27 February 2020

Rob Beckett
Department of Planning, Industry and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Rob,

Re: Submission to SSD-10288 – Culcairn Solar

In response to the exhibition of the EIS for the Culcairn Solar Farm, this submission is made on behalf of Feuerherdt Pastoral Co, being the landowner and operators of a significant portion of adjoining land. Feuerherdt Pastoral raise a number of issues in relation to the project and wish to object to the development for the following reasons:

- the land for the proposed development is High Quality Agricultural Land;
- the land for the proposed development is identified as important agricultural land by the Riverina Murray Draft Important Agricultural Land Mapping project;
- the scale of the development may lead to impacts upon primary production activities of the adjacent properties;
- concerns that the scale of development will lead to alterations in airflow and temperature in the immediate area which may adversely impact agricultural production;
- that the changes to the land for development for solar production will lead to long term deterioration of the condition of the land, including soil structure/condition;
- that the loss of agricultural land from production may lead to reduced management regimes;
- the removal of a significant portion of high quality agricultural land from production will have adverse flow on effects to the local economy;
- landscape screening is insufficient to mitigate the visual impacts from a large scale facility on the surrounding environment; and
- the extent of vegetation removal is significant and will have a long term impact on habitat and biodiversity.

The issues are discussed in further detail below.

Feuerherdt Pastoral Co undertake large scale agricultural production including production of wheat, canola, oats and hay as well as associated grazing. The land primarily used for such production is described as Lots 12 & 13 in DP753735, Lots 32 in DP753764, Lot 33 in DP1081518, Lot 115 in DP753735, Lots 62, 63, 76 in DP753764, Lots 591-593 in DP702677 and Lot 75 in DP665573. Land comprising the development has also been farmed in association with the Feuerherdt Pastoral holdings until recently.

A dwelling is located in the northern portion of the total land holding, with two additional dwellings contained on lots towards the south west. The land holdings also interface with the majority of the western side of the development, for a distance of approximately 6.5 kilometres and a further 1.5 kilometre portion of the eastern boundary.

A site context plan showing the land owned and operated by Feuerherdt Pastoral Co. is provided below.

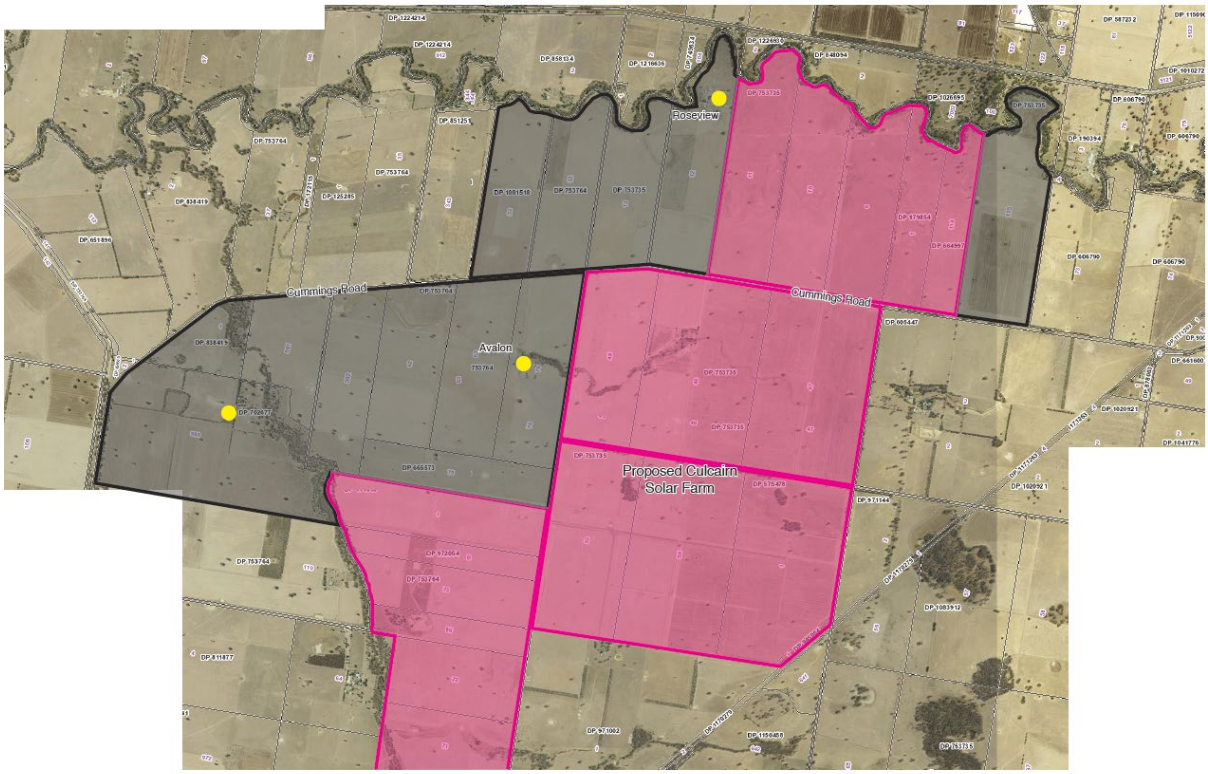


Figure 1 Location of Feuerherdt Pastoral Land Holdings (black shading) in context to the proposed development (pink shading). See enlargement at Appendix 1.

1. Agricultural impacts & Land Capability

Feuerherdt Pastoral are concerned with the scale and intensity of the development and the associated impacts of the development on the agricultural and productive capacity of their land and the broader area. The land which is farmed by Feuerherdt Pastoral directly adjoins the proposed development for a distance of approximately 6.5 kilometres on the western side and a further 1.5 kilometres on the eastern side. Portions of the proposed development area also proposed to occupy land previously leased for the purposes of agricultural production.

The land owned and leased by Feuerherdt Pastoral totals more than 1,000 hectares and has been successfully farmed for a number of years under different cropping rotations. Despite comments to the contrary, the productive value of the land for development is also well known, with Feuerherdt Pastoral having been able to accommodate a viable farming venture on the land for some time.

Agricultural land quality is a key component of the constraints assessment and site selection process for any large scale solar developments. The DPIE document "Large-Scale Solar Energy Guideline" specifically states that *"important agricultural lands, including Biophysical Strategic Agricultural Land (BSAL), irrigated cropping land, and land and soil capability classes 1, 2 and 3 . Consideration should also be given to any significant fragmentation or displacement of existing agricultural industries and any cumulative impacts of multiple developments."*

It is noted that the EIS indicates that the land is classified as Class 4 under the *Land and Soil Capability Assessment Scheme*, which represents a "moderate capability land with moderate to high limitations for high impact land uses". Feuerherdt Pastoral have sought independent advice regarding the land capability of the area from an agricultural consultant, which has indicated that this classification is inaccurate and does not acknowledge other factors of agricultural land capability. The *Rural Land Capability Mapping classification*, which the *Land and Soil Capability Assessment Scheme* is based upon, identifies the land as "Class 1" which it describes as *"Land suitable for a wide variety of uses. Where soils are fertile, this is the land with the highest potential for agriculture and may be cultivated for vegetation and fruit production, cereal and other grain crops, energy crops, fodder and forage crops and sugar cane in specific areas. Includes prime agricultural land"*. The original classification system is described as being based on climate, soils, geology, geomorphology, soil erosion, site and soil drainage characteristics, and current land use data to determine overall land capability. An extract of the dataset of land capability using the *Rural Land Capability Mapping classification* is shown below. The plan demonstrates that the subject land and the majority of the surrounding area is in fact considered to be Class 1 land and therefore representing high quality agricultural land. It is also now understood that the land will be mapped as important agricultural land by the Riverina Murray Draft Important Agricultural Land Mapping project.

Having regard to the data available for assessment and the observations and experience of the landowners in undertaking crop production and grazing for many years, it is contended that the land represents high quality agricultural land and is constrained for proposed solar development.

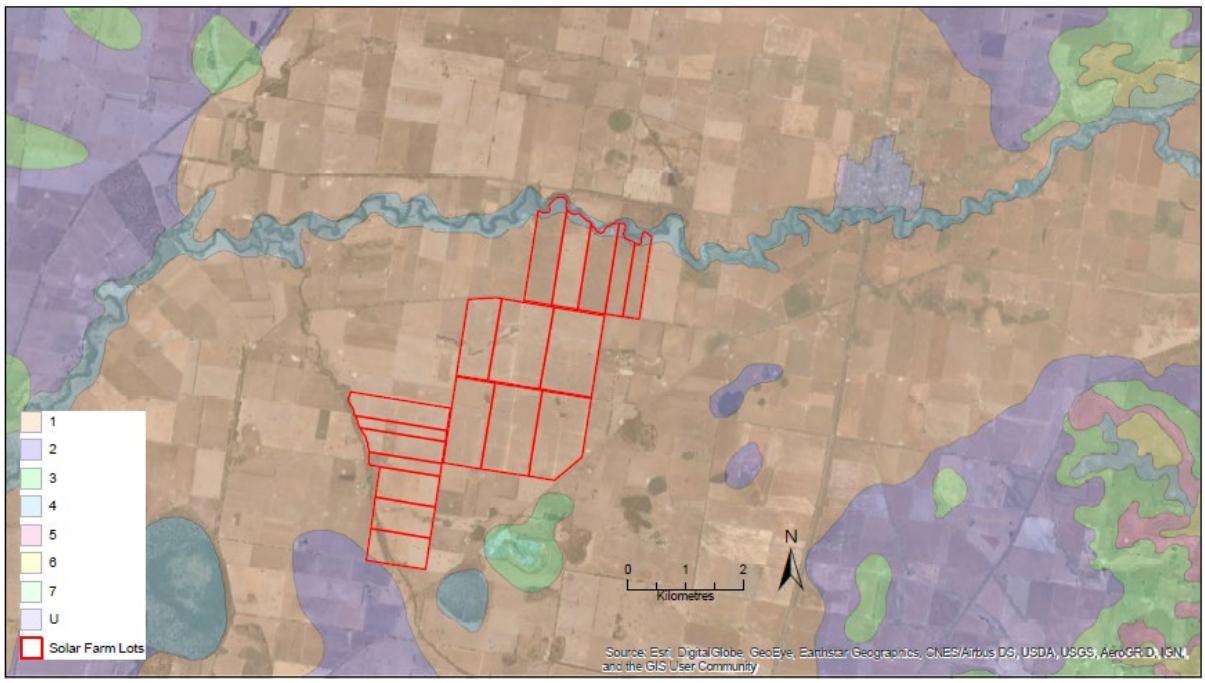


Figure 2 Map of Land Capability utilising *Rural Land Capability Mapping* classification system, with the development lots highlighted in red. See enlargement at Appendix 2.

2. Agricultural Production

Having regard to the development of high quality agricultural land and the scale of the proposed development, it is considered that there is potential for the development to adversely impact on primary production purposes, both for the land to be developed and the surrounding areas. As discussed, Feuerherdt Pastoral have historically farmed parts of the development site and are well aware of the high quality agricultural conditions and the potential loss of productive land that will occur.

It is noted that the primary agricultural function of the development site has been for crop production rather than grazing. The proposal for further grazing of the development site in conjunction with the solar facility is not consistent with the nature of how the land has historically been farmed. This proposed activity is unlikely to generate any productive value and will be difficult to manage and operate given constraints of having stock contained within the development area and around solar arrays. The changes to the site and the agricultural land uses also potentially introduces further changes to soil conditions, soil structures and may lead to additional invasive species spreading within the site and the adjoining productive properties. The proposed grazing proposal put forward is considered to better represent a potential maintenance regime than being a genuine productive activity.

The EIS states that there will be long term benefits including returning soil organisms, soil carbon, soil moisture and soil structure to the areas previously cropped and grazed and allowing the regeneration of groundcovers and other grasses to return. It is considered that the removal of land from production, particular crop production, will have a greater impact on the productive potential of the site given that farming practices will cease and more limited site management will be undertaken. There is also limited discussion within the EIS on issues of long term agricultural production and changes to growing conditions given the physical changes that will occur to the site. It is expected that any potential rehabilitation of the land will become more difficult over the longer term and there will be limitations on potential treatments such as resowing, topdressing and general improvements to soil and pasture conditions while it is used as a solar development.

The potential for adverse impacts of solar development being located directly adjacent to the productive areas of land is also raised as a concern. The scale and intensity of this development, at 1,126 hectares and more than 80% of the total site area covered by solar arrays, raises potential for localised changes to airflow and temperatures which may lead to impacts on the primary production activities being undertaken on adjacent properties.

3. Economic impacts

Feuerherdt Pastoral raise concerns with regard to the economic impact assessment provided in support of the development, particularly with regard to the true economic impacts of development. It is considered that the economic assessment focusses heavily on the impacts on revenues of production and ignores some of the flow on effects from agricultural production.

Agricultural is a critical industry for the Culcairn community and the broader Greater Hume region and the assessment contained in the EIS and supporting documents focusses primarily on the direct economic impact of the loss of production over a period and also quantifies this on percentage of total agricultural land in the Shire. It is considered that the assessment does not adequately consider the broader impacts on businesses associated with the agricultural industries and the potential for impact resulting from a removal of a significant area of land from production. The assessment of economic impacts needs to be balanced against the loss of jobs and potential loss of income for those in the community that rely on agriculture.

The suggestion that large scale solar developments create economic benefits and jobs to the immediate Culcairn and Greater Hume region is also questioned, particularly in comparison to an area that relies heavily on its agricultural sector for employment. The economic assessment also considers the wider region of Albury-Wodonga and Wagga and based on the detail within the economic assessment, it appears a significant portion of assumed benefits will be in these regional centres.

The projected revenue from the site in the Economic Impact Analysis of $1.42M equates to just under $1,100 per hectare. Based on the experience of Feuerherdt Pastoral, it is considered that the revenue from productive capacities in this area are in the order of $1,500 - $2,000 per hectare, which is greater than the estimates provided within the EIA. This accounts for majority of production being for crop production and smaller scale grazing.

4. Amenity impacts

Feuerherdt Pastoral raise concern in relation to potential amenity impacts and the appropriateness of the mitigation responses to these issues given the scale of the development. Feuerherdt Pastoral undertake rural production across a large portion of land which has an interface with the proposed for a total of more than 7 kilometres.

The scale of the development will impact the visual qualities and reduced amenity of surrounding properties, including long views from surrounding land. While it is noted that the landscape screening has been detailed across the development in different formats, the screening is provided in selected perimeter locations only. It is considered that additional landscape screening areas should be considered for other perimeter locations of the development, including for the full extent of roadside locations.

Given the interface of the development with the productive areas of the adjacent properties, Feuerherdt Pastoral are concerned with the increased potential for land use conflicts, including changes in localised air and temperature conditions and potential weed infestation from inappropriately managed land. This has been detailed again in relation to agricultural concerns above, however the use of properly considered screening and landscaping would assist with mitigating the potential impacts of land use conflicts.

With regard to vegetation screening there appears to be no detail regarding the maturity of the vegetation to be planted for screening areas. It is assumed that smaller vegetation and tubestock will likely form the majority of screening, and that this will take many years to develop to an extent that will have the mitigation response envisaged by the landscape plan. Greater detail and information is required regarding the landscape treatments and interfaces proposed for the development, and the interfaces must include the use advanced landscaping plantings needs to be put forward to appropriately address visual impact and mitigate potential land use conflicts.

The potential for dust is raised as an issue, particularly during construction phase of the project. The development will occur over a large scale and within proximity to a number of receptors and the potential for dust to be generated in the immediate location is considered to be very high. In addition, there will be higher numbers of vehicles (including heavy vehicles) on adjoining roads that may also contribute to additional dust impacts.

5. Biodiversity

It is noted that the development will involve the 0.61 hectares of Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion and 99 paddock trees including 71 hollow bearing trees. The EIS states that the design has been modified to retain areas of significant vegetation, however it does not appear to make attempts to modify the placement of panels to retain any of the scattered vegetation which is significant in providing habitat opportunities.

Feuerherdt Pastoral is also concerned with the placement of new solar development with close proximity to the Billabong Creek and Back Creek, and their associated drainage lines and wetland areas. These watercourses and waterbodies include areas of native vegetation that can provide habitat opportunities.

6. Bushfire Hazards

Given the scale of the development, there is a need to properly consider the risk of bushfire generated by a large scale solar facility. Notwithstanding the identification of bushfire prone land, the scale of the development is considered to increase the risk of bushfire and subsequent impacts to adjoining properties.

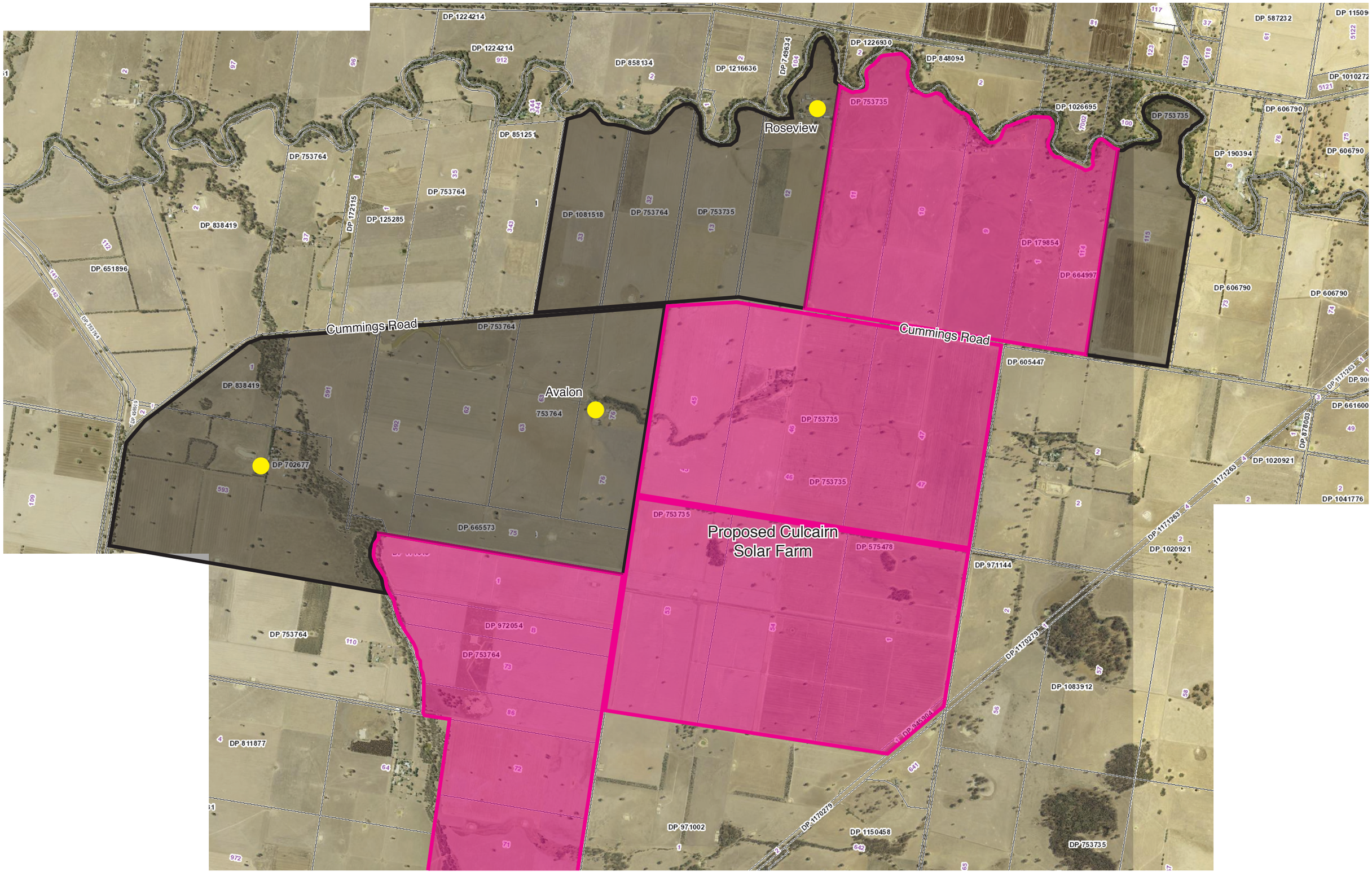
While there is risk of fire from the operations of the facility, there is also concern that the development will lead to increased risk of bushfire. At a minimum, it is considered that best practice would be to identify a suite of appropriate bushfire protection measures needs to be properly considered and how these could be effectively established on the site. Management requirements are also critical to the prevention of bushfire risk from the site. The EIS refers to the regeneration of the site for natural conditions, however this may also increase risk of fuel loads and ignition points within the development area.

Yours faithfully,

Feuerherdt Pastoral Co

Attachment 1

Site Context Map


Roseview
Avalon
Cummings Road
Cummings Road
Proposed Culcairn
Solar Farm
DP 1224214
DP 1224214
DP 858134
DP 1216636
DP 749634
DP 1226930
DP 848094
DP 587232
DP 1026695
DP 753735
DP 606790
DP 190394
DP 606790
DP 851251
DP 753764
DP 753764
DP 838419
DP 172115
DP 125285
DP 1081518
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DP 664997
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DP 575478
DP 702677
DP 665573
DP 1020921
DP 1041776
DP 1020921
DP 971144
DP 753764
DP 753764
DP 972054
DP 811877
DP 1083912
DP 971002
DP 1150458
DP 753735

Attachment 2

Land Capability Map

CULCAIRN SOLAR FARM
RURAL LAND CAPABILITY

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