

LANDSCAPE AND VISUAL IMPACT ASSESSMENT Blind Creek Solar Farm

Prepared for: Blind Creek Solar Farm Pty Ltd Project No: 2010 Issue: Rev I Date: 04th APRIL 2022





Project No: 2010

Project Name: Blind Creek Solar Farm Landscape & Visual Impact Assessment

Issue	Submission	Date of Issue	Author	Approved by
Rev E	Final LVIA for Submission	03.03.2022	SW	AR
Rev F	Final LVIA for Submission	10.03.2022	SW	AR
Rev G	Final LVIA for Submission	28.03.2022	SW	AR
Rev H	Final LVIA for Submission	29.03.2022	SW	AR
Rev I	Final LVIA for Submission	04.04.2022	SW	AR



Moir Landscape Architecture Pty Ltd, Studio 1, 88 Fern Street, PO Box 111, Islington NSW 2296 Ph.(02) 4965 3500 Fax.(02) 4965 3555 admin@moirla.com.au www.moirla.com.au ACN: 097 558 908 ABN: 48 097 558 908



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1.0 Introduction

1.1 Background

Moir Landscape Architecture have been commissioned by Blind Creek Solar Farm Pty Ltd (BCSF) to prepare a Landscape and Visual Impact Assessment (LVIA) for the proposed Blind Creek Solar Farm (The Project). BCSF proposes to develop, a grid-connected photovoltaic (PV) solar farm combined with up to 300 MW of battery storage near Bungendore in New South Wales. The Project would be located approximately 50 kilometres north-east of Canberra, in the Queanbeyan - Palerang Regional Council Local Government Area. The regional context of the Project is presented in Figure 1.

This report details the results of the field work, documents the assessment of the landscape character and visual setting, and assesses potential visual impacts associated with the Project. Survey work was undertaken during May 2021 at key viewpoints and locations with potential views towards the Project Site.

The report also provides an overview of the proposed treatments which may be considered to assist in the mitigation of potential visual impacts. This information is provided to aid understanding of the likely impacts and how they may be managed to ensure that the positive character of the immediate area and surrounding visual landscape are not overly modified or diminished.

1.2 Project Requirements

The purpose of this report is to provide a qualitative and quantitative assessment of the visibility and potential visual impacts of the Project. The capital value of the Project would be in excess of \$30 million. Accordingly, the Project is a State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SR&D) and Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The LVIA will support the Environmental Impact Statement (EIS) for the Project and has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning, Industry and Environment (DPIE) which includes:

'An assessment of the likely visual impacts (including any glare and reflectivity and night lighting) of all components of the Project (including arrays, transmission lines, substations and any other ancillary infrastructure) on surrounding residences and key locations, scenic or significant vistas, air traffic and road corridors in the public domain and provide details of measures to mitigate and/or manage potential impacts (including a draft landscaping plan for on-site perimeter planting, with evidence it has been developed in consultation with affected landowners.²

A separate specialist assessment for Glare, Glint and Night light impacts has been prepared by SLR consulting.



Figure 1: Site Context Plan (Image source: SixMaps)

1.0 Introduction

1.3 Report Structure

The following table provides an outline of the report structure, a brief overview of the objectives of the SEARs (shown in italics) and a summary of how these have been addressed in the LVIA. The methodology for the assessment has been outlined in Section 2.0.

Landscape and Visual Impact Assessment Report Structure			
Section 2.0: Study Method	Overview of Study Method utilised for the LVIA.		
Section 3.0: Project Overview	Project Description and overview of the Project and all components to be		
	assessed within the LVIA.		
Section 4.0: Existing Landscape Character	Establish the existing landscape and visual conditions prior to undertaking		
	any visual assessment.		
Section 5.0: Zone of Visual Influence	Establish the zone of theoretical visiblilty (the area from which the proposal		
	is theoretically visible based on topography alone).		
Section 6.0: Viewpoint Analysis	Assessment of key viewpoints from public and private locations within the		
	visual catchment.		
Section 7.0: Photomontages	Preparation of photomontages to illustrate the appearance of the proposal.		
Section 8.0: Visual Impact Assessment	Overview of the visual impacts resulting from the Project.		
	- Public Land		
	- Dwellings		
	- Cumulative Visual Impacts		
	- Associated infrastructure		
Continue 0.0. Night Linksing	Detailed according to file likely viewel impressed including any stars		
Section 9.0: Night Lighting	- Detailed assessment of the likely visual impacts (including any gate		
	initiastructure) on surrounding residences and key locations, scenic or		
	significant vistas, air traffic and road corridors in the public domain		
Section 10.0: Mitigation Recommendations	An outline of proposed mitigation and management options.		
	Include a draft landscape plan for on-site perimeter planting, with evidence it		
	has been developed in consultation with affected lanowners.		
Section 11.0: Conclusion			

Table 1: LVIA Report Structure

2.0 Study Method

2.1 Overview of the Study Method

Based on the existing policies and framework and experience in large scale landscape and visual impact assessment, the following provides an overview of the study method utilised for undertaking the Landscape and Visual Impact Assessment (LVIA). The LVIA was undertaken in the stages as noted below:



2.2 Landscape Character Assessment

The landscape character of a site refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects how particular combinations of geology, landform, soils, vegetation, land use and human settlement create a particular sense of place for different areas within the landscape (The Landscape Institute and the institute of Environmental Management and Assessment, 2002).

The landscape character of the site has been assessed at a regional, local and site scale. The Landscape Character Assessment is provided in Section 4.0.

2.3 Visual Impact Assessment

The potential visual impact of the proposal is then assessed based on the relationship between the visual sensitivity (refer to Section 2.3.1) and visual magnitude (refer to Section 2.3.2).



Viewers have varying levels of concern for scenic quality and integrity of the landscapes they see. Refer to Table 2

Visual Magnitude is established based on the relative apparent level of visual contrast Refer to Section 2.3.2.

Visual Impact Ratings (High, Moderate or Low) are generated through Table 3.

2.0 Study Method

2.3.1 Visual Sensitivity

Visual sensitivity is a measure of how critically a change to the existing landscape is viewed by people from different areas. The assessment is based on the number of people affected, land use, and the distance of the viewer from the proposal (EDAW, 2000).

For example, a significant change that is not frequently seen may result in a low visual sensitivity although its impact on a landscape may be high. Generally the following principles apply:

- Visual sensitivity decreases as the viewing time decreases. ٠
- Visual sensitivity decreases as the number of potential viewers decreases.
- Visual sensitivity can also be related to viewer activity (e.g. A person viewing an affected site whilst engaged in recreational activities will be more strongly affected by change than someone passing a scene in a car travelling to a desired destination).

Sensitivity ratings are defined as high, moderate or low and are shown in the Table 2 below (adapted from URBIS, 2009).

2.3.2 Visual Magnitude

Visual magnitude refers to the extent of change that will be experienced by receptors. Factors that are considered when assessing the magnitude of change include:

- the proportion of the view / landscape affected;
- extent of the area over which the change occurs;
- the size and scale of the change;
- the rate and duration of the change;
- the level of contrast and compatibility. (Source: AILA, 2018)

2.3.3 Visual Impact

Visual impact refers to the change in appearance of the landscape as a result of development. (EPHC, 2010). Visual impact is the combined effect of visual sensitivity and visual magnitude. Various combinations of visual sensitivity and visual magnitude will result in high, moderate and low overall visual impacts as suggested in Table 3 below (Transport for NSW, 2020).

VISUAL SENSITIVITY RATING					
	DISTANCE FROM SITE				
LANDUSE	0-1 km	1-2 km	2 - 4.5 km	4.5 -7 km	> 7 km
Townships	HIGH	HIGH	HIGH	MODERATE	LOW
Recreational Reserve	HIGH	HIGH	HIGH	MODERATE	LOW
Homestead	HIGH	HIGH	HIGH	MODERATE	LOW
Rural Township	HIGH	HIGH	MOD	LOW	NIL
Main Highway	MOD	MOD	LOW	LOW	NIL - LOW
Local Roads	MOD	MOD	LOW	LOW	NIL - LOW
Farm Road	LOW	LOW	NIL - LOW	NIL - LOW	NIL
Agricultural Land	LOW	LOW	NIL - LOW	NIL - LOW	NIL

VISUAL IMPACT RATING						
		VISUAL MAGNITUDE				
		HIGH	MODERATE	LOW	NEGLIGIBLE	
~	HIGH	HIGH	HIGH-MODERATE	MODERATE	NEGLIGIBLE	
	MODERATE	HIGH-MODERATE	MODERATE	MODERATE-LOW	NEGLIGIBLE	
VISU	LOW	MODERATE	MODERATE-LOW	LOW	NEGLIGIBLE	
S	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	

Table 3: Visual Impact Rating Table (Adapted from Transport for NSW, 2020)

Table 2: Visual Sensitivity Rating Table (Adapted from Urbis, 2009)

2.0 Study Method

2.4 Guidelines and Statutory Framework

In addition to the SEARs, the following provides an overview of the guidelines, relevant frameworks and considerations of authorities utilised to form the methodology for this visual impact assessment.

2.4.1 Large-scale Solar Energy Guideline

This guideline provides the community, industry, applicants and regulators with general guidance on the planning framework for the assessment and determination of State significant large-scale solar energy Projects under the Environmental Planning and Assessment Act 1979 (EP&A Act). The key assessment issues identified in the Guideline addressed in this Landscape and Visual Impact Assessment include:

- Visual impacts: The impacts on landscape character and values and the visual amenity of landholders and communities. The impacts on landscape character and visual amenity have been addressed in Section 8.0 of this LVIA.
- Cumulative impacts: Any cumulative impacts from any other developments (proposed, approved and operating), especially biodiversity, visual impacts, socio-economic and construction traffic impacts. For example, multiple solar developments in close proximity to each other may have a cumulative impact on other rural industries or adjacent land uses, amenity, biodiversity, visual effects or scenic landscapes. An overview of the potential cumulative visual impacts has been addressed in Section 8.4 of this LVIA.

2.4.2 Queanbeyan - Palerang Regional Council

The Project site is located within the Quenbeyan - Palerang Regional Council (LGA). The Site is primarily zoned as RU1 - Primary Production and E3 - Environmental Management under the Palerang Local Environmental Plan 2014.

The objectives of RU1 - Primary Production are as follows:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To minimise the impact of any development on the natural environment.
- To ensure that development does not unreasonably increase the demand for public services or facilities

And the objectives of E3 Environmental Management are as follows:

- To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.
- To provide for a limited range of development that does not have an adverse effect on those values.
- To encourage the retention of the remaining evidence of significant historical and social values expressed in existing landscape and land use patterns.
- To encourage development that is visually compatible with the landscape.
- To promote ecologically sustainable development.
- To minimise the impact of any development on the natural environment.

3.0 Project Overview

3.1 Project Overview

The proposed Blind Creek Solar Farm (the Project) involves the construction, operation and decommissioning of approximately 300-350MW photovoltaic (PV) solar array combined with 300 MW battery storage to supply electricity into the national electricity grid. During its operational term, the Project will generate up to 736,000 Mega Watt hours (MWh) per year. The Project study area is spread across several lots totalling approximately 1150 hectares. The area proposed for installation of infrastructure utilises half of the entire Site area approximately 700 ha.

Key infrastructure and assets associated with the Project would include:

- Up to 85 Power Connection Unit (PCU).
- Solar Photo Voltaic modules.
- Single axis tracking with a preferred 5.75 m 9 m spacing between panels.
- Onsite substation and a Battery Energy Storage System (300MW, 600MWhr).
- Cabling network (preferably underground) between panels and substation. ٠
- Internal Fenced lane ways for maintenance and for movement of livestock. ٠
- Fencing for rotational grazing of livestock.
- Internal gravel access and maintenance roads and car parking.
- Operation and Maintenance offices and shed.
- On site water storage, inclusive of hydrant points for the RFS. •

The Project involves rows of solar panels laid out approximately in north to south axis, spaced 5.75 - 9 metres apart to allow rotational grazing of livestock. Solar panels are likely to be mounted on a single-axis tracking system, enabling the panels to track the sun throughout the day in an east-west direction and maximise the power generation efficiency output.

The proposed connection to the grid would be via construction of a new onsite substation located adjacent to the existing TransGrid 330 kV transmission line.

Tarago Road is a sealed public road, linking Bungendore Road and Braidwood Road. The main site access will be via Tarago Road at existing entrance on Lot 1 DP1154765. An indicative Project layout is provided in Figure 2.



Figure 2: The Project (Source: SixMaps 2021)

3.0 Project Overview



A CONTRACT OF A

Image 01.

Example of Solar Panel (Source Moir LA, Manildra Solar Farm)

Image 02.

Example birds eye view of Solar Farm array (Source Moir LA, Manildra Solar Farm)



Image 03.

Example of a Power Conversion Unit (Source Moir LA, Manildra Solar Farm)



Image 04.

Example of an Operations Facility (Source Moir LA, Manildra Solar Farm)



BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Image 05.

Example of a Substation (Source Moir LA)

4.0 Existing Landscape Character

4.1 Site Description

The Proposed Development Site (the Site) is located along Currandooley Road, approximately 8 kilometres (km) north of Bungendore, NSW, and 50km north-east of Canberra, Australian Capital Territory (ACT), in the Queanbeyan - Palerang Regional Council Local Government Area (LGA).

The proposal site is primarily zoned RU1 Primary Production and E3 Environmental Management under the Palerang Local Environmental Plan 2014. The majority of the site has been modified and cleared as a result of historical farming and agricultural activities. Currently the Site is used for primary agricultural activities such as grazing and cropping.

An existing TransGrid 330kV transmission line traverses the far southern portion of the Site. The Project will connect to this transmission line and feed into the national electricity market. The Site is in close proximity to Infigen Energy's operational Capital Wind Farm (CWF) operating since January 2010. CWF consists of 67 Turbines and at its closest point, lies approximately 280m from the northern tip of the Project (Figure 3).

Bungendore Sands quarry is located on the southwest of the Project site with approximate at a distance of 240m toward the southwest to the Project. Sydney/ Goulburn/ Canberra Railway line runs approximately two 2 km northeast to southeast of the Project.

Lake George lies 600m - 1200m west of where solar panels are proposed. It serves as a popular destination for recreational activities such as model aircraft flying and camping. There are no National parks or State Significant Forest within close proximity to the Project.

Butmaroo creek traverses the Site discharging into Lake George which forms the north western boundary. A wetland has been identified within the Site. Tarago Road lies to the south-east of the Site, connecting the towns of Tarago and Bungendore. The Site is located approximately 13 km from Federal Highway north west of the Project location.

For the purposes of this report, references made to the 'VIA Study Area' is generally defined as the land up to 2000m from the development footprint as shown in Figure 3.



Figure 3: The Proposed Development Site (Map Source: Six Maps 2020)

4.0 Existing Landscape Character

4.2 Existing Landscape Character

4.2.1 Land Use

Land surrounding the Site is predominately characterised by land supporting primary production activities such as agriculture and sand mining. The existing land has been modified and cleared of any existing remnant vegetation to support agricultural activities with some small pockets of dry land cropping (see Image 05). Bungendore Sand guarry, extended in 2003, is located approximate 240 m and borders the southwestern edge of the Project forming an integral part of the existing visual character. Mining activities associated with the quarry have also re-shaped the surrounding landscape to create a mixture of wetlands and modified grasslands.

4.2.2 Roads and Railway Network

Roads immediately surrounding the Site are limited to local roads which are generally utilised for access to isolated homesteads and properties. Site access is off Tarago Road that forms part of the eastern section of the Project. Tarago Road connects the towns of Bungendore and Tarago. Sydney / Goulbourn / Canberra Rail line lies approximate 2 km from the southeastern edge of the Site boundary.

4.2.3 Towns

The Site is located along Currandooley Road, approximately 8 km north-east of Bungendore, NSW, and 50 km east of Canberra, Australian Capital Territory (ACT). Located within the suburbs of Tarago and Lake George, the Site is defined by large lot rural residential properties. The 2016 Census estimated 524 people living in Tarago and a total of 4,178 people in Bungendore (ABS, 2016).

4.2.4 Infrastructure

An existing TransGrid 330kV transmission line traverses the far southern and eastern portion of the Site. The Project will connect to this transmission line and feed into the national electricity market. The solar farm will (if approved) supersede the 50MW Capital Solar Farm, which neighbours the Site. The Site is in close proximity to Infigen Energy's operational Capital Wind Farm with approximately 280 metres distance to the closest turbine towards the North. The site occupies part of the proposed Capital Wind Farm 2 (CWF 2). If approved, the proponent will revoke nine approved turbines within the Site. The CWF 2 approval incorporates another 32 turbines north of the Site.



Image 05. Existing Wind Farm (Capital Wind Farm) and existing land use visible in the background



Image 06. Roadside vegetation on Currandooley Road - typical of the area



Image 07. Typical character of the Study Area visible from higher ground approx. 5km south of the Site.

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4.0 Existing Landscape Character

4.2.5 Vegetation

The majority of the Site is naturally cleared of native vegetation. It is currently used for grazing, primarily sheep and cattle, and is open grassland, fenced into paddocks of approximately 40 hectares. Pockets of mature vegetation are visible predominantly outside the site on the eastern edge (See Image 06). A cluster of snow gum woodland is within the Site but is avoided by the development footprint. Group of mature exotic trees spread through out the Site have been planted as wind breaks (See Image 05). Remnant vegetation found within the area is typically Eucalyptus pauciflora (Snow Gum).

4.2.6 Topography

Land in the Study Area is generally very flat, bordered by undulating hills with some granite outcrops. Site elevation ranges from approximately 670 m to 720 m. Surrounding areas rise up to form elevated undulating ridges to an elevation of 870 m overlooking the Site. Capital Wind Farm is located on higher elevation than the Project site with approximate elevation of 740-870m (see Image 05). Several dwellings are located on higher elevation overlooking the Project to the south and southwest, and to the northeast of the Project.

5.0 Zone of Visual Influence

5.1 Overview of Zone of Visual Influence

An initial visibility assessment was undertaken utilising Zone of Visual Influence mapping. This tool helped to define the theoretical areas from which the proposed solar farm would have potential visibility and create the 'Visual Catchment'.

The Zone of Visual Influence (ZVI) represents the area over which a development can theoretically be seen, and is based on a Digital Terrain Model (DTM). The ZVI is a desktop tool intended to make the fieldwork more efficient by clearly excluding areas that are screened by topography. Considerable field assessment is then undertaken predominantly within the areas where potential for impact exists.

The ZVI usually presents a bare ground scenario - ie. A landscape without screening, structures or vegetation, and is usually presented on a base map. It is also referred to as a zone of theoretical visibility (The Landscape Institute and the institute of Environmental Management and Assessment, 2002). As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note the ZVI is based solely on topographic information. Therefore this form of mapping should be acknowledged as representing the worst case scenario. In reality the zone of visibility of the Blind Creek Solar Farm is far less than that shown in the following ZVI Map (Refer to Figure 4).

5.2 Summary of Zone of Visual Influence

The Zone of Visual Influence (ZVI) was prepared based on the development footprint of the Project at a maximum assumed height of the panels at 5 metres representing the worst case scenario. Other ancillary structures such as BESS and battery units will be approximately at a height of 3 to 4 metres. Hence the ZVI assessed with heights of 5 metres represents the worst case scenario. The ZVI identified large areas of land surrounding the Site to the northeast, east and south from which topography will potentially screen views to the Project. It is crucial to note that the ZVI is based solely on topographical information and represents a bare ground scenario - i.e a landscape without screening, vegetation or structures.

As the figure illustrates, all non-associated dwellings within the VIA Study Area were identified as having a 75-100% of potential visibility towards the Project (based on topography alone). The ZVI has been used to identify areas of potentially high visibility which informed the viewpoint analysis (refer to Section 6.0)



Figure 4: Zone of Visual Influence (Map Source: Six Maps)

6.1 Viewpoint Analysis Methodology

The viewpoint analysis visual assessment report considers the likely impact that development would have on the existing landscape character and visual amenity by selecting prominent sites, otherwise referred to as viewpoints.

Once the viewpoint had been selected, panoramic photographs were taken on a level tripod at a height of 150cm (to represent eye level). Photographs were taken with a Canon EOS 5D Mark IV Full Frame digital SLR through a 50mm fixed focal lens which closely represents the central field of vision of the human eye.

The visual impact of the viewpoint was then assessed the use of a combination of the 3D terrain modelling, topographic maps and on site analysis. Viewpoint photographs and analysis is included in the following pages. The findings of the viewpoint analysis have been quantified and are summarised in Table 3.

6.2 Viewpoint Selection Process

19 viewpoints (Nine from public locations and ten from private property) were recorded as part of the field work process. The locations of the viewpoints have been identified in Figure 5 and the general viewing direction of each viewpoint is identified on each viewpoint. Viewpoints have been carefully selected to be representative of the range of views within the study area. The selection of viewpoints is informed by topographical maps, field work observations and other relevant influences such as access, landscape character and the popularity of vantage points.

Viewpoints are selected to illustrate a combination of the following:

- Areas of high landscape or scenic value.
- Visual composition (eg. focused or panoramic views, simple or complex landscape pattern).
- Range of distances.
- Varying aspects.
- Various elevations.
- Various extent of development visibility (full and partial visibility)
- Views from major routes.
- Representative dwellings with potential visibility

It is important to note that all viewpoints for this study have been taken from accessible public land (typically gates, walking tracks, roads, recreation reserves and lookouts) and residential dwellings (with permission from land owners) which were identified as having a potentially high visual impact through the desktop review process.



Figure 5: Viewpoint Assessment Locations (Map Source: Six Maps)

VP01 Intersection of Tarago and McDonnel Road, Lake George



Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP01		
SUMMARY OF VIEWPOIN	IT	VIEWPOINT DESCRIPTION
LOCATION	Intersection of Tarago and McDonnel	This view is taken from the intersection of Tarago road and McDonnel
	Road, Lake George	Road. McDonnel road is a low use road mainly used as an access to
COORDINATES	35°13'30.39"S 149°27'18.47"E	residences in the immediate surrounds. The topography is generally
ELEVATION	702m	flat gradually undulating in the far background. The roadside vegetation
VIEWING DIRECTION	North	along Tarago Road is visible to the right of the view. A dense canopy
DISTANCE TO SITE	2.23 km	tree cover is visible in the far background. The surrounding land use is
LAND USE	Local Road	characterised by agricultural activities.
VISUAL SENSITIVITY	Moderate	The Visual Sensitivity for this viewpoint is generally rated as Moderate
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	
		1

VP01 Location

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POTENTIAL VISUAL IMPACT

From this location views to the proposed development will be filtered by dense vegetation and topography associated with the Site.

The Visual Magnitude is assessed as $\ensuremath{\text{Negligible}}$ and the resulting Visual Impact rating is Negligible.

VP02 Currandooley Road, Lake George



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP02		
SUMMARY OF VIEWPOINT		VIEWPOINT DESCRIPTION
LOCATION	Currandooley Road, Lake George	This viewpoint is taken along Currandooley Road adjacent to the Site.
COORDINATES	35°12'41.32"S 149°28'35.62"E	Currandooley Road is a low use road used mainly as an access to the
ELEVATION	691m	residences and isolated homesteads within this area. The topography
VIEWING DIRECTION	North	is fairly flat and thin vegetation lines the road adjacent to the Site. The
DISTANCE TO SITE	0.06 km	 surrounding land use is characterised by cleared land used for various agricultural activity such as cropping and grazing. Existing overhead
LAND USE	Local Road	powerlines are visible in the view and form a part of the landscape.
VISUAL SENSITIVITY	Moderate	
VISUAL MAGNITUDE	Low	The Visual Sensitivity for this viewpoint is generally rated as Moderate .
VISUAL IMPACT	Low	

VP02 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

The views to the development will be fragmented by vegetation to the left of the view. The proposed development will be partially visible through gaps between the trees along the Currandooley road.

The Visual Magnitude is assessed as Low and the resulting Visual Impact is Low.

VP03 Off Tarago Road, Lake George (Entrance to the Project)



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP03		
SUMMARY OF VIEWPOIN	г	VIEWPOINT DESCRIPTION
LOCATION	Off Tarago Road, Lake George	This viewpoint is located off Tarago Road approximately 0.84km from
COORDINATES	35°12'26.17"S 149°29'49.39"E	the development site. The surrounding landscape is characterised by
ELEVATION	694m	cleared land for agricultural activities. Isolated group of dense I trees
VIEWING DIRECTION	EWING DIRECTION Northwest is visible in the background.	is visible in the background. Tarago road is a local road connecting
DISTANCE TO SITE	0.84 km	Tarago to Bungendore.
LAND USE	Local road	The Visual Sensitivity for this viewpoint is generally rated as Moderate .
VISUAL SENSITIVITY	Moderate	
VISUAL MAGNITUDE	Moderate	
VISUAL IMPACT	Moderate	

VP03 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

The majority of the development may be visible from this location towards the north and west. Dense group of vegetation will filter parts of the proposed development.

The Visual Magnitude is assessed as Moderate and the resulting Visual Impact is Moderate.

VP04 800 Tarago Road, Lake George (Dwelling ID: R36)



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP04		
SUMMARY OF VIEWPOINT		VIEWPOINT DESCRIPTION
LOCATION	800 Tarago Road, Lake George	This viewpoint is taken from verandah of 800 Tagaro Road
COORDINATES	35°12'52.85"S 149°29'40.48"E	approximately 1.53 km from the Project. The surrounding landscape
ELEVATION	706m	is characterised by land cleared for agricultural activities and used for grazing and cropping. Roadside vegetation along Tarago Road is
VIEWING DIRECTION	Northwest	visible to the left of the view which may likely restrict majority of views
DISTANCE TO SITE	1.53 km	Existing wind turbines feature in the far background.
LAND USE	Rural Residential	The visual sensitivity for this viewpoint is generally rated as High based
VISUAL SENSITIVITY	High	on the proximity to the Site.
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	

VP04 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Refer to Photomontage 03 Appendix A

POTENTIAL VISUAL IMPACT

Views of the development from this location will be fragmented by vegetation along Tarago road. Vegetation associated with the Project Site will limit views of the development. Fleeting views of the Project will be visible mostly towards the north.

The Visual Magnitude is assessed as Negligible and the resulting Visual Impact is Negligible.

VP05 656 Tarago , Lake George (Dwelling ID unknown)



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP05		
SUMMARY OF VIEWPOIN	IT	VIEWPOINT DESCRIPTION
LOCATION	656 Tarago Road, Lake George	This viewpoint location is on top of the hill close to the southeastern edge
COORDINATES	35°13'12.93"S 149°29'18.28"E	of the Lot 656 Tarago Road with views of the proposed development
ELEVATION	ELEVATION 718m in a generally northwest direction. Der VIEWING DIRECTION Northwest the view from this location. The landset	in a generally northwest direction. Dense vegetation screens most of
VIEWING DIRECTION		the view from this location. The landscape is characterised by gently
DISTANCE TO SITE	1.46 km	undulating topography and cleared land used for agricultural activities such as grazing or cropping.
LAND USE	AND USE Agricultural	
VISUAL SENSITIVITY	Low	The Visual Sensitivity for the viewpoint is generally assessed as Low.
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	

VP05 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Views to majority of the proposed development will be concealed from this location by the vegetation associated with the Lot and along Tarago Road.

The Visual Magnitude is associated as Negligible and the resulting Visual Impact is Negligible.

VP06 4586 Kings Hwy, Bungendore (Dwelling ID: R54)



V 280° 290° 300° 310° 320° 330° 340° 350° N 10° 20° 30° 40° 50° 60° 70° 80° E

LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP06		
SUMMARY OF VIEWPOINT	-	VIEWPOINT DESCRIPTION
LOCATION	4586 Kings Hwy, Bungendore	This viewpoint is taken from the dwelling on 4586 Kings Highway
COORDINATES	35°14'8.33"S 149°28'40.46"E	generally looking toward the north direction. The surrounding landscape
ELEVATION	744m	is characterised by scattered vegetation associated with the property.
VIEWING DIRECTION	North	
DISTANCE TO SITE	3.7 km	I he Visual Sensitivity for this viewpoint is generally Low.
LAND USE	Rural Residential	
VISUAL SENSITIVITY	Low	
VISUAL MAGNITUDE	Low	
VISUAL IMPACT	Low	

VP06 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Refer to Photomontage 04 Appendix A

POTENTIAL VISUAL IMPACT

Views to the development will be limited by the scattered vegetation. Due to the distance of the proposed development, it may not be discernible from this location.

The Visual Magnitude is assessed as Low and the resulting Visual Impact is Low.

VP07 55 Hope Drive, Bungendore (Dwelling ID: R21)



V 280° 290° 300° 310° 320° 330° 340° 350° N 10° 20° 30° 40° 50° 60° 70° 80° F

LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP07		
SUMMARY OF VIEWPOIN	Т	VIEWPOINT DESCRIPTION
LOCATION	55 Hope Drive, Bungendore	This viewpoint is located in the backyard of 55 Hope Drive. The
COORDINATES	35°13'20.44"S 149°28'5.14"E	landscape is primarily characterised by dense vegetation and sheds
ELEVATION	712m	associated with the dwelling. The surrounding topography is generally
VIEWING DIRECTION	North	flat. Existing wind turbines in the far background form a feature in the
DISTANCE TO SITE	2.70 km	visual landscape.
LAND USE	Residential	The Visual Sensitivity for this viewpoint is generally rated as Low .
VISUAL SENSITIVITY	Low	
VISUAL MAGNITUDE	Low	
VISUAL IMPACT	Low	

VP07 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Refer to Photomontage 05 Appendix A

POTENTIAL VISUAL IMPACT

The majority of the proposed development will likely be screened by dense vegetation associated with the view. Scattered vegetation towards east will limit some of the views to the development.

The Visual Magnitude is associated as Low and the resulting Visual Impact is Low.

VP08 Currandooley Road, Lake George



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP08		
SUMMARY OF VIEWPOIN	Т	VIEWPOINT DESCRIPTION
LOCATION	Currandooley Road, Lake George	This viewpoint is taken along Currandooley Road. Currandooley Road
COORDINATES	35°10'47.33"S 149°29'40.52"E	is a low use gravel road used to access the Capital wind farm and
ELEVATION	707m	residences in this area. The surrounding landscape is characterised by
VIEWING DIRECTION	West	cleared land used for agricultural activities and scattered vegetation in
DISTANCE TO SITE	0.72 km	far background of the view. The topography is generally flat leading to low hills in the background.
LAND USE	Local Road	
VISUAL SENSITIVITY	Low	The Visual Sensitivity for this location is generally rated as Low.
VISUAL MAGNITUDE	Moderate	
VISUAL IMPACT	Moderate-Low	

VP08 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Majority of the development may be visible from this point due to lack of vegetation and its proximity to the Development.

The Visual Magnitude is assessed as Moderate and the resulting Visual Impact is Moderate-Low.

VP09 Currandooley Road, Lake George



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP09		
SUMMARY OF VIEWPOINT	-	VIEWPOINT DESCRIPTION
LOCATION	Currandooley Road, Lake George	This view is taken along Currandooley Road looking generally
COORDINATES	35°11'8.42"S 149°29'31.38"E	northwest toward the proposed development. Currandooley Road is
ELEVATION	700m	a low use gravel road. The surrounding landscape is characterised by
VIEWING DIRECTION	Northwest	land cleared for agricultural activities such as grazing and cropping.
DISTANCE TO SITE	0.23 km	Roadside vegetation associated with the road, forms a dense screen along the right of the view.
LAND USE	Local Road	
VISUAL SENSITIVITY	Low	The Visual Sensitivity of this viewpoint is generally rated as Low.
VISUAL MAGNITUDE	Moderate	
VISUAL IMPACT	Moderate-Low	

VP09 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Fleeting views of the Project may be visible from this location through breaks in the roadside vegetation.

The Visual Magnitude is assessed as Moderate and the resulting Visual Impact is rated as Moderate-Low.

VP10 Kevin Whealthy Rest area, Federal Hwy, Lake George

Indicative direction of Project Site ·-----



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP10		
SUMMARY OF VIEWPOINT		VIEWPOINT DESCRIPTION
LOCATION	Kevin Whealthy Rest area, Federal Hwy, Lake George	This viewpoint is taken from a rest area along Federal Highway with
COORDINATES	35° 4'2.91"S 149°22'28.09"E	connecting Goulburn to Canberra.
ELEVATION	679m	
VIEWING DIRECTION	Southeast	The Visual Sensitivity of this viewpoint is generally rated as Negligible
DISTANCE TO SITE	13.14 km	due to proximity to the site.
LAND USE	Main Highway / Recreational reserve	
VISUAL SENSITIVITY	Negligible	
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	

VP10 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Due to the distance the proposed development will be indiscernible from this location. Majority of the Project may be visible from other areas of the rest area where screening is limited. However due to the distance of this location the impact would remain negligible.

The Visual Magnitude is assessed as Negligible and the resulting Visual Impact is rated as Negligible.

VP11 Weereewa Lookout, Federal Hwy

Indicative direction of Project Site ·-----



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP11		
SUMMARY OF VIEWPOIN	Т	VIEWPOINT DESCRIPTION
LOCATION	Weereewa Lookout, Federal Hwy, Lake George	This viewpoint is taken from the Weereewa Lookout along Federal Highway approximately 10.37 km from the site Lake George is visible
COORDINATES	35° 6'3.86"S 149°22'31.39"E	to the left of the view.
ELEVATION	706m	
VIEWING DIRECTION	Southeast	The Visual Sensitivity of this viewpoint is generally rated as Negligible
DISTANCE TO SITE	10.37 km	due to proximity to the site.
LAND USE	Main Highway	
VISUAL SENSITIVITY	Negligible	
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	

VP11 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Views to the development may partially be screened by dense vegetation adjacent to the Site in far background. Far distance to the proposed development from this location filtered the direct view to the Site.

The Visual Magnitude is assessed as Negligible and the resulting Visual Impact is rated as Negligible.

VP12 Anderson VC Rest area, Federal Hwy





Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP12		
SUMMARY OF VIEWPOINT	T	VIEWPOINT DESCRIPTION
LOCATION	Anderson VC Rest area, Federal Hwy, Lake George	This viewpoint is taken from the Anderson VC rest area along Federal
COORDINATES	35° 6'3.56"S 149°22'36.73"E	by dense mid level bushes leading to Lake George in the background.
ELEVATION	680m	
VIEWING DIRECTION	Southeast	The Visual Sensitivity of this viewpoint is generally rated as Negligible
DISTANCE TO SITE	10.26 km	due to far proximity to the site.
LAND USE	Main Highway	
VISUAL SENSITIVITY	Negligible	
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	

VP12 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT From this location, the proposed development will be indiscernible. The Visual Magnitude is assessed as Negligible and the resulting Visual Impact is rated as Negligible.

VP13 866 Tarago Road, Lake George



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP13		
SUMMARY OF VIEWPOINT	Г	VIEWPOINT DESCRIPTION
LOCATION	866 Tarago Road, Lake George	This view is taken along the driveway of the dwelling along Tarago
COORDINATES	35°12'25.57"S 149°30'1.58"E	Road. Dense roadside vegetation is visible in the foreground. The
ELEVATION	692m	surrounding topography generally flat. Tarago Road is major use road
VIEWING DIRECTION	Northwest	connecting Bungendore to Tarago.
DISTANCE TO SITE	1.05km	The Visual Sensitivity of this viewpoint is generally rated as Low .
LAND USE	Rural Residential	
VISUAL SENSITIVITY	Low	
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	

VP13 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

The fleeting views of the proposed development will be visible from the gaps between trees along the Tarago road from this location.

Dense vegetation adjacent to the Site will screened the views to the development in far background.

The Visual Magnitude is assessed as Negligible and the resulting Visual Impact is rated as Negligible.

VP14 152 The Forest Road, Bywong (Dwelling ID : R109)



VILLE VILLE

LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP14		
SUMMARY OF VIEWPOINT		VIEWPOINT DESCRIPTION
LOCATION	152 The Forest Road, Bywong	This viewpoint is taken from an elevated location at 152 Forest
COORDINATES	35°12'28.46"S 149°23'58.86"E	Road with looking towards the Site. The surrounding landscape is
ELEVATION	848m	characterised by scattered vegetation associated with the dwelling.
VIEWING DIRECTION	East	Lake George is visible to the left of the view. Turbines visible in the
DISTANCE TO SITE	5.48 km	far background form a feature and can be associated as a part of the landscape.
LAND USE	Rural Residential	
VISUAL SENSITIVITY	Moderate	The Visual Sensitivity for this viewpoint is generally rated as Moderate.
VISUAL MAGNITUDE	Low	
VISUAL IMPACT	Moderate-Low	

VP14 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Refer to Photomontage 01 Appendix A

POTENTIAL VISUAL IMPACT

Due to the elevation of this location, majority of the development will visible from this location. Scattered vegetation associated with the viewpoint location may filter some views of the development.

The Visual Magnitude is assessed as $\boldsymbol{\mathsf{Low}}$ and the Visual impact is Moderate-Low.

VP15 92 The Forest Road, Bywong (Dwelling ID: R62)



V 10° 20° 30° 40° 50° 60° 70° 80° E 100° 110° 120° 130° 140° 150° 160° 160° 170° 5

LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP15		
SUMMARY OF VIEWPOINT		VIEWPOINT DESCRIPTION
LOCATION	92 The Forest Road, Bywong	This viewpoint is located on the deck of 92 Forest Road Dwelling's
COORDINATES	35°12'53.09"S 149°24'1.78"E	veranda looking East towards the Site. The landscape is characterised
ELEVATION	822m	by undulating topography providing expansive views of the plains in
VIEWING DIRECTION	East	the background. Turbines are visible in the far background and feature
DISTANCE TO SITE	5.57 km	within the landscape.
LAND USE	Rural Residential	The Visual Sensitivity for this viewpoint is generally rated as Moderate .
VISUAL SENSITIVITY	Moderate	
VISUAL MAGNITUDE	Low	
VISUAL IMPACT	Low	

VP15 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Fleeting views of the Project will likely be visible from this location due to its elevation and surrounding vegetation. However, due to the distance between the development and this location the potential visual impact may be reduced significantly.

The Visual Magnitude is assessed as Low based on the distance to the development and the resulting Visual impact is Low.

VP16 449 Lake Road, Bywong (Dwelling ID: R88)



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP16		
SUMMARY OF VIEWPOINT	-	VIEWPOINT DESCRIPTION
LOCATION	449 Lake Road, Bywong	This viewpoint is located at 449 Lake Road. The landscape is
COORDINATES	35°11'44.20"S 149°24'0.05"E	characterised by scattered vegetation and land cleared for agricultural
ELEVATION	658m	activities such as grazing and cropping. The topography is generally flat
VIEWING DIRECTION	East	with open expansive views towards Lake George in the background.
DISTANCE TO SITE	5.22 km	Scattered vegetation associated with the dwelling is spread through out the view.
LAND USE	Rural Residential	
VISUAL SENSITIVITY	Moderate	The Visual Sensitivity of this viewpoint is generally rated as Moderate.
VISUAL MAGNITUDE	Low	
VISUAL IMPACT	Moderate - Low	

VP16 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Refer to Photomontage 02 Appendix A

POTENTIAL VISUAL IMPACT

Due to a relatively flat topography some parts of the Project will be visible from this location. However, the distance of the development from this location will minimise the contrast, size and scale of the development.

The Visual Magnitude is assessed as Low based on the location and the Visual impact is Moderate - Low.

VP17 68 The Forest Road, Bywong (Dwelling ID: R64)



LEGEND

Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP17		
SUMMARY OF VIEWPOINT		VIEWPOINT DESCRIPTION
LOCATION	68 The Forest Road, Bywong	This viewpoint is taken from the veranda of the dwelling at 68 Forest
COORDINATES	35°12'58.87"S 149°24'9.62"E	Road looking northeast towards the Site. The surrounding landscape
ELEVATION	781m	is characterised by steep slopes and dense vegetation. Filtered views
VIEWING DIRECTION	Northeast	towards Lake George are visible through the breaks in the canopy
DISTANCE TO SITE	5.43 km	cover.
LAND USE	Rural Residential	The Visual Sensitivity for this viewpoint is generally rated as Low .
VISUAL SENSITIVITY	Low	
VISUAL MAGNITUDE	Low	
VISUAL IMPACT	Moderate-Low	

VP17 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Due to the elevation of this location, majority of the proposed development will be visible from this location. Limited views of the proposed development will be provided through breaks in the canopy cover.

The Visual Magnitude is assessed as Low and the Visual impact is Moderate-Low.

VP18 Lake Road, Lake George





LEGEND

Indicative extent Project Site likely to be visible

Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP18		
SUMMARY OF VIEWPOINT	Г	VIEWPOINT DESCRIPTION
LOCATION	Lake Road, Lake George	This viewpoint is taken along Lake Road. Lake Road is low use gravel
COORDINATES	35°11'28.78"S 149°24'2.12"E	road used to access properties along this road. The surrounding
ELEVATION	684m	landscape is characterised by cleared land used for activities
VIEWING DIRECTION	East	associated with agriculture such as cropping and grazing. This location
DISTANCE TO SITE	5.05 km	provides open expansive views of Lake George and the Capital Wind Farm in the far background.
LAND USE	Local Road	
VISUAL SENSITIVITY	Low	The Visual Sensitivity of this viewpoint is generally rated as Low.
VISUAL MAGNITUDE	Negligible	
VISUAL IMPACT	Negligible	

VP18 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Indicative direction of Project Site

POTENTIAL VISUAL IMPACT

Due to lack of screening vegetation, majority of the proposed development will be discernible from this location. However the distance of this viewpoint to the Project will minimize the impact.

The Visual Magnitude is assessed as Negligible and the Visual impact is Negligible.

VP19 Tarago Road, Lake George





-Indicative extent Project Site likely to be visible

----- Indicative extent Project Site (Likely to be screened)



VIEWPOINT VP19			
SUMMARY OF VIEWPOINT	-	VIEWPOINT DESCRIPTION	
LOCATION	Tarago Road, Lake George	This view is taken at a rest area along Tarago Road. Tarago Road	
COORDINATES	35°12'16.53"S 149°30'31.48"E	is major road connecting Bungendore to Tarago. The surrounding	
ELEVATION	711m	landscape is characterised by cleared land possibly used for agricultura	
VIEWING DIRECTION	Northwest	activities. Scattered groups of vegetation is visible spread throughout	
DISTANCE TO SITE	1.03km	 the view. Turbines associated with the Capital Wind Farm is visible in the far background. 	
LAND USE	Local Road		
VISUAL SENSITIVITY	Negligible	The Visual Sensitivity of this viewpoint is generally rated as Negligible .	
VISUAL MAGNITUDE	Negligible		
VISUAL IMPACT	Negligible		

VP19 Location

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

POTENTIAL VISUAL IMPACT

Fleeting views of the proposed development will be visible from breaks in the canopy trees in the far background. The Project will be indiscernible from this location.

The Visual Magnitude is assessed as Negligible and the resulting Visual Impact is rated as Negligible.

6.3 Overview of Viewpoint Analysis

As discussed in the rationale for the viewpoint selection process, these viewpoints are representative of the worst case scenario. For each viewpoint, the potential visual magnitude was analysed through the use of a combination of topographic maps and on site analysis.

The visual sensitivity and visual magnitude of each viewpoint have been assessed which, when combined, result in an overall visual impact for the viewpoint (Refer to Table 4).

Of the 19 viewpoints assessed as part of this LVIA, nine (9) from private locations and ten (10) from public viewpoint locations, nine (9) received a visual impact rating of 'negligible', four (4) were rated as 'low', five (5) of the viewpoints were rated as 'moderate-low', and one (1) of the viewpoints was rated as 'moderate' (being a viewpoint with no receiver).

It is noted visual impacts associated with the Project are likely to be higher during the construction phases and mitigated overtime with the implementation of measures to ultimately achieve a low or negligible visual impact level. The incorporated mitigation measures outlined in Section 8 of this report seek to avoid, reduce and where possible remedy adverse visual effects arising from the proposed development.

Generally, there are very limited opportunities to view the Project. The viewpoints that were rated as low or negligible contained limited views to the Site, adequate screening or roadside vegetation that will obscure views of the Project.

The viewpoints which were rated as having potential views to the Site were taken within close proximity in locations of the proposal or located on higher elevation than the Site where there was an absence of existing vegetation to screen views towards the Project.

VIEWPOINT	LOCATION	VISUAL SENSITIVITY	VISUAL MAGNITUDE	POTENTIAL VISUAL IMPACT
VP01	Tarago Road	MODERATE	NEGLIGIBLE	NEGLIGIBLE
VP02	Currandooley Road	MODERATE	LOW	LOW
VP03	Off Tarago Road	MODERATE	MODERATE	MODERATE
VP04	800 Tarago Road	HIGH	NEGLIGIBLE	NEGLIGIBLE
VP05	656 Tarago Road	LOW	NEGLIGIBLE	NEGLIGIBLE
VP06	4586 Kings Hwy	LOW	LOW	LOW
VP07	55 Hope Drive	LOW	LOW	LOW
VP08	Currandooley Road	LOW	MODERATE	MODERATE - LOW
VP09	Currandooley Road	LOW	MODERATE	MODERATE - LOW
VP10	Federal Hwy	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE
VP11	Federal Hwy	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE
VP12	Federal Hwy	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE
VP13	866 Tarago Road	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE
VP14	152 The Forest Road	MODERATE	LOW	MODERATE-LOW
VP15	92 The Forest Road	MODERATE	LOW	LOW
VP16	449 Lake Road	MODERATE	LOW	MODERATE-LOW
VP17	68 The Forest Road	LOW	LOWV	MODERATE-LOW
VP18	Lake Road	LOW	NEGLIGIBLE	NEGLIGIBLE
VP19	Tarago Road	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

Private Viewpoints

*Please note the Viewpoint Visibility Assessment Summary is based on the visibility assessment criteria outlined in Section 2.1 of this report.

Table 4: Viewpoint Visual Impact Summary

Public Viewpoints

7.0 Photomontages

7.1 Photomontage Development

A photomontage is a visualisation based on the superimposition of an image (ie building, road, landscape addition etc) onto a photograph for the purpose of creating a realistic representation of proposed or potential changes to a view. (Horner and Maclennan et al, 2006). Photomontages have been utilised in this Landscape and Visual Impact Assessment to assist in the impact assessment of the proposed Solar Farm.

7.1.1 Photomontage Development Process

Photomontages are representations of the development that are superimposed onto a photograph of The Site. The process for generating these images involves computer generation of a wire frame perspective view of The Site. Due to the character of this development being a progression which will occur over time, the photomontages developed for this proposal are based on a worst case scenario at a height of up to 4 metres.

The photo simulations based on photography from typical sensitive viewpoints are included within the following analysis section. The images that the photo simulations have been based on have been were captured with a Canon EOS 50D Mark IV Full Frame Digital SLR through a 50mm fixed focal lens which closely represent the central field of vision of the human eye.

7.1.2 Photomontage Selection Process.

Ten photomontages of the proposed development within the existing context were selected as key views and as a good indicator of general visibility of the Site from private properties or on locations requested by property owners. Photomontages have been prepared for Viewpoints VP04, VP06, VP07, VP14 and VP16 (refer to Figure 6). When undertaking a LVIA, viewpoints selected for the preparation of photomontages are generally those viewpoints determined to have the greatest potential for visibility of the Project and the highest visual impact. (Refer to Appendix A)



Figure 6: Photomontage Locations (Map source: Six Maps 2020)

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8.1 Overview of Visual Impacts

In addition to the photographic viewpoint assessment, the following section provides an overview of the potential visibility from areas surrounding the site. This is by no means an exhaustive description of the visibility from every locality, it is intended to provide an overall assessment of the potential visual impact on areas potentially affected by the Project.

8.2 Overview of Visual Impact on Public Land

Overall the Project will result in minor modifications to the existing visual landscape. There will be limited opportunities within the Study Area to view the Project from publicly accessible land. There are no accessible viewing locations within the Study Area to view the Project in its entirety. Due to the relatively small vertical scale and proximity, existing landscape features including roadside vegetation and topography screen the proposal from the majority of locations within the Study Area.

Publicly accessible viewing locations are generally limited to local roads which transverse the landscape. These roads have a very low frequency of use providing access to isolated dwellings or connecting towns of Bungendore and Tarago. The highest visual effect is likely to be experienced from areas within close proximity to the Site, however due to the isolated location, there is no publicly accessible land within close proximity to the Site.

The Site is set back from all roads with an exception along a small portion of Tarago Road where the entrance to the Site is located within 45m of the road, however roadside vegetation and direction of travel along this road would limit opportunities to view the Project. Fleeting views may be available to the Site along the existing cleared transmission line easement when travelling in a north direction along Tarago Road.

Due to the existing land use of grazing and modified pasture, land is naturally cleared of vegetation. Any tree clearing is of exotic species that are at the end of their useful life expectancy, which in the context of the broader landscape would have a negligible visual impact. The potential for visual impacts will occur during the construction and operational stages of the Project. Due to the topography and lack of dense screening vegetation, more built elements, and increased linear and vertical intrusions will be visible throughout the landscape. Until the mitigation methods as proposed in Section 9.0 of this report have established, views of the site, although limited, will appear inconsistent. The Site will be altered as a result of the Project, however once decommissioned, the visual landscape has the capacity to return to the current state.

8.3 Overview of Visual Impact on Residences

Dwellings within 2000 metres:

The highest potential visual impact is likely to be experienced from dwellings within close proximity to the Site. The assessment identified a total of twelve (12) dwellings located within 2000 metres of the Project. For the purpose of this LVIA, dwellings within 2000 metres of the Site have been assigned an ID (refer to Figure 7) and an assessment from each has been outlined in Table 5. Eight (8) of these dwellings are involved residences and four (4) dwellings were identified as non-involved residences (R36, R37, R38 and R40).

A detailed assessment of the four (4) non-involved residences, using aerial imagery identified the proposal will be screened by existing and proposed vegetation.

Dwellings in excess of 2000 metres:

Bungendore is the most populated area 8km south of the Project Site. The town of Bunegendore is characterised by rural residential properties that are located to the south of the Site. The locality of Bywong is located approximately 9 kilometres west of the Project. Dwellings along The Forest Road in Bywong are elevated and will have views to the majority of the Project (Visible in Photomontage 01 and 03).

Mitigation methods outlined in Section 10.0 would significantly reduce any residual visual impacts resulting from the Project.



Figure 7 Visual Impact Assessment (Map source: Six Maps)

BLIND CREEK SOLAR FARM I LANDSCAPE & VISUAL IMPACT ASSESSMENT

Visual Impact Assessment Blind Creek Solar Farm

Distance from nearest panel

Proposed Solar Array

Road

Minor Road

Study Area

BESS

Potential operational infrastructure area including substation, operational facility and

Indicative location of existing vegetation

ndicative location of heavily wooded existing vegetation within 2000m

Proposed Perimeter Screen Planting (Refer Section 10.0)

> Proposed Tree planting at dwellings to filter views to the Project (Refer Section 10.0)

Proposed Perimeter Screen Barrier along Butmaroo Creek (Refer Section 10.0)

5000 native trees planted between 2018 - 2020 (Refer Section 10.0)

Water Feature - Lake George

Non-associated Dwelli

Associated Dwelling

Existing Wind Turbine Locations

Existing Contours

Dwelling	Location	Distance to the development	Visual Assessment	Visual Impact Rating (Without mitigation)	Dwelling Involve- ment	Recommended Mitigation Measures (Refer to Section 10.0)	Visual Impact Rating (With mitigation)			
Dwellings	Dwellings within 2000m of the Project									
R2	114 CURRANDOOLEY ROAD TARAGO	243 m	The Project is located to the north of this dwelling. Dense surrounding vegetation will screen the views to the Project from this dwelling.	Nil	Involved	Not Required	Nil			
R5	495 CURRANDOOLEY ROAD LAKE GEORGE	1949 m	The Project is located to the north of this dwelling. Topography will screen the views to the Project from this dwelling.	Nil	Involved	Not Required	Nil			
R6	714 CURRANDOOLEY ROAD LAKE GEORGE	1834 m	The Project is located to the south of this dwelling. A low rise in the topography will screen the views to the Project from this dwelling.	Nil	Involved	Not Required	Nil			
R7	494 CURRANDOOLEY TARAGO	1748 m	The Project is located to the southwest of this dwelling. A low rise in the topography will screen the views to the Project from this dwelling.	Nil	Involved	Not Required	Nil			
R36	800 TARAGO ROAD LAKE GEORGE	1651m	The Project is located north west of this dwelling. Majority of the proposed development will likely be contained by roadside vegetation along Tarago Road. Planting of 5000 native trees between 2018 - 2020 will also assist in filtering the views.	Negligible	Non - involved	Not Required	Negligible			
R41	491 CURRANDOOLEY ROAD TARAGO	869 m	The Project is located to the south of this dwellings. The proposed development will likely be visible through breaks in the surrounding vegetation to the south.	Low - Moderate	Involved	Tree planting on southern side of house garden	Low			
R42	494 CURRANDOOLEY ROAD TARAGO	1358 m	The Project is located to the west of this dwelling. Dense surrounding vegetation will screen the views to the Project from this dwelling.	Nil	Involved	Not Required	Nil			
R43	494 CURRANDOOLEY ROAD TARAGO	1397 m	The Project is located to the west of this dwelling. Dense surrounding vegetation will screen the views to the Project from this dwelling.	Nil	Involved	Not Required	Nil			
R48	114 CURRANDOOLEY ROAD TARAGO	265 m	The Project is located to the west of this dwellings. The proposed development will likely be visible through breaks in the surrounding vegetation to the south.	Low - Moderate	Involved	Tree planting on southern side of house garden	Low			

Table 5: Overview of dwellings within 2000m of the Project

Dwelling	Location	Distance to the development	Visual Assessment	Visual Impact Rating (Without mitigation)	Dwelling Involvement	Recommended Mitigation Measures (Refer to Section 10.0)	Visual Impact Rating (With mitigation)
Dwellings	within 2000m of th	e Project					
R37	866 TARAGO ROAD LAKE GEORGE	1719 m	The Project is located north west of this dwelling. Majority of the proposed development will likely be hidden by surrounding vegetation associated with this dwelling	Nil	Non - involved	Not Required	Nil
R38	866 TARAGO ROAD LAKE GEORGE	1446 m	The Project is located north west of this dwelling. Majority of the proposed development will likely be hidden by surrounding vegetation associated with this dwelling and roadside vegetation along Tarago Road	Nil	Non - involved	Not Required	Nil
R40	996 TARAGO ROAD LAKE GEORGE	1326 m	The Project is located to the north west of this dwelling. A low rise in the topography and surrounding vegetation will screen the views to the Project from this dwelling.	Nil	Non - involved	Not Required	Nil

Table 5: Overview of dwellings within 2000m of the Project

Dwelling	Location	Distance to the development	Visual Assessment	Visual Impact Rating (Without mitigation)	Dwelling Involvement	Recommended Mitigation Measures (Refer to Section 10.0)	Visual Impact Rating (With mitigation)			
Non-asso	Non-associated dwellings outside 2000m of the Project (Hope Drive Cluster)									
R1	6 HOPE DRIVE BUNGENDORE	2840 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind a low rise in topography. Surrounding vegetation and other dwellings make indiscernible from this dwelling	Nil	Non - involved	Not Required	Nil			
R10	7 HOPE DRIVE BUNGENDORE	2762 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind a low rise in topography. Surrounding and roadside vegetation along Tarago Road will fragment views of the development from this dwelling.	Nil	Non - involved	Not Required	Nil			
R11	11 HOPE DRIVE BUNGENDORE	2751 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind a low rise in topography. Surrounding vegetation will fragment views of the Project from this dwelling.	Negligible	Non - involved	Not Required	Nil			
R12	13 HOPE DRIVE BUNGENDORE	2741 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind the undulating topography. Surrounding vegetation will fragment views of the Project from this dwelling. Fleeting views of the Project will be visible to the northeast of this dwelling.	Negligible	Non - involved	Proposed planting along the southwestern edge of the Project	Nil			
R13	21 HOPE DRIVE BUNGENDORE	2792 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind the undulating topography. Surrounding vegetation will fragment views of the Project from this dwelling.	Negligible	Non - involved	Not Required	Nil			
R14	23 HOPE DRIVE BUNGENDORE	2831 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind the dense surrounding vegetation of this dwelling.	Nil	Non - involved	Not Required	Nil			
R18	43 HOPE DRIVE BUNGENDORE	2822 m	The Project is located north of this dwelling. Surrounding vegetation will fragment views of the Project from this dwelling.	Nil	Non - involved	Not Required	Nil			
R19	45 HOPE DRIVE BUNGENDORE	2786 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind the dense surrounding vegetation of this dwelling.	Nil	Non - involved	Not Required	Nil			

Table 5: Overview of dwellings outside 2000m of the Project

Dwelling	Location	Distance to the development	Visual Assessment	Visual Impact Rating (Without mitigation)	Dwelling Involvement	Recommended Mitigation Measures (Refer to Section 10.0)	Visual Impact Rating (With mitigation)
Non-asso	ciated dwellings o	outside 2000m of t	ne Project (Hope Drive Cluster)				
R20	53 HOPE DRIVE BUNGENDORE	2741 m	The Project is located north of this dwelling. Views to majority of the Project will be fragmented by vegetation to the north of this dwelling. The Project will be discernible mostly towards the east of this dwelling.	Low - Moderate	Non - involved	Perimeter barrier north of the property	Nil
R21	55 HOPE DRIVE BUNGENDORE	2739 m	The Project is located north of this dwelling. Majority of the Project will be concealed by vegetation associated with adjoining dwellings. Scattered row of trees to the north will filter views of the Project.	Negligible	Non - involved	Proposed planting along the southwestern edge of the Project	Negligible
R22	56 HOPE DRIVE BUNGENDORE	2808 m	The Project is located north of this dwelling. The dense surrounding vegetation will make the Project indiscernible from this dwelling.	Nil	Non - involved	Not Required	Nil
R23	54 HOPE DRIVE BUNGENDORE	2877 m	The Project is located north of this dwelling. Due to the dense surrounding vegetation associated with adjoining properties views to the Project will be restricted from this dwelling.	Nil	Non - involved	Not Required	Nil
R24	48 HOPE DRIVE BUNGENDORE	2887 m	The Project is located north of this dwelling. Due to the dense surrounding vegetation views to the Project will be filtered from this dwelling.	Nil	Non - involved	Not Required	Nil
R45	42 HOPE DRIVE BUNGENDORE	2960 m	The Project is located north of this dwelling. Majority of the views to the Project will be restricted by vegetation and buildings associated with the adjacent dwellings (R24).	Nil	Non - involved	Not Required	Nil
R46	40 HOPE DRIVE BUNGENDORE	2936 m	The Project is located north of this dwelling. Majority of the views to the Project will be contained by vegetation and structures associated with the dwelling opposite Hope Drive (R18).	Nil	Non - involved	Not Required	Nil
R47	34 HOPE DRIVE BUNGENDORE	2966 m	The Project is located north of this dwelling. Due to the dense surrounding vegetation associated with this dwelling, views of the Project will be limited.	Nil	Non - involved	Not Required	Nil

Table 5: Overview of dwellings outside 2000m of the Project

Dwelling	Location	Distance to the development	Visual Assessment	Visual Impact Rating (Without mitigation)	Dwelling Involvement	Recommended Mitigation Measures (Refer to Section 10.0)	Visual Impact Rating (With mitigation)			
Non-asso	Non-associated dwellings outside 2000m of the Project									
R17	3 DUNCAN AVENUE BUNGENDORE	2917 m	The Project is located north of this dwelling. Due to the dense surrounding vegetation associated with this dwelling, views of the Project will be limited.	Nil	Non - involved	Not Required	Nil			
R15	2 DUNCAN AVENUE BUNGENDORE	2873 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind the undulating topography. Surrounding vegetation will minimise views of the Project from this dwelling.	Nil	Non - involved	Not Required	Nil			
R16	10 DUNCAN AVENUE BUNGENDORE	2927 m	The Project is located north of this dwelling. Due to the dense surrounding vegetation associated with this dwelling, views of the Project will be limited.	Nil	Non - involved	Not Required	Nil			
R32	12 DUNCAN AVENUE BUNGENDORE	2979 m	The Project is located north of this dwelling. Majority views of the Project will be contained by the dense surrounding and roadside vegetation in close proximity to this dwelling.	Nil	Non - involved	Not Required	Nil			
R49	17 DUNCAN AVENUE BUNGENDORE	3025 m	The Project is located north of this dwelling. Majority of the Project will be hidden behind the undulating topography. Surrounding vegetation will limit views of the Project from this dwelling.	Nil	Non - involved	Not Required	Nil			
R50	16 DUNCAN AVENUE BUNGENDORE	3070 m	The Project is located north of this dwelling. Due to the dense surrounding vegetation associated with this dwelling, views towards the Project will be contained.	Nil	Non - involved	Not Required	Nil			
R51	14 DUNCAN AVENUE BUNGENDORE	2984 m	The Project is located north of this dwelling. Due to the dense surrounding vegetation associated with this dwelling, views of the Project will be limited.	Nil	Non - involved	Not Required	Nil			
R92B	519 LAKE ROAD LAKE GEORGE	5558 m	The Project lies east of this dwelling. This is a newly constructed dwelling with views of Lake George. The Project will have very low visual impact on the dwelling due to the distance of the Project.	Negligible	Non - involved	Proposed planting along Butmaroo Creek will limit visual impact from the Project	Nil			

Table 5: Overview of dwellings outside 2000m of the Project

8.4 Cumulative Visual Impacts

Cumulative landscape and visual effects result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it) or actions that occurred in the past, present or are likely to occur in the foreseeable future (Landscape Institute et al, 2008). Cumulative effects may also affect the way a landscape is experienced and can be positive or negative.

A cumulative impact assessment has several dimensions:

- The impact of the solar farm when added to the combined impacts of all other existing developments and environmental characteristics of the area.
- The impact of this development in the context of the potential for development of solar energy developments in the local, regional and national context.
- The impact of developments which are ancillary to or otherwise associated with the proposed solar farm eg. the development of substations and associated infrastructure.
- The potential for future development of solar farms in the region.

At the time of lodgement, two proposed / approved solar farms within the wider regional context include:

Springdale Solar Farm

The proposed Springdale Solar Farm is located approximately eight (8) kilometres from the town of Sutton within the Yass Valley Council. The Environmental Impact Statement (EIS) was submitted to the Department of Planning, Infrastructure and Environment for assessment and approved in February 2021. The Springdale Solar Farm is located approximately 40 kilometres to the north west of the proposed Blind Creek Solar Farm. There are no opportunities to view the two solar farms simultaneously.

Wallaroo Solar Farm

The proposed Wallaroo Solar Farm is located in the locality of Wallaroo adjacent to the New South Wales (NSW) and Australian Capital Territory (ACT) border. The proposed solar farm is approximately 20km northwest of Canberra and 40km southeast of Yass in the Yass Valley LGA. The Scoping report was submitted to the Department of Planning, Infrastructure and Environment for assessment and a Environmental Impact Statement (EIS) was requested by the Minister of Planning in October 2020. The Wallaroo Solar Farm is located approximately 65 kilometres northwest of the proposed Blind Creek Solar Farm. There are no opportunities to view the two solar farms simultaneously.

Due to distance there are no opportunities to view any additional solar farms simultaneously from a static viewpoint presently or in the foreseeable future.

The potential cumulative visual impact must also be assessed in relation to the potential visual impact when viewed sequentially. If a number of solar farms are viewed in succession as a traveller moves through the landscape (eg. Motorist travel routes or walking tracks) this may result in a change in the overall perception of the landscape character. The viewer may only see one solar farm at a time, but if each successive stretch of the road is dominated by views of a solar farm, then that can be argued to be a cumulative visual impact (EPHC, 2010). Due to the relatively isolated location, the Project is set back from major travel routes which prevents any opportunities to view solar farms in succession along travel routes. However, the succession of the wind farm and sand quarry could be transforming the existing landscape character.

8.5 Cumulative Visual Impacts from surrounding approved projects

Approval was granted by the NSW State Government for the 50MW Capital Solar Farm (App. No. MP10_0121) ("Capital Solar"), on land neighbouring the Blind Creek proposal site. However, if development approval is gained for the 350-350MW AC capacity Blind Creek Solar Farm, there is no intention to build Capital Solar.

There is a planning approval from DPIE for nine turbines on site as part of Capital Wind Farm 2 (App. No. MP10_0135). The proponent is of the opinion that solar energy is a more suitable technology for this area visually, environmentally and topographically. If this application for planning approval is granted, the proponent and landholders would agree not to proceed with the nine turbines.

Analysis in the form of wireframes and photomontages has been undertaken to illustrate cumulative visual impacts for the proposed Blind Creek Solar Farm relating to the Approved Capital 2 Wind Farm and Capital Solar Farm. This has been represented through modelling various scenarios from two (2) receptors identified to experience potential visual impacts.

Two (2) receptors have been considered (identified as R36 and R79) to represent locations that would experience potential visual impact from the proposed developments (See **Figure 8**). Various scenarios developed for each receptor are discussed below.

8.5.1 Comparative Analysis of Capital 2 Wind Farm with Blind Creek Solar Farm

Comaprative Wire Frame Diagrams have been prepared from R79 has been developed to represent a bare ground view and does not account for intervening vegetaion or other visual barriers such as structures and sheds. R79 is located approximately 7km east of the proposed solar farm (see **Figure 8**). Desktop assessment suggests vegetation surrounding the receptor towards the proposed development. The visual character visible from other sections of Lake Road will remain similar when as viewed from R79.

Scenario 1 indicates existing site conditions without the approved Capital 2 Wind Farm or Blind Creek Solar Farm (**Wireframe 01**). As seen in the wireframe diagram, the Capital Wind Farm turbines are viewed as part of the existing visual character.

Scenario 2 illustrates the approved Capital 2 Wind Farm visible within the view (**Wireframe 02**). Analysis of the wireframe diagram suggests the approved Capital 2 Wind Farm will have minimal visual impact at R79. The additional turbines will viewed as part of the visual character with the existing turbines.

Scenario 3 has been developed to illustrate the proposed Blind Creek solar farm and modified approved Capital 2 Wind Farm with the nine (9) turbines within the solar farm development footprint removed (**Wireframe**

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03). Due to a relatively low vertical scale of the Project, the additional solar farm will have negligible visual impact from this location.



LEGEND



Area

- **Existing Capital Wind Turbines**
- Approved Capital 2 Wind Turbines
- Part of Approved Capital 2 Wind Turbines. Nine turbines will be removed if Blind Creek Solar Farm is approved
- 0 Wireframe Location
- Photomontage Location

Figure 8: Nearby Projects (Map source: Six Maps 2022)

Wireframe 01 R79



100 Degree Wire Frame Diagram: Existing view - Capital Wind Farm Turbines



Wireframe 02 R79



100 Degree Wire Frame Diagram: Existing view - Capital Wind Farm Turbines



100 Degree Wire Frame Diagram: Proposed view from R79 - Proposed view Existing Capital Wind Farm Turbines and Capital 2 Turbines Existing Capital Wind Farm Turbines:

125 m maximum blade tip height

1.

(Source: Connell Wagner PPI Energy Solutions 2009)

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Existing Capital Wind Farm Turbines: 125 m maximum blade tip height (Source: Connell Wagner PPI Energy Solutions 2009)

- Approved Capital 2 Wind Farm Turbines:
- 157 m maximum blade tip height
- (Source: Infigen Energy 2014)

Wireframe 03 R79



100 Degree Wire Frame Diagram: Existing view - Capital Wind Farm Turbines



Extent of Blind Creek Solar Farm Project



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8.5.2 Comparitive Analysis of Capital Solar Farm with Blind Creek Solar Farm

Comparitive analysis between Capital Solar Farm and the proposed Blind Creek Solar Farm has been illustrated through photomontages from receptor R36. Dwelling R36 is located approximately 1.8 km south of the development sites (See Figure 8).

Photomontage A illustrates view from the dwelling looking generally in the northwest direction towards Capital Solar Farm. Lack of intervening vegetation will provide direct views towards Capital Solar Farm. Some of the views towards the project will be obstructed by topography. Existing Turbines associated with Capital Wind Farm are visible in the background and are viewed as part of the existing character. As a result Capital Solar Farm will have a low to moderate impact on the surrounding visual character.

Photomontage B illustrates view from R36 looking generally in the northwest direction towards the proposed Blind Creek Solar Farm. Due to the layout of the solar arrays, existing vegetation will contain views otwards the Project. However, views of the associated infrastructure including transmission poles and lines will be visible over the existing vegetation from this location. The resulting visual impact will be negligible due to transmission lines seen within existing larger infrastructure.

Photomontage A 180° Proposed View



Photomontage A : Proposed view from R36 towards Capital Solar Farm

Photomontage B 180° Proposed View



310°

Photomontage B : Proposed view from R36 towards proposed Blind Creek Solar Farm

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Refer to Photomontage 03 - Appendix A Refer to VP04 - Viewpoint Analysis

8.6 Assessment of Associated Infrastructure

A summary of the proposed infrastructure can be found in Section 3.0.

8.6.1 Substation and Battery Energy Storage System (BESS)

Both the proposed substation and BESS location options are situated on the eastern end of the Site in a generally isolated location adjacent to the existing transmission line. The footprint of the substation is indicative and not all will be built form. The majority of the substation will remain under 10m high. If mitigation methods outlined in Section 9.0 of this report are employed, overtime the proposed substation will be screened at either location.

8.6.2 Transmission Lines and Communications Tower

Transmission lines and poles feature in the existing landscape and form part of the existing landscape character of the area. 33-kV overhead or underground electrical reticulation are being considered to connect the invertor stations to the onsite substation. Connection from the substation will be to the existing transmission line running west to east at the Site. If underground cables are selected, visual impact would be negligible.

For the purpose of supporting TransGrid's Substation operations, the Proponent will submit an application for an approval of a 25 m tall 'Communication Tower' and associated works. Most of the services would be underground, thus having a negative visual impact from the associated infrastructure. Work and Laydown areas will kept to a minimum ensuring little environmental damage.

8.6.3 Site Access and Facilities

An external access road is proposed along Tarago Road. An existing track used currently to access dwellings in the immediate surrounding, will connect with Tarago Road. The proposed access roads utilise existing farm roads within the study area and are not additional visual elements.

Facilities for the operation of the proposal include an operations and maintenance facility including staff office, meeting facilities and amenities, storage facilities, workshops and car parking facilities. The appearance of these facilities are in keeping with existing farm structures within the landscape. Recommendations to reduce any potential visual impacts of these facilities have been included in Section 10.0.



9.0 Night Lighting

9.1 Overview of Potential Night Lighting Sources

Due to the relatively isolated location of the Project, very little existing sources of lighting are present in the night time landscape of the Study Area. Some existing lighting associated with homesteads and motor vehicles is dispersed around the Study Area. Isolated receptors within the Study Area experience a dark night sky with minimal light sources. The impact of night lighting is unlikely to be experienced from inside of a dwelling as internal lights reflect on windows and limit views to the exterior at night time.

The requirements for night lighting on Ancillary Infrastructure is generally limited to lighting to the Substation and within the operations and maintenance facility. The light sources are limited to low-level lighting for security, night time maintenance and emergency purposes. There will be no permanently illuminated lighting installed. The proposed ancillary infrastructure has been carefully sited to minimise visibility from existing residences and publicly accessible viewpoints. It is unlikely the proposed night lighting associated with the ancillary infrastructure would create a noticeable impact on the existing night time landscape.

9.2 Design Principles

The following recommendations have been developed with consideration of the principles outlined in relevant best practice guidelines for lighting design.

The Dark Sky Planning Guidelines have been developed by the Department of Planning and Environment (June 2016) provide guidelines for lighting practices that support the maintenance of a dark sky and improve lighting practice. The guidelines are related to Projects within 200 kilometres of the Siding Spring Observatory, however they provide relevant guidance to reduce potential light pollution that can be applied to lighting design for the Ancillary Infrastructure for the Blind Creek Solar Farm.

The Australian Government Department of the Environment and Energy, National Light Pollution Guidelines for Wildlife: Including marina turtles, seabirds and migratory shorebirds, January 2020 Version 1.0 may also be considered during the detailed design phase. It is likely there will be limited or no visual impacts resulting from night lighting of Ancillary Structures.

1. Control the level of lighting:

- Only use lighting for areas that require lighting ie. paths, building entry points.
- Reduce the duration of lighting:
 - Switch off lighting when not required
 - Consider the use of sensors to activate lighting and timers to switch off lighting

2. Lighting Design:

- Use the lowest intensity required for the job
- Use energy efficient bulbs and warm colours
- Direct light downwards to eliminate
- Ensure lights are not directed at reflective surfaces
- Use non-reflective dark coloured surfaces to reduce reflection of lighting (Figure 10)
- Keep lights close to the ground and / or directed downwards (Figure 11)
- Use light shield fittings to avoid light spill (refer to Figure 12).



Figure 10 Surface Reflectivity Source: Department of Environment and Energy National Light Pollution Guidelines for Wildlife 2020)





Unshielded

Figure 12 Light Shielding Source: Department of Environment and Energy National Light Pollution Guidelines for Wildlife 2020)

Figure 11 Downward Lighting Source: Department of Environment and Energy National Light Pollution Guidelines for Wildlife 2020)

Partially shielded

10.0 Mitigation Recommendations

10.1 Recommended Mitigation Methods

The SEARs state the LVIA is to include 'a draft landscaping plan for on-site perimeter planting, with evidence it has been developed in consultation with affected landowners;"

As discussed in Section 8.0, the opportunities to view the Project are limited from within the Study Area. As a result, there are no areas likely to experience unacceptable visual impacts and a direct impacts is only on landowners within close proximity of the Project. The following outlines recommendations to further reduce any potential visibility of the Project:

- As the proposed solar arrays are generally spaced at 5.75 9 metres and achieve a maximum height of five (5) metres at tilt, they can be generally screened by relatively narrow bands of vegetation mix of trees and mid level shrubs species.
- · To ensure that the screen planting integrates into the existing landscape character, the bands should be planted with fast growing small trees and bushes, and low lying vegetation to ensure a naturalistic effect whilst providing habitat and movement corridors for the native fauna.
- To develop a landscape vegetation management plan. The purpose is to manage the planting program and ensure successful establishment of vegetation.
- · To consult with landowners where landscaping has been proposed, in order to receive their feedback and adjust the mitigation measures accordingly.

It is suggested that this mix includes the following species, which match the Plant community type generally present at the site (as identified within the specialist ecological study and the scoping report):

Species	Height
Eucalyptus pauciflora	12m
Eucalyptus mannifera	10-20m
Eucalyptus viminalis	50m
Eucalyptus stellulata	15m
Casuarina cunninghamiana	10-15m
Cassinia aculeata	1.0-2.6m
Hakea laurina	5m
Dodonea viscosa subsp. spatulata	2m

These recommendations seek to achieve a better visual integration of the proposed development within the existing landscape character of the area. The measures suggested in this section are intended to lessen the visual impact of the development whilst ensuring the existing visual character of the area is not altered significantly. This is by no means an exhaustive list however the adoption of these recommendations will assist considerably in ensuring that potential impacts are reduced.

10.1.1 Design Considerations

Good design principles employed through the Project design phase can significantly reduce the visual impact. These include the siting principles, access, layout and other aspects of the design which directly influence the appearance of the proposed development. The following outlines the design considerations that have been applied to the site:

- · The design will retain the existing roadside planting where possible along the eastern and southern boundary of the site to reduce the overall visual impact.
- Consideration will be given to the colours of the PCUs, the battery facility, O&M buildings and storage shed to ensure minimal contrast and to help blend into the surrounding landscape to the extent practicable (see Image 8).
- Existing vegetation generally present around the Site will be retained and protected to maintain the existing level of screening.
- Consideration should be given to controlling the type and height of PCU's, the battery, and storage shed to ensure the development does not contrast significantly with surrounding landscape.

10.1.2 Vegetation Retention

Sparse, scattered groups of minimum vegetation, undulating and flat agricultural land characterises this area. Therefore, the Site has limited existing vegetation to retain. However, existing vegetation is visible to the eastern and southern boundary of the Site. This vegetation should be retained and protected, during the works to maintain the existing level of screening.



Image 8. Example of a building colour palette sympathetic to the surroundings



Figure 13 Landscape Plan (Map source: Six Maps)

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Blind Creek Solar Farm

Distance from nearest panel

Proposed Solar Array

Road

Minor Road

Study Area

BESS

Potential operational infrastructure area including substation, operational facility and

Indicative location of existing vegetation

ndicative location of heavily wooded existing vegetation within 2000m

Proposed Perimeter Screen Planting (Refer Section 10.0)

> Proposed Tree planting at dwellings to filter views to the Project (Refer Section 10.0)

Proposed Perimeter Screen Barrier along Butmaroo Creek (Refer Section 10.0)

5000 native trees planted between 2018 - 2020 (Refer Section 10.0)

Water Feature - Lake George

on-associated Dwelling

ssociated Dwelling

Existing Wind Turbine Locations

Existing Contours

10.0 Mitigation Recommendations

10.1.3 Mitigation strategies adopted to mitigate visual impact

Mitigation principles previously adopted through the Planning phase will potentially reduce the overall visual impact. These include planting approaches undertaken to reduce the initial visual impact of the Project. The Proponent has adopted certain mitigation strategies to minimise visual impacts of the Project which have been discussed below (indicated in Figure 13).

- 5000 native trees planted between 2018 2020 along Tarago Road have been planted to • the southeast of the Project. This will assist in reducing the overall impact of the Project from receptors travelling along Tarago Road and Coorandooley Road (Refer Image 09 & 10).
- 4000 native trees planted along Tarago Road in 2013 will provide screening from the • Project for receptors R37 - R40 (Refer Image 11).
- · Additional planting has been proposed adjacent to the 5000 native trees planted between 2018 -2020 will further reduce the potential visual impact experienced by receptors within the Site.
- · Additional screen planting along the northern boundary will reduce visual impact from receptors along the northwest direction.



Image 09 Planting Strategies adopted in 2019

Image 10 Planting Strategies adopted in 2020

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Image 11 Planting Strategies adopted in 2013 (illustrating growth over 8 years)

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11.0 Conclusion

11.1 Conclusion

With all visual impact assessments the objective is not to determine whether the proposal is visible or not, it is to determine how the proposal will impact on existing visual amenity, landscape character and scenic quality. If there is a potential for a negative impact on these factors it must then be investigated and determined how this impact can be mitigated to the extent that the impact is reduced to an acceptable level.

The area is uniquely characterised by land modified to support primary production activities such as agriculture and mining. The development has been proposed in an area which has been naturally cleared of trees. Bungendore Sands guarry forms an integral part of the existing visual Character. It borders the southwestern edge of the Project. Mining activities within the guarry have modified the surrounds to create a mixture of wetlands and modified grasslands. Infigen Energy's operational Capital Wind Farm is viewed as part of the existing visual character. There is a planning approval from DPIE for nine turbines on site as part of Capital Wind Farm 2 (App. No. MP10_0135). The proponent is of the opinion that solar energy is a more suitable technology for this area visually, environmentally and topographically. If this application for planning approval is granted, the proponent and landholders would agree not to proceed with the nine turbines.

As identified in the Zone of Visual Influence (ZVI) study (refer to Section 5.0), topography will screen views from receivers to the northeasterly direction of the Project. A small pocket of no visibility occurs to the southwest of the development. Dwellings within the Study Area located at an elevated position overlooking the Site were identified as having a 25-100% of potential visibility towards the Project (based on topography alone). The ZVI was used to identify areas of potential high visual impact which informed the viewpoint analysis (refer to Section 6.0)

Several priority areas were analysed to represent views from dwellings within and outside the Study Area. As a result, dwellings within close proximity of the development, were identified as having a moderate - low visual impact from the development. Combination of existing screening vegetation and topography led to this conclusion. Dwellings outside the Study Area usually resulted in high visual impact primarily due to their elevated position.

Due to the relatively low height of the panels, the broad scale of the view and the recommended mitigation methods, outlined in Section 10.0 of this report, are required to reduce the potential visual impacts. Proposed vegetation along Butmaroo Creek to the southwestern edge of the Project Site will significantly reduce the overall impact from the south, southwestern and western edge of the Project. Native trees planted along Tarago Road and the southeastern edge of the Project will also assist in minimising visual impact. These will be effective in integrating the development into the surrounding landscape. With the implementation of the recommended mitigation measures, the proposed development could be undertaken whilst maintaining the core landscape character of the area, and have a minimal visual impact on the surrounding visual landscape.

Due to the existing land use of grazing and modified pasture, land has been extensively cleared of any remnant vegetation. The Proposal is likely to require the removal of a small amount of scattered vegetation which in the context of the broader landscape would have a minimal visual impact.

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Appendix A Photomontages

Photomontage 01 (Viewpoint VP14)

180° Existing View



180° Proposed View



Refer to cropped 60° image

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Photomontage 01: Cropped 60° of Proposed View



MOIR LANDSCAPE ARCHITECTURE | APR 2022 | REV | PAGE 61

Photomontage 01 (Viewpoint VP14)

180° Proposed View



180° Proposed View with mitigation



Refer to cropped 60° image

MOIR LANDSCAPE ARCHITECTURE | APR 2022 | REV | PAGE 62

Photomontage 01: Cropped 60° of Proposed View with mitigation



MOIR LANDSCAPE ARCHITECTURE | APR 2022 | REV | PAGE 63

Photomontage 02 (Viewpoint VP16)

180° Existing View



N 10° 20° 30° 40° 50° 60° 70° 80° E 100° 110° 120° 130° 140° 150° 160° 160° 170° S

180° Proposed View



Photomontage 02: Cropped 60° of Proposed View



Photomontage 02 (Viewpoint VP16)

180° Proposed View



N 10° 20° 30° 40° 50° 60° 70° 80° E 100° 110° 120° 130° 140° 150° 160° 160° 170° S

180° Proposed View with mitigation



Refer to cropped 60° image

Photomontage 02: Cropped 60° of Proposed View with mitigation



Photomontage 03 (Viewpoint VP04)

180° Existing View



180° Proposed View



Refer to cropped 60° image

Photomontage 03: Cropped 60° of Proposed View



MOIR LANDSCAPE ARCHITECTURE | APR 2022 | REV | PAGE 69

Photomontage 04 (Viewpoint VP06)

180° Existing View



W 280° 290° 300° 310° 320° 330° 340° 350° N 10° 20° 30° 40° 550° 60° 70° 80° E

Refer to cropped 60° image

180° Proposed View



Photomontage 04: Cropped 60° of Proposed View



BLIND CREEK SOLAR FARM | LANDSCAPE & VISUAL IMPACT ASSESSMENT

Refer to cropped 60° image

 W
 280°
 290°
 300°
 310°
 320°
 330°
 340°
 350°
 N
 10°
 20°
 30°
 40°
 50°
 60°
 70°
 80°
 E



180° Proposed View

N 280° 290° 300° 310° 320° 330° 340° 350° N 10° 20° 30° 40° 50° 60° 70° 80° E

180° Existing View

Photomontage 05 (Viewpoint VP07)

Photomontages


Photomontages

Photomontage 05: Cropped 60° of Proposed View



BLIND CREEK SOLAR FARM | LANDSCAPE & VISUAL IMPACT ASSESSMENT

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