

- Whether the changes proposed would be substantive changes to the Project's nature or description.
- Whether the changes proposed would have a material change to predicted environmental impacts.
- Whether the changes proposed would impact on the ability to meet any Development Consent.

The review concluded that:

- The changes proposed would not substantively change the Project. The Project would still involve the construction, operation and decommissioning of a 300MWac ground-mounted photovoltaic (PV) solar farm and associated infrastructure.
- No material changes to the predicted environmental impacts were identified as supported by the closer investigation of traffic and visual impacts in addendum impact assessments. Minor additional traffic would utilise the alternate construction access, and visual impacts to

sensitive receivers, while present are only a slight adjustment to previously assessed impacts. Traffic and visual impacts can be managed and minimised through the application of already-proposed comprehensive traffic management measures and vegetation screening.

- Regarding the ability to meet the Development Consent:
 - The changes generally correspond to mapped 'proposed infrastructure', originally proposed as indicative in the EIS. No new infrastructure is required as an outcome of these modifications.
 - Obligation to minimise harm to the environment is maintained.
 - An amendment to Schedule 3 Condition 5 and 6 is required to allow substation construction related traffic to use Benambra Road west of the main site access and utilise the substation access during construction prior to development of the remainder of the solar farm.

2.4 Alternative Mitigation Measures considered

The following alternative mitigation measures were given consideration, but were not adopted:

- FRV considered the sealing of Benambra Road in order to mitigate dust and traffic impacts associated with the development. Given the small number of heavy vehicles that would be using the unsealed section of Benambra Road, it was considered that satisfactory dust and road traffic outcomes could be achieved with appropriate dust suppression. The conditions also require FRV to maintain and restore the condition of Benambra Road for the duration of construction.
- FRV considered implementing mounding of the on-site vegetation buffers in order to maximise vegetation height, in particular for R1a. Whilst mounding up to 1m could have provided additional height, FRV received advice that it may result in heat and water stress on juvenile plants, impacting growth and potentially resulting in plant mortality. It was advised that better outcomes at 3 years would likely be achieved without bunding, given more robust plant growth.

2.5 Benefits of the project

The benefits of the Walla Walla Solar Farm include:

- Supporting Commonwealth and NSW climate change commitments.
- Enhancing electricity reliability and security by contributing 300MW capacity of clean energy to the national grid and supporting the energy transition from coal fired to renewables.
- Direct and indirect employment opportunities during all phases of the proposal, including around 250 construction jobs during the peak construction phase and around 21 equivalent full-time jobs once the proposal is operational.
- Investment of about \$399 million in capital expenditure in total.
- Development of a new land use thereby diversifying local land uses within the locality and offering host landholders an alternative income stream.

2.6 Benefits of the proposed modification

The proposed increase to panel height would provide a range of benefits, including:

- Ensuring that the latest available technology is utilised, prolonging asset life, assuring system quality, reliability, reducing resources use, waste and improving operational sustainability targets, as discussed in Section 2.3.
- Increasing project reliability. Larger panels would improve the overall energy generation potential during typical peak demand period (morning and evening) by providing more flexibility in capturing solar irradiation for longer periods and during 'shoulder' periods when electric demand is typically higher, as discussed in Section 2.3.
- Greater contribution to Government targets for renewables.
- Greater benefits to NSW energy customers.

The increased pole height enables the project to proceed and the benefits to the local community and NSW community to be realised.

The modifications for an alternate construction access to construct the substation enables:

- The project to safely integrate with the transmission system;
- TransGrid to meet scheduling and resource availability; and
- The project to proceed as quickly as possible.

The increased pole height also ensures the design meets Australian and TransGrid Standards.

The implementation of the proposed modifications as whole would enable the project to proceed and the environmental, social and power reliability benefits to the regional community and State of NSW to be realised.

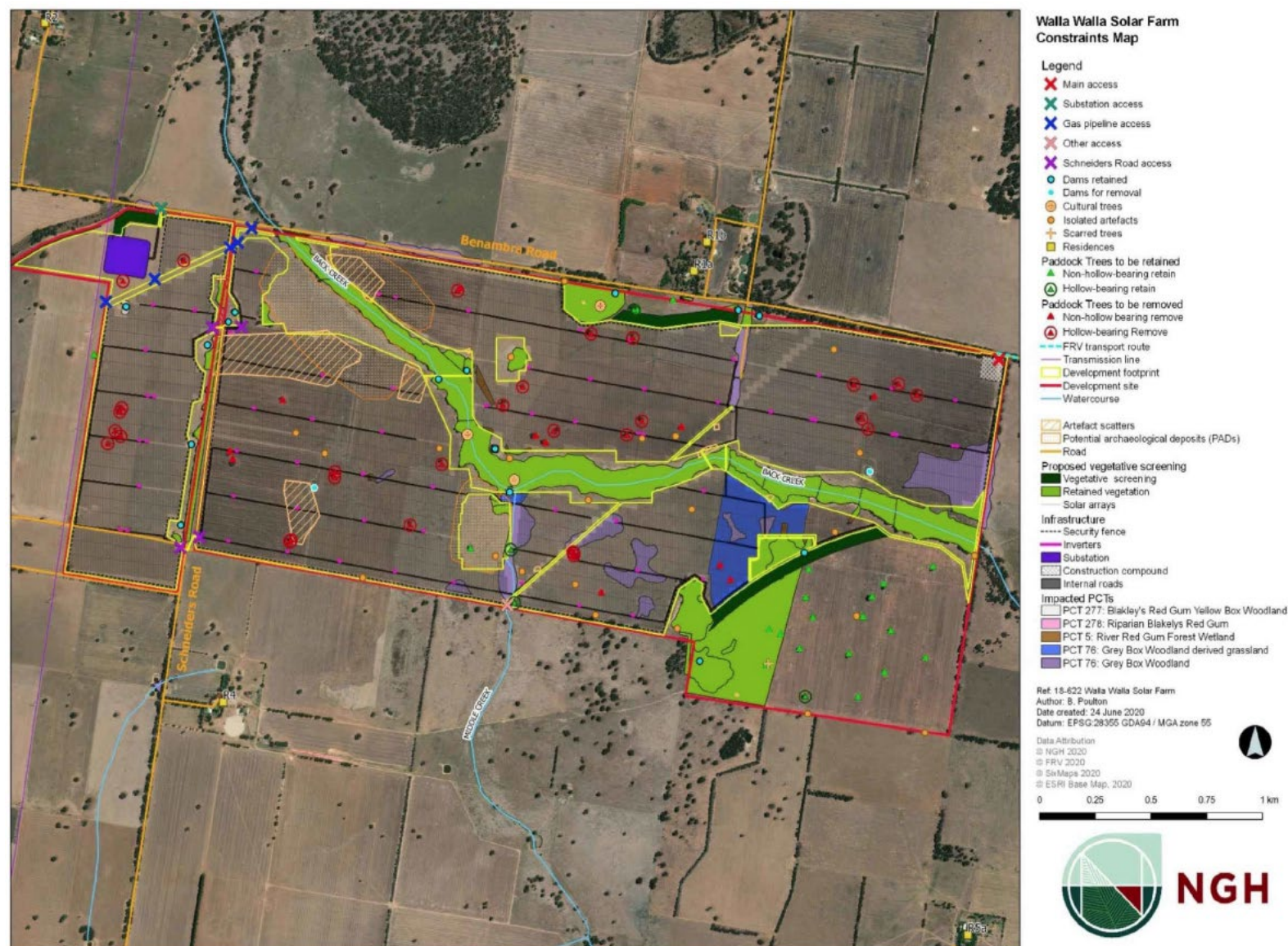


Figure 2-1 Approved project layout

3. Public Exhibition

3.1 Exhibition and location

The proposed modification, SSD-9874-Mod-1, was submitted and exhibited between Friday 24 September 2021 and Thursday 7 October 2021.

3.2 Submissions received

During the exhibition period, submissions were received from members of the public and government agencies. DPIE received a total of 73 submissions via the major projects planning portal.

- 67 submissions were received from members of the public.
 - 48 supported the proposal,
 - 18 objected, and
 - one comment was received.
- Six agencies provided advice on the proposal and as a result there were no objections received. Agencies included
 - Heritage NSW (Department of Premier and Cabinet)
 - Crown Lands (DPIE)
 - Biodiversity and Conservation Division (BCD - DPIE)
 - Transport for NSW
 - NSW Environment Protection Authority (EPA)
 - Greater Hume Council.

The issues raised in each submission received are summarised in this document; Section 4.1 (public submissions) and Section 4.2 (public authority submissions).

The full submissions can be found on the DPIE's website: www.planningportal.nsw.gov.au/major-projects/project/42341.

Following exhibition DPIE has requested further information regarding:

- Improvements to vegetation screening for R1.
- Further justification around technology advances and typical panel size.

DPIE queries are addressed in Section 4.2.

4. Consideration of submissions

4.1 Public submissions

Exhibition of the Modification Application was communicated to neighbours and community members by the Proponent, FRV. Media and advertising were also utilised to provide adequate visibility of the Modification Application process.

The proposed modifications received 48 submissions from individual community members supporting the proposal and 18 submissions from individual community members objecting to the proposed modifications.

Key discussion points captured from public submissions are summarised in Table 4-1. Note, discussion points have been summarised/paraphrased to avoid repetition. Submission IDs are used to show the number of submissions that raised a particular issue. Where consideration has led to further investigation or a change to the proposal, this is summarised briefly.

Table 4-1 Proponent's response to issues raised by the community.

Issue raised	Submission ID	Detail of issue	Proponent's response
Support	SE-29627957 SE-29621999 SE-29621933 SE-29621922 SE-29618074 SE-29614203 SE-29612891 SE-29595557 SE-29585708	The 48 submissions supporting the proposed modifications generally outlined the following reasons for support: • The development would provide renewable energy for future generations. • The development would encourage investment and growth within the regional area. • The development would benefit the local community. • The development would improve infrastructure and provide jobs for	Noted. Therefore, no changes to the proposal or mitigation measures are proposed in response to these responses.

Issue raised	Submission ID	Detail of issue	Proponent's response
	SE-29584494	the local community.	
	SE-29583491	• The benefits of the project far outweigh any impacts from the modification.	
	SE-29582962		
	SE-29580979	• The development is located a sufficient distance from the town of Walla Walla. Transport routes would not be significantly impacted by the modification.	
	SE-29580587		
	SE-29579419		
	SE-29577576	• The Proponent has taken reasonable precautions to mitigate impacts to local landholders.	
	SE-29576581		
	SE-29565037	• The modification is reasonable and necessary.	
	SE-29562255		
	SE-29554125		
	SE-29553985		
	SE-29553903		
	SE-29522749		
	SE-29522479		
	SE-29519314		
	SE-29518409		
	SE-29518273		
	SE-29518246		

Issue raised	Submission ID	Detail of issue	Proponent's response
	SE-29518179		
	SE-29518173		
	SE-29515464		
	SE-29514974		
	SE-29514962		
	SE-29513726		
	SE-29509031		
	SE-29505153		
	SE-29503735		
	SE-29501045		
	SE-29500511		
	SE-29500457		
	SE-29494713		
	SE-29491707		
	SE-29485906		
	SE-29484294		
	SE-29481786		
	SE-29419497		
	SE-29132640		

Issue raised	Submission ID	Detail of issue	Proponent's response
	SE-29042256 SE-29491497		
Visual Amenity	SE-28951960 SE-29234829 SE-29576535 SE-29582786 SE-29587727 SE-29595037 SE-29595064 SE-29609378 SE-29611465 SE-29554223 SE-29421781	Concern was raised with the visual impacts caused by the increase in height to the solar array and transmission poles, particularly on neighbouring properties.	The Modification Report included an addendum Visual Impact Assessment (VIA), which considered the impacts of the proposed Modification to adjacent neighbouring receivers. The Addendum VIA found that if constructed, the proposed increase in height of the solar panels and substation power poles would result in a very small change to the likely visual amenity of neighbours or public viewpoints addressed in the EIS. The proposed Modification would also not alter the previous medium or low visual impact ratings for residences or public viewpoints addressed in the EIS. The Proponent is progressing with plans for implementation of suitable vegetation buffers as outlined in the EIS. Additionally, the proponent has also updated its statement of commitments to provide on-curtilage landscaping to neighbours, if requested, with the aim of further reducing any visual impacts of the project, generally. To further minimise some visual impact the Proponent will install shade cloth/mesh screens, blending with surrounds, on the perimeter security fencing and/or temporary construction fencing in the vicinity of R1 and at the substation during construction. In response to these concerns it is proposed to modify consented mitigation measures as follows: • Install and maintain shade cloth/mesh screens in the vicinity of

Issue raised	Submission ID	Detail of issue	Proponent's response
			the substation and R1 during construction and/or until vegetation screen planting has occurred in accordance with the LMP.
	SE-29609378 SE-29421781	Concerns that the Modification would result in increased glare impacts due to the increased size of the solar panels.	Increasing the maximum solar panel height would not have an increased potential for glare impacts. As indicated in the original VIA/EIS (NGH Pty Ltd, 2019), "the potential for glare associated with non-concentrating PV systems that do not involve mirrors or lenses is relatively limited. PV solar panels are designed to reflect as little sunlight as possible, generally around 2% of the light received (Spaven Consulting, 2011), resulting in negligible glare or reflection". Whilst impacts of glare and reflection are considered to be low, vegetation buffers would provide further minimisation of visual impacts generally. Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.
	SE-29595037	Queried whether additional setbacks would be implemented for neighbouring landholders.	The addendum VIA provided that the Modification would only result in minor increases to visual impacts, and that additional setbacks would not be required. The project's Development Consent prescribes minimum setback distances that must be achieved for solar farm infrastructure of between 210m and 1.8km. The closest dwelling R1a is located 80m from the legal site boundary but would be separated from the development by Benambra Road, roadside vegetation, a small paddock left for horse agistment, 50m of

Issue raised	Submission ID	Detail of issue	Proponent's response
			screening vegetation, a 10m APZ and at least 5m additional from the security fence to the panels (approximately 210m overall). Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.
	SE-29234829 SE-29587727 SE-29595037 SE-29611465	- Concerns about the progress of tree screening around the development. - Concern that the vegetation buffer in the vicinity of the substation should be planted prior to construction of the substation. - A request that construction of the development should only commence once the trees have reached maturity.	Planting schedule A Landscape Management Plan (LMP) is currently being finalised in consultation with adjacent neighbours to provide the detail for implementation and management of vegetation buffers. The LMP is based on local planting guidelines as provided in Appendix A. The Proponent has undertaken further consultation on the LMP with the local Landcare group and a local nursery to seek endorsement of species selection and vegetation buffer establishment (refer Appendix B). The draft LMP was endorsed and as a result the proponent considers that timing vegetation plantings for the most ideal climactic conditions, as opposed to the commencement of construction, will best meet the objectives of the LMP and provide the best long-term outcomes for the community in terms of visual screening. Therefore, the endorsed landscaping works schedule would be adhered to, with five months of site preparation in summer followed by planting in July 2022, to ensure the best possible health of plants within the vegetation buffer and effective future screening. Therefore, vegetation plantings will not be undertaken before construction commences on the substation. Preliminary site preparation earth works and fencing for the approved solar farm development are also likely to commence, subject to DPIE

Issue raised	Submission ID	Detail of issue	Proponent's response
			agreement, within the 6 months prior to planting of vegetation buffers. It is noted that these preliminary works are visually consistent with general agricultural activities within the setting. Additional visual mitigation To further minimise short term visual impacts from the substation the Proponent proposes to install shade cloth/mesh screening, blending with the surroundings, on perimeter security fencing and/or temporary construction security fencing in the vicinity of the vegetation screens associated with the substation until the planting is implemented in accordance with the LMP. During consultation on the proposed modification receiver R1 raised concerns regarding short term mitigation of visual impacts whilst on site vegetation screening is established. In consideration of these concerns, additional mitigation was offered to R1a and R1b. On-curtilage landscaping to provide greater visual mitigation were offered and is being considered by R1a and R1b. Details of consultation are provided in Appendix B. Additional assessment of the visual impact in the early years of the northern vegetation buffer establishment has been undertaken for users of Benambra Road and R1a. Holbrook Landcare and a local nursery were further consulted with (refer Appendix B) in an effort to estimate predicted growth rates of plantings. As plant growth rate is highly variable and dependent on seasonal conditions (also highly variable in this location), estimates of plant growth were not established due to concerns of high inaccuracy and unrealistic expectations.

Issue raised	Submission ID	Detail of issue	Proponent's response
			Photomontages are provided in Appendix C showing the northern vegetation buffer from Benambra Road/R1a in varying stages of growth following the installation of the solar arrays, with increased panel heights. Whilst it cannot be accurately stated when these growth stages will be realised, it is anticipated that these images reflect the potential growth stages that could be experienced during the early years of growth, and further demonstrate mitigation of visual impacts in this time. In response to these concerns, it is proposed to modify consented mitigation measures as follows: • Install and maintain shade cloth screens in the vicinity of the substation during construction until vegetation screen planting has occurred in accordance with the LMP.
Confidence in design	SE-29234829 SE-29587727 SE-29595037 SE-29599041 SE-29582786 SE-29609378	Concerns regarding detailed design. • The justification for changing panel products and increasing heights. • Concern that the proposed Modifications did not form part of the original development application. • The accuracy of information regarding the project's nameplate capacity of 300MW. • The accuracy of the substation concept design relating to pole heights.	Panel changes The proponent acknowledges concern from the community regarding justification for the proposed increase in panel height, and why the increase in panel size did not form part of the original development application. The Proponent is committed to the use of the best available technology for the project. Since the time that consent for the project was provided, more efficient panels have become available and are now considered the 'industry norm'. As discussed in Section 2.3, the Modification would not change the nameplate capacity of the project. The project currently has an agreement with TransGrid to supply a maximum of 300MW of

Issue raised	Submission ID	Detail of issue	Proponent's response
		- The justification for constructing the substation ahead of the solar farm. - Risks associated with the solar farm not proceeding once the substation is constructed.	renewable energy to the grid. The project, as approved, is able to produce 300MW of renewable energy during optimal weather conditions, however it's maximum generating capacity is very close to its nameplate capacity of 300MW. This means that during suboptimal weather, during mornings, evenings or winter months, the project may not produce 300MW of renewable energy. Typically, these periods can be when customer demand for electricity increases. Whilst the project's maximum output would remain capped at 300MWac, the Modification would result in an increase to the peak MWdc generating capacity of the project. This would result in the project reaching its nameplate capacity of 300Mwac for longer periods of time. This would benefit the community by providing a more stable supply of renewable electricity. Substation pole height changes As is accepted practice, a concept design by TransGrid was utilised for the planning approval. Subsequent detailed design established the need for increased pole height to meet the relevant Australian standards. Substation Construction Access Confirmation of timing for the scheduling of the Substation construction was not possible prior to project approval. Revised timing is in keeping with TransGrid's capacity to finalise, approve and schedule completion of this project alongside other competing grid applications and construction requirements.

Issue raised	Submission ID	Detail of issue	Proponent's response
			Solar farm completion The substation will not be constructed in isolation to the solar farm; construction of the substation will not commence without the wider solar farm approvals and financing being secured. Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.
Traffic and safety	SE-29234829 SE-29595037 SE-29587727 SE-29609378 SE-29582786 SE-29595064	Concerns over safety impacts in relation to the additional vehicle movements along sealed and unsealed sections of Benambra Road during construction of the substation. SE-29587727 commented that Benambra Road should be sealed by the Proponent as part of the Modification consent.	Traffic numbers and road capacity The Walla Walla Solar Farm Project Traffic Impact Assessment (Ontoit 2019) prepared for the EIS estimated existing traffic volumes for Benambra Road west of Weeamera Road to consist of an average 134 one-way vehicles per day. 13 of these movements were estimated in daily peak periods, with 5 of those in the AM peak. Of the 134 average daily movements, 15 are by heavy freight vehicles. As per the Traffic Impact Assessment prepared for the Modification Report, it is anticipated that the proposed modification will require up to 15 light vehicles and 10 heavy vehicles to attend the substation site per day during peak construction stages. Therefore the proposed modification would result in up to 50 additional one-way vehicle movements per day along this stretch of Benambra Road, west of Weeamera Road. The majority of these construction vehicle movements would occur during either the AM and PM peak. A potential high traffic scenario, for a temporary peak construction stage, could involve an additional 35 vehicle movements in the AM peak. This could arise as a result of all 15 light vehicles arriving at site

Issue raised	Submission ID	Detail of issue	Proponent's response
			for the day as well as 10 heavy vehicle deliveries (20 heavy vehicle movements). During peak construction periods this estimated daily average traffic volumes could increase from 134 to 184 vehicle movements, with AM peak period movements increasing from 5 to 40. The unsealed section of Benambra Road has sufficient operational capacity (600 vehicle movements) to safely cater for the proposed temporary construction traffic and the small volume of operational traffic (as previously assessed). A Traffic Management Plan (TMP) will be implemented in consultation with bus operators, Greater Hume Shire Council, Hurricane Hill Quarry and residents. Road condition The Development Consent requires the Proponent to assess the condition of Benambra Road prior to construction, and repair any project-related damage following construction. The Development Consent also requires the Proponent to prepare a TMP which details how it will respond to any emergency repair or maintenance requirements during the construction period. Hume Shire Council has considered, but not requested Benambra Road be sealed for temporary substation construction access. Therefore, no changes to the proposal or mitigation measures are proposed in response to these concerns.
Traffic dust	SE-29234829	Concerns over dust impacts in relation to the additional vehicle movements along	Dust suppression is an existing requirement and commitment of the wider project to prevent air pollution. All related management plans

Issue raised	Submission ID	Detail of issue	Proponent's response
	SE-29595037 SE-29587727 SE-29609378 SE-29582786 SE-29595064	the unsealed section of Benambra Road during construction of the substation.	and mitigation measures will apply to the unsealed section of road to prevent air pollution. A water cart will be utilised for dust suppression during construction integrated with the TMP. Other dust suppression technologies may be considered during development of plans. Two residences, R1 and R2, are located along the unsealed section of Benambra Road. Therefore, no changes to the proposal or mitigation measures are proposed in response to these concerns.
Consultation process	SE-28951960	- Concern that the Modification Application was only made available online. - There was a limited timeframe for public submissions - Exhibition timeframe was falsely announced by local media.	The Proponent understands that exhibition timeframes are prescribed by the <i>Environmental Planning and Assessment Regulation 2000</i>. It is noted that the modification's exhibition period was in accordance with statutory timeframes and requirements. The Proponent also understands that online exhibition and submission was required in order to comply with public health orders associated with the COVID-19 pandemic. To support the Exhibition period, the Proponent provided notification to all members of its community database, a channel promoted to the community as a reliable source for updates on Project milestones and progress. Adjacent neighbours were also notified directly. The Proponent also sought to generate proactive media coverage in the local Border Mail to ensure residents that are not in direct contact with the Project team were still offered the opportunity to hear about the Exhibition period and respond. This media article included correct dates for Exhibition submissions. Therefore, no changes to the proposal or mitigation measures

Issue raised	Submission ID	Detail of issue	Proponent's response
			are proposed in response to these concerns.
Perceived conflict of Interest	SE-29395170 SE-29595037	Concern was raised over a potential conflict of interest due to the Proponent employing a previous employee of the NSW DPIE with roles in the previous assessment and determination of the approved Project.	The Proponent's employee commenced post project approval and is no longer employed by DPIE. The Project's initial development application was assessed and approved by both DPIE and the IPC in accordance with the EP&A Act and associated Regulation. It is noted that the IPC's process included a site visit, meetings with community members and a public hearing. Consent for the project was provided on the project's own merit. The Proponent cannot provide comment on any concerns regarding the integrity of DPIE's internal decision-making process. With the above in mind, it is not considered that there has been any conflict of interest, but the Proponent can appreciate these concerns. Therefore, no changes to the proposal or mitigation measures are proposed in response to these concerns.
Mental health impacts on neighbours	SE-29554223 SE-29236181 SE-29395170	These submissions raised concerns over the health impacts that the development and additional Modifications were having on neighbouring landholders.	The Proponent understands that development, and the development assessment process, creates uncertainty, concern, and challenges for stakeholders, particularly neighbours. The planning system provides a framework for consultation and input to identification of issues and assessment. The proponent has endeavoured to provide as much information to neighbours as possible and acknowledges that changes create some uncertainty. The proposed physical changes are permissible, and the development will not directly impact on environmental health. The

Issue raised	Submission ID	Detail of issue	Proponent's response
			impact assessment includes consideration of socio-economic impacts and community wellbeing. On an individual level this approach may not always address all concerns held by community members. The Proponent acknowledges and respects uncertainty and concern arising from consideration of changes posed by the development and remains committed to ongoing consultation to reduce uncertainty. The identification and consideration of mental health impacts from implementation of the planning process are largely outside the scope of considerations within the development assessment process. Therefore, no changes to the proposal or mitigation measures are proposed in response to these concerns.
Issues raised that have been previously addressed and/or unrelated to the scope of proposed modifications			
Bushfire Risk	SE-29421781	Concerns raised regarding bushfire risk.	The proposed modifications would not result in an increase to bushfire risk associated with the development. The solar farm will be designed and operated in accordance with all bushfire requirements of the existing consent conditions, including the development of an Emergency Response Plan in consultation with Fire and Rescue NSW and the Rural Fire Service. Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.
Loss of prime agricultural	SE-29421781	Submissions raised concerns that the proposal could impact agricultural	The proposed modification would not result in any additional impact to agricultural land or production other than those that have been

Issue raised	Submission ID	Detail of issue	Proponent's response
land	SE-29234829 SE-29234829 SE-29587727	production as some respondents considered the site fertile and as having agricultural value.	previously assessed and approved. DPIE and the IPC previously found that the Proposal would not reduce the potential agricultural productivity of the Development Site and would not impact production on neighbouring properties. The Assessment Report stated that the Department is satisfied that the project would not result in any significant reduction in agricultural productivity of the region. Additionally, the site would be considered for use as an agrisolar facility during operations, with appropriate planning approvals in place, and returned to agricultural production following decommissioning. It is noted that some submissions supported the mixed use of marginal land and recognised that the agricultural land classification is not changed due to the project and that grazing is maintained during the solar farm operation. Therefore, no changes to the proposal or mitigation measures are proposed in response to these concerns.
Health impacts	SE-29234829	Raised concern about health impacts from Electro Magnetic Radiation.	There would be no additional impacts from Electric Magnetic Fields (EMFs) associated with the modification. As assessed in the EIS, EMFs consist of electric and magnetic fields and are produced whenever electricity is used. EMF sources will be contained within the proposal. Typical and maximum EMF levels for these types of infrastructure are expected to be low. Adverse health impacts from EMFs are therefore unlikely as a result of the project (refer EIS Section 7.4.4).

Issue raised	Submission ID	Detail of issue	Proponent's response
			Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.
Foreign Ownership	SE-29554223	One submission raised concern over foreign owned companies influencing assessments.	Following acquisition of the project from Bison Energy, FRV has maintained ownership of the project. FRV has progressed the project through development approval and is now proposing the subject modification. FRV is a well-established company, having been active in Australia since 2010. FRV currently has 5 operational solar farms nationally, an additional 3 under construction and over 1 GW of renewable energy within its development pipeline in NSW. Current Australian policy such as the Commonwealth Renewable Energy Target (RET) and the NSW Climate Change Policy Framework, are designed among other goals, to attract investment for the renewables sector. There are laws and regulations governing foreign investment in Australia, including the <i>Foreign Acquisitions and Takeovers Act 1975</i> (FATA) (Cwth). In accordance with FATA, FRV has received approval from the <i>Foreign Investment Review Board</i> to proceed with the development. The project would provide state and local benefits to the community through: • Stimulation of the job market by providing additional work opportunities during the construction stage and therefore triggering a flow on effect into the local economy. • Providing rental income for the local landowner(s) on which the

Issue raised	Submission ID	Detail of issue	Proponent's response
			farm will be located. Contribution to cheaper power throughout Australia by increasing competition in the National Energy Market and thereby driving down prices; being solar the cheapest form of new electricity generation currently. Refer to Section 1.2.4 of the EIS for more details. No changes to the proposal or mitigation measures are proposed in response to this concern.
Temperature increases and radiant heat effects	SE-29421781 SE-29595037 SE-29609378	These submissions raised concerns over temperature increases associated with a potential "heat island effect" due to the solar array. One submission raised concern over the reduced spacing between panels increasing heat that would be blown onto neighbouring properties.	The modification would not result in any additional significant impacts to the micro-climate or ambient air temperatures. While peer reviewed studies have shown that solar panels can cause a slight increase to air temperatures directly above a solar array, the increase is minor, is localised and does not significantly affect ground temperatures. As referenced in the EIS, a study commissioned by Greater Shepparton Council 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. The study found that changes to air temperatures would be negligible within 30m of the development footprint, and that any impacts would be further reduced once vegetation screening at the project boundary became effective. No changes to the proposal or mitigation measures are proposed in response to these concerns.

Issue raised	Submission ID	Detail of issue	Proponent's response
Site selection and justification	SE-29395170	One submission objected to the site selection.	The proposed modification has not altered the location of the approved project. No changes to the proposal or mitigation measures are proposed in response to this concern.
Substation location	SE-29625922 SE-29625935 SE-29236181	Submissions objected to the location of the substation.	The proposed modification does not alter the approved location of the substation. Visual impacts from the changes in pole height are assessed. No changes to the proposal or mitigation measures are proposed in response to this concern.
Disposal of panels upon decommissioning and construction waste.	SE-29234829 SE-29421781	Two submissions expressed concern over construction waste and how solar panels may be recycled during decommissioning.	The proposed changes do not alter the approach to or impacts of waste management and recycling. In accordance with consent requirements a Decommissioning Plan will be approved within 3 years of operation. It is noted that solar array infrastructure is comprised of largely valuable and recyclable materials including aluminium, copper, silicon, and glass and would be largely reused or recycled following decommissioning. Opportunities for local recycling of panels during the future decommissioning stage of current projects are being developed as per the recent announcement of a semi-automated solar panel recycling plant in Wagga Wagga supported by funding from the NSW EPA Circular Solar Trials program. Therefore, no changes to the proposal or mitigation measures

Issue raised	Submission ID	Detail of issue	Proponent's response
			are proposed in response to this concern.

4.2 Agency advice

No objections were raised by NSW government agencies. This section summarises and considers all issues raised in the government agency advices.

Table 4-2 Agency submissions and Proponent's response

Issue	Detail/summary of issue	Proponent response
Greater Hume Council		
Visual	Council would like to see planting that was to occur to screen the substation brought forward to align with the commencement of the construction of the substation. This is to ensure that planting is not lagging to far behind the development.	The conditions of consent currently require the Proponent to undertake all vegetation plantings prior to construction. As part of the Modification, the Proponent is seeking flexibility in the implementation of the vegetation buffer. Following consultation with local Landcare groups and nurseries, a timeline has been adopted for landscape screening based upon seasonal conditions, in order to maximise the survival and growth rate of plants within the vegetation buffer. This timeline recommends preparing the land by deep-ripping of soil and spraying for pests between Summer and Autumn, with plantings recommended in July. Whilst it is feasible for the Proponent to undertake plantings prior to July, it is considered that expediting plantings would undermine the intent of condition 11 of Schedule 3 of the development consent. The less than optimal growing conditions could limit growth rates and may reduce the density of planting and

Issue	Detail/summary of issue	Proponent response
		impact the efficacy of the vegetation buffer as a visual tool. The proponent considers that timing vegetation plantings for the most ideal growing conditions, as opposed to the commencement of construction, will provide the best long-term outcomes for the community in terms of visual screening. In response to these concerns it is proposed to modify consented mitigation measures as follows: • Install and maintain shade cloth screens in the vicinity of the substation until vegetation screen planting has occurred in accordance with the LMP.
Transport	Council requires that all transport conditions be applied to align with the commencement of the substation this includes the preparation of the traffic management plan and the dilapidation surveys.	The TMP, where relevant to the substation stage of construction and including dilapidation surveys, will be developed, and implemented prior to the commencement of the substation construction. Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.
Heritage NSW		
Heritage	Heritage NSW notes that the proposed modifications do not relate to Aboriginal cultural heritage and as such, there would be no change to impacts, and no additional mitigation measures are required.	No changes to the proposal or mitigation measures are proposed in response to this concern.
DPIE- Crown Lands		

Issue	Detail/summary of issue	Proponent response
Crown road	There is a Crown Public Road within the proposed development area. The Crown Public Road has an Enclosure Permit. Please refer to the attached map, where the Crown Public Road with the Enclosure Permit is shown in purple, and the proposal area is shown in a green hatch. Any Crown Road required for access to the development/proposal, will need to be transferred to Council, or application made to close and purchase the road. As authority to access or use Crown roads is required prior to the commencement of any works or access, and to avoid any delays for the proposal, a tenure may be required in the interim.	The proposed modification does not impact the Crown Public Road. The Crown Public Road is immediately adjacent but outside the project site and will not be used for access. The reserve is currently utilised by a neighbour under agreement with Crown Lands. Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.
DPIE – Biodiversity and Conservation Division		
Biodiversity impacts	Biodiversity impacts have not been assessed or approved within the Benambra Road reserve. It is recommended the proponent provide evidence that any vegetation to be impacted has been surveyed according to the Biodiversity Assessment Method (BAM), and is either not native, or matches one of the vegetation zones assessed for the BDAR. Any impact to native vegetation or threatened species habitat should be assessed according to the BAM.	The proposed modifications do not include clearing of native vegetation within the Benambra Road reserve, beyond the approved operational access for the substation. Native vegetation in the road reserve in the vicinity of the access, as established by the Biodiversity Development Assessment Report accompanying the EIS, is shown in Figure 4-1. Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.

Issue	Detail/summary of issue	Proponent response
Transport for NSW		
Road safety	The proposed changes do not represent any changes that are considered to have a detrimental effect on the classified road network, particularly the intersection of Benambra Road with the Olympic Highway. Accordingly, Transport for NSW raises no objection to the amendment detailed in NGH's correspondence dated August 2021. Note that the transportation of the substation facility may require special approvals for Over-size and Over-mass vehicles to allow for its transportation to the development site. TfNSW emphasises the need to minimise the impact of development on the existing public road network and maintain the level of safety, efficiency, and maintenance along the road network. TfNSW highlights that in determining the application it is the consent authority's responsibility to consider the environmental impacts of any road works which are ancillary (proposed or deemed necessary) to the development. This may include the need for further environmental assessment for any ancillary road works.	Noted. No changes to the proposal or mitigation measures are proposed in response to this concern.
NSW Environment Protection Authority		

Issue	Detail/summary of issue	Proponent response
Environment Protection Licence	The proposal does not appear to require an environment protection licence under the NSW <i>Protection of the Environment Operations Act 1997</i> (POEO Act). Furthermore, the EPA understands that the proposal is not being undertaken by or on behalf of a NSW Public Authority nor are the proposed activities other activities for which the EPA is the appropriate regulatory authority. In consideration of these factors, the EPA has no comments to provide on this project and no follow-up consultation is required.	Noted. No changes to the proposal or mitigation measures are proposed in response to this concern.

Responses to Planning NSW's post exhibition queries are provided in Table 5-3.

Table 4-3 Planning NSW queries

Detail/summary of issue	Proponent response
DPIE – Planning NSW	
What further mitigation measures are available to reduce increased visual impacts to R1.	The addendum visual impact assessment established a small increase in visibility of the solar arrays from R1 from the increased panel height. The proponent has consulted with landscape architects and nearby nurseries (refer Appendix B) to explore the possibility of planting fast growing shrubs into raised soil mounds (bundling) to expediate visual minimisation of the solar farm. Following these investigations, it was considered that this approach would not result in optimal long-term outcomes for visual screening, as use of bunding would result in unsustainable heat and moisture stress, and poor drainage impacts on trees. Appropriate planting, of species, timing and maintenance, in accordance with an approved LMP (currently being finalised after endorsement by Holbrook Landcare and the local nursery) is considered to provide more certain outcomes for visual amenity and will result in the highest likelihood of healthier plants that efficiently and sustainably achieve visual screening of the solar farm over the long-term. The Proponent will commit to the utilisation of shade cloth/mesh screening in conjunction with the perimeter security fence. This screening would remain in-situ for the duration of the construction period and whilst vegetation buffers become established. In response to this concern, it is proposed to modify consented mitigation measures as follows: • Install and maintain shade cloth/mesh screens in the vicinity of the substation and R1 until vegetation screen planting has occurred in accordance with the LMP.
Provide further context into the miscalculation of setback distances of the substation	As part of the Modification, the proponent is seeking to correct a setback distance listed in the conditions of consent, which incorrectly states that all solar farm infrastructure would be set back from receiver R2 by a distance of 930m (condition 5 of Schedule 2). The proponent accepts that information regarding setback distances from R2 during the development application process has been inconsistent, and understands that this may have caused some confusion regarding the distance between the proposed substation location and R2. These inconsistencies have largely arisen due to varying measurements, such as distance from the

Detail/summary of issue	Proponent response
infrastructure to receiver R2.	legal boundary, distance from the development footprint, distance from the solar array and distance from the substation. In an RFI dated 27 April 2020, the Proponent describes the setback distance of solar farm infrastructure from R2 as being 920m. This measurement was mistakenly provided in the context of the solar array and inverters, and not in relation to the substation. Before DPIE referred the development application to the IPC, it provided FRV with the opportunity to comment on draft conditions of consent. In DPIE's draft conditions, minimum setback distances from nearby receives had not been included. It is noted that condition 5 of Schedule 2 was included by the IPC following its assessment of the project. It appears that the IPC did not provide FRV with the opportunity to comment on its draft conditions prior to determination. For this reason, FRV did not have any opportunity to review setback distances and correct the inaccuracy. In its meeting with the Proponent, the IPC queried the distance of the substation from R2. At that time, FRV indicated to the IPC that the correct distance between R2 and the substation was approximately 900m (Page 9 of the transcript). Whilst the proponent accepts that the information provided has been confusing, it would clarify that the location of the substation is not proposed to change from its approved location. Additionally, it has always been understood by the Proponent that the substation could not be constructed at a distance of 930m from R2. Not only would this place the infrastructure on top of APA's high pressure gas pipeline, it would also place the substation at some distance past the proposed transmission tower which would form the point of connection with the electrical grid. Therefore, no changes to the proposal or mitigation measures are proposed in response to this concern.



Figure 4-1 Native vegetation within Walla Walla Solar Farm and Benambra Road (along northern boundary). *Source: Figure 3-1, Walla Walla Solar Farm BDAR (NGH 2020)*

5. Conclusion

5.1 Submission issues raised

Submissions were received from members of the public and government agencies. DPIE received a total of 73 submissions via the major projects planning portal.

- 67 submissions were received from members of the public.
 - 48 supported the proposal,
 - 18 objected, and
 - one comment was received.
- Six agencies provided advice with no objections.

The majority of public submissions, 48, support the project, including comments on:

- Provision of renewable energy for future generations.
- Encouraging investment and growth within the area.
- Benefits to the local community.
- Improve infrastructure and provide jobs for the local community.
- Benefits of the project far outweighing any impacts from the modification.
- Location sufficiently distant from the town of Walla Walla.
- Transport routes would not be significantly impacted by the modification.
- Precautions have been undertaken to mitigate impacts to local landholders.
- The modification is reasonable and necessary.

The following concerns have been summarised from the 18 objections in relation to potential changes to impacts as a result of the proposed modification.

- Visual impacts caused by the increase in height to the solar array and transmission poles, particularly on neighbouring properties.
- Increased glare impacts due to the increased size of the solar panels.
- Provision of additional setbacks for neighbouring landholders.
- Progress of tree screening around the development.
- Planting of the vegetation buffer in the vicinity of the substation prior to construction of the substation.
- Requesting trees are mature before construction commences.
- Detailed design of the solar farm and substation and construction planning.
- Safety impacts in relation to the additional vehicle movements along sealed and unsealed sections of Benambra Road during construction of the substation
- Dust impacts in relation to the additional vehicle movements along the unsealed section of Benambra Road during construction of the substation.
- The consultation process.
- Mental health impacts as a result of the development process and changes.

The concerns raised by the 18 objections have been acknowledged and addressed in this report.

The following additional mitigation measure is proposed to further address visual impacts:

- Modify consented mitigation measures to install and maintain shade cloth/mesh screens in the vicinity of the substation and R1 during construction.

5.2 Justification for the proposal

The benefits of the Project remain unchanged. The Proposal would enable the approved Project to achieve numerous stated benefits including:

- Supporting Commonwealth and NSW climate change commitments.
- Enhancing electricity reliability and security by contributing 300MW of clean energy to the national grid and supporting the energy transition from coal fired to renewables.
- Substantial investment into the regional economy, including direct and indirect employment opportunities during all phases of the proposal, including around 250 construction jobs during the peak construction phase and around 21 equivalent full-time jobs once the proposal is operational.
- Investment of about \$399 million in capital expenditure in total.
- Development of a new land use thereby diversifying local land uses within the locality and offering host landholders an alternative income stream.

In consideration of the assessment of the impacts from the EIS and the proposed Modification, it is considered that the proposal offers a number of significant benefits and can be constructed with minimal impact to the existing environment.

Appendix A Adopted planting guidance



REVEGETATION



Site preparation for tube stock

SPRING
SUMMER
AUTUMN
WINTER
SPRING

Spray out exotic perennial pasture

- If you are planting in perennial pasture dominated site, spraying the site the Spring prior to planting is the ideal preparation, and you may then only require one spray in Autumn

Order plants

- Order plants early to guarantee supply of desired species
- Consult with your local nursery and the "Southwest Slopes Revegetation Guide" (online at www.holbrooklandcare.org.au) for appropriate plants for your area

Control rabbits and hares at site and surrounds

- Coordinate with neighbours if necessary, deal with burrows and surface dwelling rabbits
- Avoid the need for labour intensive and expensive tree guards

Ripping—where appropriate

- Rip before the Autumn break, while the ground is hard and dry to get deep shattering of the soil
- Rip lines should be spaced a minimum of 4 metres apart and at least 40cm deep
- Do not rip under the drip-line of existing trees, through wet areas or where there is erosion hazard

Crash graze/slash grass and spray rip lines before frosts, but about 10 days after rain

- Seek appropriate agronomic advice on sprays and rates of chemical
- Spray rip lines only —broad scale spraying of site not recommended
- If no rip lines, spot herbicide application 1 square metre per plant

Re-spray one month prior to planting if required

- Only non-residual herbicides are recommended for use
- If no chemicals to be used, consider slashing/grazing again

Plant seedlings mid July to September

- For 400 plants per ha, plant every 6 m for rip lines that are 4m apart
- For 600 plants per ha, plant every 4 metres for rip lines 4m apart

Check for vermin or stock damage first week after planting

- Inspect for vermin such as rabbits, hares and act on any specific problems
- Check that there is no stock entry to plantation

Check plants regularly post-planting

- Watch and act on weed regrowth through Spring and early summer.
- Monitor insects such as grasshoppers, Rutherglen bugs etc. Spot spraying may be undertaken if necessary
- Damage can be caused by frost, birds, kangaroos and wombats
- Remember to shut the gate on the way out!!




74 Albany St (PO Box 121) Holbrook NSW 2644
 T 02 6036 3181 F 02 6036 3183 E office@holbrooklandcare.org.au
www.holbrooklandcare.org.au



REVEGETATION



Ripping

Before ripping, landowners should contact Dial-Before-You-Dig to check the location of utilities.

- Ripping should be done when the profile is dry to shatter the soil (not slice) and reduce the risk of air pockets forming, especially in clay soils.
- Rip lines should be spaced 4 metres apart, and at least 40cm deep.
- If the rip has resulted in air spaces, running a tractor wheel or cultivating over the rip line may be appropriate.



- On undulating or hilly land, rip lines should be along the contour to minimise soil erosion.
- Mounding may be recommended in specific soil types, especially sites prone to waterlogging, but it is the exception rather than the rule.

When is ripping NOT appropriate?

Native grass sites—If planting is appropriate at all, then native grass areas should be direct seeded to prevent disturbance and the invasion of weeds.

Steep Land— slopes must be safe to work on and the appropriate equipment used. If accessible, rip on the contour. Choose appropriate equipment (eg. bulldozer rather than tractor).

Erodible lands— sites with existing active erosion, erodible soil types (including subsoil) or at risk of sheet erosion. Rip lines can catch and redirect water if not designed properly. Seek advice before ripping in erosion prone areas.

Spraying

- The area covered by herbicide spraying should be no wider than 50cm along either side of the rip line.
- If weed regrowth is excessive, over spraying with some chemicals is possible at certain times of the year when the plants are dormant. Consult with your nursery or professional for advice.

What if I don't want to use chemicals?

Site preparation is about reducing the competition for moisture, light and nutrients for the seedling, and this can be achieved in other ways.

- Reduce the biomass**—slashing or using grazing to knock down the grass load.
- Scalping** (taking the top 1-2cm of soil off) the planting site may be appropriate in sites with low erosion risk. As you are scraping off the nutrients present in the top layer, there is usually some residual effect before regrowth occurs. Scalping over large areas is not recommended, except under VERY specific circumstances (eg sheep camp restoration).

Tree Guards?

Advantages

- Can provide protection from rabbits and hares where control difficult
- Can provide protection from frost

Disadvantages

- Significant cost per unit
- Significant labour cost to install
- Require maintenance and eventual removal



Watering?

Good site preparation and the timing of planting in late Winter/early Spring is recommended to eliminate the need for watering over the first Summer.

Assessing losses— Vegetation growth in the first Spring can often make it difficult to see the plants. Assess the site properly before making a decision. We recommend to wait until the end of the second or third Spring to assess for replanting UNLESS there has been a specific grazing incursion or insect attack.

For more information please contact Holbrook Landcare Network

Phone: (02) 6036 3181 Mobile: 0418 198 522
 Email: kylledurant@holbrooklandcare.org.au
<http://www.holbrooklandcare.org.au/bushlinks>

Appendix B Consultation

Table B-1 Consultation following exhibition of Modification Report

Stakeholder	Summary of consultation undertaken following exhibition of Modification Report	Outcomes
Adjacent Landholders	Additional consultation over the phone and by email to discuss mitigation measures proposed for the modification, and for the project generally.	Adjacent landholders have not accepted offers of any additional mitigation measures. FRV has left open these offers to be accepted at any time.
Spiire Landscape Architects	3 November 2011 telephone discussion regarding planting into mounds	Discussed likelihood of heat and moisture stress. Suggested more issues from creating 'head start' than likely benefits.
Jayfields Nursery	27 October 2021 telephone discussion regarding planting into mounds, followed up by email provision of details (27 and 29 October 2021). 3 November 2021 telephone discussion regarding planting into mounds. 11 November 2021 email requesting comments on draft Landscape Management Plan. 22 November 2021 telephone discussion and email requesting information on likely growth rates of plant species. 23 November 2021 discussion on LMP.	- Raised concerns regarding soil drainage and temperatures and risks associated with deviating from established local planting guides. This locality experiences high temperatures, severe frosts and regular dry periods. Likely to impact plant survival in short term and not change long term screening outcomes. - Cannot provide growth estimates for species due to climatic and maintenance variables. - Tubestock planting will outgrow advanced tree plantings within 2-3 years. - LMP plant spacings less than the local guides, but understand intent for screening rather than forestry/siviculture. Otherwise "all good".
Holbrook Landcare Network	Note: Holbrook Landcare network endorsed the draft Landscape Management Plan in June 2021 prior to submission of the Modification Report.	FRV has adopted a planting schedule based upon advice from Landcare.

Stakeholder	Summary of consultation undertaken following exhibition of Modification Report	Outcomes
	Following submission of the Modification report, FRV undertook additional consultation with Landcare regarding planting into mounds and estimating plant growth rates.	
Greater Hume Council	Further consultation undertaken with Council regarding concerns raised in their submission on landscaping for the project.	FRV provided information from Landcare concerning the approach to timings for the vegetation plantings.

Appendix C Benambra Road vegetation buffer growth stage photomontages



Figure C-1 Benambra Rd (at R1) existing view



Figure C-2 Benambra Rd (at R1) proposed modification superimposed view no screening



Figure C-3 Benambra Rd (at R1) proposed modification superimposed with vegetative screening Stage 1 - large trees growth at 1m high by 0.5m wide



Figure C-4 Benambra Rd (at R1) proposed modification superimposed with vegetative screening Stage 2 - large trees growth at 2m high by 1.5m wide



Figure C-5 Benambra Rd (at R1) proposed modification superimposed with vegetative screening Stage 3 - large trees growth at 3m high by 2m wide