



Fulham Solar Farm

Hopkins Road, Fulham

Town Planning Submission for Solis RE

Customer:**Solis RE****Customer reference:**

30866

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Contact:

Paul McAleer
Level 4, 3 Bowen Crescent, Melb Vic 3004
PO Box 33298 Melbourne 3004
Australia.

t: +61 (0) 3 9978 7823

e: paul.mcaleer@ricardo.com

Author:

Ben Corley & Catherine Sherwin

Approved By:

Paul McAleer

Date:

29 September 2021

Ricardo Energy Environment & Planning reference:

Ref: Planning Report

Issue History		
Issue Number	Date Issued	Document Status
1	28/09/2021	Draft
2	29/09/2021	Final
3	9/11/2021	Revision

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1 Introduction

Ricardo Energy Environment & Planning (Ricardo) have prepared this planning application on behalf of Solis RE.

It is proposed to develop and use the land at Hopkins Road, Fulham as a renewable energy facility (solar energy facility). The solar energy facility will house over 200,000 solar panels generating approximately 80MW of electricity and provided with 80MWh battery storage. The solar farm will cost an estimated \$175million and the project is 'shovel ready' to commence construction.

Solis RE (the proponent of the Fulham solar energy facility) have previously received planning approval for a 44MW solar energy facility on a 94ha site at Perry Bridge in the Gippsland region.

This project will provide substantial benefit to the local Gippsland region, including opportunities for local jobs and businesses, and access to lower cost power for the commercial sector. This is a critical project for Gippsland providing approximately 120 much-needed construction jobs in a challenging economic environment. Additional jobs will also be created for landscape planting and maintenance. The project will also provide an important electricity source that will assist in stabilising the supply of power.

The solar energy facility will provide an important role in the reduction of greenhouse gas emissions with a conservative annual output of 144,000 MWh per annum, therefore avoiding 130,000 tonnes of carbon dioxide emission each year for 35 years of operation.

The solar farm has been well designed to minimise impact as follows:

- The proposal will not result in the loss of any high value agricultural land.
- It is not located within a declared irrigation district.
- The proposed solar energy facility has been designed to retain the highest quality vegetation and does not require the removal of any medium to high value native vegetation.
- The layout also provides generous setbacks and extensive planting further contributing to the landscape character of the area, adding habitat opportunities and minimising visual impact

During pre-application consultation with stakeholders the proposal has been well received. In addition to discussions with local neighbours, local businesses and the wider community, pre-application discussions have also been held with the CFA, AusNet, WorkSafe, Fulham Correctional Facility and the nearby RAAF base.

This report is to be read in conjunction with the following reports and plans:

- Planning Permit Application Form
- Copy of Certificate of Title
- Architectural Plans prepared by Ricardo Energy Environment & Planning
- Landscape Plan prepared by Davidson Design Studio
- Agricultural Land Value Assessment prepared by RMCG
- Aboriginal Cultural Heritage Statement prepared by Andrew Long + Associates
- Glint and Glare report prepared by Ricardo Energy & Environment
- Bushfire Planning Assessment prepared by Bushfire Planning
- Community Engagement Plan prepared by Spence Consulting
- Community Consultation Report prepared by Spence Consulting
- Social Impact Assessment prepared by Spence Consulting
- Complaint Investigation and Response Plan prepared by Spence Consulting

- Traffic Management Plan prepared by Traffix Group
- Landscape Character and Visual Impact Assessment prepared by Davidson Design Studio
- Acoustic Report prepared by Watson Moss Growcott Acoustics.

We submit that the proposal is consistent with the relevant purposes, objectives and decision guidelines of the Wellington Shire Planning Scheme including Clause 19.01-2S (Renewable Energy), Clause 53.13 (Renewable Energy Facility) and the DELWP 'Solar Energy Facilities Design and Development Guidelines' (August 2019) designed to facilitate much needed major renewable infrastructure projects. The proposed design presents a well resolved layout that responds well to the site's opportunities and constraints and the context of the surrounding area.

We would therefore recommend that this project is supported by DELWP.

2 Site and Surrounds

2.1 Subject Site

The site is formally identified as Lot 2 on PS323461L, Lot 2 on PS204862W, and Crown Allotment 25 Section B Parish of Wurruk Wurruk, as shown in Figure 2.1 below. It is located on Hopkins Road, Fulham, on the north-western corner of Hopkins Road and McLarens Road. Located within the Shire of Wellington, the subject site is approximately 207km east of Melbourne.

The land is rectangle in shape, and abuts Hopkins Road along the eastern boundary, and McLarens Road along the southern boundary.

With an approximately 1km frontage to Hopkins Road along the eastern boundary and 1.6km southern frontage to McLaren's Road, the site has a total land area of approximately 160 hectares.

A dwelling is located on the eastern portion of the site and is currently uninhabited (see Figure 2.2).

The topography is relatively flat, with a gentle slope from the north-western corner down to the south-eastern corner of approximately 7 metres. Given the size of the site, the change in level is modest and gradual.



Figure 2-1 - Aerial image with site boundary

The main vehicular access to the property is located in the north-eastern corner of the site via Hopkins Road, near the shared boundary with the Fulham Correctional Centre. A second access point to the site is also available from Hopkins Road and is attached to the driveway servicing the existing dwelling

on the site that is located approximately midway down the eastern boundary (approximately 425 metres south of the north-eastern corner).

The site also has three vehicular access points along McLarens Road, the first is located in the south western corner, the second is situated 350m east on the corner of the neighbouring dwelling, and the third is positioned approximately 820 metres west of the Hopkins and McLarens Road intersection.



Figure 2-2 - Site access points



Figure 2-3 - Vacant dwelling on site

The site is currently used for low intensity grazing of cattle (Black Angus) for beef production. Pastures are moderate to low quality, with a mix of annual and perennial pasture. The quality of the pasture is moderate to poor, with significant areas where weeds are dominant.

There is limited farming infrastructure on the site, comprising stock yards located adjacent to the dwelling on site, as well as stock proof boundary fencing. Two windmills are also on site, but are not in working order (i.e. do not pump water to stock troughs). Six small dams are dotted around the property, and an old creek line has been made into a channel in the south-eastern corner of the land.

There is an established wind row along part of the western boundary and some trees surrounding the existing dwelling. The rest of the site is clear of trees with a mixture of annual and perennial (exotic) pasture species. Two overhead electricity power lines run through the east of the site, providing energy to the vacant dwelling.



Figure 2-4 - Drone Footage taken from centre of the site looking to the west. First windrow to the right of the image defines the property boundary. Cluster of trees to the left 379 McLaren's Road.



Figure 2-5 - Drone Footage taken from west of the site looking to the east. Road running along the right side of the image is McLarens Road, cluster of trees in the centre is 379 McLarens Road.

2.2 Settlement and Hopkins Road

It is proposed to connect the solar energy facility to the grid via a powerline along Settlement and Hopkins Road. Features of these roads include:

- Hopkins Road connects the subject site to the Princes Highway
- The sealed carriageway is approximately 6m wide from Prince Highway to the entrance of the Correctional Facility, located to the north of the subject site

- The road reduces in width from the Correctional Facility
- A small number of farming properties are located on both the east and west side of the road,
- Dwellings at 913 Settlement Road and 995 Settlement Road are screened via densely planted windrows.
- An existing electrical powerline runs along the western side of Hopkins and Settlement Road for approximately 1km.
- An existing 66kv powerline running east-west intersects Settlement Road approximately 1.5km south of the subject site.

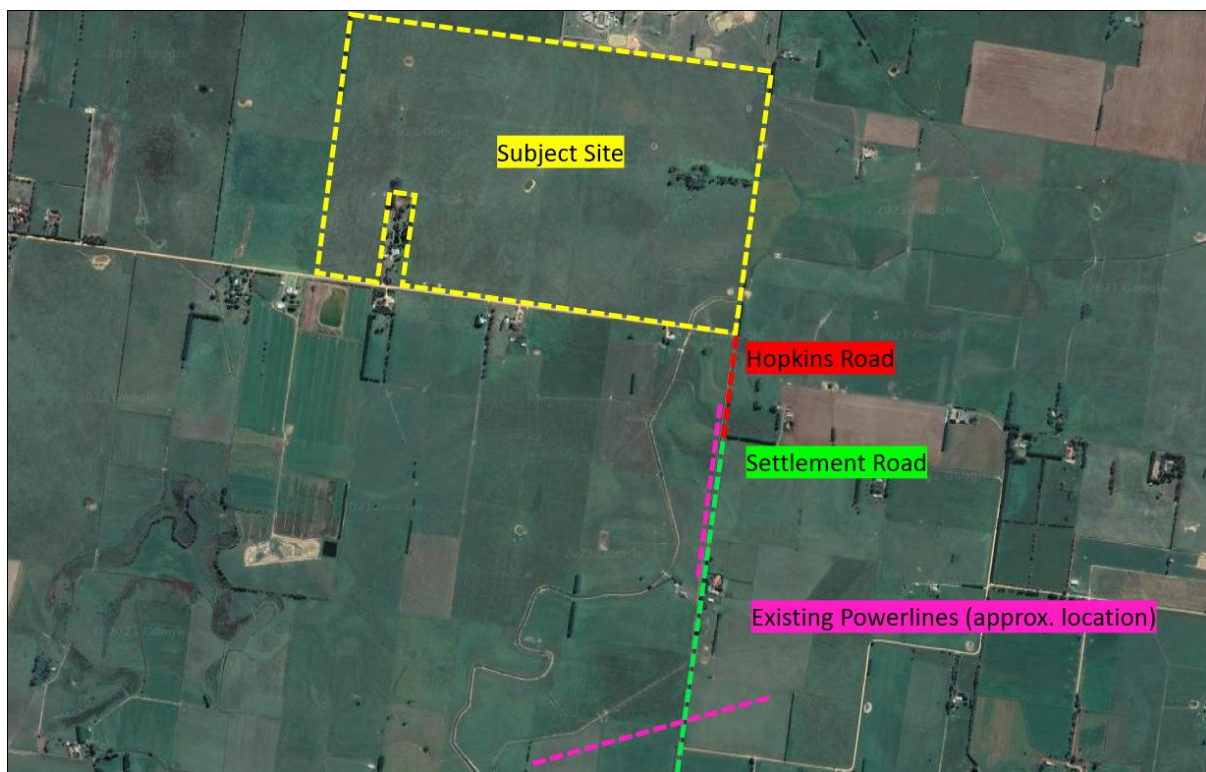


Figure 2-6 - Site Aerial including Hopkins and Settlement Road



Figure 2-7 - 66KV Powerline intersecting Settlement Road (corner of Lower Settlement Road)

2.3 Site Surrounds

The site and surrounds are located within the Shire of Wellington in a rural setting with farmland typical in the immediate and wider context of the site and surrounds.

The nearest major towns to the site are:

- Sale (E) 8.4km (population 13,672)
- Rosedale (W) 17.5km (population 1,654)
- Tarralgon (W) 40km (population 27,958)
- Maffra (N) 16km (population 4,316)
- Stratford (N) 18km (population 2,617)

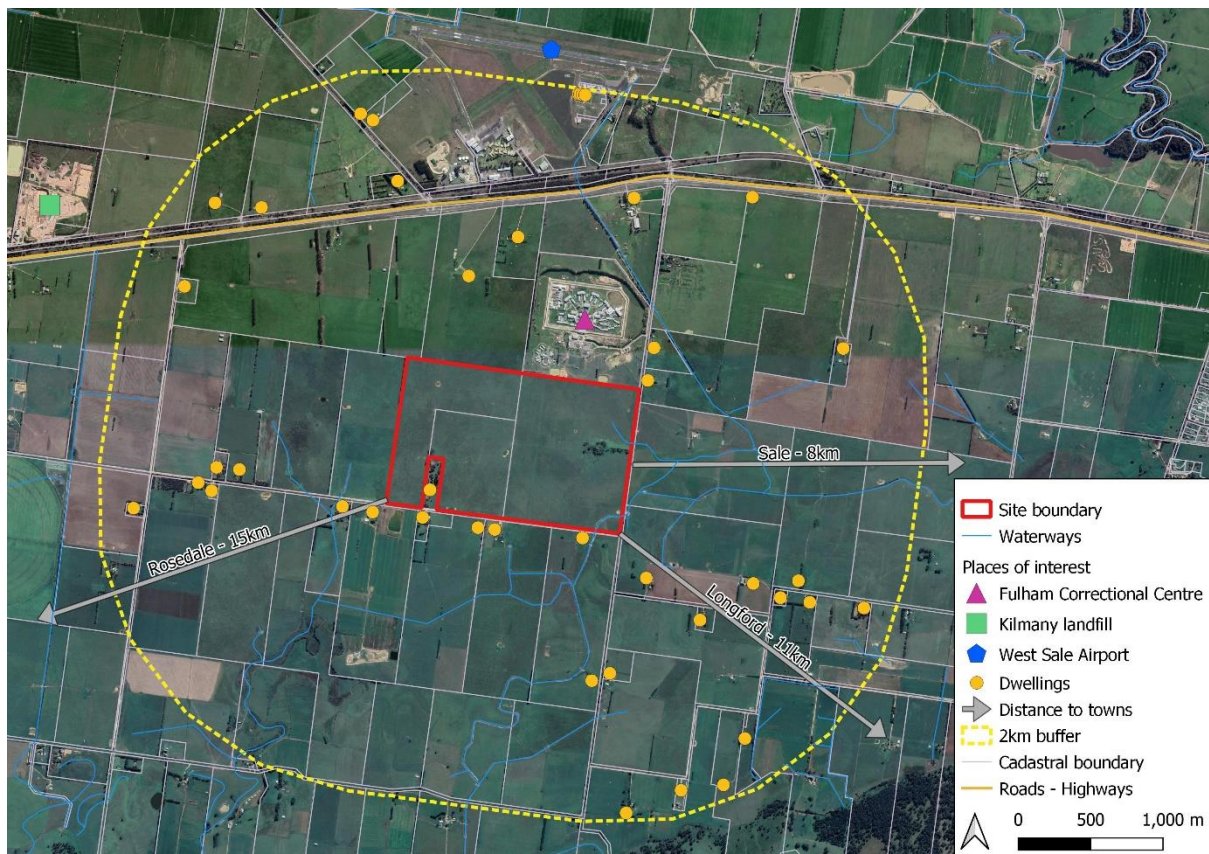


Figure 2-8 - Site Surrounds

North

To the immediate north of the property is Fulham Correctional Centre. The facility is classified medium/minimum security level and has an operational capacity of 893 residents.

Further north across Princess Highway is TAFE Gippsland's Fulham Campus, the Gippsland Armed Forces Museum and the Victorian Emergency Management Training Complex.

The West Sale Airport is roughly 2.2 kilometres north of the land located north of Princes Highway. The facility currently hosts a number of aviation businesses such as charter flight operations.



Figure 2-9 - View from north-east of the site. Fulham Correction Centre located to the right of the image

East

To the east is Hopkins Road. Vegetation alongside the road is sparse with the exception of a cluster of trees to the north east and south east. The neighbouring properties to the east are also used for grazing.

The RAAF Base East Sale is 15 kilometres east of the proposal. This facility is currently used as training base for Air Force personnel. Whilst the township of Sale is located 9 kilometres east of the property.



Figure 2-10 – East of the Site: Hopkins Road looking south

South

No. 379 McLaren’s Road Fulham is a property located to the south of the site and is enveloped by the land that is the subject of this application. The site contains a residential dwelling and is heavily vegetated with canopy trees.

Abutting the south of the property is the unsealed McLarens Road. Six properties sit on the southern side of McLaren’s Road opposite the subject site with the land also being used for grazing.

The Holey Plains State Park is located approximately 6 kilometres south of the site.

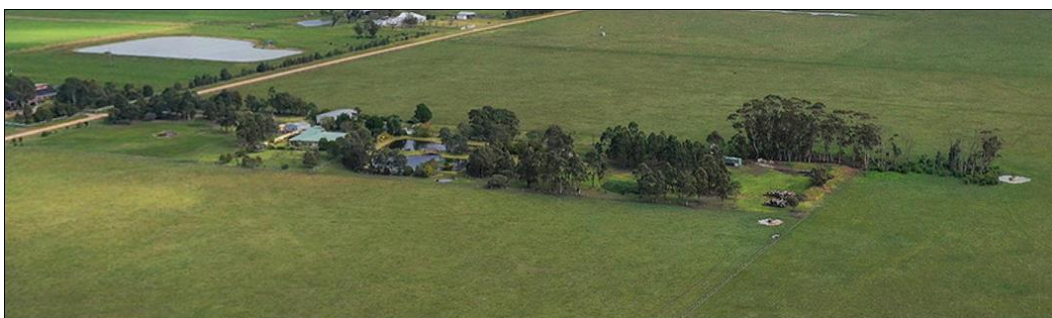


Figure 2-11 – South of the site: 379 McLaren’s Road Fulham

West

To the immediate west is farmland used for grazing purposes. The closest dwelling to the west is approximately 1km from the site. Further west is the township of Kilmany which is approximately 9kms from the site.



Figure 2-7 - Aerial view of western surrounds

3 History

3.1 Previous Planning Applications

There have been no recent planning applications lodged for the subject site, as confirmed by Wellington Shire Council.

3.2 Pre-application Meetings

3.2.1 DELWP

A pre-application meeting was held with the Department of Planning, Environment, Land and Water (DELWP), Development Approvals & Design – Renewables team on 19 April 2021.

The discussions were very positive and helpful to confirm documentation to be lodged as part of the planning application. This included liaising with Worksafe over batteries and including the grid connection details (powerline connection) with the planning application.

3.2.2 Worksafe

A pre-application meeting was held with WorkSafe's Chemical Safety Outreach Regulated Industries Division on 14 May 2021. The discussions were held to gain an understanding of the WorkSafe referral process, their considerations and what information would be needed in the planning application.

The discussion was centred around the proximity of batteries to sensitive receptors and on site offices and amenities.

3.3 Certificate of Title

The following formal land descriptions apply to the site:

- Lot 2 Plan of Subdivision 323461L
- Lot 2 Plan of Subdivision 204862W
- Crown Allotment 25 Section B Parish of Wurruk Wurruk

It is highlighted that the street address for the subject site is 'Hopkins Road, Fulham', and that there is no assigned street number.

There are no registered restrictions, such as a Section 173 Agreement or Covenant, registered on title. The land does not contain any easements.

4 The Proposal

4.1 Overview

The proposal seeks to construct and carry out buildings and works on the site to develop a new renewable energy facility (solar energy facility), utility installation (powerline), erect business identification signage, and remove 27.878 hectares of native vegetation.

The solar energy facility will have over 200,000 solar panels to generate 80MW with 80MWh of battery storage. It will connect to AusNet Services located approximately 1.5km south of the site.

The Fulham Solar Farm concept was conceived because of the critical need for additional electricity supply and increased reliability within this region east of the Latrobe Valley. The battery storage is an essential part of the project as it assists in ensuring consistent energy supply and back up to the electricity grid during times of low solar energy output.

The proposed renewable energy facility has been carefully considered with a well resolved site layout that ensures minimal impact on the environment and landscape.

The proposed solar energy facility will comprise the following key components:

- A minimum 200,000 solar panels with 80MW output
- 80MWh battery storage
- Substation
- Transformer
- Switching Yard
- 23 x inverter stations

Other site features include a security fence, the main administration building with amenities, and 10 car parking spaces with five each near the administration building and substation and a water tank near the main entrance.

The solar panels and mounting system are made up of a combination of monofacial and bifacial panels.

The bifacial panels allow the module to collect light from both sides of the panel, capturing reflected sunlight from the surface under the solar tracker.

The panel dimensions will be approximately 2.25 metres high x 1.33 metre wide x 0.35 metres deep. Each solar panel will be mounted on a single tracker that has a rotation from +52 to -52 degrees horizontal each day.

The tracker runs north to south with the modules able to tilt from east to west to follow the sun's trajectory.

It is noted that the site will continue to be used for farming purposes as sheep will graze on site once construction is completed.

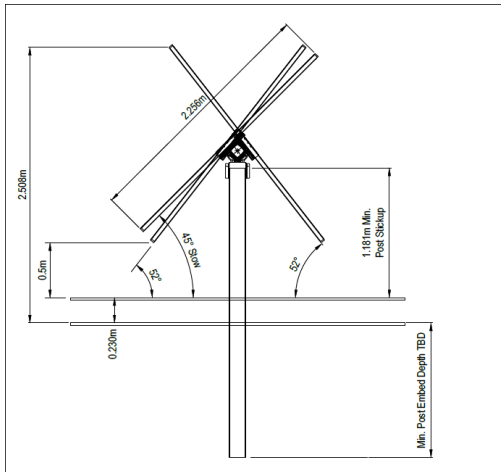


Figure 4-1 – Typical Tracker Elevation

A 10-metre buffer constructed of non-combustible materials and clear of vegetation is provided around key infrastructure located at the south east corner including the AC coupled battery storage area, transformer, and substation.

The battery storage systems will be connected to both the substation and inverter stations via underground cabling.

Twenty-three (23) inverter stations will be located throughout the site to convert the variable direct current output of the solar panels into an alternating current. The inverter stations are approximately 6.25 metres x 2.5 metres and are 2.9 metres high. Cabling will run underground to connect the inverters to the substation.



Figure 4-2 - Inverter Station

An administration building and amenities are also in the south east corner. Both buildings will be demountable.

Two small car parking areas are proposed for operation and maintenance staff with one located near the substation and the other adjacent to the site office. Both car parks will provide five (5) car parking spaces. A pull up area for trucks is provided along the cluster of infrastructure in the south east corner of the site.

A business identification sign will be located at the site's entrance along Hopkins Road at the primary entrance, measuring 1.7m x 1.7m (2.9sqm).

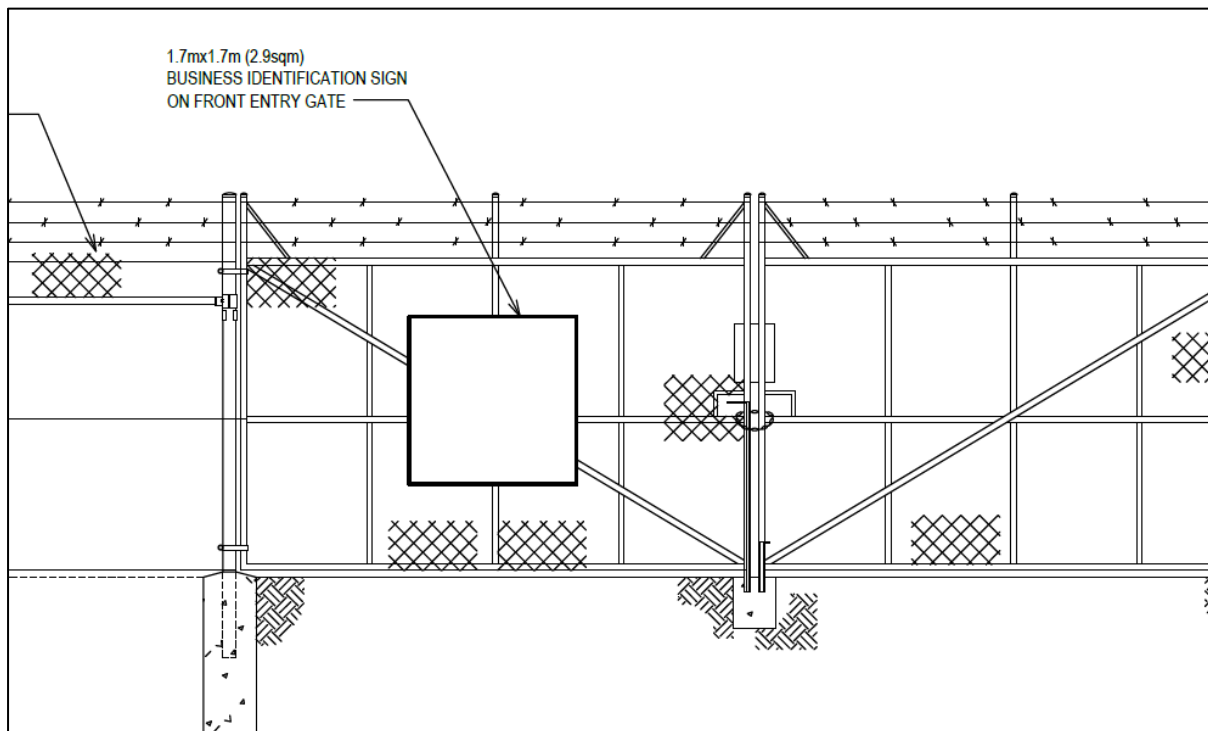


Figure 4-3 - Business Identification Signage

4.2 Site Layout

The site layout has been guided by the 'Solar Energy Facilities Design and Development Guideline August 2019' (Solar Development Guideline).

Some key determinants that have informed the layout include site context and nearby residential properties, location of easement and powerlines, bushfire risk and management, site access, native vegetation, visual impact and landscape opportunities.

Key design parameters include:

- minimum 15 metre solar panels/ infrastructure setbacks to both street frontages
- minimum 30 metre solar panels/ infrastructure setbacks to sensitive interfaces
- 5 metre wide landscaping buffer around the periphery of the development
- a 4-metre-wide perimeter road around the periphery of the development
- Minimum of 6 metre separation between solar zones
- above ground water storage (45,000 litre tank) close to the primary vehicle entry
- native vegetation (canopy trees and grassland) retention where possible.

A 10-metre firebreak will be provided between solar panels/ infrastructure and landscaping buffer in line with the recommendations of the bushfire report and CFA. A 4-metre perimeter road will be located within this firebreak. Passing bays have been incorporated to the perimeter road every 600 metres and are at least 20 metres long.

To ensure emergency vehicle access for firefighting and other management purposes, six metres of separation has been provided between each solar zone.

Boundary setback range from 17.2 metres to 28 metres, whilst greater setbacks have been provided around 379 McLarens Road, with a minimum of 39.7 metre to panels on the east, 44.2 metres to the north, and 56.8 metres to the west, further reducing the visual impact of the proposal.

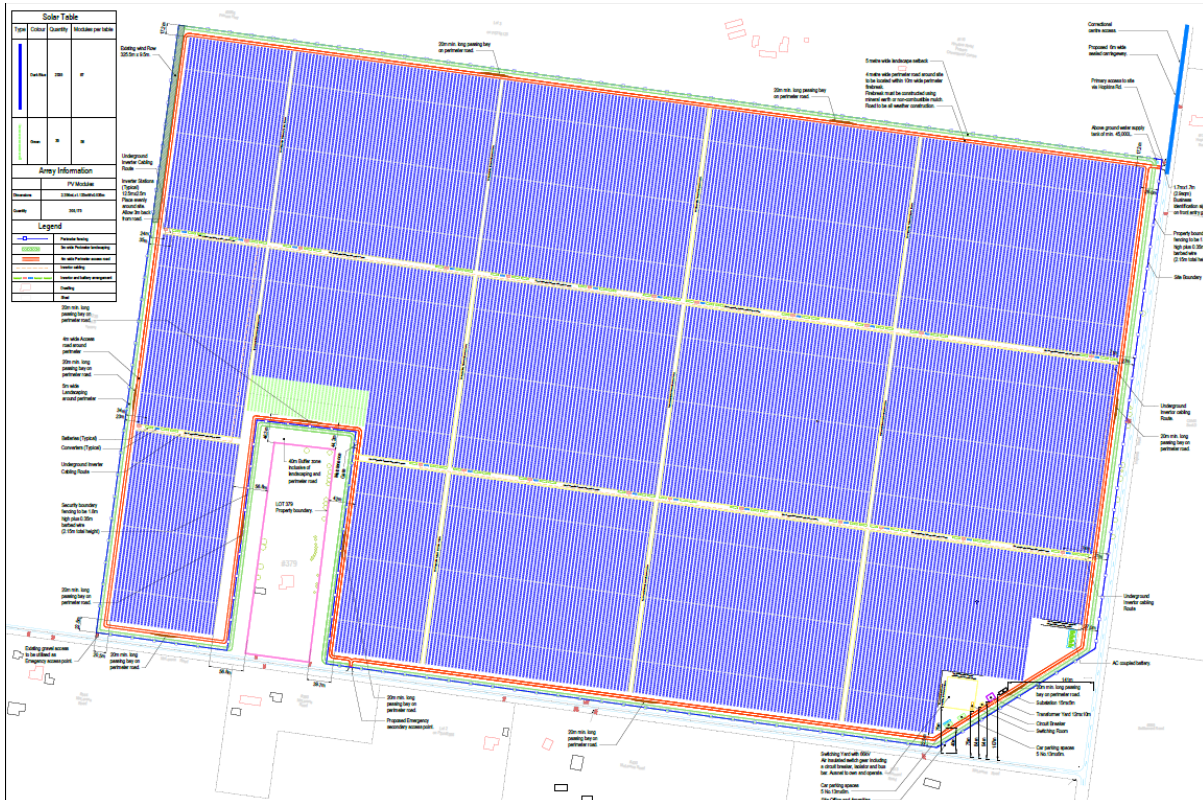


Figure 4-4 - Site Layout

4.3 Battery Energy Storage Systems

Energy generated by the solar panels will be stored on-site by both AC-Coupled and DC-Coupled batteries. Both systems will utilise Lithium Ion batteries stored in a typical 40 foot container weighing approximately 50 tonnes, however the efficiencies in which they can feed the energy into the grid changes between the two options.

The traditional AC-Couple batteries, of which there are twenty (20), are located in the south east corner along with twenty (20) 0.85 metre x 1 metre DC-DC converters.

Sixty-nine (69) DC-Coupled batteries are located throughout the solar farm. A DC-Coupled battery is a technology innovation that allows DC energy from the PV modules to directly charge a battery and store that energy, without the need to convert it to AC electricity. It has the added advantage of being able to capture any surplus energy (known as clipped losses) from the panels, that may occur as a result of peak generation that might not ordinarily be able to be exported at that time.

These batteries are required to be co-located with the inverters. Each inverter requires three (3) DC - coupled batteries and eight (8) 0.85 metre x 1 metre DC-DC converters as shown in Figure 4-3 below.

Sound attenuation measures have been proposed in the form of a sound proof shed around each cluster of converters. The sound proof sheds are approximately 8 metres by 4 metres and will reach a height of 3 metres. Maintenance access to these converters will be provided via a door to the sheds south abutting the 6m wide east to west access roads.

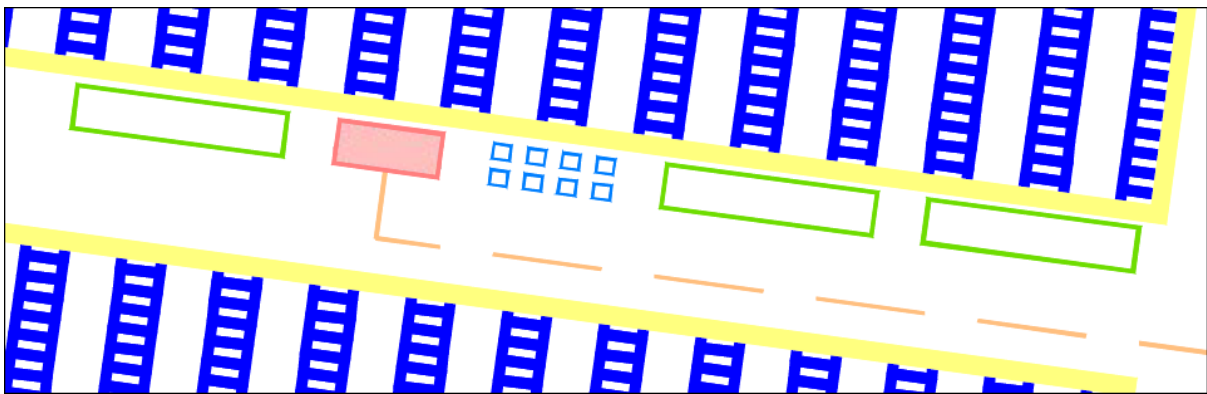


Figure 4-5 - DC-Coupled Battery Configuration showing Inverters (Pink), Batteries (Green) and Converters (Light Blue)

4.4 Site Access

The primary vehicular access to the site is proposed via Hopkins Road. The application seeks to utilise the existing access point located in the north-eastern corner of the land, adjacent to the common boundary with the Fulham Correctional Centre.

It is proposed to widen the sealed carriageway of Hopkins Road to a width of 6 metres for a length of approximately 400metres to the proposed primary access point to the site. Currently the 6 metre wide sealed carriageway terminates at the entrance for the Correctional Facility.

An existing access point in the south west corner and a proposed secondary access point to the east of the property at 379 McLarens Road will ensure safe and efficient emergency access to and from the site.

Access to the landscape buffer between the solar farm and 379 McLarens Road will be provided via a maintenance gate to the north east and an existing access point of McLarens Road allowing for landscape maintenance.



Figure 4-6 - Existing vehicular access Hopkins Road (Fulham Correctional Facility to the right)

4.5 Fencing

A perimeter security fence is proposed and will generally follow the property boundary with the exception of two areas. The security fence will be stepped in from the property boundary where it abuts 379 McLaren’s Road. This will allow the security fence to be located behind the proposed landscape buffer. The fence will also step in behind the irrigation channel in the south east corner of the site. Where the security fence ‘steps in’ from the property boundary, the existing boundary fencing will remain unchanged.

The proposed fence will be 2.1-metre-high and consist of permeable mesh to 1.8 metres, with barbed wire used for the remaining 0.35 metres to reinforce security.

6 metre wide security gates will be integrated where required into the fencing as well as standard pedestrian access gates.

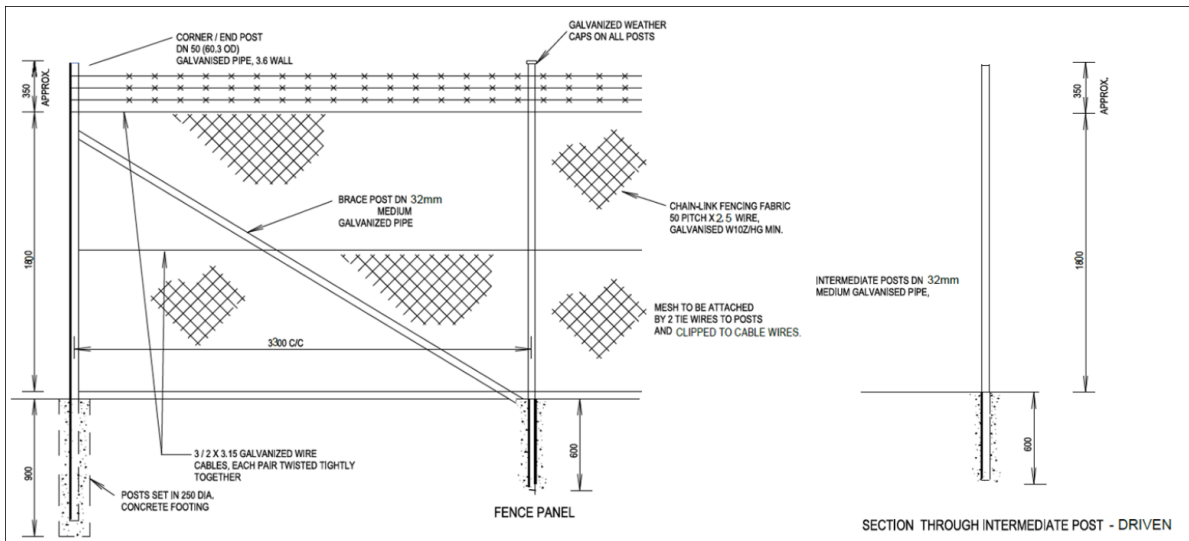


Figure 4-7 - Proposed fencing details

4.6 Landscaping

A 5 metre wide landscaping buffer will run on the outer side of the firebreak around the periphery of the development. The landscape buffer will incorporate a good mix of indigenous trees, shrubs, grasses, and climbers which will soften and screen the proposed solar energy facility.

The Golden Wattle and Gippsland Mallee trees proposed typically grow to a height of 8 and 10 metres, respectively. Whilst the native shrubs, grasses and climbers provide significant density at a lower level to bridge the gap between the ground and the tree canopy.

This choice of flora will ensure over time that the solar panels and infrastructure will be screened from view and reduce the heat island effect while not impacting on the operation of the solar panels.

Typical approach to buffer planting layout and cross section below illustrates the proposed planting and density of plants to surround the site.

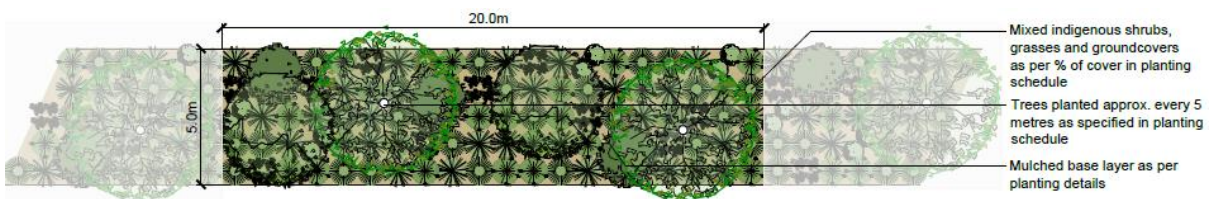


Figure 4-8 - Typical 5 metre Buffer Planting Layout

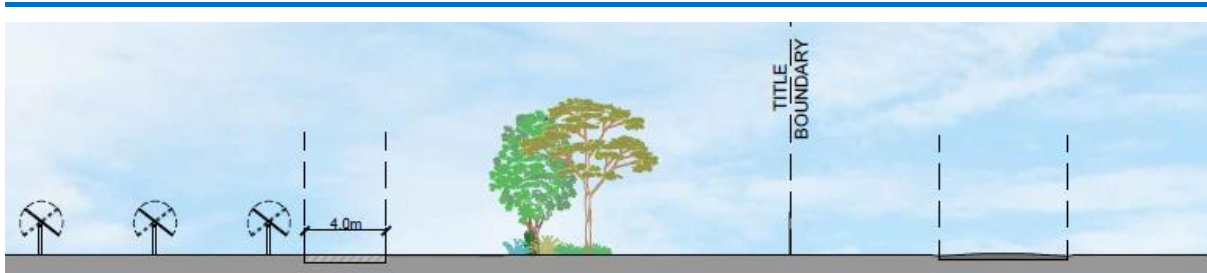


Figure 4-9 - Cross section of proposed screen planting looking north along Hopkins Rd

4.7 Grid Connection

An existing 66KV powerline is located approximately 1.5km south of the subject site running east-west and will provide the point of connection to the national electricity market.

The connection will require the construction of an overhead powerline, which will run along the western side of Hopkins and Settlement Road and will follow the same alignment of an existing north-south powerline.

Power poles that currently service this powerline will be replaced as part of the proposal, whilst an additional thirty-two (32) power poles will be installed.

No native vegetation will be removed to accommodate the extended power line and/or replacement of the existing powerline.

4.8 Native Vegetation

It is proposed to retain and protect the highest quality native vegetation on currently on the site, that is the vegetation in the south-eastern corner of the study area in addition to native vegetation present on the roadsides.

However, as a result of infrastructure requirements the removal of 27.878 hectares of grassland will be required. The grasslands to be removed is classified as low quality and consist of Spear Grass, Wallaby Grass, Rush, Common Blown-grass and Common Wheat-grass. An additional 12 patches equating to 0.201 hectares of native vegetation was found along the Settlement and Hopkins Road road reserve and has been retained. No native trees are to be removed.



Figure 4-10 - Native Vegetation

5 Planning Controls

The land is zoned Farming Zone, and there are no applicable overlay controls. The site is not within an area of Aboriginal Cultural Heritage, however it is within a designated bushfire prone area. These are discussed in detail below.

5.1 Farming Zone

The Farming Zone applies to the property and all those neighbouring the site.

The purpose of the zone is

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To provide for the use of land for agriculture.
- To encourage the retention of productive agricultural land.
- To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.
- To encourage the retention of employment and population to support rural communities.
- To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.
- To provide for the use and development of land for the specific purposes identified in a schedule to this zone

Pursuant to the Table of Uses at Clause 35.07-1, Renewable Energy Facility (other than Wind energy facility) is a Section 2 use, where a planning permit is required.

Pursuant to Clause 35.07-4, a permit is also required to carry out buildings or works associated with a use in Section 2 of Clause 35.07-1

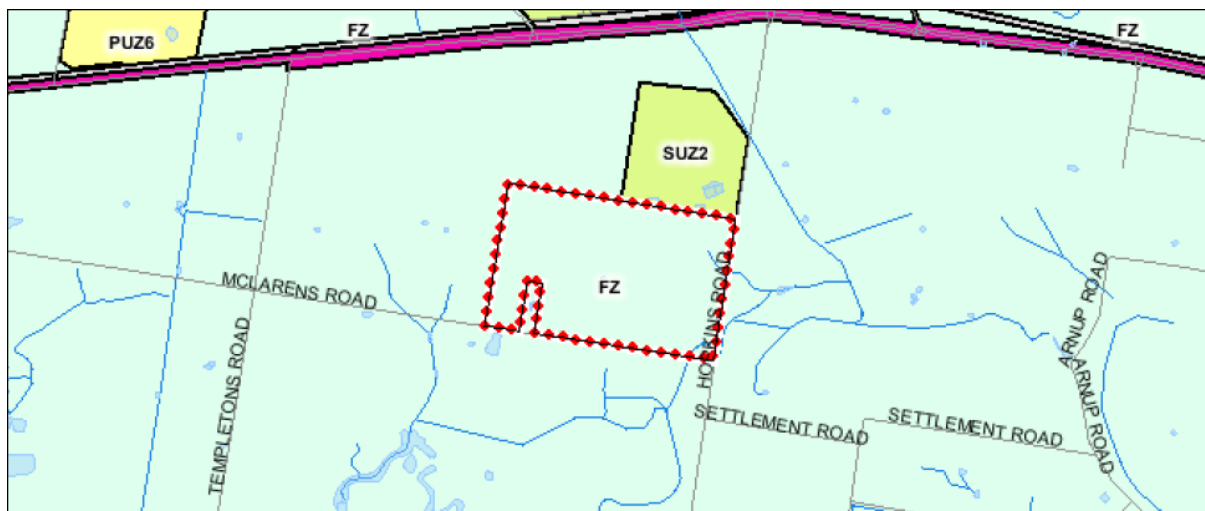


Figure 5-1 - Zoning Map

5.2 Particular Provisions

Clause 52.06 Signs

Clause 52.06 details signage triggers. Signage under the Farming Zone is Category 4. Under Section 2 of Clause 52.05 a permit is required for business identification sign and the total display area to each premises must not exceed 3sqm.

Clause 52.17 – Native Vegetation

The purpose of this provision to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved by applying the following three step approach:

- Avoid the removal, destruction or lopping of native vegetation.
- Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
- Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy, or lop native vegetation.

As the proposal is removing native vegetation, a permit is required pursuant to Clause 52.17-1, A permit is required to remove, destroy, or lop native vegetation, including dead native vegetation.

Clause 53.13 – Renewable Energy Facility

The purpose of this provision is ‘to facilitate the establishment and expansion of renewable energy facilities in appropriate locations with minimal impact on the amenity of the area’. The decision guidelines must consider the following, as appropriate:

- *The Municipal Planning Strategy and the Planning Policy Framework.*
- *The effect of the proposal on the surrounding area in terms of noise, glint, light spill, vibration, smell and electromagnetic interference.*
- *The impact of the proposal on significant views, including visual corridors and sightlines.*
- *The impact of the proposal on strategically important agricultural land, particularly within declared irrigation districts.*
- *The impact of the proposal on the natural environment and natural systems.*
- *The impact of the proposal on the road network.*
- *Solar Energy Facilities Design and Development Guideline (Department of Environment, Land, Water and Planning, August 2019).*

5.3 Summary of Planning Permit Triggers

A planning permit is required for the proposed solar energy facility at Hopkins Road, Fulham pursuant to the following provisions of the Wellington Planning Scheme.

Control	Permit Requirement
Farming Zone Clause 35.07-1	Pursuant to Clause 35.07, a <u>permit is required</u> to use the land for a renewable energy facility (solar energy facility)
Farming Zone Clause 35.07-1	Pursuant to Clause 35.07, a <u>permit is required</u> to use the land for a utility installation (powerline)
Farming Zone Clause 35.07-4	Pursuant to Clause 35.07-4, a <u>permit is required</u> to building or works associated with a use in Section 2 of Clause 35.07-1
Signage Clause 52.05	Pursuant to Clause 52.05-11 a <u>permit is required</u> to display a business identification sign.
Native Vegetation Clause 52.17	Pursuant to Clause 52.17-1, a <u>permit is required</u> to remove, destroy, or lop native vegetation, including dead vegetation.

6 Policy Context

6.1 State and Regional Planning Policies

Clause 12.01-1S Protection of biodiversity

Objective is 'to assist the protection and conservation of Victoria's biodiversity' Whilst a key strategy is:

- Use biodiversity information to identify important areas of biodiversity, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites

Clause 12.01-2S Native vegetation management

Objective is 'to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'. Key strategies include:

- Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
- Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

Clause 12.05-2S Landscapes

Objective is 'to protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments'. A key strategy is:

- Ensure important natural features are protected and enhanced.

Clause 13.02-1S Bushfire planning

Objective is 'to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.' A key strategy includes:

- Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.

Clause 14.01-1S Protection of agricultural land

The objective is 'to protect the state's agricultural base by preserving productive farmland'.

Clause 14.01-1R Protection of agricultural land – Gippsland

The strategy is to 'protect productive land and irrigation assets, including the Macalister Irrigation District, that help grow the state as an important food bowl for Australia and Asia'.

Clause 14.02-3S Protection of declared irrigation districts

Objective is 'to plan and manage for sustainable change within irrigation districts'. A key Strategy includes:

- Ensure non-agricultural land use does not undermine the integrity of irrigation infrastructure and complements existing and future agricultural production

Clause 15.02-1S Energy and resource efficiency

The objective is 'to encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions'. Strategies include:

- Reduce the urban heat island effect by greening urban areas, buildings, transport corridors and open spaces with vegetation.
- Encourage retention of existing vegetation and planting of new vegetation as part of development and subdivision proposals.

Clause 15.03-2S Aboriginal cultural heritage

Objective is 'to ensure the protection and conservation of places of Aboriginal cultural heritage significance. A key Strategy includes:

- Provide for the protection and conservation of pre-contact and post-contact Aboriginal cultural heritage places.

Clause 17.01-2R Diversified Economy - Gippsland

Objective is 'to strengthen and diversify the economy'. Key strategies include:

- Support rural economies to grow and diversify.
- Facilitate regional, cross-border and inter-regional relationships to harness emerging economic opportunities.

Clause 17.01-2R Innovation and Research – Gippsland

Objective is 'to create opportunities for innovation and the knowledge economy within existing and emerging industries, research and education.' A Key Strategy is:

- A strategy is to 'Facilitate opportunities for innovation and industry development arising from climate change and initiatives to reduce greenhouse gas emissions.

Clause 19.01-1S (Energy Supply)

Aims to facilitate development of low carbon energy supply infrastructure.

Clause 19.01-2S Renewable Energy

Objective is to "to promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met'. Key Strategies include:

- Facilitate renewable energy development in appropriate locations

- Consider the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.

6.2 Local Planning Policies

Clause 21.13 Environment and Landscape Value

A key objective of this clause is 'to retain vegetation on private land, Crown land, declared water stream-side reserves and roadsides'. Key strategies include:

- Encourage the retention of appropriate vegetation and fauna habitat in new development.
- Ensure the need for removal of native vegetation is minimised through the appropriate siting of dwellings in rural areas.

Clause 21.14 Environmental Risk

The overview of Clause 21.14 is 'there are a number of environmental risks facing Wellington Shire Council which may impact on land use and development decisions'. The key objective for climate change impacts is:

- To manage the potential impacts of climate change on the environment including in areas of coastal vulnerability.

Clause 21.17 Economic Development

A key objective of this Clause is to 'expand and diversify the regional economy and increase employment' Key Strategies include:

- Support the establishment of new industries and businesses, and the expansion of existing operations in appropriate locations.
- Support new and innovative rural and other industries to help achieve a diverse regional economy.

Clause 22.02 Rural Policy

A key objective is 'to protect agriculture and agricultural land from inappropriate encroachment by urban and non-production based rural land use and settlement'. A strategy is:

- Ensure that use or development in rural areas, including advertising signage, is compatible with and has an association with surrounding agricultural activity.

Clause 22.05 Aerodrome and Environs Policy

'To ensure that the safety and efficiency of aircraft operations is not prejudiced by any new use or development of land nearby'. Key policies that are to be considered when considering applications include:

- Whether the grant of a permit would detrimentally affect the operational safety of aircraft or the opportunity for the reasonable future expansion of the aerodrome.
- The height of the proposed development.
- The effect of the proposal on the amenity of area.

7 Planning Considerations

7.1 Policy

Clause 53.13 -Renewable Energy Facility (other than wind energy facility) was introduced into all Victorian planning schemes as part of amendment VC161 on 17 September 2019 with the purpose of a more streamlined planning permit process supporting renewable energy facilities.

The purpose of this particular provision is to facilitate the establishment and expansion of renewable energy facilities, in appropriate locations, with minimal impact on the amenity of the area.

VC161 also introduced the '*Solar Energy Facilities Design and Development Guideline August 2019*' (Solar Development Guideline) as a decision guideline for planning permit applications.

This application falls within the criteria of this clause as the renewable energy facility will be above 1 megawatt generation capacity and will be exporting electricity generated onsite to the National Electricity Market (NEM) via the AusNet Services 66kV transmission lines approximately 1.5km south of the subject site.

Greenhouse Benefits

The development will assist in meeting the Victorian Government's objective of accelerating the development of well-sited and well-designed renewable energy generation facilities in Victoria, to reduce emissions, create jobs and put downward pressure on energy prices, while meeting legislated generation targets. It will support the Renewable Energy (Jobs and Investment) Act 2017 target of renewable energy generation of 40% by 2025 and the Victorian Government's commitment to increasing the target to 50% by 2030. At a Federal level, the proposed solar energy facility will also contribute to Australia's commitment to the Paris Climate Change Agreement 2016, and is in step with recent Federal announcements over a long term emissions reduction strategy.

State planning policy VPP's Clause 19.01 'Energy' outlines the policy objectives and strategies that support the development of solar energy facilities, which includes supporting the transition to a low-carbon economy with renewable energy and greenhouse emission reductions.

The proposal provides significant greenhouse benefits by avoiding approximately 4,550,000 tonnes of carbon dioxide emissions of the 35 year lifespan of the energy facility. Each megawatt hour (MWh) of electricity generated by renewables reduces electricity from coal by a similar amount, and therefore avoids about 0.9 tonnes of carbon dioxide emissions. A conservative output for Fulham Solar Farm is 144,000 MWh per annum, therefore avoiding 130,000 tonnes of carbon dioxide emission each year for 35 years of operation.

Community Benefits

In addition to the greenhouse benefits, the proposal will provide the following community benefits:

- It will strengthen and diversify the Gippsland economy which is a key objective under Clause 17.01-2R Diversified Economy – Gippsland and Clause 21.17 Economic Development providing local economic development and employment.
- It will provide a significant number of jobs during the construction period and will support rural economics to grow and achieve a diversify regional economy. Specifically, up to 120 construction workers will be working on the project during the estimated 28-week construction phase.
- Permanent local jobs are expected to be created during the operation of the solar farm such as grounds maintenance, cleaning and site security.
- During construction, the intention is to maximise the utilisation of local businesses and people.

- Local businesses will be utilised in the construction of the solar farm. While some specialist technology will be sourced from outside of the region, we expect the bulk of the physical work to be completed by local businesses, including the project developers (Marathon Electrical and Ferguson Civil Construction).
- The project will provide substantial benefit to the local region, including opportunities for local jobs and businesses and access to lower cost power for the commercial sector.
- Fulham Solar Farm will deliver reliable power to the local community whilst setting the foundation for other larger planned projects in the region.
- The Fulham Solar Farm is backed by local people focused on ensuring long term economic and community benefits for the region.
- 80 megawatts can power approximately 25,000 homes.
- It will help to reduce the burden on an oversubscribed power network.

The proposal has been designed to integrate well within the context of the land by providing generous setbacks, minimal vegetation removal and provided with extensive planting around the site. Furthermore, the site's location is not within a declared irrigation district or on land that is high value agricultural land.

The proposal is well-supported by state, regional and local planning policy and is consistent with the objectives and vision of the Wellington Planning Scheme.

7.2 Site Selection

A feasibility study was undertaken to determine the suitability of the site for the proposed solar energy facility. The assessment determined that the site was suitable, based on a series of factors including infrastructure, topography, location, vegetation and size.

The solar farm will provide an important function of improving power supply and continuity.

In summary, the subject site is considered to be ideally located for the following reasons:

- Topographical conditions avoid the need for unnecessary earthworks or changes to the natural landscape. There is a change in level across the site, however, this is gradual over the large parcel of land and no significant earthworks are required to accommodate the proposal.
- The site is close to the electricity grid with access to AusNet transmission lines running approximately 1.5km south of the site.
- The site has ready access to main roads.
- It is not located within a protect declared irrigation district.
- It is note located within a floodplain or a major water course or wetland.
- No state significant agricultural land will be lost as the combination of the soil's characteristics and annual rainfall means the site has a low agricultural value.
- There will be no loss of cultural heritage or landscape values of significance.
- The site does not contain any high value native vegetation with the majority of native vegetation found on site being poor quality grassland.
- The area is farming land.
- The size and shape of the site minimises direct abuttals and there are very few sensitive receptors in the area.
- There are no other solar energy facilities within proximity, thereby avoiding cumulative impacts of built form concentration of these types of facilities.
- The grid connection extension will not result in the loss of any native vegetation or impact on culturally significant land.

This meets the requirements of the Solar Development Guidelines which details that solar energy facilities should have minimal impacts on surrounding communities, the environment and other land use activities. The document provides guidance on identifying a suitable site for a solar energy facility and the following considerations were assessed when selecting the site:

- Ideal siting conditions
- Connecting to the electricity transmission network
- Protecting environmental values
- Protecting cultural heritage
- Avoiding loss of high-value agricultural land
- Minimising impact on landscape values
- Natural hazard management.

These key considerations are also iterated in Clause 19.01-2S Renewable Energy which promotes the provision of renewable energy in appropriate locations and to minimise the effects of a proposal on the local community and environment.

As such, the site is considered suitable for a solar energy facility that is well designed and carefully sited with landscaping buffers and generous setbacks to boundaries.

7.3 Layout & Visual Impact

The carefully designed site layout has ensured minimal impact on landscape values, sensitive receptors and native vegetation.

The site layout has been guided by the Solar Development Guidelines, CFA parameters, site context including nearby residential properties, location of easement and powerlines and location of native vegetation. The key design parameters have been listed under the Section 4.2 Site Layout and include 10 metre firebreak and minimum 30 metre building setbacks from boundaries of sensitive interfaces.

To minimise visual impact on the landscape values the proposal has been designed to:

- Meet bushfire requirements including perimeter breaks (discussed in detail at 7.6 Bushfire)
- Provide large and varied setbacks to boundaries where appropriate e.g. interface with 379 McLarens Road.
- Provide a significant landscape buffer around the entire site as a mitigation measure to screen and soften the infrastructure and to also assist with mitigating glint and glare (discussed in detail at Section 4.6 Landscaping). This landscape buffer consists of a 5 metre wide landscape buffer around the entire perimeter of the site, with the exception of where the existing cypress windrow runs along a portion of the western boundary.
- Associated infrastructure, such as the inverter stations, will be of a muted natural colour tone that is non-reflective. The solar panels will also be of a non-reflective material.
- Proposed placement of infrastructure is away from sensitive interfaces and will be screened by the proposed landscaping buffer.

The interface with the dwelling to the south of the site at 379 McLarens Road has been designed carefully to minimise impact and ensure that landscaping is effective in screening and will soften the infrastructure when viewed from the adjacent property. The setbacks range from the solar panels to the property are varied ranging between a minimum of 39.7 metres and as much as 56.8 metres. The generous setbacks combined with the proposed landscaping strip will ensure that the visual impact is minimised.

Figure 7.1 below demonstrates the view when looking north of the dwelling at 379 McLarens Road showing existing scattered vegetation on 379 McLaren's Road and an illustrative perspective of the landscape buffer screening the solar panels in the background.

Photomontage



Figure 7-1 - Photomontage of Sensitive Receptor 10 when viewed north from 379 McLarens Road (Page 29 Visual Impact Assessment)

It is noted that there are some reduced setbacks along the western and northern boundary of the wider site, where a 30 metre setback is not provided. However, these areas are not considered to be sensitive interfaces as they interface with farmland and there are no structures or dwellings located nearby. The nearest dwelling to the north of the site is at 4078 Princes Highway, approximately 615 metres away, whilst the accommodation facilities at the Correctional Centre are approximately 77 metres from the property boundary. Similarly, the nearest dwelling to the west is approximately 920 metres to the property boundary and 943 metres to the solar panels.

The abutting land is not being used for horticultural or cropping purposes where the urban heat island effect would be considered (see further discussion below in Section 7.11.3). Furthermore, a minimum 15 metre setback is provided which incorporates the 5 metre wide landscape buffer which will screen the proposal when viewed from the adjacent properties. It is therefore considered appropriate in these instances where a 30 metre setback is not provided to the northern and western boundaries.

The figure below provides a photomontage, from the Visual Impact Assessment, of a view of the site from the west. It demonstrates that the site will be barely visible and that the proposed landscape buffer will be the only visible part of the solar energy facility on the horizon.

Photomontage



Figure 7-2 - View from Sensitive Receptor 16 from Visual Impact Assessment (proposed) (Page 35 Visual Impact Assessment)

To assess the visual impact in the landscape a Visual Impact Assessment has been prepared by Davidson Design Studio and this has considered the impact of the solar energy facility in its immediate location and the broader setting.

The report considers the impact of the solar energy facility in its immediate location and broader setting and provides a series of photomontage images that demonstrate the visual impact of the proposed facility in the surrounding context from key public view points, as per the DELWP Solar Energy Facility guidelines.

18 sites were selected to be included within the photomontages of which 16 viewpoints were from the public domain and an additional two from the private. The two private viewpoints are from 379 McLarens Road and the Fulham Correctional Centre and were selected due to their abuttal and accommodation/dwelling proximity to the subject site.

Of the 18 receptors analysed 15 were classified as low sensitivity of view due to the receptors distance from the proposal or cleared agricultural landscape devoid of vegetation. The remaining three receptors were classified as moderate sensitivity of view.

The report provides a series of photomontages that show how the proposal will sit within the landscape from a series of representative viewpoints with before and after photomontages.

An example of this is in the figures below. These photomontages demonstrate how the successful mitigation measure of the proposed landscape buffer and that topography and existing vegetation will also assist in minimising visual impact when viewed from the Fulham Correctional Centre.



Figure 7-3 - Sensitive Receptor 13 view from Visual Impact Assessment (Existing) (Page 32 Visual Impact Assessment)



Figure 7-4 - Sensitive Receptor 13 view from Visual Impact Assessment (Proposed) (Page 32 Visual Impact Assessment)

The Visual Impact Assessment highlighted that additional mitigation measures are not required, however, it recommended two considerations relating to the security fence in the southeast corner of the site and the water tank. These recommendations included providing screening opportunity around the water tank and recessing the security fence in the southeast corner so that it aligned with the landscape buffer proposed. Both these recommendations have been incorporated into the final design. The water tank has been shifted to allow for planting around the tank and will be a muted green colour to blend with the landscape. The security fence in the southeast corner has been shifted so that it now lies on the north side of the irrigation channel. This improves the visual outlook in that corner as it blends with the landscape buffer.

The report found that the proposal was found to have very low - moderate visual impact on the identified viewsheds. The proposed design for the solar energy facility includes perimeter buffer planting mitigates any detrimental views from the selected receptors. The buffer planting will be composed of locally indigenous plant species to provide ground level, mid and upper storey vegetative coverage.

The report concludes that based on the appraisal and findings of this Visual Impact Assessment it can be considered that the proposed Fulham Solar Farm would have a low effect on the existing landscape character and values as well as the local context.

The proposed layout design, including setbacks and proposed buffer planting demonstrates that there will be minimal visual impact in the landscape.

7.4 Landscaping

The landscape proposal includes a 5-metre-wide planting buffer around the entirety of the site adjacent to the perimeter road and comprises species from the Plains Grassy Woodland Ecological Vegetation Class (Gippsland Plain Bioregion). These are the plants that likely would have occurred across most of the site prior to European settlement and land clearing. The species selected from the EVC have been chosen to provide screening to the proposed facility and reducing the impacts of the heat island effect while not impacting on the operation of the solar panels or casting shadows onto neighbouring land.

It is noted that there is a gap in the proposed buffer planting where the established windrow runs along a portion of the western boundary.

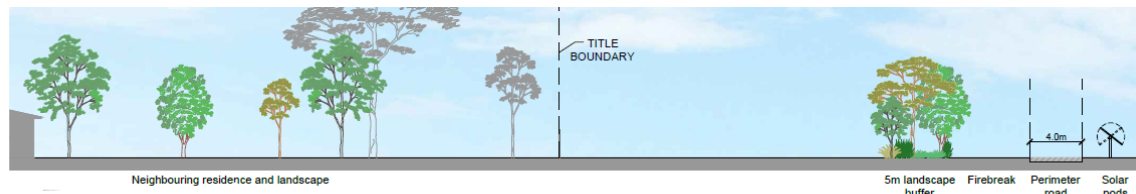


Figure 7-5 - Cross Section A-A of proposed screen planting looking north along the property boundary at 379 McLarens Road demonstrating the larger setback

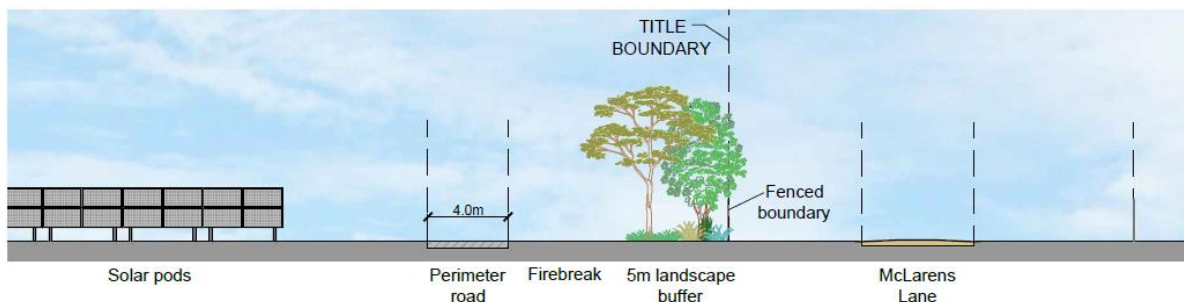


Figure 7-6 - Cross Section C-C View from McLarens Road looking east to the subject site.

The typical buffer planting layout on the landscape plan demonstrates a dense planting schedule that ensure vegetation will be of sufficient height, width and foliage density at maturity to screen relevant solar components and the associated built form from view.

The proposed species selection of vegetation has been carefully selected by the landscape architects to provide screening to the proposed facility and reduce the heat island effect while not impacting on the operation of the solar panels. It is highlighted that during the pre-lodgement community consultation period a neighbour flagged a wattle allergy and requested that wattle was not planted. The proposed wattle species was changed to a Black Sheak that provides an equivalent height and width and effectiveness in screening without the allergy concern.

7.5 Agricultural land value

An Agricultural Land Value Assessment has been prepared by RMCG, dated August 2020, and submitted with this report. Following a detailed assessment, it was found that the combination of the soil's characteristics and annual rainfall would mean the site has low agricultural value.

The soil on site is described as a mix of yellow and brown sodosols, which are generally sandy and strongly acidic. These soils tend to be low inherent fertility and a low water storage capacity. As such, the land is unsuitable for cropping and will provide limited agricultural potential.

Average rainfall in the area is sufficient for dryland agriculture, but insufficient for high enterprises like dairy, summer cropping or horticulture, unless there is access to irrigation. The site is not within a Victorian Irrigation District and has no connection to modernised irrigation infrastructure.

The agricultural output from the farm operation has been assessed as \$118,837 per annum. A typical farm needs to generate approximately \$250-500k gross income per annum in order to have sufficient net income for one family farm or one employee. The report concludes that this property is considered to have sufficient economic return to represent about 24% to 48% of a viable one family farm, and the economic output from the site is considered insignificant at a regional and state level, as it is 0.15% of the Wellington Shire's agricultural production, and 0.0009% of the state's agricultural value of output.

The report also highlighted that once the solar facility has passed its useful life, it is relatively easy for the site to revert back to agricultural production. Once the solar infrastructure is removed, the property would be in a similar position to where it is today.

The proposed solar energy facility will not reduce the availability and/or productivity of strategic agricultural land or any land in an irrigation district.

The proposed solar energy facility will not reduce the availability and/or productivity of strategic agricultural land or any land in an irrigation district. It will also provide the opportunity for co-locating sheep grazing with the solar energy facility.

The site is not classified as strategically important agricultural land or located within declared irrigation districts and will not result in the loss of high value agricultural land. The objectives contained within state and regional policies Clause 14.01-1S & 1R Protection of agricultural land – Gippsland, Clause 14.02-3S Protection of declared irrigation districts, Clause 53.13 and the Solar Development Guidelines are therefore met.

7.6 Bushfire

The proposal satisfies the objectives of Clause 13.02-01S (Bushfire Planning), which includes the strategy '*Reducing the vulnerability of communities to bushfire through the consideration of bushfire risk in decision making at all stages of the planning process*'.

A Bushfire Planning Assessment, prepared by Bushfire Planning and dated September 2021 was submitted with this application. This report was guided by:

- the *CFA Guidelines for Renewal Energy Installations*,
- Solar Energy Facilities Design and Development Guidelines,
- Planning Permit Applications Bushfire Management Overlay Technical Guide 2017 (DELWP);
- Wellington Planning Scheme; and
- Preapplication discussions with the CFA.

The site is in a designated bushfire prone area; however, neither the site nor the surrounding area is affected by the Bushfire Management Overlay, and consequently Clause 53.02 Bushfire Planning in the Wellington Planning Scheme is not applicable.

Practical measures in consultation with relevant fire authorities and the bushfire planning assessment have been undertaken to mitigate any bushfire risks.

Measures undertaken include:

- **Perimeter Separation** – A 10 metre firebreak has been provided on the perimeter of the solar farm. The 10 metre wide firebreak will be constructed using non-combustible crushed rock or mineral earth, and will be managed in a no-fuel condition at all times.
- **Perimeter road** – Within the 10 metre fire break is a 4 metre perimeter road.
- **Fuel/vegetation management** – A fire break of 10 metres to be maintained around the perimeter of the facilities, electricity compound and substations. The site will be managed in a minimal fuel condition through grass maintained to 100mm or less, or no-fuel surface. Grazing will continue on site which will assist in managing grass areas.

- **Separation of solar panels** – 6 metre separation has been provided between solar banks/rows, in order to enable a fire appliance with a 60m hose to access all parts of the equipment from an access road.
- **Quantity & Location of water supply** – 45,000 litres effective capacity of water has been provided. The supply will be located near the primary vehicle entry off Hopkins Road near the office and amenities buildings as per location requirements.
- **Site access** – The formal site access is proposed from Hopkins Road. The existing informal site access along McLarens Road will be retained for a secondary emergency vehicle access point.
- **Emergency and site operational management** - A series of documents and actions will be required that will regulate elements of the construction, management and operations of the proposal. These include an emergency management plan (incorporating a fire management plan), construction emergency management plan, provision of emergency information, fire brigade site familiarisation and exercise and training for facility staff.

It is noted that the solar energy industry is ever evolving, emerging technology dictates siting batteries with inverters. This configuration impedes on the CFA's preferred 10m of separation between panels and infrastructure.

Accordingly, a performance based response to fire risks associated with Battery Energy Storage Systems should be sought. This can consider radiant heat from a battery fire on adjacent inverters and solar panel infrastructure to minimise the impact of such an event. It is assumed that this response would form a condition in the planning permit, with the report recommending the following likely condition:

A fire engineers report must demonstrate that the risk of radiant heat from a battery fire onto nearby infrastructure is reduced to acceptable levels.

The Bushfire Planning Assessment concluded that the development and proposed design layout of the solar energy facility will not increase the risk of bushfire in the area and satisfactorily meets the relevant planning policies in the Wellington Planning Scheme.

7.7 Native Vegetation Removal

7.7.1 Subject Site

A Native Vegetation Assessment was prepared by Nature Advisory in accordance with the Victorian Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017). The report recorded 19 patches of native vegetation, totalling 29.330 hectares.

It found that the vast majority of the study area consisted of open pasture for livestock grazing, which was typically dominated by introduced species, such as Cocksfoot, Rye Grass, and Toowoomba Canary-grass. Approximately one quarter of the study area supported native vegetation consisting of Spear Grass, Wallaby Grass, Rush, Common Blown-grass and Common Wheat-grass.

The proposed solar energy facility has been designed to retain the highest quality vegetation, that is the vegetation in the south-eastern corner of the study area in addition to native vegetation present on the roadsides.

As the site has been historically cleared and is highly modified from the original state, the majority of vegetation of site is classified low quality vegetation. Of the 29.330 Hectares of patch native vegetation recorded, 27.878 hectares of native vegetation will be removed.

All of the native grassland to be removed is 'very low quality native vegetation' and there were no feasible opportunities to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.

The report details that the current proposal footprint will not have a significant impact on any habitat for any rare or threatened species as determined. Appropriate offsets will be provided for the native vegetation to be removed.

Furthermore, the proposed planting on site within the 5 metre wide landscape buffer will significantly increase the number of native plants on site.

The proposal therefore meets the requirements in clause 52.17 and Clause 12.01-2S Native vegetation management which has an objective 'to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'.

7.7.2 Hopkins/Settlement Road Reserve

An additional Native Vegetation Assessment was prepared by Nature Advisory to ascertain any native vegetation along the road reserves of Hopkins and Settlement Roads where the grid connection is to be constructed.

12 patches of native vegetation, equating to a total extent of .201 hectares comprising 10 patches of Latrobe Valley Plains Grassland and 2 patches of Plains grassy Wetland were found. The final placement of the grid connection was based on this assessment and all native vegetation has been avoided.

As such, a permit to clear vegetation under Clause 52.17 of the Victorian Planning Scheme will not be required for this part of the project.

7.8 Cultural Heritage

Clause 15.03-2S Aboriginal cultural heritage objective is 'to ensure the protection and conservation of places of Aboriginal cultural heritage significance' and a key strategy is to provide for the protection and conservation of pre-contact and post-contact Aboriginal cultural heritage places. This is also iterated in particular provision Clause 53.13 (Renewable Energy Facility) which requires an assessment is made regarding 'the impact upon Aboriginal and non-Aboriginal cultural heritage'.

An assessment as to whether the construction of a solar energy facility and associated utility installation at the proposed locations will require the preparation of a mandatory Cultural Heritage Management Plan was prepared by Andrew Long + Associates with their findings included within this application.

It was identified that there were no registered Aboriginal cultural heritage places within 50 metres of the activity area nor any waterways within 200 metres of the site.

The assessment concluded that 'the activity area does not contain an area of cultural heritage sensitivity as might be defined in Part 2, Division 3, of the Regulations.' As such, a mandatory CHMP is not required for the proposed activity of a solar energy facility.

7.9 Flood and Stormwater

The proposal will not result in intensifying the impact of flooding which is a key strategy contained in state policy Clause 13.03-1S Floodplain management.

Information sourced from MapshareVic (www.mapshare.vic.gov.au) indicates that the site does not fall within an Irrigation District. The nearest Irrigation District is Macalister Irrigation District, which is approximately 1.5km North of the site.

In addition, information source from MapshareVic, also confirms the site is approximately 2km from the closest designated floodway extent of the La Trobe River (located south of the Hopkins Road). Our review confirms the site will not be impacted by major flood risks associated with the La Trobe River and can be considered as a safe site in the context of flood/stormwater risks.

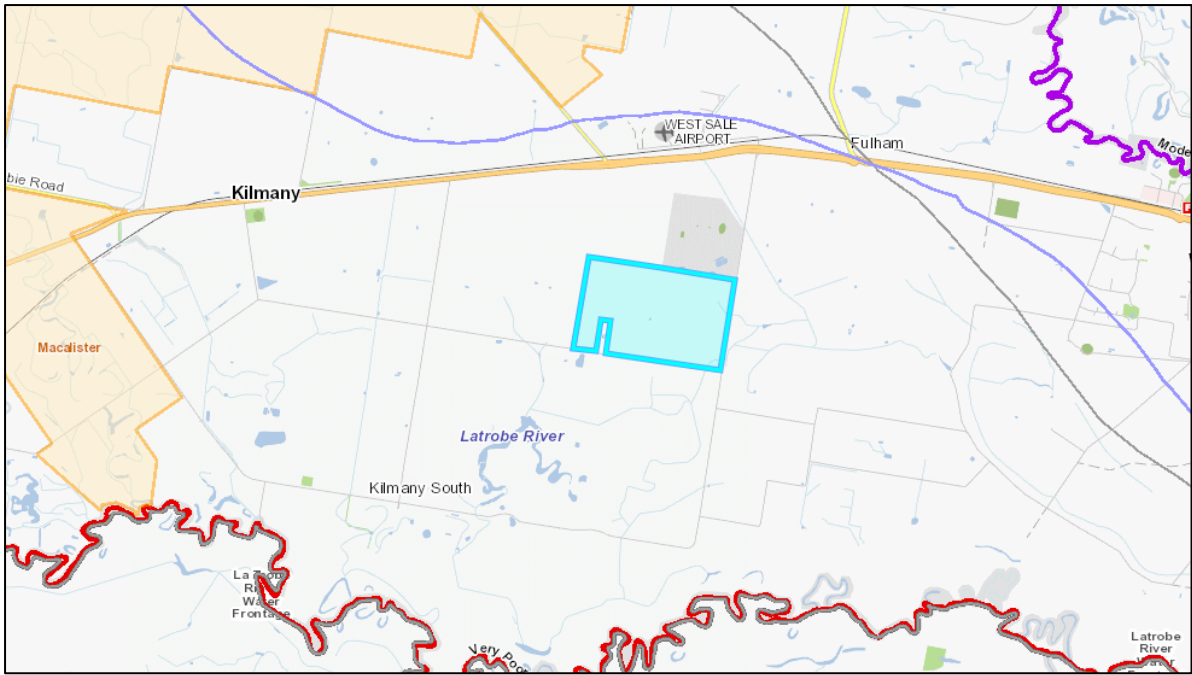


Figure 7-7 - Irrigation Districts

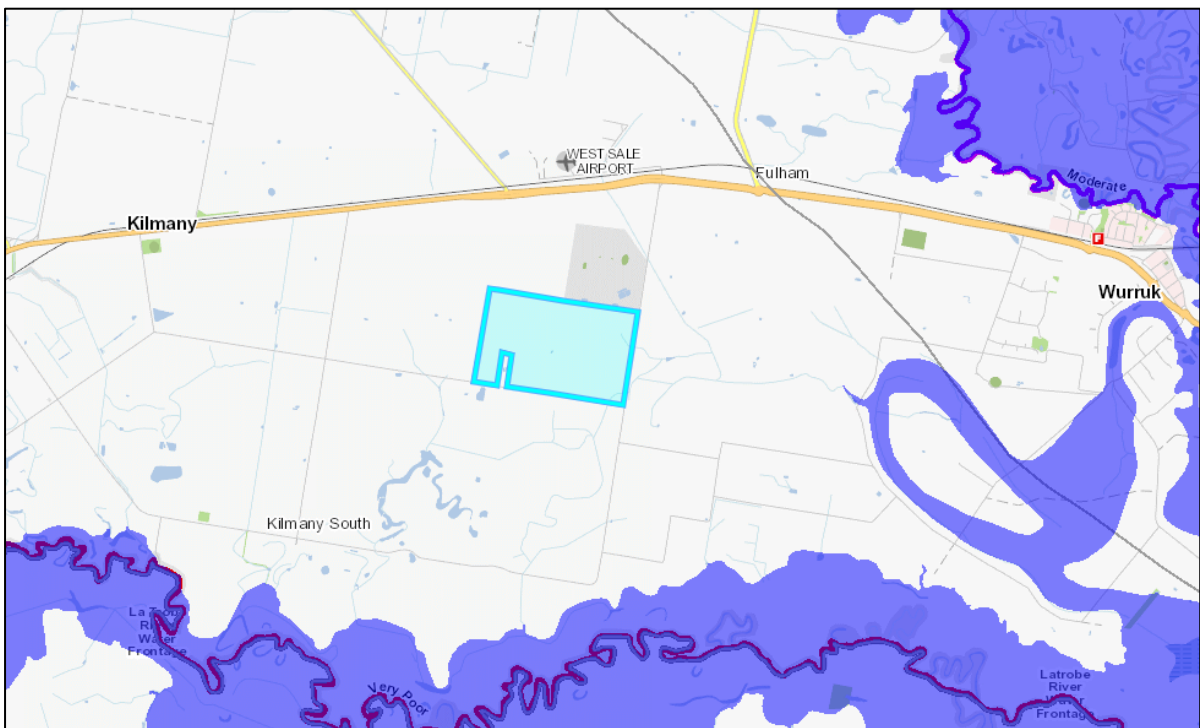


Figure 7-8 - Designated Floodway

To manage stormwater on site, a stormwater management plan will be required. Adopting a stormwater collection system, which may include a Water Sensitive Urban Design (WSUD), will be required to collect, and discharge stormwater safely to the site's legal point of discharge point

As per the Solar Development Guidelines there is a requirement for a drainage and stormwater plan which will form part of the Environmental Management Plan (EMP). This will be a permit requirement, as per the Solar Development Guidelines requirements, and will be lodged part of the permit condition documentation requirements.

7.10 Traffic

A Traffic Impact Assessment was prepared by the Traffix Group and has been included in this package. As per the Solar Development Guidelines and Clause 53.13, the report details the effect of traffic to be generated on roads and outlines that the road has capacity to accommodate the temporary level of traffic during construction.

Throughout the construction phase, a maximum of approximately 50 staff will be on site at any one time. The arrival and departure of these staff members is expected to be spread out throughout the day during the times of construction (7am-5pm Monday to Saturday). It is expected these trips will occur outside of typical commuter peak hours.

The anticipated peak hour volumes of heavy vehicle deliveries to the site during the construction phase is to be up to 6 semi-trailers per day which will carry 40-foot containers. Whilst an additional five vans/private delivery vehicles are expected per day.

Throughout the 28 week construction period, it is expected these vehicles will generate approximately 122 vehicle movements per day (61 entry and 61 exit movements). This will result in a total average daily traffic volume on Hopkins Road of less than 1000 vehicles per day, in which there is capacity to accommodate this temporary level of traffic.

Construction traffic will travel to the site along the Princess Highway. Arrival and departure trucks will utilise the intersection of Princes Highway/Hopkins Road located north of the site to access Hopkins Road and Princes Highway, respectively.

It is noted that as part of the Construction Management Plan a Traffic Management Plan will be included.

An upgrade to Hopkins Road has been recommended by the traffic consultants. Currently Hopkins Road provides a 4m sealed carriageway with approximately 2m gravel shoulders on both sides. The proposal seeks to upgrade to a 6m sealed carriageway, (similar to the configuration north of the correctional centre access) between the correctional centre access and proposed main site access.

The internal perimeter road and overtaking lanes have been supported by the project traffic consultants.

Ample car parking will be provided for staff and visitors after the construction phase during operation with 5 spaces located near both the primary access point and a further 5 spaces located adjacent to the substation towards the northern boundary of the site. There will also be space for informal car parking within the switching yard.

A 'renewable energy facility' is not a specified land-use under Table 1 of Clause 52.06 and therefore car parking must be provided to the satisfaction of the Responsible Authority.

It is estimated that a maximum of 5 employees may be on-site at any one time for the ongoing operation of the renewable energy facility. Accordingly, car parking should be provided at a rate of least one car space per employee (i.e. 5 employees car spaces). With two spaces per one visitor the proposal will sufficiently accommodate the predicted staff and visitor car parking demands.

The report concluded that there are no traffic engineering reasons why a planning permit for the proposed solar energy facility at Hopkins Road, Fulham, should not be supported.

7.11 Amenity

The *Solar Energy Facilities Design and Development Guidelines* and particular provision Clause 53.13 Renewable Energy Facility details that consideration on the effect of the proposal on the surrounding area in terms of noise, glint, light spill, vibration, smell and electromagnetic interference is to be considered. The following outlines a response to these amenity issues and details how the proposal has been designed to ensure that there will be no detrimental amenity impact on surrounding land.

7.11.1 Noise

An Acoustic report has been prepared by WatsonMossGrowcott in accordance with the requirements detailed in the Solar Development Guidelines. The purpose of the noise assessment has been to consider any potential noise emissions associated with the proposed use which may affect residential receptors located in the vicinity of the subject site.

Equipment operating as part of the solar energy facility will generate noise emissions which have the potential to affect the acoustic amenity of noise sensitive residential receptors.

The following premises are the closest and therefore most noise sensitive:

- 379 McLarens Road
- 430 McLarens Road
- Parcel 2 Lot PS446356
- Fulham Correctional Centre
- 380 McLarens Road
- 139 Hopkins Road
- 344 McLarens Road
- 955 Settlement Road
- 1038 Settlement Road
- 922 Settlement Road

Due to the proximity of these dwellings to the subject site, compliance with relevant noise criteria at these dwellings will also result in compliance at all other dwellings.

The report details that the photovoltaic solar panels do not emit noise of any potential significance. The solar panels will include small motors which will enable the panels to rotate throughout the day period to maximise efficiency. The motors will emit negligible noise relative to the other sources discussed below.

The components with the potential to emit noise beyond the boundaries of the site are:

- Inverters Stations
- Converters
- Main substation transformer
- Air Conditioning units at switching room, switching station, and site office and amenities building.

Noise emitted from the solar energy facility will only be generated during daylight hours, with the exception of the battery storage and its components which will operate 24 hours per day, 7 days per week.

After initial modelling identified noise levels exceed the project target noise, modelling was conducted to determine noise control strategies to achieve off site noise levels in compliance with the guidelines. The following noise control strategies were recommended to ensure compliance with relevant EPA noise limits:

- Selection of inverter stations that include a noise reduction kit. This kit enables operation at full electrical capacity while emitting reduced noise emission compared with the standard equipment configuration.
- 4 m high noise barriers around the inverter stations
- Placement of the converters inside acoustically lined enclosures.

The report recommends three draft conditions to be included in any permit that is issued. This will enable the detailed design stage to confirm the noise control strategy i.e. noise reducing equipment, acoustic lined enclosures, and barrier design and that the equipment is tested to ensure that compliance with relevant criteria is achieved at all noise sensitive residential receptors

These recommended conditions are as follows:

1. Noise emission from the facility shall comply with noise limits determined in accordance with EPA publication 1826.4 *Noise limit and assessment protocol for the control of noise from*

commercial, industrial and trade premises and entertainment venues' (Noise Protocol), assessed at locations representative of residential premises in the vicinity of the facility. The noise limits are 46, 41 and 36 dB(A) for the EPA-defined 'day', 'evening' and 'night' periods.

2. Finalisation of the design of noise attenuation measures shall include input from a qualified acoustic consultant, basing noise modelling on one-third octave band sound power level data provided by the equipment suppliers.
3. Within three months of commencement of operation of the facility, measurement of resultant noise levels arising from the facility shall be conducted by a qualified acoustic consultant at locations representative of residential premises in the vicinity of the facility. The measured noise levels shall be compared with noise limits determined in accordance with EPA publication 1826.4. If this comparison shows exceedance of the Recommended Maximum Noise Levels, then ameliorative measures to achieve compliance shall be developed, implemented and re-assessed within another three months.

The report concluded that compliance with relevant assessment criteria can be achieved by a combination of appropriate equipment selection, noise control barriers and full enclosures of the most significant noise sources.

7.11.2 Glint and Glare

A Glint and Glare Report has been prepared in accordance with the requirements detailed in the Solar Development Guidelines detail which includes ensuring that receptors, such as surrounding dwellings, road users and aviation service providers are not impacted detrimentally by the proposed energy facility.

The surrounding area to the site was assessed to determine if there were any dwellings, roads, railway infrastructure or airport infrastructure (all defined as receptors) had the potential to be subject to glint and glare throughout the year. In total 29 receptors were identified within the surrounding area. The coordinates of each receptor was determined and all flight paths to and from the airport. Each receptor was then evaluated to determine the impact of glint and glare.

The conclusions of the initial analysis determined that moderate glint and glare would be present for some receptors, only at specific times of day, on certain days of the year, for short periods of time. The conclusions of this analysis were used to determine mitigation measures that would prevent glint and glare at these times, so no incidences of glint and glare would be experienced.

The mitigation measures proposed utilise current screening already in place and propose further measures (such as vegetation buffers) to fully mitigate against risk of glint and glare. The screening measures proposed, were designed to minimise visual impact and blend in with the surrounding biodiversity and landscape character.

These amelioration measures include:

- Using anti reflective solar panel coatings and non-reflective frames
- Associated infrastructure providing in material palette of muted colours. The muted colours will ensure that there is no glint or glare from the equipment and will also assist in the associated infrastructure blending with landscaping.
- Consideration of existing mature vegetation along the roadside, vegetation on site and surrounding properties
- Proposed screen landscaping that is to surround the entire facility and will have a height, width and foliage density at maturity to reduce glint and glare impacts.

The flight paths and ATCT's at both East and West Sale airports are subject to minor glint and glare, however the anti-reflective glass used in cockpits as well as a limited viewing angle are sufficient to negate glint and glare impacts.

Furthermore, correspondence from the Department of Defence, owner of the RAAF Base East Sale, indicated they are supportive of the proposal provided solar panels are comprised of non-reflective materials to mitigate any glare.

An interim amelioration measure recommended is to provide a temporary opaque screen along sections of the proposed security fence whilst the landscape buffer grows and reaches a height of 2.5 metres.



Figure 7-9 - Site layout boundary with receptors and proposed opaque fencing areas (yellow lines)

In conclusion, there will be no glint and glare issues caused by the proposed development that will cause unreasonable impacts to the surrounding area as a result of the amelioration techniques recommended in the Glint and Glare report and applied in the plans lodged with this application.

7.11.3 Heat Island Effect

The Solar Development Guidelines detail that where a solar energy facility is proposed adjacent to existing horticultural or cropping activities, a minimum 30m separation distance is appropriate, measured from the property boundary to any part of the physical structure of the facility.

The boundaries to the east and south of the property abut Hopkins and McLaren's road, respectively. Whilst the distance between any physical structure of the facility and the properties located on the eastern and southern side of aforementioned roads is greater than 30 metres meeting this requirement.

Applying the principals established in *ESCO Pacific Pty Ltd v Wangaratta RCC [2019] VCAT 219* 'there is sufficient scientific evidence to determine that no proposed solar energy facility will increase temperature beyond 30 metres of a solar array'.

However, a reduced setback is proposed along the northern and western boundaries with setbacks along the western and northern boundary to be 20.5m and 17.2m respectively. The reduced setbacks are considered appropriate at this location, given the following:

- Adjoining properties do not have sensitive use activities such as horticultural or cropping activities. Furthermore, the nearest dwellings to the properties are:

- 4078 Princes Highway (Approx. 615m North)
- 4098 Princes Highway (Approx. 910m North)
- 245 McLarens Road (Approx. 920m West)
- Correctional facility accommodation (Approx. 77m North).
- The species selection within the landscape buffer includes vegetation that has a high leaf area density and a high rate of transpiration. As such, this vegetation is the most effective at cooling the environment and mitigating any potential heat island effects.
- Perimeter road to be constructed of a non-reflective surface such as crushed rock.
- No hard surface material (e.g. concrete) which increases heat located between the solar panels and boundary fence.

It is therefore considered that there will be no heat island effect on sensitive surrounding properties or land being used for horticultural or cropping activities.

7.11.4 Electromagnetic radiation and interference

Electrical equipment produces electromagnetic radiation. Radiation produced by transformers and inverters is reduced through performance standards that apply to standard components. The Australian Radiation Protection and Nuclear Safety Agency advises that the strength of this radiation will decrease with distance from the source, and it will become indistinguishable from background radiation within 50m of a high voltage power line and within 5 to 10m of a substation.

The design and layout of the facility has taken this into account with all potential sensitive receptors (dwellings) located at significantly greater distances from the proposed substation and will not be adversely impacted by radiation effects based on the ARPANSA advice. The proposed substation is located in the south east corner of the site is located over 530 metres from the closest dwellings.

It is therefore concluded the proposed solar energy facility will have no impact on electromagnetic interference with nearby dwellings.

7.11.5 EPA Requirements

Planning provision clause 52.13 requires that the assessment confirms whether a Works Approval or Licence is required from the EPA. A Works Approval is a statutory approval under the Environment Protection Act (1970), which permits the construction of an entire plant, the installation of new equipment or the modification of a process. A works approval is only required where:

- the applicant will become the occupier of a scheduled premises as specified in the Environment Protection (Scheduled Premises) Regulations 2017 ('the Scheduled Premises Regulations'), and
- the proposed operation, expansion or upgrade will result in one or more of the following:
 - the discharge of waste to the environment
 - an increase in, or alteration to, an existing discharge
 - a change in the way waste is treated or stored.

A solar energy facility would fall under the Utilities category (K) of scheduled premises, under which there are three defined scheduled premises.

Based on a review of these, Ricardo's Environment Team can confirm that the proposed solar energy facility does not qualify as a scheduled premises under the Scheduled Premises Regulations and therefore does not require a Works Approval or Licence from the EPA.

7.12 Construction and operation stage

It is noted that as part of the planning permit conditions a series of documents will need to be prepared including an:

- Environmental Management Plan (EMP)
- Traffic Management Plan
- Fire and Emergency Management Plan
- Complaint Investigation and Response Plan.

The EMP will include details such as an overview of construction methods including management of construction zones, site preparation, schedule and timing of works. It will also include measures to minimise the amenity and environmental impacts during the construction, operation and decommissioning of the solar energy facility (such as dust, noise, erosion mud and stormwater run-off) and a drainage and stormwater plan.

7.13 Community Engagement

7.13.1 Community Consultation

A Community Consultation Report has been prepared in accordance with the requirements detailed in the Solar Development Guidelines.

In summary, to support the ongoing community and stakeholder engagement undertaken over the past 12 months, a formal period of community consultation was undertaken between 13 September 2021 and 28 September 2021 by independent consultants Spence Consulting Group. This consultation process was undertaken to support and inform the planning permit application to DELWP.

Due to COVID-19 restrictions, a modified consultation process was undertaken, which included:

- Face-to-face consultation where possible
- Publication of all project plans and impact assessments on the Fulham Solar Farm website;
- Public notice of the project and planning application process in local and State-wide newspapers
- Project plans physically displayed on community noticeboards in Rosedale and Sale;
- Letterbox drop to all neighbours within a 2km radius of the project site
- Distribution of project details across social media channels (LinkedIn and Facebook), and;

During this period, 4 responses were received from community members and community groups, with no objections received. The enquiries received covered a range of topics including:

- Letter of support
- Project impacts, including glint and glare and visual impact
- Complaints handling register
- Species selection in the landscape plan.

A response was provided to all of the enquiries received and all contacts were added to the Stakeholder Database and will receive ongoing updates as the project progresses.

The database contains in excess of 120 stakeholders including local councillors, ward councils, members of parliament, local businesses, employees of government agencies and local residents. Due to the sensitive information contained within the database, this information has not been included within this application.

Full details of the process undertaken are available in the Community Consultation Report.

7.13.2 Community Benefit Scheme

The Fulham Solar Farm Community Benefits Scheme will be designed to deliver benefits to key stakeholders in the community, with the objective of fulfilling the communities needs and aspirations for renewable energy projects in the Gippsland region.

The Fulham Community Benefits Scheme comprises the following initiatives:

- Fulham Community Fund – A community fund of \$50,000 per annum to broaden the environmental and community benefits of the Fulham Solar Farm within the local community
- GROW Gippsland – GROW Gippsland is a Victorian Government program (funded by the Latrobe Valley Authority) where organisations publicly commit to implementing actions to maximise local and social impact in the Gippsland region.
- Broadening Horizons - Broadening Horizons is an innovative education model that is designed to build the aspirations of young people and support increased engagement in their learning.
- Local and Social Procurement Policy - The Proponent will develop (and publish) a local and social procurement policy, outlining its commitment to ensuring that local businesses are prioritised in all purchasing decisions and the mechanisms to achieve this.
- Aboriginal Engagement and Participation Plan - The Proponent will develop (and publish) an Aboriginal Engagement and Participation Plan, outlining its commitment to working with the Traditional Owners and local Aboriginal community to ensure the aspirations of the community are fulfilled on the project.
- Solar Farm tourism Program - The Proponent will work with the community via the CBSC to design a meaningful tourism experience

7.13.3 Complaints Investigation & Response Plan

A compliant Investigation and Response Plan has also been prepared by Spence Consulting and has been included within this submission.

The plan has been developed to ensure prompt allocation of responsibility, action and feedback to the appropriate and responsible person. The core objective is to respond and provide feedback to all complaints in a timely manner.

This document will be made publicly available on the Fulham Solar Farm project website and at the site office (once established).

8 Conclusion

In conclusion, it is submitted that the proposed development is an appropriate outcome that responds well to State, Regional and Local planning policy provisions, to the site and to the surrounding context and character. In summary:

- The project will provide substantial benefit to the local region, including opportunities for local jobs and businesses and access to lower cost power for the commercial sector.
- Fulham Solar Farm will deliver reliable power to the local community whilst setting the foundation for other larger planned projects in the region.
- It will provide significant greenhouse benefits by avoiding approximately 4,550,000 tonnes of carbon dioxide emissions over the 35 year lifespan of the energy facility.
- The proposed solar energy facility has been designed to retain the highest quality vegetation
- Proposed mitigation techniques will ensure no issues with glint and glare issues that cause unreasonable impacts to the surrounding area due to proposed mitigation techniques.
- Noise attenuation measures will ensure that noise emitted from the site to the nearest sensitive receptors will meet the relevant EPA guidelines.
- Proposed setbacks from neighbouring properties ensures no Heat Island Effect on surrounding land.
- There will be no loss of high value agricultural land and the site is not located within declared irrigation districts.

-
- The site layout will not increase the risk of bushfire in the area.
 - The proposed site layout fully aligns with the objectives and decision guidelines of Clause 19.01 -2S (Renewable Energy) and the recommendations of the 'Solar Energy Facilities Design and Development Guideline (DELWP, August 2019)'.

Overall, the proposal is well-considered and responds appropriately to its physical and policy context. This will result in a high quality designed renewable energy facility that will provide a much-needed resource for the local and wider area.

We consider that the proposal is consistent with each of the relevant requirements of the Wellington Planning Scheme and submit that the application is worthy of the support of the Minister for Planning.



Level 4, 3 Bowen Crescent
Melbourne Victoria 3004
PO Box 33298
Melbourne 3004
Australia

t: +61 (0) 3 9978 7823
e: plc.admin@ricardo.com

ee.ricardo.com