

Statement of Environmental Effects



Sams Solar 5.846 MWp and 4.90 MW (AC) Solar Farm ancillary to and Co-located with the Baiada Poultry Processing Plant

9 and 89 Murphy Road, Hanwood

(Lot 162 DP751709, Lot 2 DP1178211 and Lot 2 DP808077)



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Glossary of terms

<i>AHD</i>	Australian Height Datum
<i>AHIMS</i>	Aboriginal Heritage Information Management System
<i>ANZECC</i>	Australian and New Zealand Environment and Conservation Council
<i>Applicant</i>	Sams Solar
<i>Applying SEPP 33</i>	<i>Applying SEPP 33: Hazardous and Offensive Development Application Guidelines</i> (Department of Planning, 2011a)
<i>Approved Methods</i>	<i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW</i> (NSW EPA, 2016)
<i>AS</i>	Australian Standard
<i>BC Act</i>	<i>Biodiversity Conservation Act 2016</i>
<i>BCA</i>	Building Codes of Australia
<i>CBD</i>	Central Business District
<i>CLM Act</i>	<i>Contaminated Land Management Act 1997</i>
<i>DA</i>	Development Application
<i>DP</i>	Deposited Plan
<i>DPI</i>	Department of Primary Industries (NSW)
<i>DPE</i>	Department of Planning and Environment (NSW)
<i>EEC</i>	Endangered Ecological Community
<i>EES Group</i>	Environment Energy and Science Group within the Department of Planning and Environment
<i>EP&A Act</i>	<i>Environmental Planning and Assessment Act 1979</i>
<i>EP&A Regulation</i>	<i>Environmental Planning and Assessment Regulation 2021</i>
<i>EPA</i>	Environment Protection Authority (NSW)
<i>EPBC Act</i>	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<i>EPIs</i>	Environmental Planning Instruments
<i>FRNSW</i>	Fire and Rescue NSW
<i>ha</i>	hectares
<i>ICNG</i>	Interim Construction Noise Guideline
<i>kg</i>	kilogram
<i>kL</i>	kilolitres
<i>km</i>	kilometres
<i>km/hr</i>	kilometres per hour
<i>L</i>	litre

<i>LAeq</i>	Equivalent continuous sound level
<i>LEP</i>	Local Environmental Plan
<i>LGA</i>	Local Government Area
<i>LoS</i>	Level of Service
<i>m</i>	metres
<i>MNES</i>	Matters of National Environmental Significance
<i>MRV</i>	Medium Rigid Vehicle
<i>HRV</i>	Heavy Rigid Vehicle
<i>NML</i>	Noise Management Level
<i>NPfI</i>	Noise Policy for Industry (EPA, 2017)
<i>NSW</i>	New South Wales
<i>OSD</i>	Onsite detention
<i>POEO (Waste) Regulation</i>	<i>Protection of the Environment Operations (Waste) Regulation 2014</i>
<i>POEO Act</i>	<i>Protection of the Environment Operations Act 1997</i>
<i>RBL</i>	Rating Background Level
<i>RL</i>	Reduced level
<i>RNP</i>	Road Noise Policy
<i>Roads Act</i>	<i>Roads Act 1993</i>
<i>SEPP</i>	State Environmental Planning Policy

Contents

Glossary of terms	3
1 Introduction	9
1.1 Background	9
1.2 The Applicant	10
1.3 Scope of the Report	10
2 The Site	11
2.1 Site Description	11
2.2 Surrounding Land Uses	13
2.3 Zoning and Permissibility	14
2.4 Topography, Hydrology Geology and Soils	14
2.5 Biodiversity	14
2.6 Surrounding Receivers	15
2.7 Development Approvals	16
3 Proposed Development	19
3.1 Proposal Overview	19
3.2 Proposal in Detail	19
3.3 Construction details	20
3.4 Operations	22
3.5 Surface Water Drainage	22
3.6 Solar Panel Replacement	23
4 Statutory Planning Approvals	24
4.1 Environmental Protection and Biodiversity Conservation Act 1999	24
4.2 Environmental Planning and Assessment Act 1979	24
4.3 Roads Act 1993	25
4.4 Water Management Act 2000	26
4.5 Biodiversity Conservation Act 2016 (BCA Act)	27
4.6 State Environmental Planning Policies (SEPP)	27
4.7 Griffith Local Environmental Plan 2014 (GLEP 2014)	32
4.8 Development Control Plans (DCP)	40
4.9 Community Participation Plan (CPP)	41
5 Consultation	42
5.1 Government Agency Consultation Outcomes	42
5.2 Neighbour Consultation	42
5.3 Consultation During Exhibition	42
6 Environmental Risk Assessment	43
6.1 Methodology	43
6.2 Impact Evaluation	43

6.3	Consequence Evaluation	43
6.4	Risk Assessment Matrix	44
6.5	Summary of Risk Assessment	44
7	Land Use Suitability	46
7.1	Introduction.....	46
7.2	Strategic Suitability.....	46
7.3	Loss of Agricultural Land.....	48
7.4	Potential for Land Use Conflict.....	49
7.5	Conclusion.....	49
8	Traffic Access and Parking	50
8.1	Introduction.....	50
8.2	Road Network.....	50
8.3	Proposed Traffic Impacts	50
8.4	Access into the Site from Murphy Road.....	51
8.5	Haulage Route During Construction	51
8.6	Mitigation and Management Measures	51
8.7	Conclusions.....	51
9	Soils and Water	52
9.1	Existing Environment	52
9.2	Conclusion.....	53
10	Aboriginal Cultural Heritage	54
10.1	Introduction.....	54
10.2	Legislation	54
10.3	AHIMS and Database Searches	55
10.4	Aboriginal Cultural Heritage Conclusions	56
11	Noise and Vibration.....	57
11.1	Introduction.....	57
11.2	Construction Period and Intensity	57
11.3	Sensitive Receivers.....	57
11.4	Construction Plant, Activities and Sound Power Levels	58
11.5	Mitigation Measures	60
11.6	Conclusions.....	60
12	Biodiversity.....	62
12.1	Introduction.....	62
12.2	Test of Significance	66
12.3	Mitigations Measures	68
12.4	Conclusions.....	68
13	Visual Impacts.....	69
13.1	Introduction.....	69

13.2	Receiver Locations.....	69
13.3	Overview of Visual Impact.....	70
13.4	Visibility from Surrounding Areas.....	73
13.5	Visual Impact.....	78
13.6	Mitigation Measures	79
13.7	Conclusion.....	79
14	Justification and Conclusion	80

Appendices

APPENDIX 1 – Site Plan

APPENDIX 2 – Infrastructure Plans

APPENDIX 3 – Landscape Plan

APPENDIX 4 – Glare Assessment

APPENDIX 5 – Geotechnical Assessment

APPENDIX 6 – Cost Estimate

APPENDIX 7 – Owners Consent

1 Introduction

1.1 Background

This Statement of Environmental Effects (SEE) has been prepared by SKM Planning Pty Ltd (SKM) on behalf of Sams Solar (the Applicant) to accompany an application for a local development application to be submitted to Griffith City Council (Council). This application seeks development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for a 5.846 MW (4.90 MWAC) Solar Farm to be used solely for the production of electricity for an existing large scale poultry processing facility operated by Baiada. The property is located approximately 700 south of Hanwood (refer to **Figure 1**) within the Griffith Local Government Area (LGA). The proposal is considered local development as the proposal is not in excess of \$5 million as per Schedule 6 of State Environmental Planning Policy (Planning Systems) 2021 and therefore Griffith City Council is the consent authority for the development. The Griffith City Council Solar Energy Farms and Battery Energy Storage Systems Policy does not apply to the development as the solar farm would be co-located and used for the sole purpose of producing electricity for the Baiada poultry processing facility.



Figure 1: Site Location

1.2 The Applicant

Sams Solar is an Australian company specialising in renewable energy including the development and operation of solar farms which are used as the primary or secondary source of electricity for large industrial, farming and commercial uses. Sams Solar would be installing the solar panel array for an on behalf of Baiada Enterprises Pty Ltd and Steggles Pty Ltd (the land owners) who would use the electricity to power their poultry processing facility at 9 Murphy Road, Hanwood. The existing facility uses a substantial amount of electricity sourced solely from Essential Energy's network. The proposal would be for electrical production behind the meter providing for the facility's electrical needs during the day. The facility would continue to require electricity from the Essential Energy network during the night-time periods.

1.3 Scope of the Report

This SEE has been prepared in accordance with Clause 50 and Part 1 of Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*. The report assesses the potential environmental, social and economic impacts of the development on the locality and broader region. The SEE has assessed the key potential impacts associated with the construction and ongoing operation of the site.

2 The Site

2.1 Site Description

The site comprises 40.1 hectares (ha) of E4 – General Industrial and RU1 – Primary Production zoned land located at 9 and 89 Murphy Road, Hanwood which is located around 450 km by road from Melbourne and 550 km from Sydney. The site is legally described as Lot 162 DP751709, Lot 2 DP1178211 and Lot 2 DP808077 and is presently used for the Baiada poultry processing facility and an orange orchard which has been removed to facilitate the expansion of the facility. The portion of the site to be utilised for the proposal has an area of around 6.5 ha, is void of any vegetation (regrowth vegetation in the former dam area on Lot 2 DP1178211 was removed recently and the orange plantings have been removed on Lot 2 DP808077). Lot 2 DP808077 contains a dwelling and two outbuildings which would be retained on site. There are two driveways which provide access to the existing dwelling and lot.

Due to the historical use of the site for intensive plant agriculture and industrial uses the site would be considered Category 1 – excluded land for the purposes of the *Local Land Services Act 2013* and the *Biodiversity Conservation Act 2016* (BC Act). No native vegetation would be impacted by the proposal.

The key features of the site are summarised in the table below:

Descriptor	Site Details
Land Configuration	<p>The development site is contained within the 40.1 ha land holding and covers an area of 6.5 ha of vacant land previously used for the growing of citrus and a former water storage dam.</p> <ul style="list-style-type: none">• Citrus Site: 5 ha on Lot 2 DP808077 to be used for solar panel arrays / infrastructure.• Dam Site: 1.5 ha within the former water storage dam on Lot 162 DP751709 to be used for solar panel arrays / infrastructure.
Local Context	<p>The site is located in a rural industrial precinct in close proximity to the Hanwood Village. The processing facility is located over Lot 162 DP751709 and Lot 2 DP1178211. The remainder of the site being Lot 2 DP808077, was purchased by Baiada for the expansion of the processing facility for ancillary infrastructure.</p>
Site Access	<p>Lot 162 DP751709 and Lot 2 DP1178211 gains access from Murphy Road (a sealed Council road) which connects to Kidman</p>

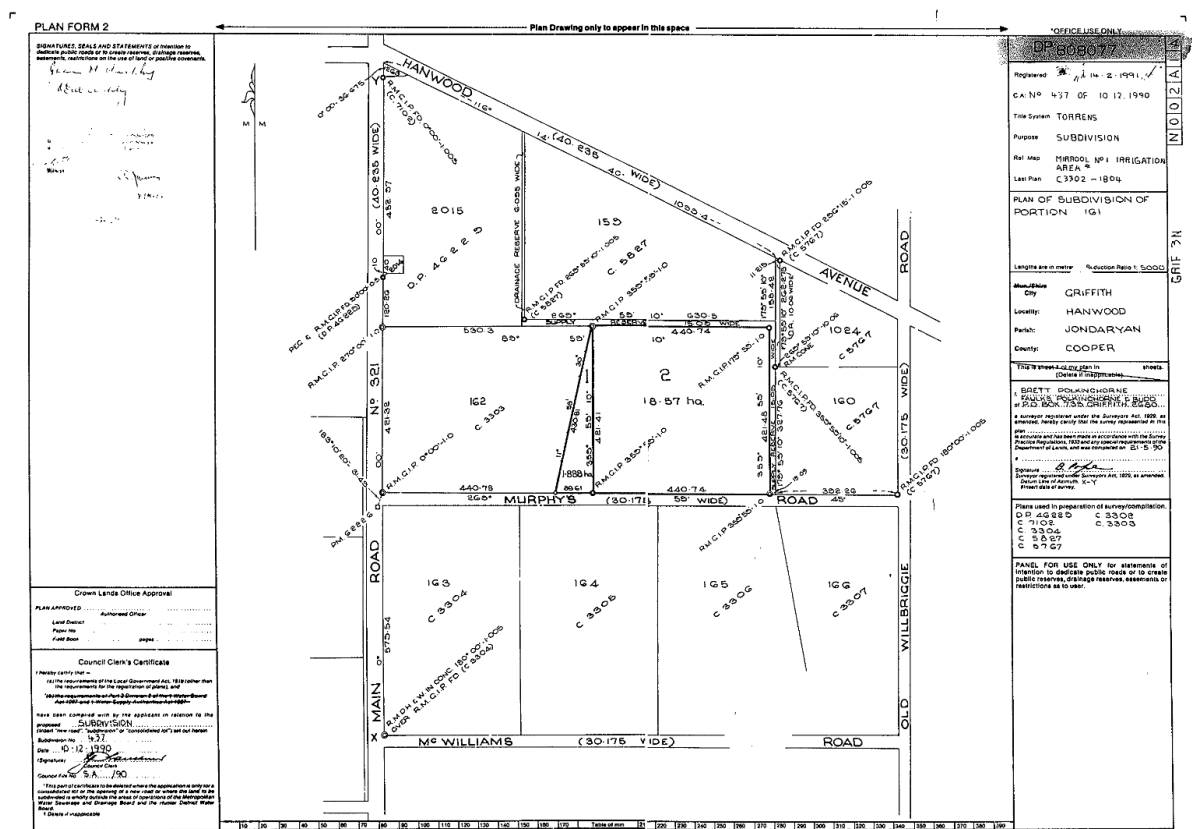
Way to the west which is a Classified Road under the control of TfNSW via a channelised intersection. Lot 2 DP808077 contains two driveways with access to Murphy Road.

Infrastructure		The site is connected to Murrumbidgee Irrigation's raw water through a channelised system. The site is connected to Essential Energy's infrastructure. A series of underground and overhead HV electrical lines are located throughout the site. Council's water network is connected to the site. The processing plant utilises a large-scale wastewater treatment plant located at 38 Mills Road, Hanwood.
Contamination		The site has historically been used for agricultural purposes. There are no known contaminants on site. A preliminary site investigation is not considered necessary as the proposed use is not sensitive in nature.
Stormwater flooding	and	The site is not mapped as being prone to flooding. The site discharges to an MI drainage channel in Murphy Road. The former dam on Lot 162 DP751709 was previously used for the storage of water to be used for the processing plant. Water collected in this area would be pumped out into the sites existing stormwater system which was approved under DA 214/2012 and 191/2023. Existing tile drainage would remain under the proposed solar panel array (Citrus Site) and continue to operate to drain water. Some additional tile drainage infrastructure would be installed to ensure the footings of the solar panels are not compromised by a fluctuating water table. A new sump has been installed to collect stormwater and water from the tile drainage system and discharge to the sites stormwater drain on the western boundary which discharges under Murphy Road to an MI drainage channel.
Bushfire Prone Land		The site is not mapped as being bushfire prone.
Flora and Fauna		The former Dam Site was filled with water until around 2010, at which time it was drained and Baiada did not utilise it for a water storage thereafter. Between 2010 and present, invasive species establishment and some regrowth occurred within this area which is visible from recent aerals. The vegetation has since been removed as existing and ongoing approvals for the area pertain to its ongoing industrial use. Essentially, the area was never shown

or reserved for landscaping or native vegetation retention under previous approvals and it was not considered that any approvals were required for the vegetation removal.

Aboriginal Heritage

The site has been extremely degraded by past industrial and agricultural practices including the construction of the former dam, installation of tile drainage and laser levelling. The likelihood of any aboriginal artefacts being unearthed during construction is very low. An AHIMS search has been carried out which found that no aboriginal sites or places are located within 1 km of the site.



- Truck depot to the south.
- Steggles store to the south.

Other uses in the locality consist of horticulture and viticulture uses and ancillary farm dwellings. The nearest dwelling to the solar panel array site is located to the north around 50 m from the proposed panels and separated by a supply channel with 3 m high vegetation. Another farm dwelling is located 250m to the south-east of the site.

The site is accessed via Murphy Road, a sealed Council road which connects to the Kidman Way at a channelised intersection presently being improved under DA 214/2012 and DA 55/2016 by Baiada through a Works Authorisation Deed (WAD) with TfNSW.

2.3 Zoning and Permissibility

A portion of the site, Lot 2 DP808077, is zoned RU1 Primary Production under the Griffith Local Environmental Plan 2014 and electricity generating works are prohibited in the zone.

electricity generating works means a building or place used for the purpose of—

(a) making or generating electricity, or

(b) electricity storage.

State Environmental Planning Policy (Transport and Infrastructure) 2021 permits electrical generating works on RU1 Primary Production lands even though the development is prohibited in the Griffith LEP.

The processing plant is zoned E4 – General Industrial under the Griffith Local Environmental Plan 2014 and electricity generating works are permissible in the zone.

2.4 Topography, Hydrology Geology and Soils

The land is relatively flat and drains to an MI drainage channel in Murphy Road. There are no natural watercourses lines within close proximity to the site. The area is within the Murrumbidgee Irrigation Area (MIA) which ensures a secure water source as part of the regulated allocation from the Murrumbidgee River.

The site geography is the Shepperton formation, being poorly consolidated clay, silt, sand and gravel. This formation is found throughout the Riverina between the Lachlan and Murray Rivers. The site is predominantly Class 3 LSC soils with moderate limitations.

2.5 Biodiversity

The proposed solar panel array would be located within two areas which have been laser levelled, worked up and planted citrus for several years and a former dam used previously used by the processing plant. The solar panel array site is void of any vegetation. No vegetation or habitat would be removed as part of the proposal.

The former Dam Site was filled with water until around 2010 at which time it was drained and Baiada did not utilise it for water storage. Between 2010 and present, invasive species and some regrowth occurred within this area which is visible from recent aerals. The vegetation

has since been removed as existing an ongoing approvals for the area pertain to its ongoing industrial use. Essentially, the area was never shown or reserved for landscaping or native vegetation retention under previous approvals and it was not considered that any approvals were required for the removal of the vegetation.

It is not expected that the proposal would impact on any fauna species. A more detailed assessment of potential biodiversity impacts is provided later in this report.

2.6 Surrounding Receivers

The nearest sensitive receiver to the site which is not part of the landowner's farm and industrial holding is located 50 m to the north of the site.

There are six dwellings not associated with the proposed development within 500m of the proposed development site. The map below illustrates the sensitive receivers in the locality.



Figure 3: Sensitive Receivers within 5km of site (source: Landchecker)



Figure 4: 1945 Aerial Image of the Site showing a cleared paddock

2.7 Development Approvals

- DA 214/2012 – Increase in processing capacity of an existing poultry processing plant to 1.5 million birds per week including a new wastewater treatment plant.
- DA 121/2015 – construction of a cold storage building
- DA 248/2015 – construction of an additional water storage pond at the wastewater treatment plant site
- DA 55/2016 - increase in production capacity of the processing plant to process 2.8 million birds per year
 - This consent was modified to increase the processing capacity to 3.36 million birds per week.
- DA 10/2020 – installation of a new air chilling tunnel.
- DA 191/2023 – new office and administration building



View to the Dam site from the Kidman Way



View to the Dam site from the Kidman Way



Dam site – north-west corner



Dam site – towards Kidman Way



Dam site – view of raised dam embankments



Figure 5: Site Photos – Dam Site



Citrus Site – Facing north towards nearest dwellings



Citrus Site – Facing west toward processing plant



Citrus Site – existing all weather driveway



Citrus Site – from construction compound to the north



Citrus Site Entrance



Citrus Site – view towards the east from panel location

Figure 6: Site Photos – Citrus Site

3 Proposed Development

3.1 Proposal Overview

Sams Solar, for and on behalf of Baiada proposes the construction of a 5.846 MW (4.90 MW(AC)) Solar Farm on a 6.5-ha portion of the site (as described above). The Dam Site would contain 1.28 MW solar panel array while the Citrus Site would contain a 4.56 MW solar panel array.

Sams Solar is an Australian company specialising in renewable energy including the development and operation of solar farms which produce electricity for large industrial, commercial and farming uses.

The Baiada processing facility has been progressively carrying out improvements and expansions to enable the processing of over 3 million chickens per week. As can be appreciated, the electrical demands of the facility are immense and puts a considerable strain on the electrical network in Hanwood. Baiada's electrical bills range from \$700,000 to \$1.2 Million per month and the maximum daily usage peaked in 2024 at 9,283.00 kVA. The electrical demand of the processing facility has historically caused power outages for Hanwood. These occur several times a year. It is expected that the proposal would significantly decrease these events and free up capacity in Hanwood sub-station for additional development.

The proposal would provide for a substantial amount of the required electricity of the facility during daylight hours. The proposal is considered a behind the meter development and effectively ancillary to the processing plant.

At the end of life of the solar farm (around 30 years), it is expected that the panels would be replaced with new technology and the site continued to be utilised for electricity production for the processing plant. The continued use of the processing plant is considered sustainable due to the growing reliance on poultry as a protein source for a growing Australian population.

3.2 Proposal in Detail

The proposed development involves the following works:

- Site survey and layout.
- Site preparation and minor earthworks and land forming (these works are underway).
- Construction of a new all-weather access road around the solar panels (underway).
- Construction of an all-weather lay down area and unloading of heavy vehicles. The laydown area – (laydown area has been installed and the existing dwelling is being utilised for site amenities and offices
- Parking areas would also be provided on an all-weather surface from the internal road.

- Transportation of solar panels and prefabricated supports in heavy rigid trucks and 19 m semi-trailers. A total of approximately 3 heavy vehicle movements per day delivering materials during the first eight weeks of construction.
- Installation of solar panel arrays with single axis trackers allowing east to west tracking (10,192 panels).
- Aboveground and underground electrical conduits, cabling, and junction boxes to connect the modules to the inverter and transformers.
- Marshalling switchgear to collect the power from the modules.
- 1.8 m perimeter security fencing.
- Installation of an 8m wide landscaped buffer with 6m of plantings.
- An easement would be established over the internal HV lines if required.

The solar panel arrays would consist of ground mounted single axis trackers with a height of 1.8 – 3.781 m oriented from north to south.

The development would require a series of underground cabling 0.5 – 1 m below ground to connect the solar arrays and inverters. HV cables would transfer electricity from the inverters to the processing plant.

The development would not require the removal of any native vegetation and the proposal includes the planting of screening trees to shield the view of the panels from the neighbours to the north and south-east

An existing all-weather site access would be used for construction traffic. During operation of the solar farm only 1-2 light vehicles per day would access the site.

3.3 Construction details

Site Establishment

- Construct internal all weather road including laydown area and turning circle – completed
- Establish temporary site office and amenities (in existing dwelling) - completed
- Survey, grade and level construction areas – completed

PV Installation

The PV system would be mounted using a pile driver to a depth of 1-1.5 m below ground level. Additional supports would be attached to the piles to support the panels. Open trenching excavation would be required to install the underground cabling. The inverters are constructed in containers on skids. The areas where the inverters to be placed would be graded and compacted. A Geotechnical Report (see **Appendix 5**) has been prepared ahead of the

installation of the panels which has concluded that the soils are suitable for the pile driven supports.

Construction Period and facilities

The construction period would take around 12-15 weeks and require 20 construction staff to be on site at any given time. Standard construction hours would be utilised.

Temporary parking facilities would be provided for construction workers and the existing dwelling used as a site office. Stormwater would continue to drain to the existing farm drainage system discharging to MI's drainage reserves. It is not expected that the proposed infrastructure would change the drainage patterns on the site.

Machinery and Equipment

The following construction equipment would be utilised:

- Piling rig
- Crane to install the inverters and batteries
- Heavy vehicles including 19m semi-trailers
- Roller
- Grader
- Diesel generators
- Hand held power tools
- Backhoe
- Welder
- Telehandler

Traffic

All materials required to construct the proposal would be delivered to the site in heavy rigid trucks or 19 m semi-trailers. At the peak period of construction it is expected that 3 heavy vehicles would attend the site per day (within the first eight weeks). Construction workers would attend the site in light vehicles. Approximately 20 two-way light vehicle movements would be required each day. During operation it is anticipated that a maximum of 3 light vehicles would attend the site for maintenance purposes per week. Due to the limited nature of the traffic impacts and the suitability of the road network, a Traffic Impact Assessment has not been prepared.

Noise

Construction noise would be caused by the movement of vehicles into and out of the site and the use of the above noted machinery and equipment. These noise impacts would occur during daylight hours and be short lived. As such a Noise Impact Assessment is not considered necessary.

Waste Generation and Management

A Waste Management Plan would be prepared and implemented during construction works. Waste generated during construction would include general packaging and construction waste, including plastics, recyclable cardboard, off-cut metals and steel, excess cable and other excess materials. Wastes would be placed in dedicated and covered skip bins near the site offices. When the skip bins are full, they would be removed from the site.

Workforce and Accommodation

The Applicant expects that around 20 construction workers would be required over a 12-15 week period on a six day roster. The number of workers on site would fluctuate throughout the construction period, however the maximum at any given time is expected to be 25. The Applicant intends to use local contractors where possible. The workforce catchment would include residents in neighbouring towns and villages. Should local contractors be unavailable, the Applicant would utilise temporary workers who would utilise short term accommodation in Griffith and potentially Hanwood if available. There are a number of short-term accommodation options in the surrounding area and the Applicant would potentially provide a bus service to pick up and drop off workers.

3.4 Operations

Local maintenance staff would be employed to oversee the operations of the solar farm. The site would not need to be attended daily. Rather, a program of inspections and monitoring would be prepared for maintenance staff. As such, no dedicated workforce is required for the operation of the development. Therefore, ongoing traffic and noise impacts of the development are low and there is no need to provide parking and amenity facilities. The site would be secured via a chain wire fence with barb wire. The gate would be locked and access to the site would be limited. There are no plans to install a CCTV system at this time. Wastes created during the operation of the development would be limited to the packaging of replacement parts. The maintenance staff would remove all wastes from the site following their scheduled work.

A landscaped buffer would be established in areas where the solar panels could be visible from dwellings to the north and east (see **Appendix 3**).

3.5 Surface Water Drainage

The site discharges to the MI drainage channel in Murphy Road. The former dam on Lot 162 DP751709 was previously used for the storage of water to be used for the processing plant. Water collected in this area would be discharged into the sites existing stormwater system.

which was approved under DA 214/2012 and 191/2023. On Lot 2 DP808077 existing tile drainage would remain under the proposed solar panel array and continue to operate to drain water. Some additional tile drainage infrastructure would be installed to ensure the footings of the solar panels are not compromised by a fluctuating water table. A new sump has been installed to collect stormwater and water from the tile drainage system and discharge to the sites stormwater drain on the western boundary which discharges under Murphy Road to an MI drainage channel.

3.6 Solar Panel Replacement

The Applicant intends that the solar panels would be replaced after 30 years which would represent the expected lifespan of the solar panels.

4 Statutory Planning Approvals

This section provides an assessment of the proposal against the relevant planning legislation as prescribed in Section 4.15 of the *Environmental Planning and Assessment Act 1979*.

4.1 Environmental Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is administered by the Commonwealth Department of the Environment (DoE) and provides a legal framework to protect and manage places defined as Matters of National Environmental Significance (MNES). The EPBC Act lists the following places as MNES:

- World Heritage properties;
- National heritage places;
- Wetlands of International Significance (including Ramsar wetlands);
- Listed threatened species and ecological communities;
- Listed Migratory Species protected under international agreements (CAMBA and JAMBA);
- The Great Barrier Reef Marine Park;
- Water resources (relating to coal seam gas development and large coal mining development);
- Protection of the Environment from Nuclear Actions; and
- Marine Environment.

Under Part 9 of the EPBC Act, actions that may have a significant impact on a MNES are deemed 'controlled actions' and require approval from the Commonwealth Minister for the Environment.

The assessment of the significance of the impact is based on the criteria listed in the DoE's Significant Impact Guidelines 1.1 (DoE 2003). Should the Environment Minister decide the action will be taken in a manner that will ensure it will be likely to not have an adverse impact on the MNES, approval will be granted.

The proposal will not have an impact on MNES, and accordingly, approval from the Commonwealth Minister for the Environment is not required.

4.2 Environmental Planning and Assessment Act 1979

The proposed development requires development consent from Griffith City Council under Part 4 of the *Environmental Planning and Assessment Act, 1979*.

Development applications must consider the objects of the EP&A Act which are as follows:

- (a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,*
- (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*
- (c) to promote the orderly and economic use and development of land,*
- (d) to promote the delivery and maintenance of affordable housing,*
- (e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*
- (f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),*
- (g) to promote good design and amenity of the built environment,*
- (h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,*
- (i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,*
- (j) to provide increased opportunity for community participation in environmental planning and assessment.*

The proposal is considered to be generally in accordance with objects of the EP&A Act for the following reasons:

- The proposal would provide renewable energy for one of Griffith's largest electricity users and decrease reliance on non-renewable energy
- There is not expected to be any impacts to Aboriginal Cultural Heritage.
- There would be no impacts on biodiversity as the site has been historically cleared of native vegetation.

4.3 Roads Act 1993

The *Roads Act 1993* (Roads Act) provides a framework for the management of roads in NSW. It provides for the classification of roads and the declaration of the TfNSW and other public authorities for both classified and unclassified roads. The Roads Act confers functions on TfNSW and other roads authorities and allows distribution of such functions between RMS and other roads authorities. The Roads Act sets out procedures for the opening and closing of public roads and regulates the carrying out of various activities on public roads.

The Council Road network is considered sufficient for the proposal given the short duration of construction activities and the absence of traffic during the operational phase. The road network is presently being improved under DA 55/2016 associated with the increase in processing capacity of the processing facility. It is expected that Council will require the upgrade of the accessway between the road carriageway and the site boundary which would be carried out under a Section 138 Approval. Detailed plans with a swept path analysis can be provided as a condition of consent.

4.4 Water Management Act 2000

The *Water Management Act 2000* provides a framework for controlling the extraction of water, the use of water, the construction of works such as dams and weirs, and the carrying out of activities on or near water sources in NSW.

Part 3 of the Act contains a number of approvals which deal with the capture, conveyance and use of water in NSW:

89 Water use approvals

(1) A water use approval confers a right on its holder to use water for a particular purpose at a particular location.

(2) A water use approval may authorise the use within New South Wales of water taken from a water source outside New South Wales.

90 Water management work approvals

(1) There are three kinds of water management work approvals, namely, water supply work approvals, drainage work approvals and flood work approvals.

(2) A water supply work approval authorises its holder to construct and use a specified water supply work at a specified location.

(3) A drainage work approval confers a right on its holder to construct and use a specified drainage work at a specified location.

(4) A flood work approval confers a right on its holder to construct and use a specified flood work at a specified location.

91 Activity approvals

(1) There are two kinds of activity approvals, namely, controlled activity approvals and aquifer interference approvals.

(2) A controlled activity approval confers a right on its holder to carry out a specified controlled activity at a specified location in, on or under waterfront land.

(3) An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.

The proposal would not require an approval from Water NSW and would not require the provision of water during the operational phase of the development. During construction, the water supply from the processing plant would be used for any dust mitigation requirements or for staff amenities.

4.5 Biodiversity Conservation Act 2016 (BCA Act)

The BCA Act includes a two-tiered approach to the assessment of biodiversity impacts of a development. The first tier of assessment (i.e. thresholds tests) for 'local development' assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) initially focuses on 'triggers' that otherwise indicate a requirement, or not, for a second tier of assessment performed under Part 7 of the BC Act.

Threshold tests applied to determine if a development or activity is "likely to significantly affect threatened species" are listed below:

- Impacts exceed the biodiversity offsets scheme thresholds (Section 7.2 of the BC Act); or
- Impacts are likely to significantly affect threatened species or ecological communities, or their habitats (Section 7.3 of the BC Act); or
- Impact on declared area of outstanding biodiversity value.

'Yes' to any of the above triggers a requirement for an impact assessment performed in accordance with the Biodiversity Assessment Methodology (BAM) by an Accredited Person (Section 7.7 of the BC Act). A Preliminary Biodiversity Assessment has been prepared for the development and is provided in **Section 12**. The proposal does not include the removal of any native vegetation or potential habitat for fauna. The proposal would be unlikely to impact any threatened or endangered species. As such, a Biodiversity Development Assessment Report (BDAR) is not considered necessary in this instance.

4.6 State Environmental Planning Policies (SEPP)

SEPP Transport and Infrastructure 2021

Division 5 Electricity transmission or distribution

Subdivision 2 Development likely to affect an electricity transmission or distribution network

45 Determination of development applications—other development

(1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following—

- (a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,*
- (b) development carried out—*
 - (i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or*
 - (ii) immediately adjacent to an electricity substation, or*
 - (iii) within 5m of an exposed overhead electricity power line,*
- (c) installation of a swimming pool any part of which is—*
 - (i) within 30m of a structure supporting an overhead electricity transmission line, measured horizontally from the top of the pool to the bottom of the structure at ground level, or*
 - (ii) within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool,*
- (d) development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.*
- (2) Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must—*
 - (a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and*
 - (b) take into consideration any response to the notice that is received within 21 days after the notice is given.*

Commentary

Essential Energy's (EE) infrastructure is located within and in close proximity to the site. The proposal has been designed with reference to Essential Energy's guidelines. **Figure 7** shows the existing overhead electrical lines in the locality from Essential Energy's Network Mapping System online. The Dam Site is located in proximity to an existing internal overhead and underground 11Kv HV service. It is expected that a referral to Essential Energy would be required.



Figure 7: Essential Energy Network Map

Clause 2.21 & Schedule 3 – Traffic Generating Development

The development is not considered a traffic generating development requiring referral to TfNSW.

Clause 2.42 Determination of development applications for solar or wind electricity generating works on certain land

(1) *This section applies to development in a regional city for the purposes of electricity generating works using a solar or wind energy source that is—*

- (a) *State significant development, or*
- (b) *regionally significant development.*

(2) *Development consent must not be granted unless the consent authority is satisfied that the development—*

- (a) *is located to avoid significant conflict with existing or approved residential or commercial uses of land surrounding the development, and*
- (b) *is unlikely to have a significant adverse impact on the regional city's—*
 - (i) *capacity for growth, or*
 - (ii) *scenic quality and landscape character.*

(3) In determining whether to grant development consent, the consent authority must consider measures proposed to be included in the development to avoid or mitigate conflicts referred to in subsection (2)(a) or adverse impacts referred to in subsection (2)(b).

Commentary:

The proposal is not considered to be State significant or regionally significant development and therefore the clause is not relevant.

SEPP Resilience and Hazards 2021

4.6 Contamination and remediation to be considered in determining development application

(1) A consent authority must not consent to the carrying out of any development on land unless—

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subsection (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.

(3) The applicant for development consent must carry out the investigation required by subsection (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.

(4) The land concerned is—

(a) land that is within an investigation area,

(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,

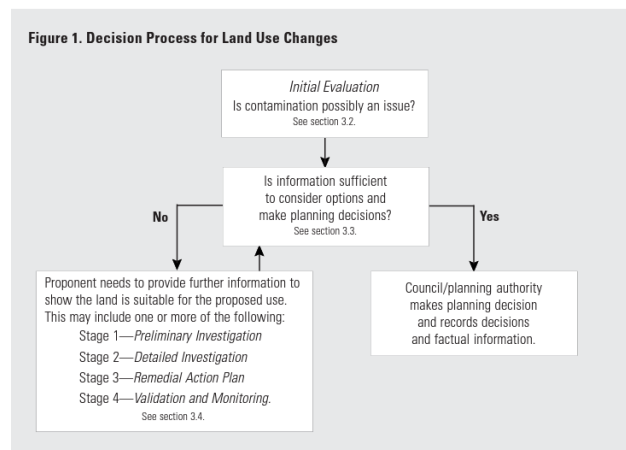
*(c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—
land—*

(i) *in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and*

(ii) *on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).*

Commentary

The historical use of the site for horticulture is listed as a potentially contaminated land use in Table 1 of “Managing Land Contamination – Planning Guidelines – SEPP 55 – Remediation of Land.”



A Preliminary Site Investigation is not considered warranted based on a review of the Guidelines for the following reasons:

- there is no evidence of the site being used for potentially contaminating uses historically with elevated levels of herbicide or pesticide usage.
- the site is not listed on a Contaminated Site Registry.
- there are no land restrictions or notices issued by Council or the EPA on the site.
- the proposal does not include a sensitive land use.

An unexpected finds protocol would be established by the construction contractors. Should any potential contamination be found during excavation, Council and the EPA would be notified, and a suitable remediation plan prepared in accordance with the SEPP.

Chapter 3 – Hazardous and Offensive Development

The SEPP aims to ensure that measures are employed to reduce the impact of a development that is a hazardous or offensive industry. Under the SEPP a consent authority must not consent to the carrying out of any development on land without considering:

- Current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development;

- Whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply;
- In the case of development for the purpose of a potentially hazardous industry—a preliminary hazard analysis prepared by or on behalf of the applicant;
- Any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and
- Any likely future use of the land surrounding the development.

The proposal is for a solar farm ancillary to a poultry processing facility which would not store or use any dangerous goods. The proposal does not involve the use of hazardous chemicals above screening levels that would trigger consideration as potentially hazardous development.

SEPP (Biodiversity and Conservation 2021)

The purpose of the SEPP is to protect native vegetation and habitat. The proposal is located on highly degraded agricultural land which does not contain any native vegetation including trees or grasslands.

The former Dam Site was filled with water until around 2010 at which time it was drained and Baiada ceased to utilise it for water storage. Between 2010 and present, invasive species and some regrowth occurred within this area which is visible from recent aerals. The vegetation has since been removed as existing an ongoing approvals for the area pertain to its ongoing industrial use. Essentially, the area was never shown or reserved for landscaping or native vegetation retention under previous approvals and it was not considered that any approvals were required for the removal of the vegetation. The approved plans for the site under several approvals show this area is to be used for a water storage.

A review of the legislation and a desktop assessment of the potential biodiversity impacts of the development is provided at **Section 12**.

4.7 Griffith Local Environmental Plan 2014 (GLEP 2014)

A portion of the site is zoned RU1 Primary Production under the Griffith Local Environmental Plan 2013 and electricity generating works are prohibited in the zone. SEPP (Transport and Infrastructure) 2021 effectively overrides the LEP and permits the use within the zone.

electricity generating works means a building or place used for the purpose of—

- (a) making or generating electricity, or*
- (b) electricity storage.*

Under the Griffith Local Environmental Plan 2013 the objectives of the RU1 Primary Production zone are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To permit a range of activities that support the agricultural industries being conducted on the land and limit development that may reduce the agricultural production potential of the land.*
- *To permit tourist facilities that promote an appreciation of the rural environment and associated agricultural and horticultural activities, while ensuring the continued economic viability of the land.*

Commentary:

The proposal is considered to meet the objectives of the zone for the following reasons:

- The footprint of the development is relatively minor in nature given the expansive agricultural farm holdings in the LGA.
- The proposal would not create land use conflict with other primary production uses.
- The proposal is also wholly ancillary to an extremely important land use to the agricultural industry in the region. The processing plant supports hundreds of farmers in the region through the purchase of poultry, grains for feed and other essential rotational crops. The use of the RU1 zoned portion of the site for a solar farm wholly ancillary to the poultry processing facility which is considered a 'primary industry enterprise' which is supported by the objectives of the zone.

The processing plant is zoned E4 – Industrial under the Griffith Local Environmental Plan 2014 and electricity generating works are permissible in the zone. The objectives of the E4 zone are as follows:

- *To provide a range of industrial, warehouse, logistics and related land uses.*
- *To ensure the efficient and viable use of land for industrial uses.*
- *To minimise any adverse effect of industry on other land uses.*
- *To encourage employment opportunities.*
- *To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.*

Commentary:

The proposal is considered to meet the objectives of the zone for the following reasons:

- The proposal supports the sustainable functioning of a rural industrial use.
- The proposal is considered an efficient use of land as the solar farm would be located within a disused former water storage dam.

Clause 5.10 – Heritage Conservation

1) Objectives The objectives of this clause are as follows—

- (a) to conserve the environmental heritage of Jerilderie,*
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,*
- (c) to conserve archaeological sites,*
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.*

(2) Requirement for consent Development consent is required for any of the following—

- (a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—*
 - (i) a heritage item,*
 - (ii) an Aboriginal object,*
 - (iii) a building, work, relic or tree within a heritage conservation area,*
- (b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,*
- (c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
- (d) disturbing or excavating an Aboriginal place of heritage significance,*
- (e) erecting a building on land—*
 - (i) on which a heritage item is located or that is within a heritage conservation area, or*
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,*
- (f) subdividing land—*

- (i) on which a heritage item is located or that is within a heritage conservation area, or*
- (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance*

Commentary:

The site does not contain any heritage items or is within a heritage conservation area. As such a Heritage Assessment is not required in this instance.

5.21 Flood planning

(1) The objectives of this clause are as follows—

- (a) to minimise the flood risk to life and property associated with the use of land,*
- (b) to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,*
- (c) to avoid adverse or cumulative impacts on flood behaviour and the environment,*
- (d) to enable the safe occupation and efficient evacuation of people in the event of a flood.*

(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—

- (a) is compatible with the flood function and behaviour on the land, and*
- (b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and*
- (c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and*
- (d) incorporates appropriate measures to manage risk to life in the event of a flood, and*
- (e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.*

(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—

(a) the impact of the development on projected changes to flood behaviour as a result of climate change,

(b) the intended design and scale of buildings resulting from the development,

(c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,

(d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.

(4) A word or expression used in this clause has the same meaning as it has in the Considering Flooding in Land Use Planning Guideline unless it is otherwise defined in this clause.

(5) In this clause—

Commentary:

The site has not been identified as being flood prone for the 1 in 100 year flood event in any Council flood study or management plan. Local knowledge suggests the site is not on a flood plain or subject to overland flow during flood events. The clause does not appear to be relevant to the proposal.

7.1 Earthworks

(1) The objectives of this clause are as follows:

(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,

(b) to allow earthworks of a minor nature without requiring separate development consent.

(2) Development consent is required for earthworks unless:

(a) the earthworks are exempt development under this Plan or another applicable environmental planning instrument, or

(b) the earthworks are ancillary to other development for which:

(i) development consent has been given, or

(ii) for which development consent is not required.

(3) Before granting development consent for earthworks, the consent authority must consider the following matters:

- (a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality of the development,*
- (b) the effect of the development on the likely future use or redevelopment of the land,*
- (c) the quality of the fill or the soil to be excavated, or both,*
- (d) the effect of the development on the existing and likely amenity of adjoining properties,*
- (e) the source of any fill material and the destination of any excavated material,*
- (f) the likelihood of disturbing relics,*
- (g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,*
- (h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.*

Commentary:

The proposed development will require only minor earthworks which will not impact drainage patterns or soil stability in the locality and would not necessitate the importation of fill. During construction, dust mitigation measures would be employed to ensure impacts to neighbours would not be experienced. An Aboriginal Assessment is not considered to be required as the site is extremely degraded from past agricultural and industrial uses. The site does not contain any streams or watercourses. There are several channels and drainage pipes in the locality as it forms part of the MIA. These channels would not be impacted by the proposal through construction activities or increase stormwater flows. Earthworks are presently being carried out to improve the sites existing drainage system which will continue to discharge to the MI channel in Murphy Road.

7.3 Terrestrial Biodiversity

(1) The objective of this clause is to maintain terrestrial biodiversity by:

- (a) protecting native fauna and flora, and*
- (b) protecting the ecological processes necessary for their continued existence, and*
- (c) encouraging the conservation and recovery of native fauna and flora and their habitats*

- (2) *This clause applies to land identified as “Biodiversity” on the Terrestrial Biodiversity Map.*
- (3) *Before determining a development application for development on land to which this clause applies, the consent authority must consider:*
- (a) whether the development is likely to have:*
 - (i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and*
 - (ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and*
 - (iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and*
 - (iv) any adverse impact on the habitat elements providing connectivity on the land, and*
 - (b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.*
- (4) *Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:*
- (a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or*
 - (b) if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or*
 - (c) if that impact cannot be minimised—the development will be managed to mitigate that impact.*

Commentary:

As previously stated, the area of the site subject to the construction of the solar farm is void of any vegetation, however the area has been identified for “terrestrial biodiversity” in the GLEP 2014 maps (see **Figure 8**). The designation of this area is largely based on the historical native vegetation landscape buffer areas surrounding the processing plant. The proposal includes the use of the base of a former dam for a solar panel array. This area has historically been used for a dam to store water associated with the processing plant. The 1993 Aerial at **Figure 9** shows the dam newly constructed and void of vegetation. The dam was continually used until 2010 when it was drained. The drained dam area was not maintained between 2010 and 2024 and therefore some invasive species and regrowth eventuated which has been recently cleared for the proposal. No native vegetation established as part of historic approvals would be removed as part of the proposal

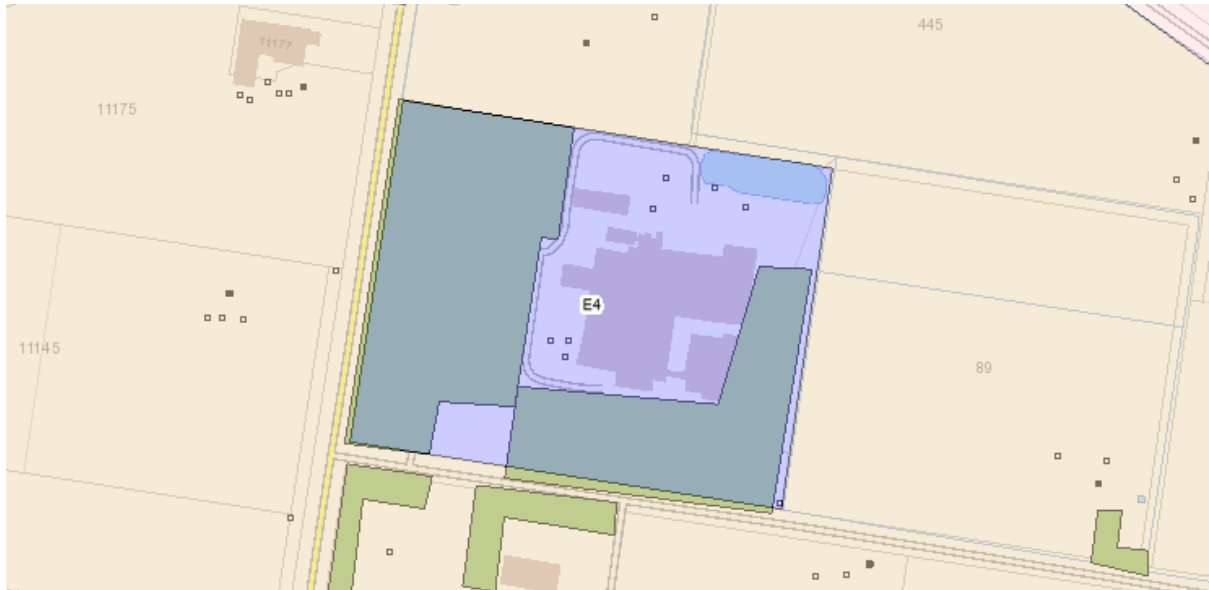


Figure 8: Council Biodiversity Map



Figure 9: 1993 Aerial Showing the Newly Constructed Dam

Clause 6.8 - Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required—

- (a) the supply of water,*
- (b) the supply of electricity,*
- (c) the disposal and management of sewage,*
- (d) stormwater drainage or on-site conservation,*
- (e) suitable road access.*

Commentary:

- The site is supplied by irrigation water which would be used when required during construction.
- The site is connected to electricity. As discussed throughout this SEE, the solar farm would be connected to internal new internal HV lines which would be directed to the Processing Plant.
- Site amenities would be provided during construction in the existing dwelling on the site.
- The site is accessed from Murphy Road which is a Council controlled road. No upgrades to the road network are proposed as the duration of the construction works would be limited to 12-15 weeks and the expected traffic generation can be catered for within the existing network. During operation, there would be very limited traffic movements. Traffic movements and construction activities would not occur during wet weather.
- The site discharges to the MI drainage channel in Murphy Road. The former dam on Lot 162 DP751709 was previously used for the storage of water to be used for the processing plant. Water collected in this area would be pumped out into the sites existing stormwater system which was approved under DA 214/2012 and 191/2023. Existing tile drainage would remain under the proposed solar panel array and continue to operate to drain water for Lot 2 DP 808077. Some additional tile drainage infrastructure would be installed to ensure the footings of the solar panels are not compromised by a fluctuating water table. A new sump has been installed to collect stormwater and water from the tile drainage system and discharge to the sites stormwater drain on the western boundary which discharges under Murphy Road to an MI drainage channel.

4.8 Development Control Plans (DCP)

A review of Griffith City Council's Development Control Plan No1 – Non Urban Development indicates that the site and the proposal for a solar farm ancillary to the poultry processing facility is not covered by any specific development controls.

4.9 Community Participation Plan (CPP)

A review of Griffith' CPP suggests that the proposal is required to be notified to neighbours and published. The Applicant believes the proposal is in the public interest. However, should there be any public submissions, we would appreciate the opportunity to address the issues raised immediately.

5 Consultation

5.1 Government Agency Consultation Outcomes

During the preparation of the development application the following local and State Agencies were consulted:

- Council – including a pre-lodgement meeting.

During the pre-lodgement meeting with Council, several assessment requirements were provided. Where applicable or considered relevant, these requirements have been adhered to in the preparation of the development application.

5.2 Neighbour Consultation

The owner and occupants of the nearest residential dwelling to the site at 445 Hanwood Avenue were consulted regarding the proposal. No issues were raised with the development.

5.3 Consultation During Exhibition

It is expected the development application will be placed on public exhibition for a minimum period of 14 days. The Applicant will continue to commit resources to satisfy consultation requirements during the public exhibition phase and throughout the life of the development. The Applicant will actively engage with key stakeholders to ensure they are aware the development application is on public exhibition.

The Applicant will continue to undertake consultation with stakeholders as necessary post determination of the development application.

6 Environmental Risk Assessment

To provide an environmental risk assessment to inform the preparation of the Statement of Environmental Effects and the provision of technical studies and plans, the Australian Standard AS/NZS ISO 31000:2009 Risk Management Principles and Guidelines has been utilised in this section.

6.1 Methodology

The potential environmental impacts of the proposal requiring assessment were identified through:

- A review of other development applications for solar farms.
- Outcomes of consultation with Council and neighbours.
- The results of specialist studies undertaken as part of this SEE.

The key environmental and social impacts identified for the proposal include:

- Visual impact

6.2 Impact Evaluation

The environmental impacts of the proposal have been assigned a likelihood between almost impossible to almost certain with a potential frequency for each.

Likelihood	Description	Frequency
Certain	Common Occurrence	At least daily
Very Likely	Expected to occur in most circumstances	Once per week
Likely	Probably will occur or has happened in the past	Once per month
Unlikely	Occurs Infrequently	Less than once per year
Possible	Could happen at some time	Less than once per 10 years
Almost Impossible	Not Likely to Occur	Less than 1 per 100 years

6.3 Consequence Evaluation

The environmental impacts have also been assigned a consequence rating between catastrophic and negligible in accordance with **Table 1**.

Table 1: Consequence

Consequence Rating	Health Safety and	Natural Environment	Community Relations & Cultural Heritage	Damage / Loss	Level
Catastrophic	Multiple Fatality	Significant irreversible impact on threatened habitat(s) ecosystem(s) and species, or	Irreparable damage to sites of high cultural significance	Significant Financial Loss. >\$10 million	6

Consequence Rating	Health Safety and	Natural Environment	Community Relations & Cultural Heritage	Damage / Loss	Level
Critical	Fatality	Very serious long-term environmental impairment of eco-system function	Very serious widespread social impact. Irreparable damage to valued cultural items	Major \$1 M - \$10 M	5
High	Lost Time Injury	Serious medium-term environmental effects	Ongoing serious social issues. Significant but repairable damages to structures/items of cultural significance	High \$100,000 - \$1 M	4
Moderate	Medical Treatment required. Medical Treatment Injury	Moderate short-term effects but not effecting overall ecosystem function	Ongoing social issues. Minor permanent damage to items of cultural significance.	Low financial Loss <\$100,000	3
Minor	First Aid Treatment	Minor effects on biological or physical environment	Minor medium-term social impacts	Low Financial Loss <\$10,000	2
Almost Impossible	No medical attention. Report only	Limited damage to minimal areas of low significance	Low level repairable damage to commonplace structures	Min Financial Loss <\$1000	1

6.4 Risk Assessment Matrix

The environmental impacts have been assigned a risk ranking from negligible to catastrophic as depicted in **Table 2**.

Table 2: Risk Matrix

Likelihood	Consequence					
	Negligible	Minor	Moderate	High	Critical	Catastrophic
6 – Certain	6	12	18	24	30	36
5 – Very Likely	5	10	15	20	25	30
4 – Likely	4	8	12	16	20	24
3 – Unlikely	3	6	9	12	15	18
2 – Possible	2	4	6	8	10	12
1 – Almost Impossible	1	2	3	4	5	6

6.5 Summary of Risk Assessment

Table 3 provides a summary of the risk rankings for the environmental and social impacts considered as part of the ERA. The risk assessment did not identify any aspects of the Project with a residual risk of catastrophic or critical.

Table 3: Risk Assessment Conclusions

Consequence	Impact or Issue
Catastrophic	None
Critical	None
High	None
Moderate	Visual
Low	Dust Waste management Traffic
Negligible	Aboriginal heritage Biodiversity

The proposal would not be expected to create environmental risks which cannot be managed or mitigated to an acceptable level. This SEE provides a detailed assessment of each potential issue or impact as identified in the following sections. The issue which has the potential to have moderate impacts is considered to be potential visual impacts.

The assessment of visual impacts of the development in this SEE has concluded that subject to some mitigation and management measures the construction of the development would have negligible impacts to receivers in proximity to the development site.

7 Land Use Suitability

7.1 Introduction

The proposal represents electricity generating works co-located with a large scale rural industry and the largest employer in Griffith. A portion of the solar panel array site is located on agricultural land within an Irrigation Area. Consideration of the proposed development and the site in terms of strategic suitability, loss of agricultural land and potential for land use conflicts is an important consideration in the siting, design and approval of the development. To this regard it should be noted that Council's Solar Energy Farms and Battery Energy Storage Systems Policy does not apply to the development and the proposal would wholly support an employment generating land use which is considered in the public interest.

7.2 Strategic Suitability

Griffith City Council has two strategic plans which must be considered to understand the existing and future strategic suitability of the site for a solar farm.

Griffith Land Use Strategy – Beyond 2030

The Griffith LUS contains an overall land use plan for the entire Griffith LGA including major towns and villages. The LUS includes a Structure Plan for Hanwood which shows that the processing plant has been identified as within an "Existing Food Processing & Large Winery". The other portion of the site including Lot. 2 DP808077 has been identified as "Existing Agricultural."

An area for potential R5 – Large Lot Residential land has been identified to the north of the site around 250 m from the development site. As the topography of the area is extremely flat and considering the distance of the potential future R5 dwellings from the site, visual impacts are not expected to be experienced by future receptors of this area should it be rezoned. There are no priorities, actions or recommendations which limit the potential for solar infrastructure on rural land within the LUS. The proposal represents the expansion of a large-scale rural industry which is crucial for the agricultural sector in the region. The proposal would provide electrical generation for the processing plant during the day and decreasing the existing strain the plant places on Griffith's electrical network. Decreasing the main grid electricity needs of the processing facility would free up additional capacity for other expanding industries or additional residential growth in Hanwood. The proposal is considered to be generally supported by the LUS in that it is wholly ancillary and crucial for the sustainable expansion of Griffith's largest employer.

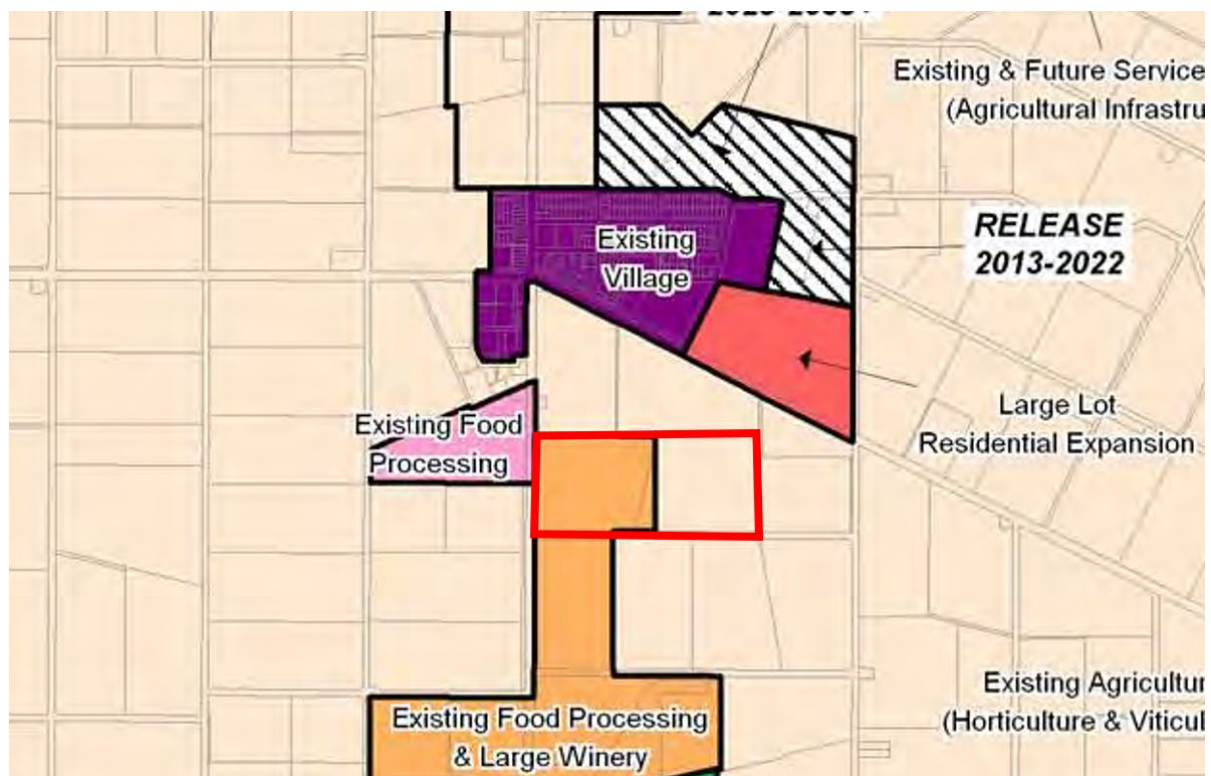


Figure 10: Hanwood Structure Plan

Griffith Local Strategic Planning Statement 2020-2040

The Griffith LSPS Structure Plan shows that the site is identified for both Rural Industries and Small Holding Agricultural Land

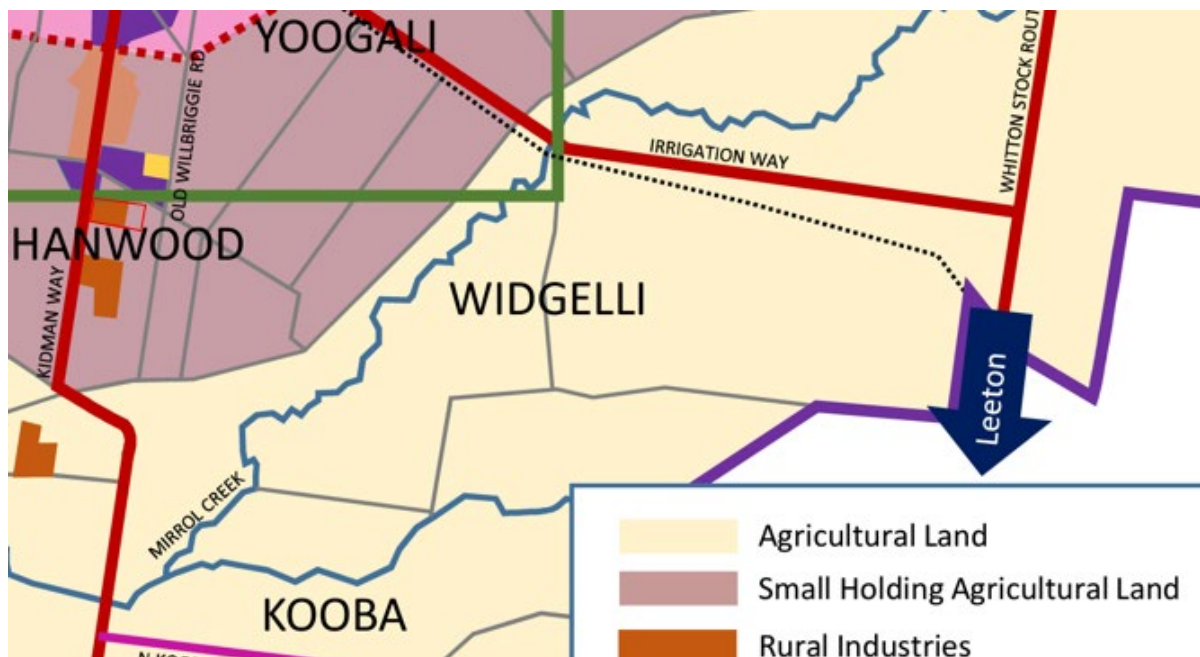


Figure 11: Griffith LSPS Map

Planning Priority 2 of the Griffith LSPS is associated with strengthening and growing employment lands and is part of Theme 1 – A Thriving Economy:

Griffith is the agricultural powerhouse of the Riverina and is one of the most diverse and productive regions in Australia. Much of Griffith's primary production is value added through manufacturing and innovative technology. The availability of water is a critical input for local agriculture. Water makes its way to the Murrumbidgee Irrigation Area via Blowering and Burrinjuck Dams. Major employment sectors in Griffith include manufacturing, poultry production, wineries, construction, commercial and retail and construction. Griffith's economy is thriving and a key theme of the LSPS is to ensure land use policies, plans and strategies are developed or refined to cater for continued growth and ensure adequate affordable housing is available for existing and new residents.

The proposal is considered to be directly aligned with this theme through the expansion of a key employment generating land use. It is considered that any land use policy which limits the expansion of key rural industries which provide for the economic stability of the community are not considered to be in the public interest. As such, other Planning Priorities which relate to protecting prime agricultural lands are not considered relevant in this instance as the existing E4- General Industrial zoned processing plant has been fully developed and the only areas available for expansion are zoned for primary production. Rural industries are permissible within the zone and it is considered that the proposal is wholly ancillary to the expansion of a rural industry which should be supported regardless of planning priorities seeking to protect agricultural land.

7.3 Loss of Agricultural Land

The proposal would cause the alienation of 5 ha of agricultural land which would be used for the expansion of a rural industry. The site has been identified as agriculturally significant land on the draft State Significant Agricultural land map. The site is located within the Murrumbidgee Irrigation Area which covers 378,911 ha of farm land. The development site would only cover 0.00002% of the irrigation area.

The use of the 5 ha of the site which is zoned RU1-Primary Production is considered to have merit as it enables the expansion of a rural industry which supports other MIA farm holdings through the purchase of grain for feed and poultry from several Poultry Production Units.

A solar farm compared to horticulture is a passive land use that would effectively rest the soil resource, should the area need to be reverted to an operational farm in the future. However, Lot Lot. 2 DP808077 has been purchased by Baiada to facilitate the expansion of their processing plant and it would be expected that while the plant is in operation the site would be utilised for uses ancillary to the rural industry including electrical generation. At the end of life of the solar panels, it is expected that the panels would be replaced with new technology as the processing facility would continue to require energy production to avoid the use of the broader electrical network and decrease operational costs.

A decommissioning plan is not considered warranted as the solar panel arrays would be wholly ancillary to the ongoing operation of the rural industry. As such, there would be little likelihood that the solar farm would be abandoned.

7.4 Potential for Land Use Conflict

The proposed land use is not expected to impact the continued use of the locality for primary production, rural industries or rural and village residential uses for the following reasons:

- The Applicant would manage the land including implementing a weed management plan to ensure the spread of invasive and noxious weeds does not occur.
- The visual impact of the development would be minimal due to the flat nature of the surrounding area, the lack of view corridors to the site and the distance from sensitive visual receivers. The proposed landscape buffer would effectively screen the panels from view from nearby or future dwellings. The citrus plantings in the area also effectively screen the panels from any broader views.

7.5 Conclusion

The development site has not been identified for strategic growth areas nor would it impact on the expansion of the Hanwood village in the future. The site is only a small portion of the irrigated agriculture base in the Murrumbidgee Irrigation Area. The potential for land use conflict is also considered low. The proposal is considered a suitable land use type for the locality and region. The proposal should be supported as it increases the economic sustainability of a rural industry which several farming operations in the region rely on.

8 Traffic Access and Parking

8.1 Introduction

The proposed development would increase the traffic movements to the site during construction which could have the potential to impact the safety, efficiency and capacity of the road network. However, the potential traffic impacts would be short lived and the road network in general is considered conducive for the development including sealed local roads with good intersections to Classified Roads for truck and light vehicle movements.

8.2 Road Network

The site is accessed via Murphy Road, a sealed Council road which connects to the Kidman Way, a Classified Road under the control of TfNSW to the west and Old Willbriggie Road to the east. The road network is presently being upgraded under DA 55/2016. Presently, access to the site would be gained from Old Willbriggie Road as Kidman Way at Murphy Road is presently closed at Kidman Way. The Applicant proposes to carry out the development in early 2025 and therefore it is expected that the road works at Kidman Way may not be complete.

Murphy Road and Old Willbriggie Road Intersection

The key intersection for the development is at the junction of Murphy Road and Old Willbriggie Road which contains a 'T' intersection with good sight distances to the north and south.

8.3 Proposed Traffic Impacts

Construction traffic would include workers coming to and leaving the site. An average of 20 construction workers would be expected on site at any given time over a 12-15 week construction period. Heavy vehicle movements to the site during construction would be related to the following:

- Delivery of high voltage equipment, PV components, and related construction materials.
- Mobilisation and de-mobilisation of heavy plant and equipment.
- Delivery of aggregates and concrete for civil works.

Based on the expected material and infrastructure requirements of the proposal it is expected that three heavy vehicles per day would access the site.

Table 4: Traffic Generating Activities – Construction

Element	Trips per week	Trips per day
Deliveries to the site	20	3

Staff and other light vehicles	240	40 (one trip arriving at site at 7am and one trip leaving the site at 5pm)
Total	260	43

During operations, traffic to the site would be limited to the requirements of maintenance staff accessing the site. A maximum of 3 light vehicle trips for maintenance purposes would be expected during operations.

8.4 Access into the Site from Murphy Road

The site contains two existing accessways which are constructed of road building gravel and connect to Murphy Road. During construction, the western most driveway would be utilised for heavy vehicles and light vehicles. A heavy vehicle turning area on road base has also been located within the site to permit the manoeuvring of heavy vehicles and permit trucks to enter and exit the site in a forward direction. It is expected that Council will require the sealing of this accessway between the road carriageway and the property boundary as a condition of consent including adequate tapers for the movement of heavy vehicles.

8.5 Haulage Route During Construction

Construction heavy vehicle traffic would access the site from the Old Willbriggie travelling from Griffith and turning right onto Murphy Road. The proposed three additional heavy vehicle trips per day can be managed within the surrounding road network without impact to the performance of key intersections due to the moderate levels of traffic on Old Willbriggie Road. The heavy vehicle traffic to and from the site would be similar to that experienced during orange harvest. Any potential traffic issues during construction can be managed through a Construction Environmental Management Plan (CEMP).

8.6 Mitigation and Management Measures

The proposal includes the following management and mitigation measures:

- Preparation of a Construction Environmental Management Plan.
- Dust suppression during panel installation.
- Section 138 Approval for the site access including bitumen sealing the accessway.

8.7 Conclusions

The construction traffic associated with the proposal would only involve limited light and heavy vehicle movements for a short duration being 12-15 weeks. Through the implementation of the proposed mitigation and management measures the proposal is not expected to impact the safety, efficiency or capacity of the local and regional road network.

9 Soils and Water

9.1 Existing Environment

Soils

The site is predominantly Class 3 land with moderate limitations. Classes as per the Land and Soil Capability Mapping for NSW provide a state-wide classification of soil capabilities (see **Figure 12**).

A Geotechnical Investigation has been prepared for the site to inform the design of the footings for the panel arrays and the pads for the inverters. The Geotechnical Investigations suggest the site and soils are considered suitable for the required pile driven footings for the panel arrays and the pad mounts for the inverter infrastructure.

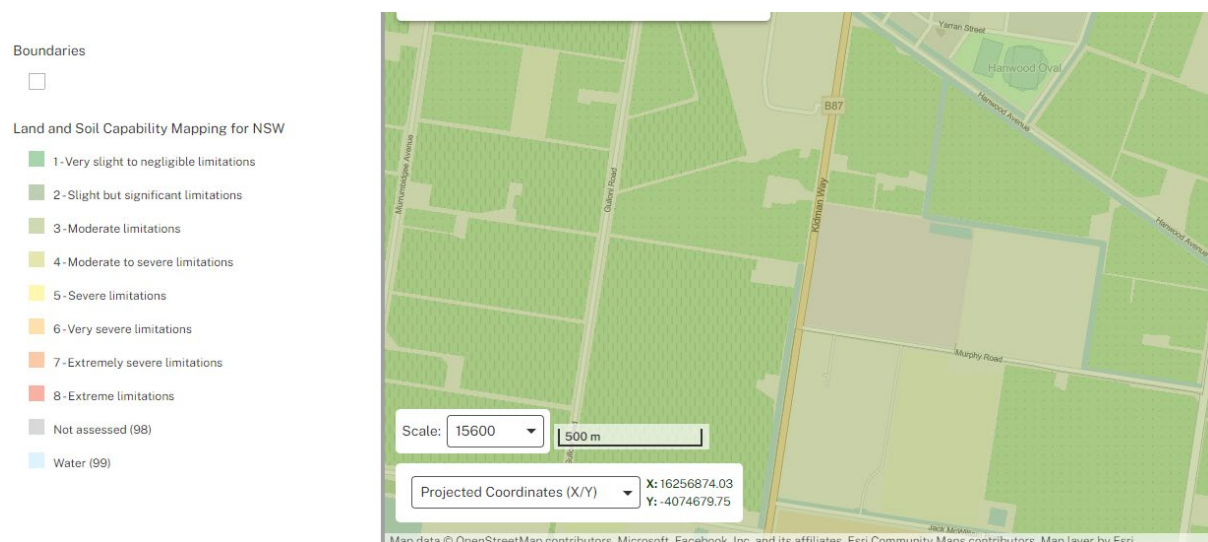


Figure 12: Soil and Land Classification Map

Class 3 land shown in green can be cultivated for a variety of crops with limitations .

Class 3 land has limitations that must be managed to prevent soil and land degradation. However, the limitations can be overcome by a range of widely available and readily implemented land management practices. Included are sloping lands (3–10%) with slopes longer than 500 m that will require earthworks to control runoff and erosion if used for regular cultivation. Also included are lands that can be subject to wind erosion when cultivated and left bare. It is important to minimise soil disturbance, maintain stubble cover and maintain good organic matter levels. This class includes other soils with acidification and soil structure limitations that are sufficient to require the application of specific management practices. Class 3 land includes sloping land that is capable of sustaining cultivation on a rotational basis. This land can be readily used for a range of crops including cereals, oilseeds and pulses. Productivity will vary with soil fertility. There are greater restrictions on land use than for Classes 1 and 2 due to increased limitations. Severe problems may arise if land management practices do not address the limitations of Class 3 land. For example, severe soil erosion can

be caused by regular cultivation without effective erosion control measures, poor water quality can be caused by water erosion and dust storms may result from wind erosion (Source: The land and soil capability assessment scheme – NSW 2016).

A review of the NSW Government online SEED database confirms that there is no known Naturally Occurring Asbestos (NOA) at or near the development site. OEH

Review of the CSIRO Australian Soil Resource Information System (ASRIS) identifies the development site as having an 'extremely low probability' of occurrence of acid sulphate soils.

The site could be prone to salinity due to the potential for a high water table. The site contains a tile drainage system which has been improved and would be maintained to protect the solar array from the fluctuating high water.

Water

There are no mapped drainage lines or waterways located within the development site. The land and surrounding agricultural area forms part of the MIA which contains a series of supply and drainage channels which direct the flow of water. The site would continue to drain to the drainage channel in Murphy Road.

The development site is not located within land mapped as a Groundwater Sensitive Area and a review of the NSW Government online SEED database identifies that neither the Water Sharing Plan for the Murray Unregulated and Alluvial Water Sources 2011 or Water Sharing Plan for the Lower Murray Shallow Groundwater Source 2012 (both of which apply to the development site) identify any high priority groundwater dependent ecosystems in the locality.

To understand the depth and prevalence of groundwater in the locality, a review of NSW Office of Water (NOW) online All Groundwater Map was carried out for bores within 2 km of the development site. Groundwater and the water table in the area is relatively shallow between 5 and 20 m below natural ground level which is typical of an irrigation area. The existing tile drainage system would be maintained and improved to ensure that the fluctuation water table does not impact the solar panel footings.

9.2 Conclusion

The Applicant has carried out geotechnical investigations to inform the design of the footings and pads required for the development. The site is not located in an area which contains any soil or water sensitivity. No watercourses traverse the site and the development would not be expected to impact the existing onsite farm drainage system. The 1.5 m footings would not be expected to impact groundwater in the locality or the fluctuating water table with the retention of the tile drainage system. In summary, there are not expected to be any soil or water impacts posed by the development.

10 Aboriginal Cultural Heritage

10.1 Introduction

The solar farm development site is located on an irrigated paddock and a former Dam Site which was been laser levelled and land formed historically. Because of the degraded nature of the development area, it is considered unlikely that Aboriginal artifacts would be uncovered during construction or operation.

10.2 Legislation

National Parks and Wildlife Act 1974 (NSW)

The National Parks and Wildlife Act 1974 is the New South Wales legislation covering the management and protection of Aboriginal Cultural Heritage. The Act provides for the proper care, protection and preservation of Aboriginal Objects and declared Aboriginal Places by establishing offences of harm. The NPW Act defines Aboriginal Objects and Aboriginal places:

"Aboriginal object means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains."

Section 87 of the NPW Act establishes defences against prosecution under s.86 (1), (2) or (4) - harming or desecrating Aboriginal objects and Aboriginal places. The defences are as follows:

1. An Aboriginal Heritage Impact Permit (AHIP) authorising the harm (s.87(1))
2. Exercising due diligence to establish Aboriginal Objects will not be harmed (s.87(2)). Due diligence may be achieved by compliance with requirements set out in the National Parks and Wildlife Regulation 2009 (the NPW Regulation) or a code of practice adopted or prescribed by the NPW Regulation (s.87(3)).

The National Parks and Wildlife Regulation 2009 (NSW)

The NPW Regulation 2009 (cl.80A) assigns the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW as one of the codes of practice that can be complied with pursuant to s.87 of the NPW Act. Disturbed land is defined by cl.80B (4) as;

"...disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable". Examples given in the notes to cl.80B (4) include "construction or installation of utilities and other similar

services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure)”.

The presence and extent of ground disturbance is a key determinant in establishing the cultural heritage potential of an area under the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW.

10.3 AHIMS and Database Searches

The Aboriginal Desktop Assessment included a search of databases and registers for known Aboriginal sites within 500m of the site. No Aboriginal Sites or places were found.



AHIMS Web Services (AWS)

Search Result

Your Ref/PO Number : sams solar

Client Service ID : 946083

Kelly Mcnicol

Date: 01 November 2024

1 Murphy Crescent

Griffith New South Wales 2680

Attention: Kelly Mcnicol

Email: admin@skmplanning.com

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -34.3438, 146.0349 - Lat, Long To : -34.335, 146.0503, conducted by Kelly Mcnicol on 01 November 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

10.4 Aboriginal Cultural Heritage Conclusions

A review of the geology, topography and vegetation on the site and in the Griffith area has been carried out in this SEE. In terms of archaeological sensitive landforms, it has been determined that the site has historically been utilised for citrus farming and a dam which required extensive landforming and installation of tile drainage and irrigation infrastructure. As such the site area has been the subject to extensive previous disturbance. There are no natural watercourses or landforms in the immediate locality that would be likely to contain Aboriginal site or places and generally has a very low potential for any intact archaeological items to be present. It has therefore been deemed unnecessary to carry out any further investigation

11 Noise and Vibration

11.1 Introduction

The proposal has the potential to impact the amenity of nearby sensitive receivers during the construction of the development by way of noise. The potential for noise impacts during the operation of the solar farm are considered extremely low. A basic desktop assessment of the potential construction noise impacts of the development has been carried out below.

11.2 Construction Period and Intensity

Construction activities associated with the development would take place over a period of 12–15-week period and include the following activities:

- Site preparation – groundcover clearing, fencing, installation of gate and internal roads – underway.
- Stormwater and drainage improvements including augmentation to the existing tile drainage and drainage system – underway.
- Piling – installation of module mounting structures.
- Installation of PV panels and invertors.
- Commissioning

The program of works would require a maximum of 25 construction workers to be present on site at any given time (average of 20 over the construction period). Standard construction hours of 7 am – 6pm Monday to Friday and 8 am to 1pm on Saturday's would be employed.

11.3 Sensitive Receivers

There are a total of six sensitive receivers within 500m of the development site which are listed in the table below.

Receiver ID	Address
R1	445 Hanwood Avenue, Hanwood
R2	476 Old Willbriggie Road, Hanwood
R3	62 Murphy Road, Hanwood

R4	11188 Kidman Way, Hanwood
R5	11175 Kidman Way, Hanwood
R6	11145 Kidman Way, Hanwood



Figure 13: Receiver Location

11.4 Construction Plant, Activities and Sound Power Levels

The Noise Assessment adopted sound power levels for the plant and equipment which would be used during the construction of the development using Transport for NSW's *Construction Noise Estimator* and the UK Department of Environment, Food and Rural Affairs' (DEFRA) *Noise Database for Prediction of Noise on Construction and Open Sites*.

The following table provides the expected worst case scenario noise level in a given 15-minute period.

Table 5: Construction Noise Levels of Plant

Equipment	Sound Power Level (L _{Aeq}) dBA	Sound Pressure Level at 7m (L _{Aeq}) dBA
Backhoe	110	85
Truck	103	78
Power Tool	100	75
Piling Rig	113	88
Telehandler	106	81
Mobile Crane	98	73

Based on the proximity of residential receivers and the proposed noise levels of plant, it is expected that construction noise levels would be experienced at nearby dwellings. The duration of the proposed works would be short lived (12-15 weeks) and standard noise mitigation and management measures can be employed to ensure noise is not offensive or detrimental to the amenity of occupants of nearby dwellings.



Figure 14: Example of a Piling Rig

11.5 Mitigation Measures

To reduce the potential worst case scenario noise impacts caused by the use of the above noted plant and machinery at all receivers, the Applicant would prepare a detailed Construction Environmental Management Plan (CEMP) which would include the following mitigation and management measures:

- Identification of nearby residences and other sensitive land uses and consultation before and during construction.
- Description of approved hours of works and prioritising noisy activities after 8 am.
- Description and identification of construction activities, including work areas, equipment and duration
- Description of what work practices (generic and specific) will be applied to minimise noise.
- Consider the selection of plant and processes with reduced noise emissions.
- A complaint handling process.
- Noise monitoring procedures.
- Induction and training will be provided to relevant staff and sub-contractors outlining their responsibilities with regard to noise.
- Avoid using noisy plant simultaneously and / or close together, adjacent to sensitive receivers.
- Orienting equipment away from sensitive receivers.
- Carrying out loading and unloading away from sensitive receivers. The loading and unloading area has been positioned central to the site
- Selecting site access points and roads as far as reasonably practicable away from sensitive receivers.
- Maximising the offset distance between noisy plant items and sensitive receivers.

The above measures would be easily implemented during construction and would be expected to reduce noise levels to be compliant with the EPA's Interim Construction Noise Guideline. The neighbours would be provided with the site managers contact details should they experience any noise amenity impacts and additional mitigation measures would be employed.

11.6 Conclusions

Given that normal farming practices during harvesting periods would create noise levels above the expected construction noise levels and given the several industrial activities operating in

the area, it is expected that the rural receivers should not have their normal amenity impacted by the proposal. The construction period would be limited to 12-15 weeks and therefore any potential impacts would be short lived. It is considered that the potential noise impacts of the development can be suitably managed and if required, mitigated to ensure a suitable level of amenity can be retained for nearby dwellings during the construction period.

12 Biodiversity

12.1 Introduction

The development has been sited on an citrus farm and former dam area which both have been extensively disturbed by past agricultural and industrial practices. The site was first established for agriculture in the 1950 and is therefore considered Class 1 – Exempt land - highly degraded under the *Local Land Services Act 2013*. There is no native vegetation on the site which will be disturbed by the construction and use of the development including native trees, shrubs and grasslands. As previously discussed, the invasive plant species and minimal re-growth which can be seen from aerials between 2009 and 2024 at the former Dam Site has been recently removed. This area has been approved for a water storage associated with an industrial activity and was not identified under previous approvals for protection of native vegetation or to act as a landscape buffer.

The proposal is to be accessed under Part 4 of the *Environmental Planning and Assessment Act 1979*. The *Biodiversity Conservation Act 2016 (BC Act)* and *Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* also apply.

Thresholds Test

The thresholds test focuses on triggers that indicate a requirement or not for a second tier of assessment performed under Part 7 of the BC Act. The tests are applied to determine if a development or activity is likely to significantly affect threatened species as listed below:

- Impacts that exceed the biodiversity offsets scheme thresholds (Section 7.2 of the BC Act); or
- Impact on declared areas of biodiversity value mapped on the BVM; or
- Impacts are likely to significantly affect threatened species or ecological communities, or their habitats (Section 7.3 of the BC Act).

If any of the above criteria are triggered, an impact assessment performed in accordance with the Biodiversity Assessment Method by an Accredited Assessor is required.

Biodiversity Offset Scheme Thresholds Test

An area criteria threshold determines the clearing limit of native vegetation before triggering a requirement for assessment in accordance with the BAM. The minimum lot size of the area is 20 ha, therefore a total of 0.5 hectare can be cleared without the threshold being breached.

Minimum lot size of the land	Threshold for clearing, above which the BAM and offsets scheme apply
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

(Biodiversity Conservation Regulation 2017 cl. 7.2 (4))

Figure 15: Clearing Thresholds - BAM Method



Figure 16: Aerial with location of Solar Panel Arrays

As previously stated, the proposed solar farm development is located on a 5.0 ha former citrus farm and 1.5 ha within a former water storage dam contained within two lots with a collective area of 40 ha. The citrus farm area is void of any vegetation and has been highly disturbed by past agricultural practices including land forming, installation of tile drainage and planting of citrus. The former Dam Site is part of an industrial site. The dam was constructed in the early 1990's. Prior to the construction of the dam and the processing plant, the site was void of any native vegetation and used for rotational crops.



Figure 17: 1945 Aerial of the Site Prior to the construction of the Poultry Processing Plant

Biodiversity Values Map

The Biodiversity Values Map identifies land with high biodiversity value, as defined by the Biodiversity Conservation Regulation 2017. A review of the Biodiversity Values Map has been carried out to understand if the site contains any areas identified as significant (see **Figure 18**).



Figure 18: Biodiversity Values Map

Threatened Species

Fauna

The Threatened Species Test of Significance Guidelines states that a proposed development under Part 4 of the EP&A Act must identify if the site includes any threatened species (Schedule 1, BC Act).

A search of the OEH Threatened biodiversity profile search using Bionet indicates that no threatened species have been sighted within 500 of the site. As the proposal does not include the removal of native vegetation or potential habitat, the development is not expected to have an adverse impact on any of the listed vulnerable species in the locality.

Flora

A search of the NSW SEED portal including the vegetation classification map found no threatened vegetation communities on or adjacent to the site. The site is surrounded by industrial and horticultural plantings.



Figure 19: SEED Mapping of Vegetation Communities

The area to be utilised for the proposed solar farm does not contain any identified plant community types.

As the proposal would not disturb any native vegetation, let alone in excess of 1 ha in area, a Biodiversity Development Assessment Report (BDAR) is not warranted and the Biodiversity Offset Scheme (BOS) does not apply to the development. To ensure that potential external biodiversity impacts have been assessed in accordance with the legislation, a five part test has been completed.

12.2 Test of Significance

Under the BC Act, a development will require a five-part test for any clearing of native vegetation, impacts over threatened flora/fauna species and Endangered Ecological Communities. The five-part test of significance is not required in this instance as no impact on native vegetation or fauna habitat is proposed. However, as a precaution, the test of significance has been carried out.

The table below provides an assessment of the site and development against key threatening processes listed in Schedule 4 of the BC Act,

Factors in the test of significance	Impact of the proposed development
<p>Adverse effects on the life cycle of species</p> <p>Applies to listed species (Schedule 1 BC Act)</p> <p><i>In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction [BC Act section 7 (1)(a)]</i></p>	<p>The development would not be expected to have an adverse impact on the species listed in Schedule 1 of the BC Act. The solar farm would be constructed on cleared land used historically for the cultivation of rotational crops. The life cycles of threatened species are not directly related to, dependent on or active on the site. There have been no sightings of threatened species within the area proposed for the development. Any vulnerable species spotted in the locality would be able to move through the vegetation corridors which exist in the locality without relying on the site.</p>
<p>Adverse effect on ecological communities</p> <p>Applies to endangered and critical endangered ecological communities listed under part 1 and 2 of schedule 2 in the BC Act</p> <p><i>in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:</i></p> <p><i>(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or</i></p> <p><i>(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction [BC Act section 7(1)(b)]</i></p>	<p>The site does not have any endangered or critically endangered ecological communities. No remnant native vegetation will be cleared. The proposed development will have no negative impact on the vegetation communities on or surrounding the site.</p> <p>The existing landscaped buffer planted as part of historical approvals related to the processing plant would be retained and act as a landscaping buffer for the solar panel array and associated infrastructure.</p>

Adverse effects on habitats

Applies to the habitat area used by threatened species and ecological communities on and surrounding the site.

in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality

No threatened flora species or ecological communities have been recorded on or around the site.

The proposal does not include the clearing of any vegetation which could have been used to support avian populations including habitat.

The proposal is not expected to have an adverse impact on the habitat of any threatened species.

Adverse effects on areas of outstanding biodiversity value

Applied to declared areas of outstanding biodiversity value (AOBVs)

The site is not in or within proximity to any areas of AOBV.

Key Threatening Processes

Applies for processes listed in schedule 4 of the BC Act

whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process [BC Act section 7(1)(e)]

Clearing and/or loss of native vegetation (habitat, dead treed, hollow tree)

The proposal does not include the clearing of any vegetation.

Impact on native flora and fauna by feral animals (Rabbit, goats, cat, pigs, toad, fish, honeybees, bell miners, horses, deer, red fire ants, Yellow Crazy Ant, fox, rats)

The proposed development will not improve feral animal habitat or facilitate the spread of any invasive fauna.

Impact on native flora and fauna by pathogens and disease (Psittacine Circoviral, chytridiomycosis, *Phytophthora cinnamomi*, Pucciniales pathogenic)

The proposed development would not create any pathogens or disease.

Impact of the introduction and establishment of exotic species (vines, scramblers, Scotch Broomm, African Olive, *Chrysanthemoides monilifera*, perennial grasses, escaped garden plants, including aquatic plants, lantana)

The site would be maintained and noxious or invasive species including weeds removed.

12.3 Mitigations Measures

The following mitigation measures would be implemented during construction and operation of the facility to avoid potential impacts on biodiversity in the area:

- Monitor the surrounding areas for invasive weed species and non-native plants and implement a weed removal and spraying protocol.
- Avoid the removal of any native vegetation during operations.

12.4 Conclusions

The proposal is not expected to have an adverse impact on the biodiversity values of the locality including flora and fauna species. There is not considered to be any significant impact on any threatened species, Endangered Ecological Communities, critical habitat, or endangered populations by the proposed works on any state of nationally significant species population under the EPBC Act or BC Act. As such, there are not considered to be any additional biodiversity investigations required to facilitate the proposal.

13 Visual Impacts

13.1 Introduction

The proposal includes the installation of solar panel arrays and inverters which could potentially create visual impacts for nearby receivers. The site is located in a rural industrial precinct in proximity to the Hanwood Village. The visual impacts associated with the proposal will vary depending on the viewing location and other elements including topography and bulk and scale of the development. A visual assessment of the proposal with recommended mitigation measures has been provided in this section.

13.2 Receiver Locations

The development site is located on Murphy Road in Hanwood surrounded by horticulture farms, rural industries and future large lot residential development land.



Figure 20: Visual Receiver Locations

There are six residential receivers within 500m of the proposed solar panel array sites which could potentially have views of the development. The potential views from the future large lot residential area should also be assessed. There would be no views available from the Kidman Way as the 4 m high existing dam walls would be retained and the existing landscape buffer maintained.

13.3 Overview of Visual Impact

The solar panels are relatively low lying with array heights of between 2.0 m and 3.781 m high. Arrays would be oriented north to south and rotate on an axle to track the sun from east to west and obtain maximum solar exposure. The panel arrays are mounted on a fixed structure which has a height of 1.8 m with two pile driven posts per six panels.

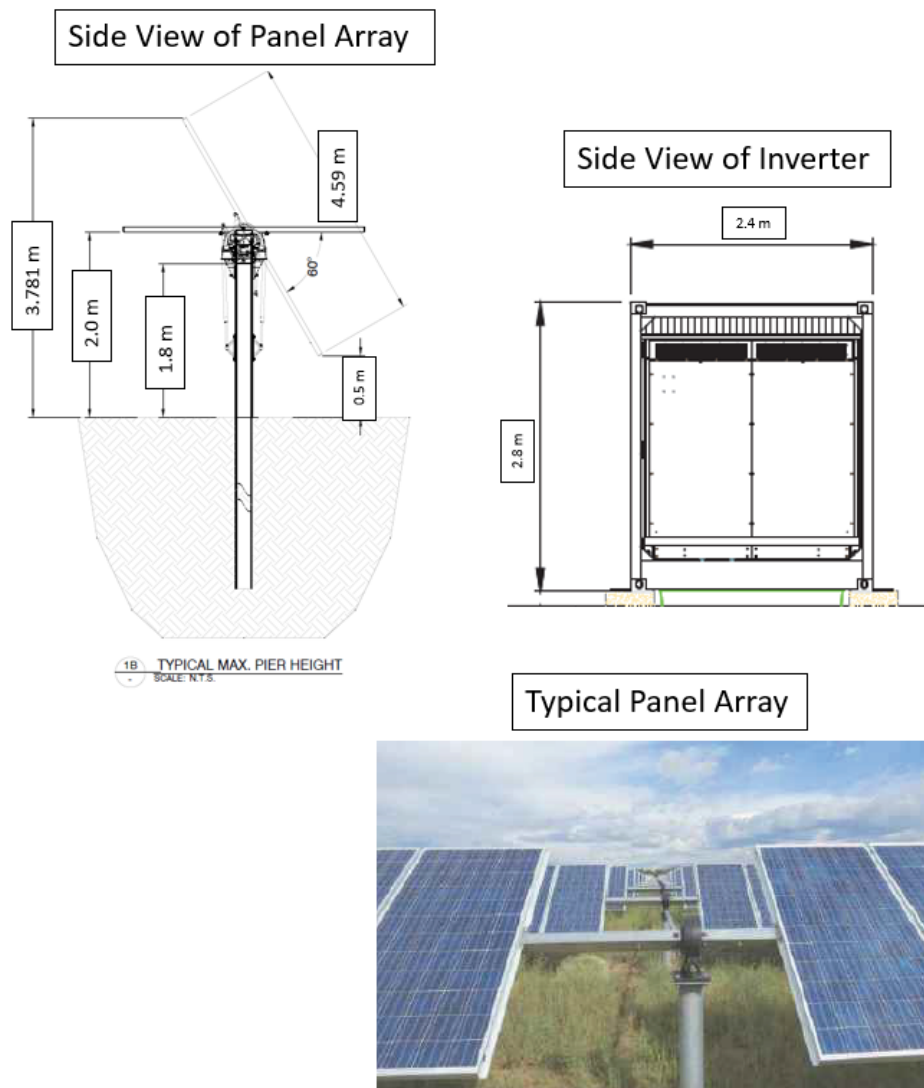


Figure 21: Panel Array and Inverter Side Elevations

The other infrastructure on the site would consist of inverters in a shipping containers set up and four batteries which would be located in the north-east corner of the site. The inverters would have a height and width of 2.8 m, width or 2.4 m and a length of 12 m.

The locality surrounding the development site is extremely flat with little to no undulation containing established citrus and grape plantings, large farm sheds, industrial buildings and farm dwellings. There are no significant views in the locality which need to be maintained.

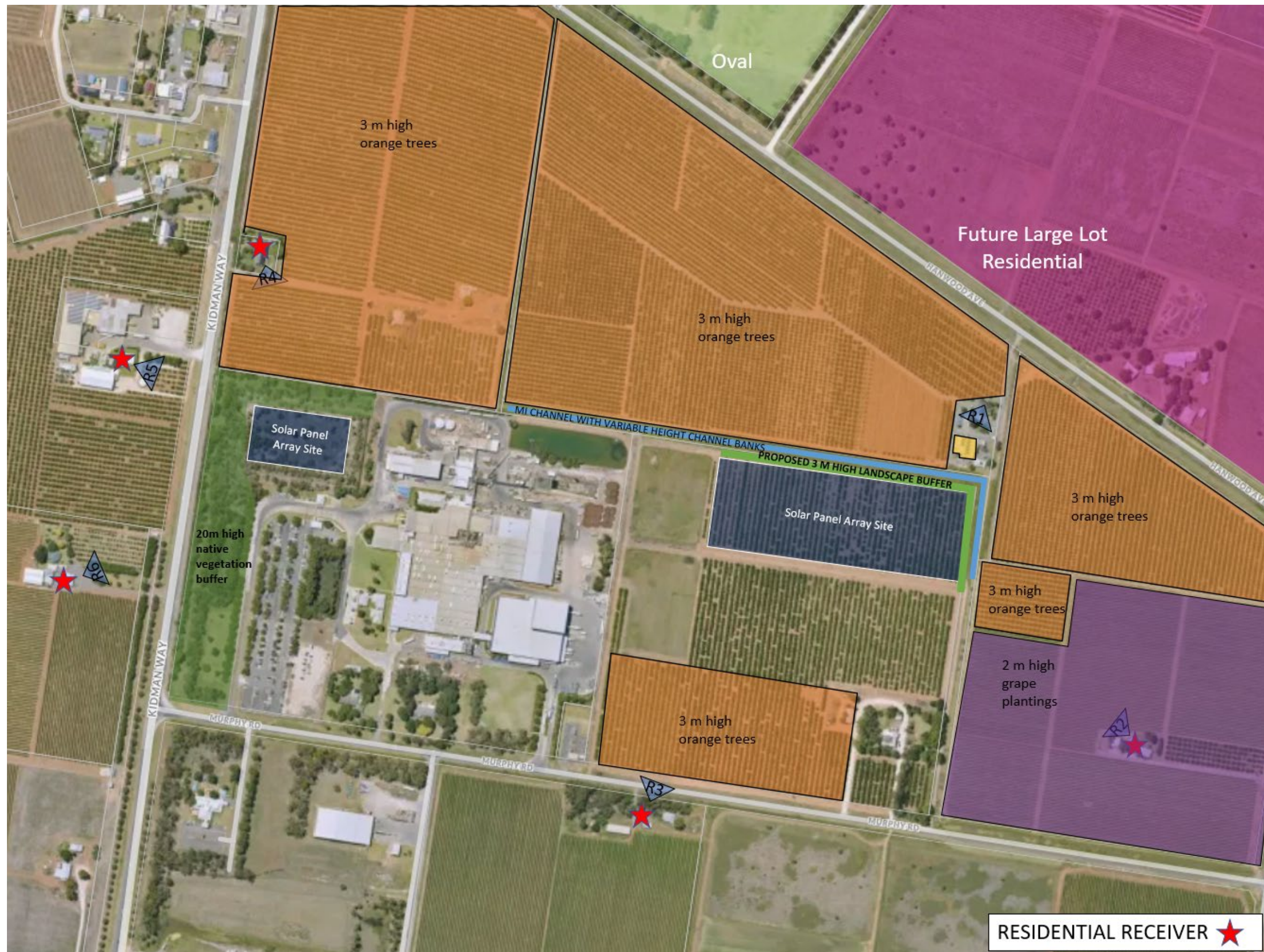


Figure 22: Visual Site Analysis Plan

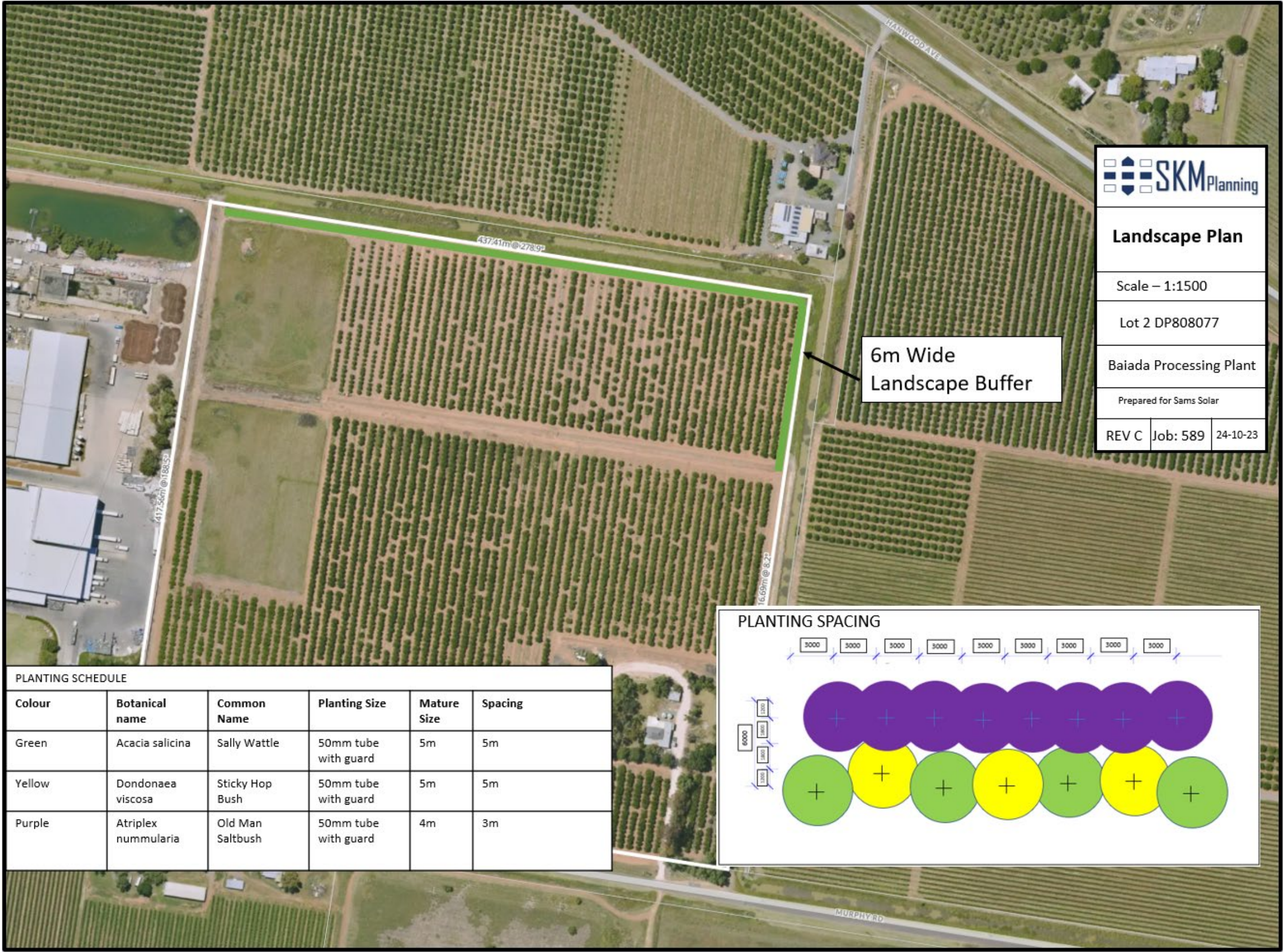


Figure 23: Proposed Landscape Plan

13.4 Visibility from Surrounding Areas

Citrus Site Solar Panel Array Site

Views to the site from the north

The development would be visible to the north, but the existing citrus plantings would substantially screen the development. Due to the flatness of the area, the visibility of the development would decrease with distance. The farm shed near the north boundary of the site at 445 Hanwood Avenue (R1) would effectively screen the main farm dwelling's view of the solar panel array. There is a small workers cottage 15 m from the MI channel which sits between the site and the lot to the north (see **Figure 26**). The channel contains significant vegetation at a height of 3 m which would effectively screen any views of the panel arrays from the farm cottage. The proposed landscaping buffer would over time further screen the view of the solar panels from the southern boundary of R1.



Figure 24: View to the Site Located Behind the Citrus Plantings from Hanwood Avenue Adjacent to the Future Large Lot Residential Land



Figure 25: View from the Site to R1

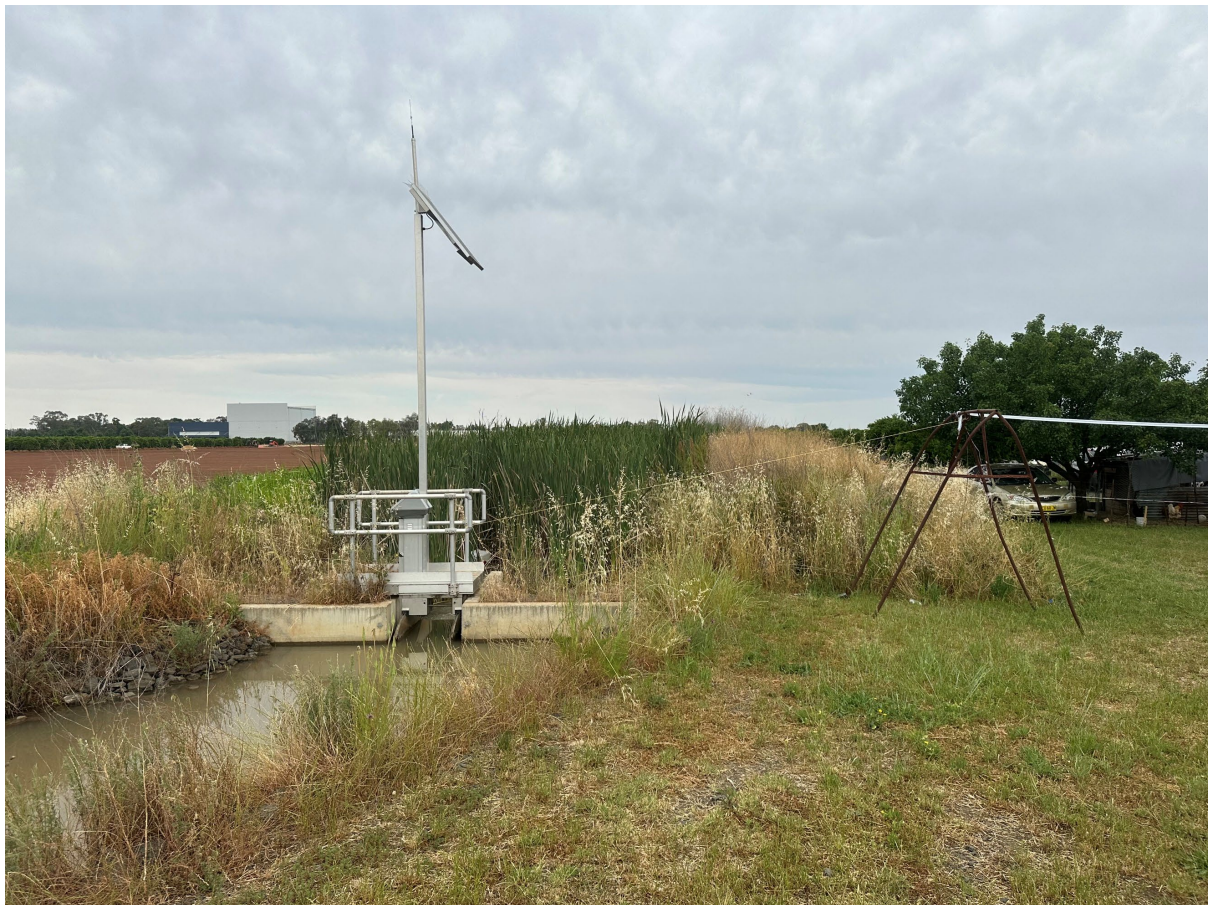


Figure 26: Existing Channel and Vegetation (3 m high) between the Citrus Site and Dwelling to the North

Views to the site from the west

To the west of the site is the existing Baiada Processing facility which contains structures and infrastructure of varying heights up to 18 m. There are no sensitive visual receptors to the west of the site.

Views to the site from the east

To the east of the site is a 19 ha farm holding with citrus and grape plantings. A farm dwelling is centrally located on the farm holding. Between the farm dwelling and the proposed solar panel arrays are mature grape and citrus plantings. Based on the positioning of the planting, occupants of the dwelling and the outdoor open space areas would not have any direct views of the solar panels. Should the plantings be removed, the proposed landscape buffer at maturity would effectively screen the panels from views to the east.

Views to the site from the south

To the south of the site are existing citrus plantings on the farm holding which would be maintained. These citrus plantings block the view of the proposed solar panel arrays from receiver R3. The dwelling at R3 is located behind a row of native vegetation which would also act to buffer any view corridors to the site from the receptor.



Figure 27: View from the Site to R2 with Citrus Plantings and MI Channel

Dam Site Solar Panel Array

Views to the site from the various vantage points

To the north and west of the site is a mature landscape buffer which was installed as part of the original approvals for the poultry processing facility. It should also be noted that the solar panel array would be installed at the base of the former dam. The base of the dam is at 120 AHD and the top of the bank is at 124 AHD. The former dam banks would remain and block any visibility of the solar panels from surrounding view corridors or vantage points. Visual receivers at R3, R4 and R5 would not have a view of the solar panel arrays due to the landscape buffer and dam banks.



Figure 28: Proposed Solar Panel Array showing Existing Landscape Buffer and Dam Walls.



Figure 29: View into the site from Kidman Way Footpath. Landscape Buffer and former Dam Banks Visible

Aerial Views

The site is located 10 km from the runway of the Airport. A Glare Assessment has been completed to understand if the development could have any potential impact on aircraft due to glint and glare (see **Appendix 4**). The site is not located within the Obstacles Limitation Surfaces Plan. The PV panels are designed to absorb light hence the reflectivity of the surface of the solar panel is very low. Compared with the reflectivity of common objects found in the environment, the reflectivity of the panels is considerably low. Due to the lack of Australian regulations, the simulation process follows the FAA guideline. The proposed PV system does not result in any glare of any kind on any of the established flight paths. As such, the installation of this system is fully compliant with aviation policy for potential solar glare.

The site would not be visible from the airport due to distance, lack of elevation change and the presence of vegetation in the locality. A Glint and Glare Assessment has been provided with the development application.

13.5 Visual Impact

The six farm dwellings within 1 km from the proposed solar panel arrays are separated by visual buffers including lineal bands of mature trees, channel vegetation and citrus and grape plantings which effectively screen the view of the sites from occupants of the receivers.

Based on visits to the site and the surrounding area, review of aerial imagery and pictures, a visual assessment of the potential impact on the six dwellings has been provided in **Table 6**.

Table 6: Visual Receiver Location

Receiver ID	Address	Visual Sensitivity	Visual Impact
R1	445 Hanwood Avenue, Hanwood	High	Low - moderate
R2	476 Old Willbriggie Road, Hanwood	High	Low
R3	62 Murphy Road, Hanwood	High	Low
R4	11188 Kidman Way, Hanwood	High	Low
R5	11175 Kidman Way, Hanwood	High	Low
R6	11145 Kidman Way, Hanwood	High	Low

As the receivers are dwellings, the potential sensitivity is considered to be High, however, as receivers R2-R6 would not have any visibility of the site, the potential visual impact of the proposal on these receivers is considered low. The farm cottage at 445 Hanwood Avenue, Hanwood would have visibility of the solar panel arrays which would be partially screened by

the existing vegetation in the MI channel. A landscape buffer with mature heights of 5 m has been proposed at the northern and eastern boundary of the site. Overtime, this landscape buffer would be expected to eliminate any views of the collar panel arrays from the farm cottage.

13.6 Mitigation Measures

The following aspects of the development are expected to decrease the potential visual impact of the development when viewed from surrounding vantage points in the locality:

- The arrays are oriented north to south in rows. As such the dwelling would have a side elevation of the panels rotating from east to west.
- The topography is flat and there are no elevated vantage points at the receiver which is a single storey dwelling.
- The inverter infrastructure would not be visible from the receivers.
- The proposal includes a vegetation screen which would achieve heights in excess of up to 5 m at maturity and effectively screen the view of the arrays from the receivers including private outdoor open space areas (see **Appendix 3**).

13.7 Conclusion

The visual impacts of the development have been assessed as being low-moderate. Once the vegetative screen is at maturity, it is expected that the potential visual impact of the development from 445 Hanwood Road, Hanwood would be considered to have a low impact and not impact the visual amenity of residents and visitors. The potential visual impacts of the development are considered acceptable as the development would provide renewable energy to a large electricity user in a relatively remote location. No additional mitigation measures are deemed necessary.

14 Justification and Conclusion

Based on the assessment carried out in this Statement of Environmental Effects it is considered that the proposal has merit and is justified. In summary, we believe there is adequate justification for the development for the following reasons:

- The development is consistent with the Commonwealth's Renewable Energy Target (RET) and both the NSW Government's Renewable Energy Action Plan and Climate Change Policy Framework. At a regional level the development complements the Riverina Murray Regional Plan's objectives of diversified energy production, promoting energy supply through renewable energy generation and encouraging renewable energy projects at locations with renewable energy potential and ready access to connect with the electricity network.
- The scale of the development is relatively small and is ancillary to an existing rural industry which is a burden on the electrical network in Hanwood. The proposal would be expected to decrease the number of power outages experienced in Hanwood which is considered a public benefit.
- There is capacity in the electrical infrastructure in the locality to facilitate the development.

Also based on the detailed assessment carried out in this report, the development should be supported by Council as:

- It will increase renewable energy supply in a regional area of NSW.
- It has been sited on a cleared citrus farm and former dam and is void of native vegetation and unlikely to contain Aboriginal items.
- It is considered consistent with relevant local, state and Commonwealth legislation including the Griffith LEP, SEPP's and the *Environmental Planning and Assessment Act 1979*.
- It will contribute to the economy of the region through construction employment opportunities and maintenance during operations.
- The impacts of the development can be mitigated or managed to ensure the amenity of nearby farm dwellings are not impacted.