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ADVERTISED PLAN



AGRICULTURAL IMPACT ASSESSMENT

Tetris Energy Solar Farms





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22nd July 2020

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Tetris Energy Solar Farms

Application Ref.:

Introduction

Page Street Services has been instructed by Energy Forms on behalf of Tetris Energy Pty Ltd to provide an Agricultural Impact Assessment in relation to a proposed 4.99MWac Solar Farms to be located at the following locations:

- 108 West Goldie Road, Goldie (Macedon Ranges Shire)
- 5785 Northern Highway, Heathcote South (Mitchell Shire)
- 101 Coombes Road Mangalore (Strathbogie Shire)
- 142 Potts Road Taradale (Mount Alexander Shire)
- 3040 Harmony Way Faraday (Mount Alexander Shire)

Scope of works

The investigation is to describe the existing agricultural use in both a local and regional context and to consider the impact of the solar development on the existing agricultural use of the property and identify any potential impacts the proposal is likely to on future agricultural land uses. The assessment has been undertaken as outlined in the *Victorian Solar Energy Facilities Design and Development Guidelines July 2019*.

Capability

Page Street Services is a Victorian based consultancy established in 2006 specialising in strategic planning, agriculture, and other land use advisory services. The principal agricultural advisor has over 40 years' experience with qualifications in agricultural science and economics.

Yours Sincerely

Matthew Boland (B Agric Sc)

Principal Consultant



General description of the region

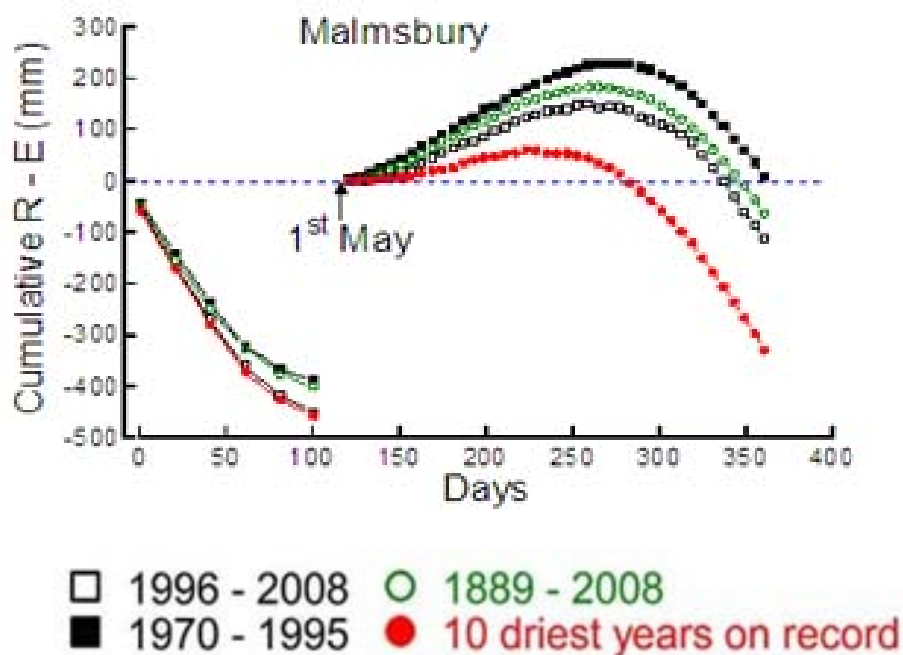
The five properties are situated in the Southern Slopes of the Central region according to the Primary Production Landscapes of Victoria ¹

Central Victoria comprises a diversity of land uses and farming practices including mixed farming (grazing and cropping), forestry and irrigated agriculture (mainly horticulture). Dryland farming is the dominant (80%) agricultural land use with nature conservation interspersed as public forests and parks across the region. Mean annual rainfall varies from 500 mm on the northern fringe to 1200 mm in elevated terrain of the Southern Slopes.

Climate change will impact farming systems in the regions as the growing season for dryland pasture declines

A distinct change in climate has been observed with a shorter growing season and hotter summers (semi-Wimmera environment). An increase in proportion of cropping in mixed farming systems has resulted.

Growing Season Cumulative Rainfall minus Evaporation (four scenarios from past records)



Population growth in the cities and towns in the region is also impacting on agriculture in the region, particularly the growth in lifestyle farming.

¹ <http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/vrohome>



Site 1 - 108 West Goldie Road, Goldie

Executive summary

The allocation of 12 hectares of this 40 hectare property to a solar development will have no significant impact on the agricultural capability of the property or surrounding properties.

The existing pasture-based grazing use is sub-commercial due the size of the property and low intensity grazing. Due to the heavy soil cropping is not an option.

The proposed solar development will not impact on farm infrastructure. The development will be screened with vegetation to minimize visual impact.

Table 1 assesses the impact of the development against the criteria for the protection of agricultural land under the Victoria Planning Provisions (14.01-1S) Protection of agricultural land.

Location and characteristics of the property

Located approximately five km west of Lancefield the property is 40 hectares of which 12 hectares is proposed for the solar development.



Photograph 1 Location of property

The property is flat to undulating and fully cleared. It is sown to pasture and used for low intensity grazing of sheep and cattle. The topsoil is a heavy clay loam.

The existing perennial pasture is of poor quality, mainly due to a history of a low stocking rate.

There is limited farm infrastructure. Water supply is limited to one open dam.

The existing pasture-based grazing use is sub-commercial due the size of the property and low intensity grazing. Due to the heavy soil cropping is not an option.

Neighbouring properties are used for grazing, many of them small scale. A number are used for horses. There is a quarry to the south east of the site and an agricultural research facility to the east.



Photograph 2 View of property towards adjoining foothills showing transmission line



Photograph 3 Poor quality pasture



Photograph 4 Soil is a heavy clay loam



Photograph 5 Property used for low intensity grazing of sheep and cattle



Photograph 6 Water supplied from one open dam

Table 1 - Assessment against the objectives of Victoria Planning Provisions (14.01-1S) Protection of agricultural land

VPP Objective	Assessment
Desirability and impacts of removing the land from primary production, given its agricultural productivity.	This is a low productive grazing property with limited potential for development. Cropping is not a realistic option. Grazing by sheep can continue between solar panels.
Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.	The development of a solar facility on part of this property will have no significant impact on agriculture in the surrounding area. The requirement to screen the solar panels will minimize visual impact. Land values in surrounding areas are to a large degree influenced by the proximity to Lancefield and should not be expected to change as a result of the solar farm. There are potential positive outcomes from the development: landscaping will improve windbreaks for livestock; and, improved power production may be positive for agricultural loads in the region.
Compatibility between the proposed or likely development and the existing use of the surrounding land.	A solar farm is a quite different form of land use but not incompatible with agriculture. It will not preclude any forms of agricultural enterprise on surrounding land. Existing farm infrastructure (dam) will be outside the development area. Access to the remaining property will be retained via West Goldie Road and Fagans Lane. The solar farm provides an opportunity to diversify farm income in a more significant way than any agricultural enterprise.
The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas	The solar development will have no impact on the spread of plant and animal pests.
Land capability	Land capability identifies the sustainable potential of an area of land for different uses or management practices. Due to its heavy soil type the current property is limited to grazing enterprises. It is considered that the land would be categorized as Class 4 – land that is not inherently capable for intensive soil-based agriculture. ²

² Technical Report – Assessment of Agricultural Land Capability in Melbourne’s Green wedge and Peri-Urban areas

Site 2 – 142 Potts Road Taradale

Executive summary

The allocation of 12 hectares of this 60 hectare property to a solar development will have a minimal impact on the agricultural capability of the property and no significant impact on surrounding properties.

The existing pasture-based beef breeding enterprise will be able to continue at a slightly reduced scale using existing farm infrastructure.

The development will be screened with vegetation to minimize visual impact.

Table 1 assesses the impact of the development against the criteria for the protection of agricultural land under the Victoria Planning Provisions (14.01-1S) Protection of agricultural land.

Location and characteristics of the property

Located approximately two km north of Taradale the property is 60 hectares of which 12 hectares is proposed for the solar development.



Photograph 1 Location of the property

The property is undulating and sloping and cleared. There is a good cover of well managed permanent pasture. The property supports a beef breeding enterprise.

The soil is a chocolate clay loam with some surface and sub-surface stones.



Photograph 2 Property has well managed permanent pasture



Photograph 3 Soil is a chocolate clay loam



Photograph 4 The property supports a beef breeding enterprise



Photograph 5 View of the rear of the property and surrounding properties, vegetation and topography



Photograph 6 Cattle yards

Table 1 - Assessment against the objectives of Victoria Planning Provisions (14.01-1S) Protection of agricultural land

VPP Objective	Assessment
Desirability and impacts of removing the land from primary production, given its agricultural productivity.	This is a well maintained and productive beef grazing property operating to its potential. The use of 12 hectares for a solar farm will not significantly reduce the size of the existing beef breeding enterprise that should be able to continue in a viable way.
Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.	The development of a solar facility on part of this property will have no significant impact on agriculture in the surrounding area. The requirement to screen the solar panels will minimize visual impact. Land values in surrounding areas are to a large degree influenced by the proximity to Taradale and should not be expected to change as a result of the solar farm. There are potential positive outcomes from the development: landscaping will improve windbreaks for livestock; and, improved power production may be positive for agricultural loads in the region.
Compatibility between the proposed or likely development and the existing use of the surrounding land.	A solar farm is a quite different form of land use but not incompatible with agriculture. It will not preclude any forms of agricultural enterprise on surrounding land. Existing farm infrastructure will be outside the development area. Access to the remaining property will be retained via Potts Road. The solar farm provides an opportunity to diversify farm income in a more significant way than any agricultural enterprise.
The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas	The solar development will have no impact on the spread of plant and animal pests.
Land capability	Land capability identifies the sustainable potential of an area of land for different uses or management practices. This property has a fertile and free draining soils but due to the presence of stones and the sloping topography it is unlikely to be suitable for cropping enterprises. It is considered that the land would be categorized as Class 3 – land that is inherently capable for soil-based agriculture at moderate to high intensity ³

³ Technical Report – Assessment of Agricultural Land Capability in Melbourne’s Green Wedge and Peri-urban Areas – 2 October 2018

Site 3 – 3040 Harmony Way Faraday

Executive summary

The allocation of 12 hectares of this 21 hectare property to a solar development will have no significant impact on the agricultural capability of the property or surrounding properties.

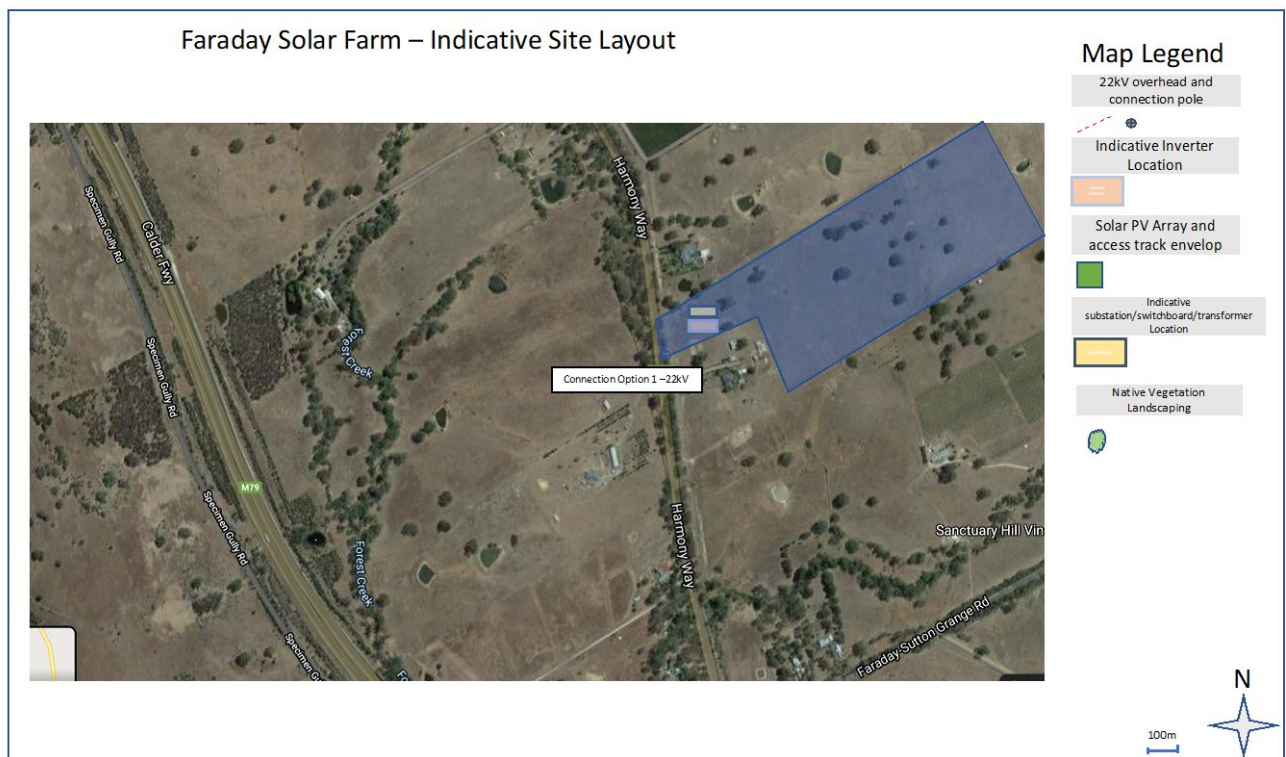
The existing pasture-based grazing use is sub-commercial due the size of the property and low intensity grazing. Cropping or grape growing are not options.

The remaining nine hectares can continue as a small grazing enterprise. There will be a buffer between the solar farm and nearest grape growing properties. The development will be screened with vegetation to minimize visual impact.

Table 1 assesses the impact of the development against the criteria for the protection of agricultural land under the Victoria Planning Provisions (14.01-1S) Protection of agricultural land.

Location and characteristics of the property

Located approximately six km south of Harcourt the property is 21 hectares of which 12 hectares is proposed for the solar development.



Photograph 1 Location of the property

The property is flat at the frontage to Harmony Way then gently rising before falling away to the east. It consists of poor quality pasture with capeweed and onion grass prevalent. The soil is a sandy clay loam with exposed boulders in the higher areas. There is waterlogging in the lower areas to the front of the property. It is mostly cleared with scattered residual eucalypts. It is used for sheep grazing. Stock water is supplied by an open dam.

The property is situated in a wine-growing area and a number of the surrounding properties have extensive vineyards. Due to the water logging in the front area, the number of boulders and orientation of the property it is not considered to be suitable for grape production.



Photograph 2 Poor quality pasture with capeweed and onion grass prevalent



Photograph 3 Stock water supplied from open dam. Photograph shows farm buildings and an example of exposed boulder common on the farm.



Photograph 4 Soil is a sandy clay loam



Photograph 5 View to the south showing neighboring properties and vegetation



Photograph 6 View of property to the north and transmission lines

Table 1 - Assessment against the objectives of Victoria Planning Provisions (14.01-1S) Protection of agricultural land

VPP Objective	Assessment
Desirability and impacts of removing the land from primary production, given its agricultural productivity.	This is a sub-commercial and low productive grazing property with limited potential for development. Cropping is not a realistic option. Grazing by sheep can continue between solar panels. There will be no impact from removing 12 hectares of the property from agriculture.
Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.	The development of a solar facility on part of this property will have no significant impact on agriculture in the surrounding area. The requirement to screen the solar panels will minimize visual impact. There are potential positive outcomes from the development: landscaping will improve windbreaks for livestock; and, improved power production may be positive for agricultural loads in the region.
Compatibility between the proposed or likely development and the existing use of the surrounding land.	A solar farm is a quite different form of land use but not incompatible with agriculture. It will not preclude any forms of agricultural enterprise on surrounding land. There will be a significant gap between the solar farm and the nearest vineyards. Access to the remaining property will be retained via Harmony Way. The solar farm provides an opportunity to diversify farm income in a more significant way than any agricultural enterprise.
The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas	The solar development will have no impact on the spread of plant and animal pests.
Land capability	Land capability identifies the sustainable potential of an area of land for different uses or management practices. Due to its heavy soil type the current property is limited to grazing enterprises. It is considered that the land would be categorized as Class 4 – land that is not inherently capable for intensive soil-based agriculture. ⁴

⁴ Technical Report – Assessment of Agricultural Land Capability in Melbourne’s Green wedge and Peri-Urban areas

Site 4 – 5785 Northern Highway, Heathcote South

Executive summary

The allocation of 12 hectares of this 48 hectare property to a solar development will have no significant impact on the agricultural capability of the property or surrounding properties.

The existing pasture-based grazing use is operating to its potential. Cropping is not an option.

The remaining 36 hectares can continue as a sheep grazing enterprise. The development will be screened with vegetation to minimize visual impact.

Table 1 assesses the impact of the development against the criteria for the protection of agricultural land under the Victoria Planning Provisions (14.01-1S) Protection of agricultural land.

Location and characteristics of the property

Located approximately eight km south-east of Heathcote the property is 48 hectares of which 12 hectares is proposed for the solar development.



Photograph 1 Location of the property showing proposed site of solar farm

The property has well established fair quality pasture used for sheep grazing. It is reasonably flat and well drained rising to the north. The soil is a sandy clay loam with intermittent stone and rock outcrops. The property is bounded by eucalypt forest and similar grazing country. There are some residual eucalypts and tree stumps on the property. Water is supplied by an open dam and an intermittent creek.



Photograph 2 View of the property towards the western boundary



Photograph 3 Well established fair quality pasture showing some capeweed and onion grass



Photograph 4 Soil is a sandy clay loam



Photograph 5 There are patches of surface stone and rock



Photograph 6 Intermittent creek

Table 1 - Assessment against the objectives of Victoria Planning Provisions (14.01-1S) Protection of agricultural land

VPP Objective	Assessment
Desirability and impacts of removing the land from primary production, given its agricultural productivity.	This is an established sheep grazing property operating to its potential. Cropping is not a realistic option. There will be no significant impact from removing 12 hectares of the property from agriculture. Sheep grazing can continue on the remaining 36 hectares of the property. Grazing by sheep can continue between solar panels.
Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.	The development of a solar facility on part of this property will have no significant impact on agriculture in the surrounding area. The requirement to screen the solar panels will minimize visual impact. There are potential positive outcomes from the development: landscaping will improve windbreaks for livestock; and, improved power production may be positive for agricultural loads in the region.
Compatibility between the proposed or likely development and the existing use of the surrounding land.	A solar farm is a quite different form of land use but not incompatible with agriculture. It will not preclude any forms of agricultural enterprise on surrounding land. There will be a significant gap between the solar farm and the nearest properties. Access to the remaining property will be retained via the Northern Highway. The solar farm provides an opportunity to diversify farm income in a more significant way than any agricultural enterprise.
The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas	The solar development will have no impact on the spread of plant and animal pests.
Land capability	Land capability identifies the sustainable potential of an area of land for different uses or management practices. Due to stones and rock outcrops the current property is limited to grazing enterprises. It is considered that the land would be categorized as Class 4 – land that is not inherently capable for intensive soil-based agriculture. ⁵

⁵ Technical Report – Assessment of Agricultural Land Capability in Melbourne’s Green wedge and Peri-Urban areas

Site 5 – Corner of Station Road and Gerrards Road, Mangalore

Executive summary

The allocation of 12 hectares of this 342 hectare property to a solar development will have no significant impact on the agricultural capability of the property or surrounding properties. Existing farm infrastructure will not be impacted.

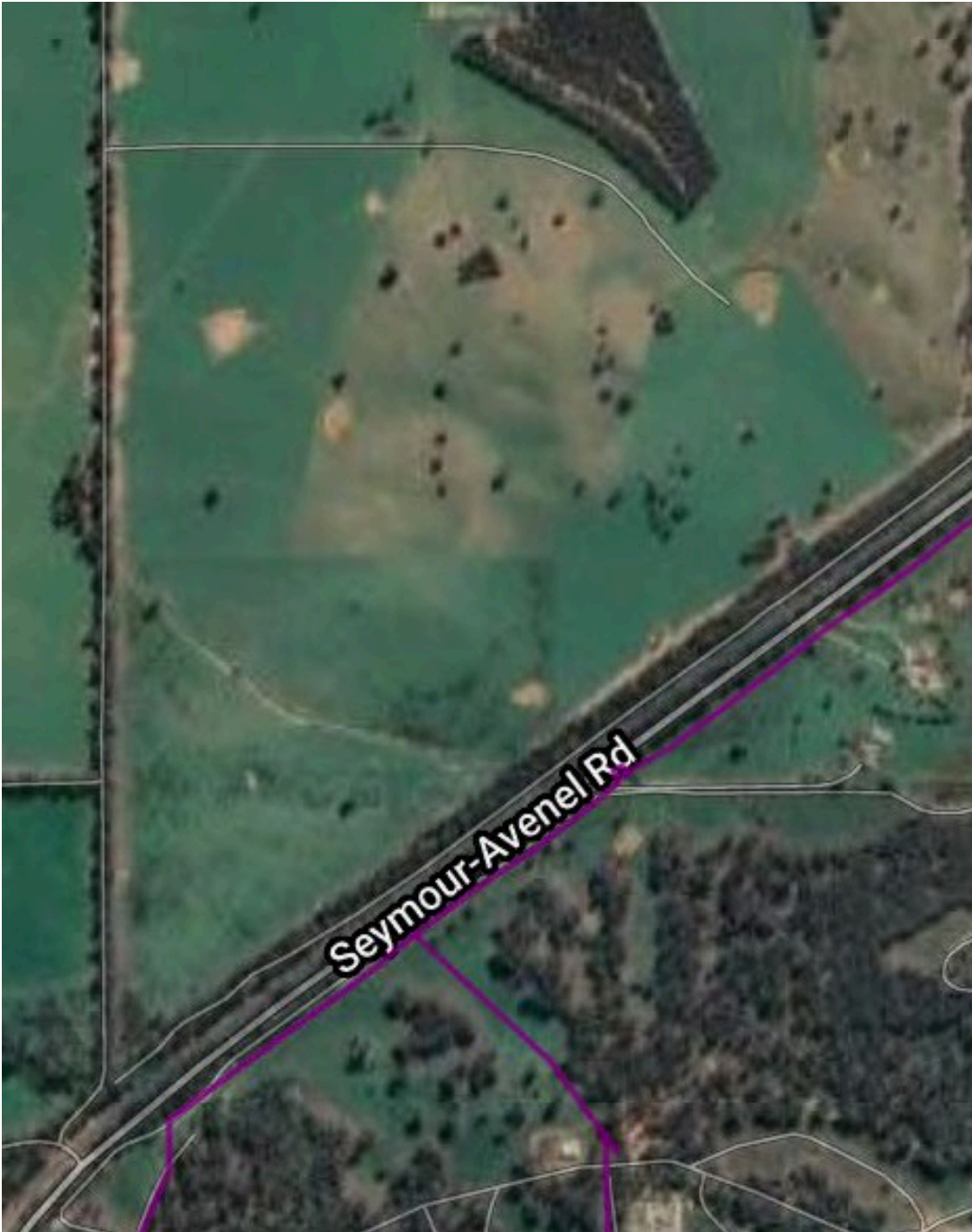
The existing commercial scale pasture-based sheep enterprise will be able to continue without disruption on the remaining 330 hectares. Cropping is not a likely option.

The development will be screened with vegetation to minimize visual impact.

Table 1 assesses the impact of the development against the criteria for the protection of agricultural land under the Victoria Planning Provisions (14.01-1S) Protection of agricultural land.

Location and characteristics of the property

Located approximately 13 km north of Seymour the property is 342 hectares of which 12 hectares is proposed for the solar development.



Photograph 1 Location of proposed solar farm in triangular area between Seymour-Avenel Road and Station Road

The property has well established fair quality pasture used for sheep grazing (fat lamb production). It is reasonably flat and well drained rising to the north. The soil is a sandy clay loam. There is a fair amount of common tussock and some capeweed and onion grass. There is similar but more improved pasture on the adjoining property which is also used for sheep grazing.



Photograph 2 Fair quality pasture



Photograph 3 General view of the property



Photograph 4 Soil is a sandy clay loam



Photograph 4 Showing condition of the pasture and boundary vegetation

Table 1 - Assessment against the objectives of Victoria Planning Provisions (14.01-1S) Protection of agricultural land

VPP Objective	Assessment
Desirability and impacts of removing the land from primary production, given its agricultural productivity.	This is an established commercial scale sheep grazing property producing fat lambs. Cropping is not a likely option. There will be no significant impact from removing 12 hectares of the property from agriculture which represents 3.5 percent of the property. Sheep grazing can continue on the remaining 330 hectares of the property. There is no farm infrastructure within the proposed solar area. Grazing by sheep can continue between solar panels.
Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.	The development of a solar facility on part of this property will have no significant impact on agriculture in the surrounding area. The requirement to screen the solar panels will minimize visual impact. There are potential positive outcomes from the development: landscaping will improve windbreaks for livestock; and, improved power production may be positive for agricultural loads in the region.
Compatibility between the proposed or likely development and the existing use of the surrounding land.	A solar farm is a quite different form of land use but not incompatible with agriculture. It will not preclude any forms of agricultural enterprise on surrounding land. There will be a significant gap between the solar farm and the nearest properties. Access to the remaining property will be retained via Station Road. The solar farm provides an opportunity to diversify farm income in a more significant way than any agricultural enterprise.
The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas	The solar development will have no impact on the spread of plant and animal pests.
Land capability	Land capability identifies the sustainable potential of an area of land for different uses or management practices. Due to stones and rock outcrops the current property is limited to grazing enterprises. It is considered that the land would be categorized as Class 4 – land that is not inherently capable for intensive soil-based agriculture. ⁶

⁶ Technical Report – Assessment of Agricultural Land Capability in Melbourne’s Green Wedge and Peri-Urban areas