



Cobbora Solar Farm

Landscape Character and Visual Impact Assessment



Acknowledgement of Country

Moir Studio acknowledge the traditional custodians of the lands and waters of Australia, most notably the Awabakal Nation in which our office resides and the **Wiradjuri Nation**, the traditional owners of the lands on which this Project resides. We acknowledge their contribution to our community and their deep connection to the land. We pay our respects to Elders both past and present.





Cobbora Solar Farm

Landscape Character and Visual Impact Assessment

Prepared for

Pacific Partnerships Pty Limited

Project Number

2490

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

Executive Summary

Moir Studio have prepared this Landscape Character and Visual Impact Assessment of the proposed Cobborra Solar Farm (the Project) for Cobborra Solar Farm Pty Ltd in its capacity as trustee for the Cobborra Solar Farm Trust (the Applicant).

The Project involves the construction, operation and decommissioning of a photovoltaic (PV) solar facility with a battery energy storage system (BESS) and associated infrastructure, which has been assessed in this LCVIA.

Moir Studio have applied a quantitative study methodology in accordance with the Department of Planning, Housing & Infrastructure (DPHI) *Large-Scale Solar Energy Guideline*, November 2024 (referred to hereafter as 'the Guideline') and conformed with the *Technical Supplement for Landscape Character and Visual Impact Assessment* (referred to hereafter as the 'Technical Supplement').

The LCVIA includes a comprehensive assessment of the existing landscape character, scenic quality and visibility of the Project. Visual influence zones have been established from viewpoints and sensitive receptors and assessed against visual performance objectives outlined in the Guideline.

Moir Studio attended the site in October 2024 to undertake analysis and a photographic survey to determine the landscape character and establish a visual baseline. The assessment determined that the region's landscape is typical of the Brigalow Belt South IBRA, characterised by land modified to support pastoral activities with undulating hills and remnant vegetation. The landscape was divided into two (2) Landscape Character Zones (LCZ) where a quantitative frame of reference was applied to establish the Scenic quality rating of these, all rated as low.

A Simple Assessment was conducted for 31 non-associated dwellings that were identified within 4 km and with a line of sight to the Project and thirteen (13) public viewpoints that were identified within 2.5 km and with a line of sight to the Project. The assessment identified:

- Fifteen (15) non-associated dwellings required further assessment.
- Eight (8) public viewpoints required further assessment.

An Intermediate Assessment was conducted for fifteen (15) non-associated dwellings and eight (8) public viewpoints. The assessment identified:

- Ten (10) non-associated dwellings have a LOW visual impact rating.
- Three (3) non-associated dwellings have a MODERATE visual impact rating and required further

assessment.

- Two (2) non-associated dwellings have a HIGH visual impact rating and required further assessment.
- Three (3) public viewpoints have a LOW or VERY LOW visual impact rating.
- Five (5) public viewpoints have a MODERATE visual impact rating and required further assessment.

A Detailed Assessment was conducted for five (5) non-associated dwellings and five (5) public viewpoints. The assessment identified:

- Five (5) non-associated dwellings have a LOW visual impact rating.
- Four (4) public viewpoints have a LOW or VERY LOW visual impact rating.
- One (1) public viewpoint (VP06) has a MODERATE visual impact rating and required mitigation.

Upon completing each step of the assessment process as outlined in Sections 8.0 and 9.0, all non-associated dwellings were assessed as having a 'low' visual impact. This was generally a result of views towards the project from each receptor being screened by existing intervening topography and vegetation. In accordance with performance objectives outlined in the Guidelines and the Technical Supplement, a 'low' visual impact does not require mitigation.

One (1) public viewpoint was assessed as having a 'moderate' visual impact overall. In accordance with the performance objectives outlined in the Guidelines and the Technical Supplement, a 'moderate' visual impact requires mitigation.

Practical and feasible mitigation measures have been proposed for the one (1) public viewpoint (VP06: Spring Ridge Road) with a moderate visual impact rating. The proposed mitigation methods recommended in the report will assist in significantly reducing the visual impacts affecting this public viewpoint. Mitigation measures include screen planting and supplementary planting with species that are representative of the existing landscape character.

A Glint and Glare Assessment was completed in accordance with the Technical Supplement. The findings of the assessment were:

- No potential glare has been identified for any non-associated dwellings within the 3 km Study Area.
- No potential "Yellow" glare has been identified for any roads within the 1 km Study Area.

A Cumulative Visual Impact Assessment was conducted, assessing the Project together with nearby proposed solar farms including Dapper Solar Farm and Sandy Creek Solar Farm. The findings of the assessment were:

- One (1) non-associated dwelling has a moderate cumulative visual impact. A detailed assessment of PR_15 will be undertaken to further assess the potential cumulative visual impact associated with Dapper Solar Farm and Sandy Creek Solar Farm, and determine the additional screen planting to be implemented, in consultation with the landowner.

In accordance with the *Large-Scale Solar Energy Guideline*, the potential glare impacts on residential and road receivers is acceptable. Therefore, no mitigation is required.

The impact of the Project on the local landscape character is low. Impacts on the 31 receptors identified within the relevant Study Area are acceptable. Upon evaluation, the Project complied with the performance objectives per the Guidelines and the Technical Supplement.

Glossary & Terminology

Bioregion

An ecologically and geographically defined area characterised by its combination of geological features, climate, flora, and fauna

Community Consultation

The process of engaging with the local community and stakeholders to gather feedback, address concerns, and involve the public in the decision-making process of the Project

Cumulative Visual Impacts

The combined effects of multiple projects on the visual catchment in which the Project is proposed over time

Dwelling Entitlement

Refers to lots where dwellings may be built in relation the Local Environment Plan (LEP) requirements.

Geographical Information Systems (GIS)

A system that captures, stores, analyses, manages and present data link to specific locations. This spatial data is linked to a digital database

Land Zoning

The classification of land for specific uses or activities - typically regulated by local environment planning documentation and/or relevant SEPP documentation

Land Use

The way the existing land is utilised, including but not limited to residential, commercial, industrial, agricultural, or conservation purposes

Landscape and Visual Impact Assessment (LCVIA)

A technical assessment to identify and assess the potential visual effects resulting from the Project on the landscape, individual receivers and on the overall visual amenity of the region in which the Project is sited

Landscape

All the visible features, including landform, vegetation, buildings and infrastructure, contained within a holistic area

Landscape Character

Landscape character refers to the distinct and recognisable pattern of physical elements that occur consistently in a particular landscape. The landscape character of an area is generally defined by the most dominant landscape element or unique combination of elements that occur within that landscape. It reflects how particular combinations of geology, landforms, soils, vegetation, land use and human settlements create a particular sense of place for different areas within the landscape

Landscape Character Zones

An area of landscape with similar properties or strongly defined spatial qualities that are distinct from areas immediately nearby within the Study Area

Large-Scale Solar Energy Development

Works, infrastructure and buildings to generate electricity using ground-mounted photovoltaic panels that are state-significant development (SSD).

Mitigation Measures

Potential strategies or actions implemented to minimise or offset the adverse visual impacts of the Project

Non-Associated Residence

Any neighbouring party in proximity to a proposal that has not agreed to a neighbour agreement for the Project

Photographic Survey & Fieldwork

A systematic process of collecting visual data in the form of photographs and surveys taken from various viewpoints within the Study Area to document the existing visual conditions

Preliminary Visual Impact Assessment (PVIA)

An initial high level assessment which is used to inform the LCVIA

The Project

The proposal and associated infrastructure that would allow energy generation and storage

Project Area or Site Boundary or Project Boundary

The area that encompasses all properties hosting the Project

Renewable Energy Zone (CWO-REZ)

A designated area to support renewable energy development as declared in the Electricity Infrastructure Investment Act 2020

Secretary's Environmental Assessment Requirements (SEARs)

Secretary's Environmental Assessment Requirements (SEARs) outlines the environmental assessment requirements for State Significant Projects. The SEARs would normally include specific requirements for landscape character and visual impact assessments

State Environmental Planning Policies (SEPPs)

Legislation and policies at both the state and local levels that determine the regulations governing the development of activities on a property. State Environmental Planning Policies (SEPPs) are applicable statewide, while Local Environmental Plans (LEPs) establish the specific planning regulations for individual local government areas

Study Area

The geographical region or area under consideration in the preparation of a PVIA, LCVIA or VIA assessment

Viewpoint

A specific location from which a view or landscape is observed. A viewpoint location is the geographic location or physical position (in GPS format) where the viewpoint was captured

Visual Amenity

The overall visual quality of a landscape that considers factors including but not limited to views, natural features, and the built environment

Visual Baseline

A desktop assessment and onsite photographic surveys/fieldwork that describes and captures the existing environmental conditions in which any future changes can be measured against

Visual Catchment

The geographical area from which a particular view can be observed.

Visual Impact

The observable and measurable change in the visual catchment caused by the Project. This is determined by considering the visual sensitivity and magnitude of change

Visual Magnitude

The degree of visual change resulting from the Project, including but not limited to the size, scale, compatibility and duration of effect

Visual Receivers / Receptors

Individuals and / or defined groups of people who have the potential to be affected by the Project

Visual Sensitivity

The susceptibility of a landscape or visual resource to absorb impacts from a Project, land use change or the introduction of a new element into the landscape

Visual Impact Assessment (VIA)

The process for determining the day-to-day visual effects of a Project on people's views from the private and public domain.

Visualisation

A computer-generated simulation, photomontage or other technique illustrating the predicted appearance and/or massing of the Project within the existing landscape.

Zone of Visual Influence (ZVI) | Viewshed Mapping

The extent of landscape area from which the Project can potentially be theoretically viewed based on topography alone.

Abbreviations

ABS	MW
The Australian Bureau of Statistics	Megawatt
AC	NEW
Alternating Current	National Electricity Market
ACEN	NPWS
The Australian Collaborative Education Network	National Parks and Wildlife Service
AGL	NSW
Above Ground Level	New South Wales
ASF	OEH
Avonside Solar Farm	Office of Environment and Heritage
BESS	OWF
Battery Energy Storage System	Orana Wind Farm
CSF	PCU
Cobbora Solar Farm (The Project)	Power Conversion Unit
CWO REZ	PV
Central-West Orana Renewable Energy Zone	Photovoltaic/Solar Panels
DC	PVIA
Direct Current	Preliminary Visual Impact Assessment
DLALC	REZ
Dubbo Local Aboriginal Land Council	Renewable Energy Zone
DPHI	SCADA
Department of Housing and Infrastructure	Supervisory Control and Data Acquisition
DSF	SCSF
Dapper Solar Farm	Sandy Creek Solar Farm
EIS	SCWF
Environmental Impact Statement	Spicers Creek Wind Farm
EMM	SEARS
Environmental Management Group Australia	Secretary's Environmental Assessment Requirements
GW	SEPP
Gigawatt	State Environmental Planning Policy
IBRA	SSD
Interim Biogeographic Regionalisation of Australia	State Significant Development
kV	ZVI
Kilovolt	Zone of Visual Influence / Viewshed Mapping
LALC	
Local Aboriginal Land Council	
LCZ	
Landscape Character Zones	
LEP	
Local Environmental Plan	
LGA	
Local Government Area	
LCVIA	
Landscape Character and Visual Impact Assessment	
MLALC	
Mudgee Local Aboriginal Land Council	
MS	
Moir Studio	



Contents

1.0	Introduction	11	7.0	Landscape Character Zones	36	12.0	Lots with Dwelling Entitlements	79
1.1	Introduction	11	7.1	Identify Landscape Character Zones	36	12.1	Dwelling Entitlement Assessment Requirements	79
1.2	Professional Experience	11	7.2	Determining Scenic Quality	36	12.2	Overview of Lots with Dwelling Entitlement	79
1.3	SEARs	12	7.3	Landscape Character Zones	40	13.0	Cumulative Impact Assessment	84
2.0	Study Method	14	7.4	Landscape Character Assessment	43	13.1	Cumulative Impacts on Broader Landscape Character	84
2.1	Overview of Study Method	14	7.5	Summary of Landscape Character Zones	44	13.2	Results of Cumulative Impact Assessment	85
3.0	Project Overview	16	8.0	Visual Impact Assessment	46	14.0	Night lighting	91
3.1	Regional Context	16	8.1	Overview of the Visual Impact Assessment	46	14.1	Overview of Potential Night lighting Sources	91
3.2	The Project	16	8.2	Visual Impact Assessment Methodology	49	14.2	Design Principles	91
3.3	The Development Footprint	18	8.3	Viewpoint Selection	49	15.0	Glint & Glare Assessment	93
4.0	Landscape Character Assessment	21	8.4	Visual Magnitude	49	15.1	Glint & Glare Principles & Requirements	93
4.1	Landscape Character Assessment Overview	21	8.5	Visual Sensitivity	51	15.2	Summary of Assessment Results	94
4.2	Landscape Character Assessment Study Area	21	8.6	Visual Impact	52	15.3	Mitigation Measures	94
5.0	Community Consultation	24	8.7	Performance Objectives	52	16.0	Performance Objectives & Mitigation	96
5.1	Preliminary Stakeholder Engagement and Consultation	24	8.8	Project Visualisations	53	16.1	Mitigation Requirements	96
5.2	Results of Stakeholder Engagement and Consultation	24	9.0	Simple Assessment	55	16.2	Landscaping Principles	96
6.0	Baseline Investigations	26	9.3	Viewshed Mapping	57	16.3	Overview of Proposed Mitigation	96
6.1	Overview of Visual Baseline Investigation	26	9.4	Vertical Field of View Calculation	59	17.0	Conclusion	98
6.2	Physical Influences	27	9.7	Results of Simple Assessment	60	17.1	Overall Summary	98
6.3	Ecological Characteristics	28	10.0	Intermediate Assessment	66			
6.4	Human Activity	28	10.1	Intermediate Assessment Requirements	66			
6.5	Key Landscape Features, Aesthetics & Heritage	29	10.2	Results of Intermediate Assessment	67			
6.6	Landscape Condition	30	11.0	Detailed Assessment	72			
6.7	Land Use & Land Zoning	30	11.3	Results of Detailed Assessment	73			
6.8	Large Scale Energy Development	34	11.4	Assessment of Associated Infrastructure	75			



Figures

Figure 01 – Study Method Overview	14
Figure 02 – Regional Context	16
Figure 03 – Project Layout	17
Figure 04 – 1P Solar Panel Parameters	18
Figure 05 – 2P Solar Panel Parameters	19
Figure 06 – Study Area	22
Figure 07 – Key Landscape Features	31
Figure 08 – Land Use	32
Figure 09 – Land Zoning	33
Figure 10 – Defining Landscape Character Zones	36
Figure 11 – Landscape Character Zones	39
Figure 12 – Visual Impact Assessment Stages	46
Figure 13 – Visual Impact Assessment Process Overview	48
Figure 14 – Visual magnitude for Intermediate vs Detailed Assessment	50
Figure 15 – Mass Model used for Wireframe Assessments	53
Figure 16 – Project Model used for Photomontage Assessments	53
Figure 17 – Photomontage Combining Project Model and Panorama Image	53
Figure 18 – Model extents for Private Viewpoints (Wireframe Assessment)	53
Figure 19 – Model extents for Public Viewpoints (Wireframe Assessment)	53
Figure 20 – Simple Assessment Overview	55
Figure 21 – Viewshed Mapping	58
Figure 22 – Vertical Field of View Calculations	59
Figure 23 – Horizontal Field of View Calculations	59
Figure 24 – Results of Simple Assessment	64
Figure 25 – Intermediate Assessment Overview	66
Figure 26 – Detailed Assessment - Wireframe Results	70
Figure 27 – Detailed Visual Impact Assessment Process	72
Figure 28 – Detailed Assessment - Photomontage Results	74
Figure 29 – Associated Infrastructure	77
Figure 30 – Lots with Dwelling Entitlements	80
Figure 31 – Other Nearby Renewable Projects	88
Figure 32 – Cumulative Viewshed	89
Figure 34 – Surface Reflectivity	91
Figure 33 – Light Shielding	91
Figure 35 – Downward Lighting	91

Tables

Table 01 – Overview of SEARs	12
Table 02 – Baseline Investigation inputs	26
Table 03 – Overview of Large Scale Energy Developments	34
Table 04 – Scenic Quality Frame of Reference	37
Table 05 – Visual Reference of Scenic Quality	38
Table 06 – LCZ01 Scenic Quality Summary	40
Table 07 – LCZ02 Scenic Quality Summary	41
Table 08 – LCZ03 Scenic Quality Summary	42
Table 09 – Visual Impact Matrix	43
Table 10 – Landscape Character Assessment Summary	44
Table 11 – Visual Magnitude Thresholds	50
Table 12 – Viewpoint Sensitivity Levels and Examples	51
Table 13 – Visual Sensitivity Matrix	51
Table 14 – Visual Impact Matrix	52
Table 15 – Performance Objectives	52
Table 16 – Overview of Simple Assessment Tools	56
Table 17 – Results of Simple Assessment (Private Viewpoints/Receptors)	62
Table 18 – Results of Simple Assessment (Public Viewpoints/Receptors)	63
Table 19 – Results of Intermediate Assessment - Private (Wireframe Analysis)	68
Table 20 – Results of Intermediate Assessment - Public (Wireframe Analysis)	69
Table 21 – Results of Assessment - Private & Public (Photomontage Analysis)	73
Table 22 – Summary of Dwelling Entitlement Assessment	82
Table 23 – Overview of Large Scale Energy Developments within Study Area	84
Table 24 – Summary of Cumulative Impact on Private Receptors	87
Table 25 – Visual Performance Objective	96

Images

Image 01 – Talbragar-Cudgegong vegetated hills in the background west of the Project	27
Image 02 – Sandy Creek and associated riparian vegetation.	27
Image 03 – Typical vegetation character along ridgelines.	28
Image 04 – Golden Highway on the northern boundary of the Project.	28
Image 05 – Vegetated hills to the east of the Project.	29
Image 06 – Cleared pastured with vegetation associated with Sandy Creek to the right and Sandy Creek Road to the left of the image.	29
Image 07 – Sandy Creek, with cropping in background.	30
Image 08 – Vegetated ridges with valleys cleared for pastoral use.	30
Image 09 – Typical gently undulating agricultural pastures.	40
Image 10 – Land cleared for crop production & windbreak vegetation.	40
Image 11 – Typical riparian vegetation corridor through cleared agricultural land (Sandy Creek).	41
Image 12 – Convergence of Fords Creek and Laheys Creek	41
Image 13 – Vegetated hills	42
Image 14 – Typical vegetated ridges breaking up cleared agricultural land.	42



01 Introduction



1.0 Introduction

1.1 Introduction

Moir Studio has prepared this Landscape Character and Visual Impact Assessment (LCVIA) of the Cobbora Solar Farm (the Project) for Cobbora Solar Farm Pty Ltd in its capacity as trustee for the Cobbora Solar Farm Trust (the Applicant).

This report supports a State Significant Development (SSD) Development Consent application under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (SSD-60575715) as part of the Environmental Impact Statement (EIS) for the Project.

Cobbora Solar Farm Pty Ltd proposes construction and operation of the Project, within the Central-West Orana Renewable Zone (CWO-REZ) of New South Wales (NSW). The Project would be located near Cobbora, approximately 20 kilometres (km) southwest of the township of Dunedoo and 55 km east of Dubbo in the Central-West Region of NSW

This report aims to provide a comprehensive assessment of visibility and potential visual impacts associated with the Project relating to landscape character, landscape values, landscape amenities, and scenic vistas. The report details the results of the fieldwork, documents the assessment of the landscape character and visual setting, identifies potential impacts and makes recommendations to assist in the mitigation of any potential impacts resulting from the Project.

This LCVIA has been prepared in accordance with the Department of Planning, Housing and Infrastructure (DPHI) *Large-Scale Solar Energy Guideline*, November 2024 (referred to hereafter as 'the Guideline') and the *Technical Supplement for Landscape Character and Visual Impact Assessment* (referred to hereafter as the 'Technical Supplement').

1.2 Professional Experience

The Technical Supplement states: *'professional assessment skills are critical to an effective landscape character and visual impact assessment. The applicant is expected to engage relevant professionals (for example, landscape architects, architects, environmental planners, geographers, or other visual assessment specialists) with demonstrated experience and capabilities'*.

Moir Studio is a professional design practice and consultancy specialising in Landscape Architecture, Urban Design and Landscape and Visual Impact Assessment. Our team has extensive experience undertaking Landscape and Visual Impact Assessments for large-scale infrastructure and renewable energy projects.

Recent experience includes the preparation of LCVIAs for the following solar farm projects of similar scale:

- Bendemeer Solar Farm LCVIA (Bendemeer, NSW)
- Richmond Valley Solar Farm LCVIA (Casino, NSW)
- Blind Creek Solar Farm Project LCVIA (Bungendore, NSW)
- Glenellen Solar Farm LCVIA (Glenellen, NSW)
- Oxley Solar Farm LCVIA (Castledoyle, NSW)
- Stubbo Solar Farm LCVIA (Stubbo, NSW)

1.3 SEARs

The Secretary's Environmental Assessment Requirements (SEARs) issued 7th November 2024 for the Project, state that the EIS must address specific issues for the solar farm and associated infrastructure relating to potential visual impacts. **Table 01** provides an overview of the SEARs requirements and where these have been addressed in the LCVIA:

SEARs REQUIREMENT REFERENCE	
	Relevant Section of LCVIA
<i>a landscape and visual impact assessment, prepared in accordance with the Solar Guideline and the Technical Supplement –Landscape and Visual Impact Assessment;</i>	Refer to Section 1.4 Overview of the Study Method to see relevant sections of the LCVIA that address requirements of the Guideline & Technical Supplement.
<i>a detailed assessment of the likely visual impacts (including night lighting) of all components of the project (including transmission lines, substations and any other ancillary infrastructure) on surrounding residences (including approved developments, lodged development applications and dwelling entitlements), and key locations, scenic or significant vistas and road corridors in the public domain and on the Siding Spring Observatory in accordance with the Dark Sky Planning Guideline (2023); and</i>	Section 8.0 Simple Assessment Section 10.0 Intermediate Assessment Section 9.0 Detailed Visual Impact Assessment Section 10.0 Lots with Dwelling Entitlements Section 11.0 Cumulative Impact Assessment Section 12.0 Night lighting Section 13.0 Glint and Glare Assessment Appendix C
<i>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).</i>	Section 14.0 Performance Objectives and Mitigation

Table 01 – Overview of SEARs

02 Study Method



2.0 Study Method

2.1 Overview of Study Method

The LCVIA report, as per the Guidelines and Technical Supplement, differentiates between the landscape character assessment and the visual impact assessment. **Figure 01** illustrates the Study Method undertaken to assess large-scale solar farms.

2.1.1 Landscape Character Assessment

The Technical Supplement states: *"This is the process for determining the overall impact of a project on an area's character and sense of place, including what people think and feel about it and how society values it"*.

2.1.2 Visual Impact Assessment

The Technical Supplement states that the Visual Impact Assessment *"determines the day-to-day visual effects of a project on people's views from the private and public domain. The likely impacts of a large-scale solar energy development can only be determined by understanding the sensitivity of an area or view to change and the magnitude of a proposed development in that area or view."* (DPHI, 2024b).

The Visual Impact Assessment Process *"should be proportionate to the likely impacts of the development"* (DPHI, 2024b) and is therefore broken down into three (3) assessment stages, the Simple Assessment, Intermediate Assessment and Detailed Assessment.

2.1.3 Performance Objectives & Mitigation

Once the level of impact has been established visual performance objectives are to be considered.. If the level of visual impact is deemed high to medium, options include the re-siting, removal or re-sizing of project elements to minimise visual impact, vegetative screening as well as impact agreements.

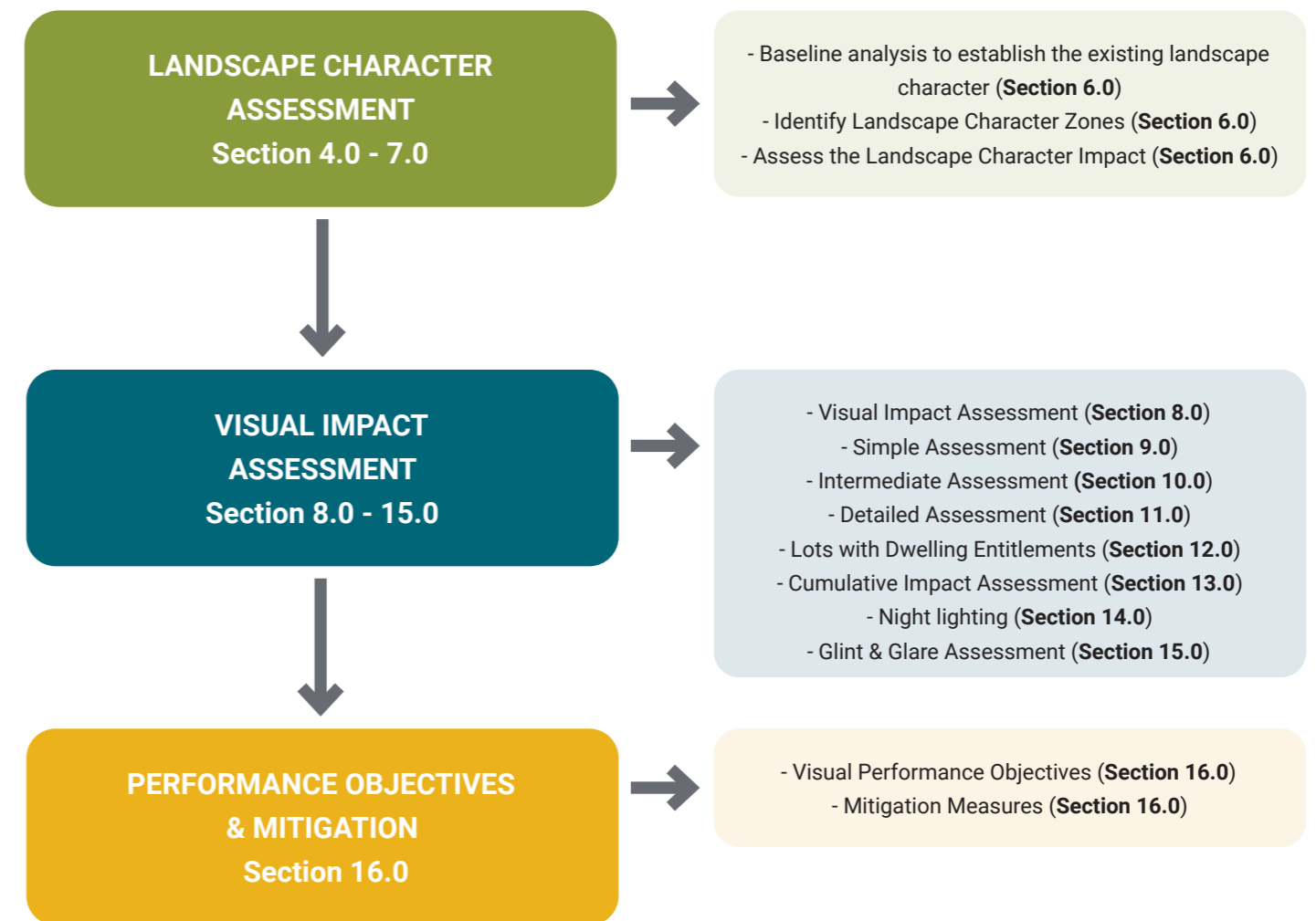


Figure 01 – Study Method Overview

03 Project Overview



3.0 Project Overview

3.1 Regional Context

The Project is proposed on the western side of Spring Ridge Road and the southern side of the Golden Highway, approximately 20 km southwest of Dunedoo within the Warrumbungle LGA and Dubbo Regional LGA.

The surrounding land parcels within the immediate Project Boundary are typically modified land supporting agricultural production and cropping, with pockets of native vegetation generally associated with ridgelines. The topography ranges from gently undulating to undulating, with steeper ridgelines present to the Western extent of the Project boundary. These ridgelines aligned east-west are typically covered in native vegetation and extend from the Talbragar-Cudgong vegetated slopes to the east.

3.2 The Project

The Project includes the construction, operation and decommissioning of the Cobbora Solar Farm. The solar farm would be a large-scale solar photovoltaic (PV) generation facility with a battery energy storage system (BESS) and associated infrastructure for its management and connection to the national electricity market (NEM) (the Project).

The Project would be located near Cobbora, approximately 20 kilometres (km) south-west of the township of Dunedoo and 55 km east of Dubbo in Central West NSW (the Project Area), as shown in **Figure 02**.

The Project would connect to the Central West Orana (CWO) Renewable Energy Zone (REZ) grid infrastructure via up to four onsite grid substations.

Key features of the Project would include:

- Construction and operation of a 700 MW (AC) solar farm
- Installation of a 400 MW / 1600 MWh BESS
- Installation of up to four substations, comprising:
 - One substation connecting the BESS to the Elong Elong Energy Hub
 - Up to three substations connecting the solar farm to the Elong Elong Energy Hub (four potential substation locations have been assessed in the EIS, which will be reduced during detailed design).
- Supporting facilities and infrastructure, including internal roads, upgrades to external access roads (if required), underground and overhead cabling, waterway crossings, staff office, meeting facilities, operations and control room, workshop, amenities, temporary accommodation, car parking, storage facilities, fencing, and landscaping.

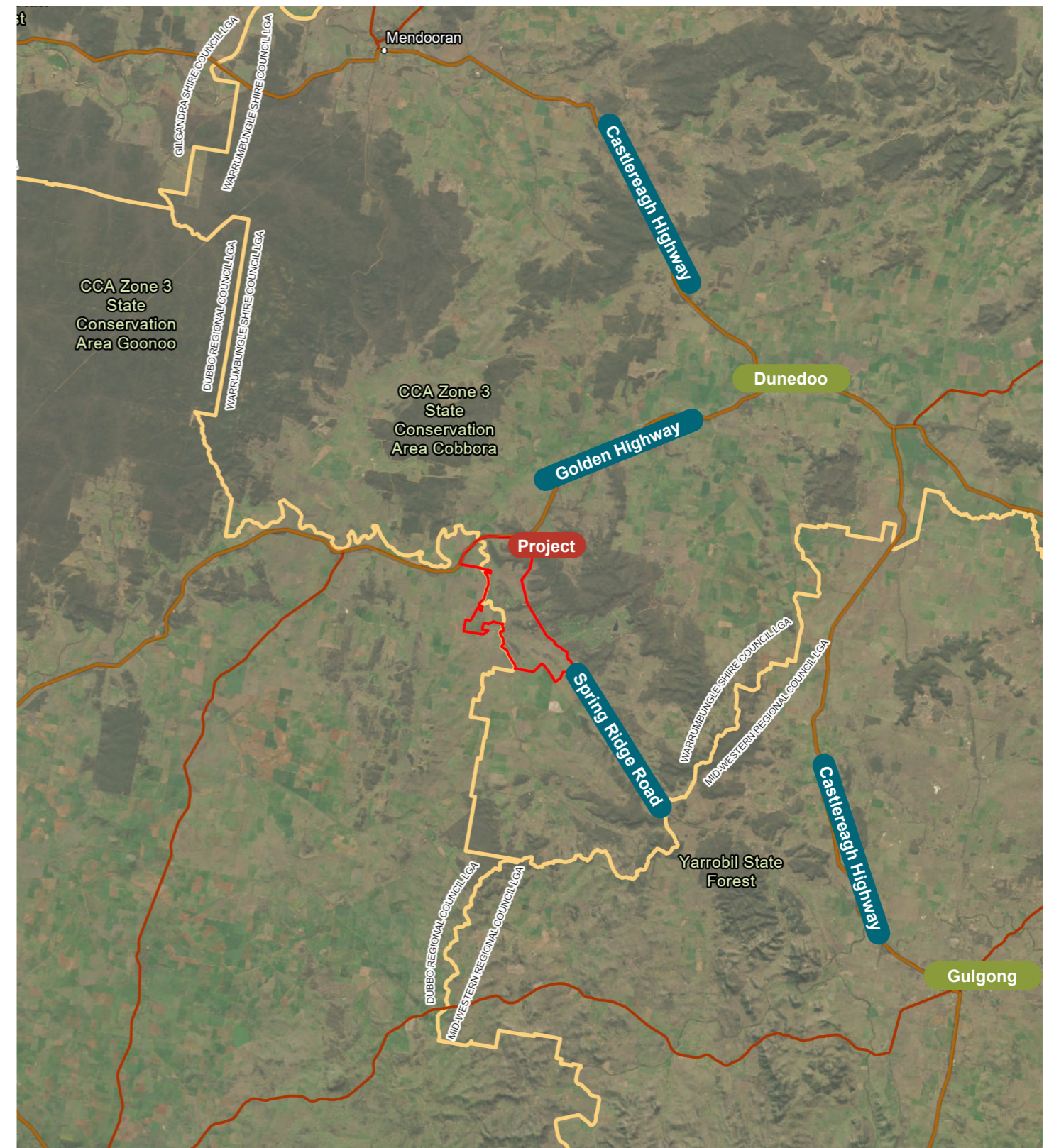
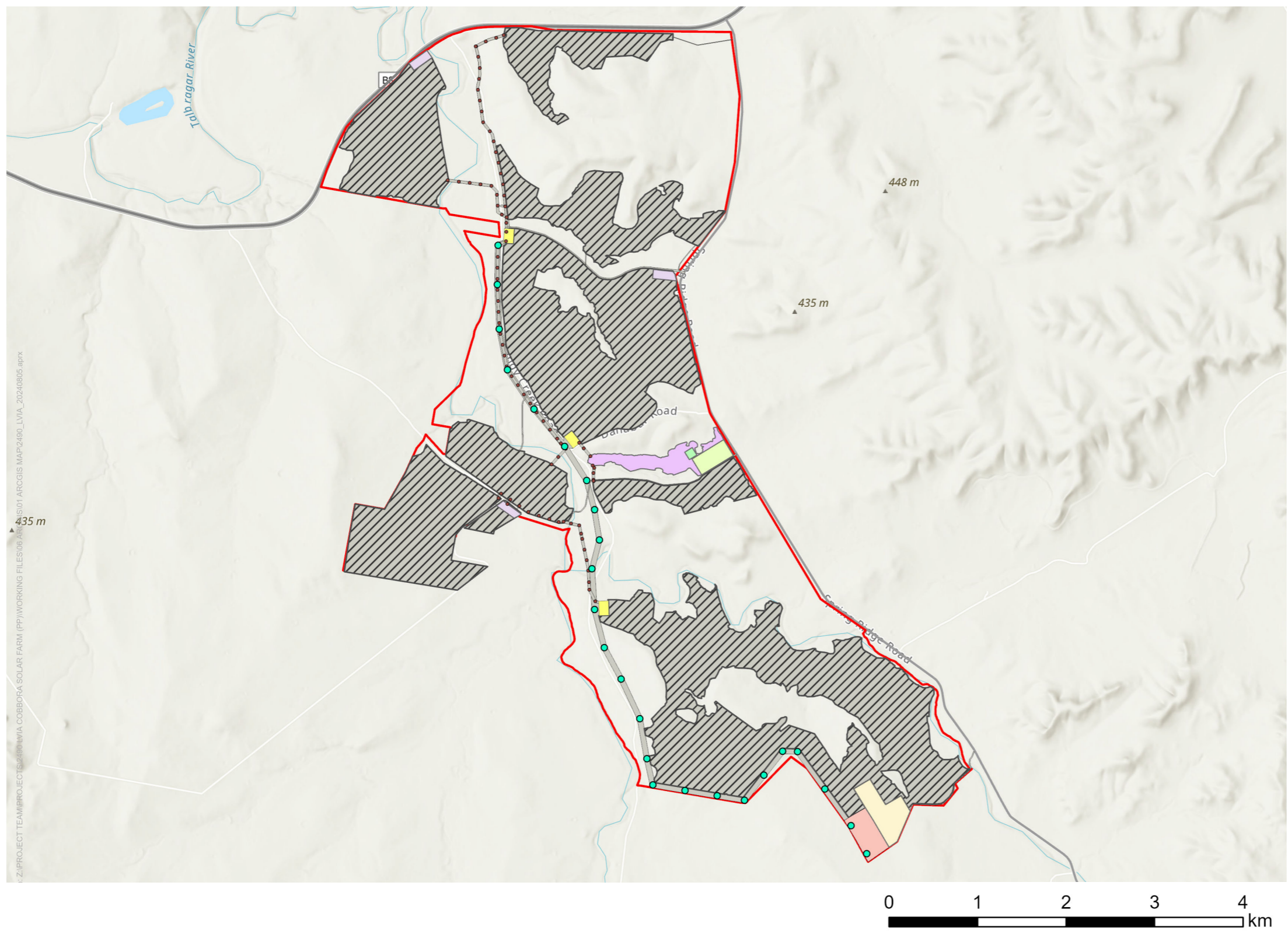


Figure 02 – Regional Context
Basemap Source: Google Earth, 2024

Project Layout

Refer to Section 3.2



LEGEND

- Project Boundary
- Total Project Footprint
- Solar Array Areas
- 330 kV Transmission Towers
- 33 kV Transmission Poles
- Accommodation Camp
- BESS 400MW
- Main Construction Area
- Construction Areas
- Helipoint
- Main Substation
- Secondary Substations
- Highway
- Roads

Figure 03 – Project Layout
Basemap Source: ESRI, 2024

3.3 The Development Footprint

Throughout the LCVIA assessment, the Solar Array Area is referred to as the Development Footprint.

The Development Footprint will comprise of approximately 1.2 - 1.4 million photovoltaic (PV) modules installed on single-axis tracking structures. Each PV module typically measures max. 6.64 m by max. 4.64 m with rows spacing at a minimum of 5 m apart (refer to **Figure 05**).

The proponent considered two options for the solar panel design.

- Option one includes a 1P panel configuration (a single row of panels mounted on a tracker), with a maximum height of 3.0 m. (Refer to **Figure 04**).
- Option two, is a 2P panel configuration (two rows of panels mounted on the same tracker,), with a maximum height of 4.64 m. (Refer to **Figure 05**).

The tracking system structure axis runs from north to south, enabling the PV modules to follow the sun's path from the east in the morning through to the west in the afternoon, maximising energy production throughout the day. A backtracking function ensures that the module rows are not shading each other. The operational rotation range of the tracking system is typically +/- 60 degrees from the horizontal position. The maximum height of the PV modules above natural ground is up to 4.64 m. The modules typically return to face east after sunset.

For the purposes of this assessment, a worst-case scenario using the 2P solar panel configuration was considered.

The final number of PV module arrays and tracker designs would depend on detailed design, equipment availability and commercial considerations. These dimensions may alter based on site constraints such as all geotechnical and topographic conditions, boundaries, riparian zones, existing vegetation and access tracks. The assessment has been completed using the worst-case scenario with the panels assumed at their highest pitch.

Option 1: 1P Solar Panel Parameters

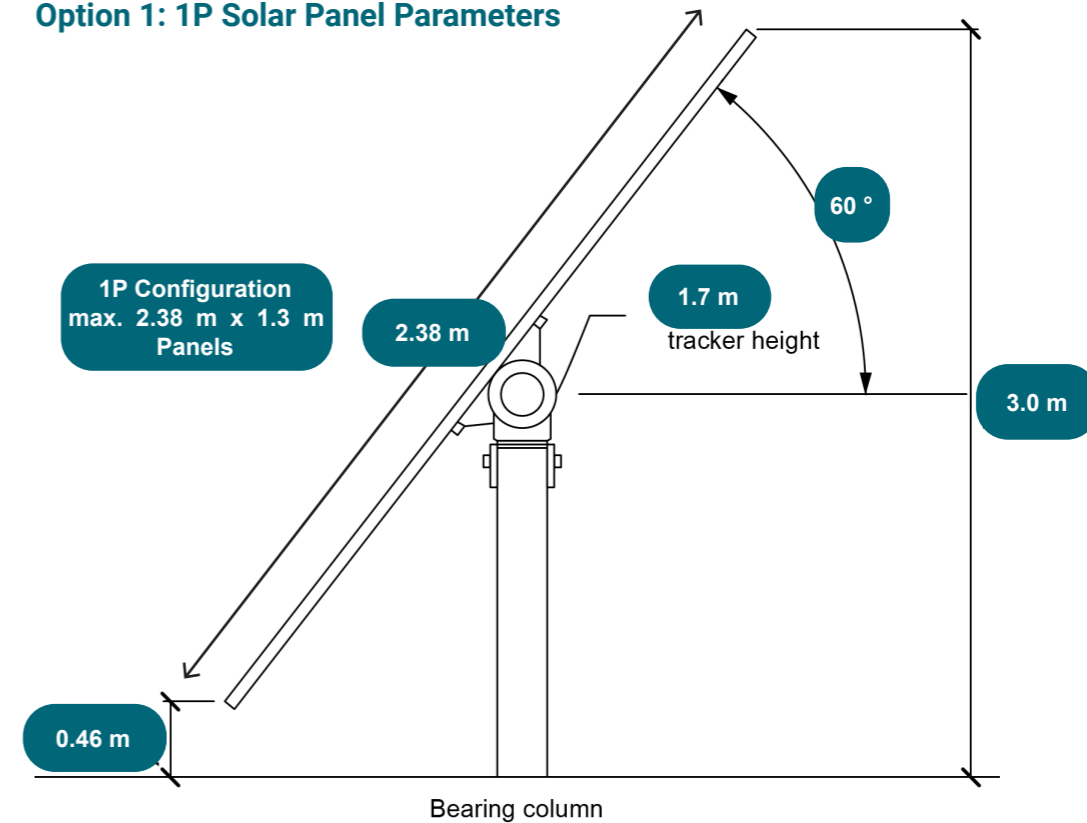


Figure 04 – 1P Solar Panel Parameters
Source: Provided by the Proponent

Option 2: 2P Solar Panel Parameters
(Worst-Case) * Used in Assessment

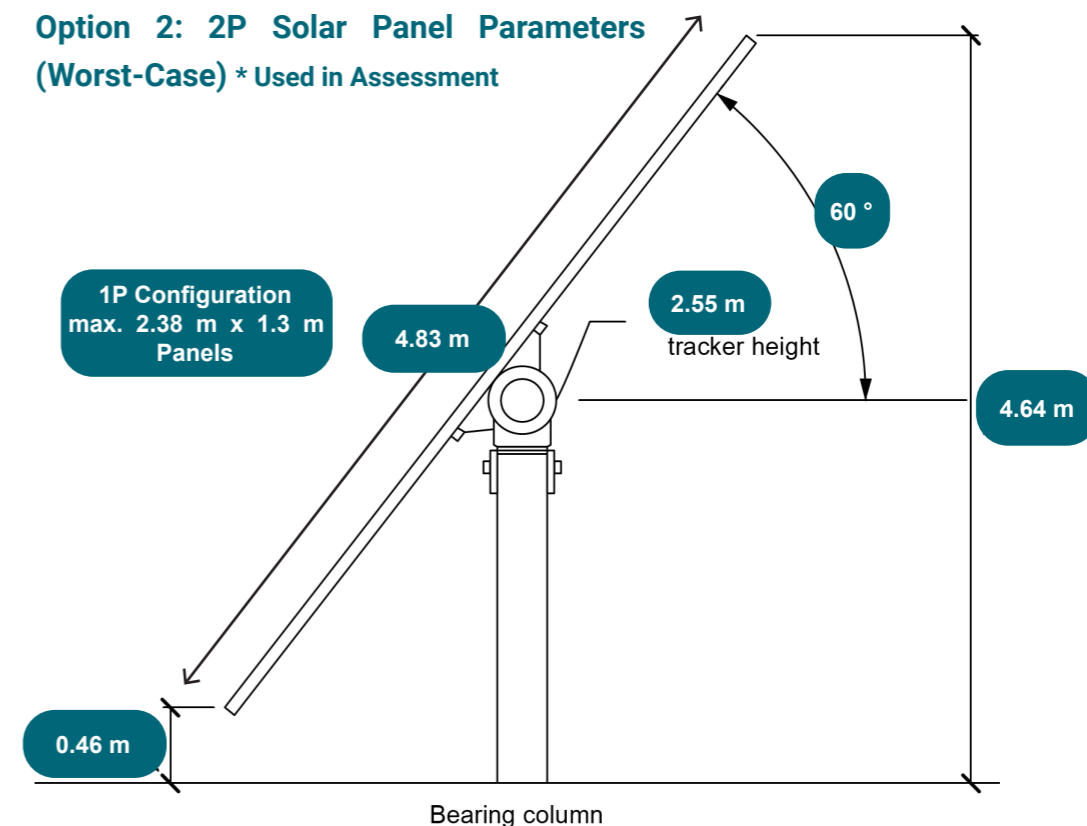


Figure 05 – 2P Solar Panel Parameters
Source: Provided by the Proponent

04 Landscape Character Assessment



4.0 Landscape Character Assessment

4.1 Landscape Character Assessment Overview

The Technical Supplement states:

'The EIS must include an assessment of how the project will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. Landscape character assessment can help the community, applicants and consent authorities understand the sensitivities of a landscape and to determine the overall impact of a project on an area's character and sense of place.'

The following provides an overview of the requirements of the landscape character assessment.

4.1.1 (Step 1) Baseline Investigation

The Technical Supplement states: *'Applicants must undertake a baseline study to establish the existing landscape character of the area and its sensitivity. This should be based on desktop analysis and field visits and provide a descriptive and illustrative analysis of the qualities of the place, what makes it valued, and any challenges that could arise from the Project.'*

4.1.2 (Step 2) Identify Landscape Character Zones

The Technical Supplement states: *'Applicants must assess and determine the overall sensitivity and magnitude of change resulting from the Project on each Landscape Character Zones (LCZ).'*

4.1.3 (Step 3) Assess Landscape Character Impact

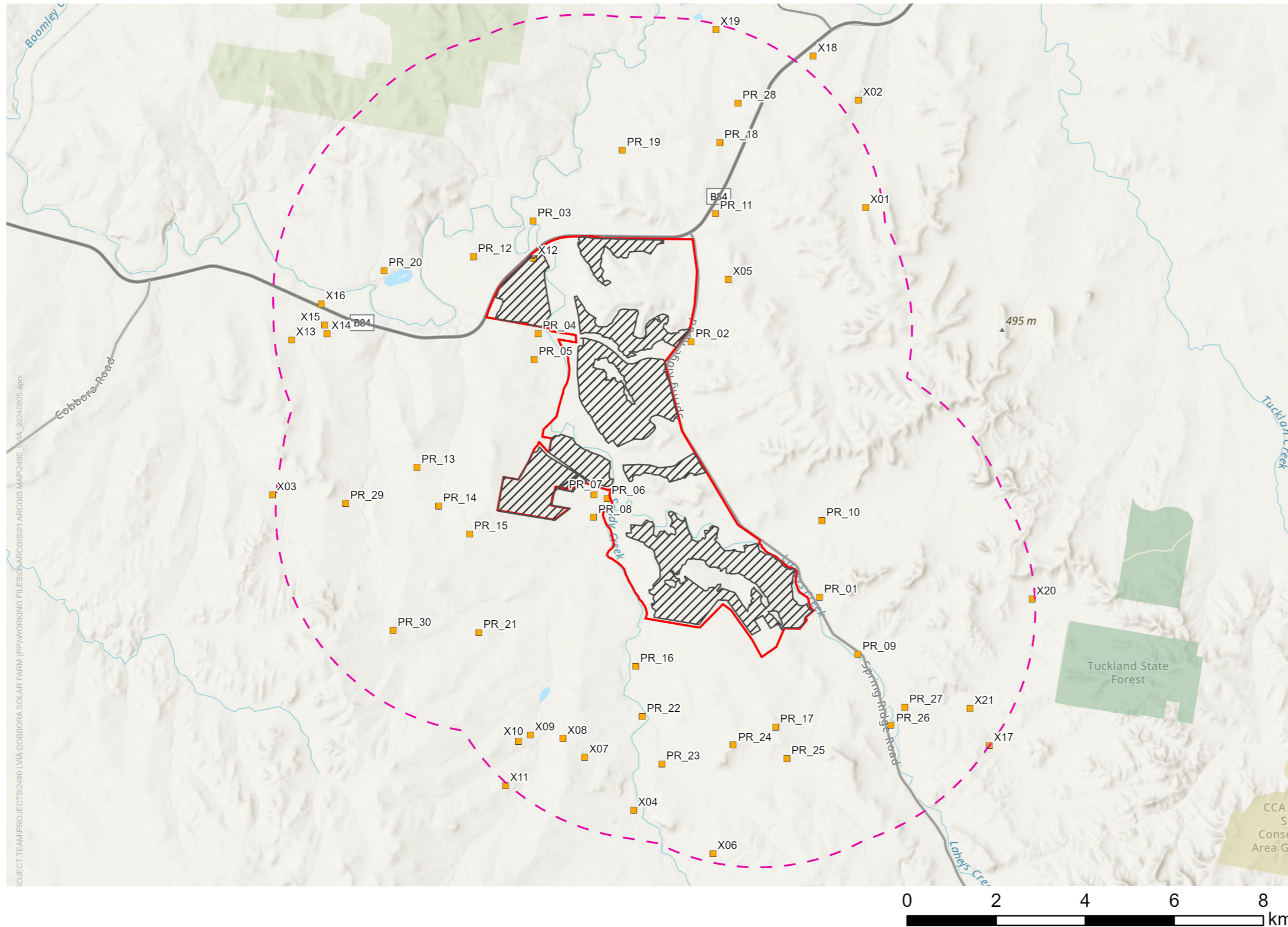
The Technical Supplement states: *'Landscape Character Impact will be assessed for each LCZ by comparing the visual sensitivity and magnitude of change resulting from the Project.'*

4.2 Landscape Character Assessment Study Area

The Technical Supplement states:

'The Study Area for the landscape character assessment should generally be approximately 5km from the proposed development. However, the character of landscapes can vary significantly and justification may be provided for analysing a smaller area, in accordance with page 8 of the Technical Supplement.'

As illustrated in **Figure 06**, the landscape character of the surrounding area has been assessed to the extent of 5.0 km from the Development Footprint.



Study Area

Refer to Section 4.2

LEGEND

- Project Boundary
- Solar Array Areas
- Study Area (5 km from Solar Array Area)
- Non-Associated Dwellings
- StateForest
- CCA Zone 3 State Conservation Area
- Roads
- Highway

Figure 06 – Study Area
 Basemap Source: ESRI, 2024



05 Community Consultation



5.0 Community Consultation

5.1 Preliminary Stakeholder Engagement and Consultation

The Guideline states *'that the community should be engaged as early as possible to identify potential opportunities and constraints associated with the Project'*.

The purpose of community consultation in the preparation of the LCVIA is to:

- Establish key significant landscape features;
- Define areas of scenic quality and
- Identify key public viewpoints valued by the community.

Applicants must engage with the community (including the indigenous community), local council, and potentially affected landowners as early as possible to identify and establish the importance of particular landscape values and characteristics. Understanding these values can provide a firm basis for siting and designing a solar energy project that seeks to avoid or minimise impacts.

5.2 Results of Stakeholder Engagement and Consultation

Cobbora Solar Farm is committed to fostering transparent communication through ongoing consultation events and personalised face-to-face meetings with nearby neighbors and the broader community. Following its acquisition by Pacific Partnerships Pty Ltd in mid-2024, they reinvigorated their consultation efforts to ensure that local voices are heard.

Since June 2024, Pacific Partnerships have actively engaged with nearby residents and stakeholders, including local council representatives, as we conduct important biodiversity, agricultural, and visual amenity assessments that will form part of the Environmental Impact Statement (EIS) submission.

As a key part of the landscape character and visual impact assessment, Pacific Partnerships have proactively reached out to landowners who may be affected by visual amenity considerations. The engagement began with a personalized letter drop-off, which detailed the project and sought permission to access their properties for comprehensive assessments in early October 2024. Along with the letter, a factsheet was provided to inform landholders about the proposed assessments. The majority of landholders responded positively, granting access, while others, even those beyond 4 km from the project, expressed a keen interest in understanding how the development may impact their views.

Between October 10th - 12th 2024, Moir Studio conducted their assessments, visiting six (6) landholders' properties to capture photographs from various viewpoints. Several landholders expressed interest in evaluating the proposed solar farm's vistas from their most prominent locations. Furthermore, many were already informed about the potential visual impacts of solar farms and remained unconcerned, demonstrating a readiness to embrace renewable energy solutions while considering local conditions (Pacific Partnerships, 2025).

06 Baseline Investigation



6.0 Baseline Investigations

6.1 Overview of Visual Baseline Investigation

Applicants must undertake a baseline study to establish the existing landscape character of the area and its sensitivity. This should be based on desktop analysis and field visits and provide a descriptive and illustrative analysis of the qualities of the place, what makes it valued and any challenges that could arise concerning the Project.

Fieldwork was undertaken for the Project in October 2024 to assess and identify the existing landscape character of the area.

The baseline investigation inputs, as set out in the Guidelines, and where they have been addressed in this report, are outlined in **Table 02**.

Baseline Investigation Inputs:	
• Physical influences (such as geology, soils, land form, natural drainage and water bodies)	Refer to Section 6.2
• Ecological characteristics and land cover of an area (such as whether it is forested, wetland, scrub, grass etc.) and the quality and type of vegetation cover	Refer to Section 6.3
• The influence of human activity, including land use and management and the character of any settlements and buildings	Refer to Section 6.4
• Key landscape features or attributes of the landscape associated with high visual interest or quality that stand out visually in the landscape, including natural features (such as a distinctive mountain peak or hilltop), cultural or agricultural features	Refer to Section 6.5
• The aesthetic and perceptual aspects of the landscape, particularly emphasising those that are key characteristics contributing to the distinctive character of the landscape (such as its scale, complexity, openness, tranquillity or wildness)	
• The condition of the landscape, including the condition of elements or features such as buildings or vegetation	Refer to Section 6.6
• The planning designations of an area relating to landscape character, including sensitive land use designations, zoning and heritage listings	Refer to Section 6.7
• The location of any existing operational, approved or proposed large-scale energy developments or other major developments within a regional and local context, including projects which may have the potential to create direct or indirect cumulative impacts with the project	Refer to Section 6.8

Table 02 – Baseline Investigation inputs

6.2 Physical Influences

The Project is situated within the southern region of the Brigalow Belt South Biogeographic Regionalisation of Australia (IBRA) Bioregion, adjacent to the NSW South Western Slopes Bioregion. It is considered part of the Talbragar Valley Subregion. The bioregion extends from south of Dubbo up to the mid-Queensland coast.

The Talbragar Valley Subregion is characterised by rocky hills, long undulating slopes and broad valleys. The Bioregion is known for its variable landscapes, soils, and vegetation, derived from extensive basalt flows and quartz sandstones (NPWS, 2003).

Within the Project Boundary, the landform generally transitions from gently undulating alluvial wash plains to the west, to steeper rocky hills to the east. A range of vegetated hills form the horizon line to the east of the Project boundary. The land is generally cleared and modified to support agricultural activities, with remnant patches of native vegetation along the rocky ridges to the eastern side of the Project (refer to **Image 01**).

The Study Area includes several ephemeral and permanent creeks and waterways that drain into the Talbragar River. The Talbragar River is located approximately 0.5 km northwest of the Project Boundary at its closest point. Eleven (11) ephemeral creek lines run through the study area and feed into the Talbragar River.

Sandy Creek is the main waterway that runs south-north through the Project Site before joining the Talbragar River to the north. Several creeks feed into Sandy Creek, including Laheys Creek, Broken Leg Creek, and Spring Creek. Medway Creek and Narran Creek run north-south to the west of the Project, and Isbester Creek, Flyblowers Creek, and Edmonds Creek are to the northeast.

Vegetation typically follows the creek lines and waterways and, together with the vegetated ridgelines, are a key landscape character feature of the Study Area (see **Image 02**).



Image 01 – Talbragar-Cudgegong vegetated hills in the background west of the Project



Image 02 – Sandy Creek and associated riparian vegetation.

6.3 Ecological Characteristics

The vegetation of the Brigalow Belt South Bioregion is influenced by the varying geology derived from either volcanic basalts or sedimentary sandstones and changes in temperature and rainfall. Vegetation mainly consists of pasture, forests and woodlands. The Study Area is generally located across agricultural areas characterised by cleared land, with pockets of remnant native vegetation covering hills to the east. Remnant vegetation is typically narrow-leaved Ironbark and White Cypress pine woodland vegetation communities (as shown in **Image 03**) on the hills and slopes. Riparian vegetation along perennial streams and main drainage lines is evident within the Study Area with species including River She Oak and Rough-Barked Apple (NPWS, 2003). Undulating and heavily vegetated hills associated with Goonoo State Conservation Area and Tuckland State Forest are located east of the Project Boundary.

6.4 Human Activity

The Golden Highway is located along the northern boundary of the Project and is the main Highway connecting Dunedoo in the east to Dubbo in the west (refer to **Image 04**). Spring Ridge Road is a low use sealed road on the eastern boundary of the Project that connects the Golden Highway to the Castlereagh Highway and Gulgong to the south. Several local unsealed roads run through the Project Area, including Sandy Creek Road, Danabar Road, Sweeneys Lane, Tallawonga Road and Dapper Road. These are generally used by local residents, connecting to the Golden Highway and Spring Ridge Road.

There are no townships or villages identified within the Study Area. Several scattered rural dwellings have been identified within the Study Area. The nearest major settlement is the township of Dunedoo, located approximately 20 km northeast of the Project, and Gulgong, located approximately 32.0 km southeast of the Project. According to the 2021 Australian Bureau of Statistics (ABS) data, Dunedoo has a population of 1,097, and Gulgong has a population of 2,680 people. Smaller rural settlements in the vicinity include Cobbora and Elong Elong, located approximately 6 km northeast and 13 km west of the Project respectively. Cobbora is a small rural community of approximately 25 residents. Elong Elong has a population of approximately 142 residents (ABS, 2021).

The landscape is characterised by modified pastures used for livestock grazing and dryland cropping, with areas of native vegetation and grazing (eSPADE, 2017) as shown in **Image 07** and **Image 08**. Land within 5.0 km of the Site Boundary has been predominantly cleared of remnant vegetation to support agricultural activities, with areas of intact vegetation on ridgelines along local roads and drainage lines.



Image 03 – Typical vegetation character along ridgelines.



Image 04 – Golden Highway on the northern boundary of the Project.

6.5 Key Landscape Features, Aesthetics & Heritage

Land within the Study Area is characterised by a network of vegetated creek lines and wide, undulating alluvial plains cleared for agricultural activities to the west (see **Image 06**). Transitioning to the east of the Study Area, the landscape shifts to heavily vegetated ridges separated by cleared valleys (see **Image 05 and Image 08**), with the ridgelines connecting to a set of vegetated hills to the east of the Study Area. These form a visual backdrop for some views within the Study Area.

A network of ephemeral and permanent creeks and waterways runs through the Study Area, eventually draining into the Talbragar. The Talbragar River is the closest major watercourse and runs in a generally east-west direction approximately 0.5 km north of the Project. Tuckland State Forest is located southeast of the Project and is outside the Study Area. The Goodiman State Conservation Area is located further to the south east. There are no formal picnic areas, camping areas, or other visitor facilities within the State Forest or Conservation Area (see **Figure 07**).

The Project is located within the extent of Mudgee Local Aboriginal Land Council (MLALC) and Dubbo Local Aboriginal Land Council (DLALC).

The MLALC acknowledges the Wiradjuri people as the traditional custodians of this land. No items are listed within the Study Area under the National Commonwealth and State Heritage Listings (MLALC, 2020).



Image 05 – Vegetated hills to the east of the Project.



Image 06 – Cleared pastured with vegetation associated with Sandy Creek to the right and Sandy Creek Road to the left of the image.

6.6 Landscape Condition

Land within the Study Area has predominantly been modified for intensive agricultural uses, including grazing and dryland cropping (see **Image 06**). Vegetation in these areas has generally been cleared, with the exception of dense vegetation associated with the Talbragar-Cudgegong Hills to the East (see **Image 05** and **Image 08**) and the Cobbora State Conservation Area to the northwest. Individual and small groups of trees are located within cleared grazing lots and road corridors, with dense riparian vegetation along creek lines. Windbreak vegetation is visible in some areas surrounding dwellings (see **Image 07**).

The topography within the Project Area ranges from 350 AHD along the creek lines, rising to 437 AHD along the ridges. Ephemeral and permanent creeks, including Sandy Creek and Laheys Creek, run through the Project Site. Other Creeks within the Study Area include Narran Creek, Medway Creek, Broken Leg Creek, Spring Creek, Fords Creek, Blackheath Creek, Flyblowers Creek, Isbester Creek, and Edmonds Creek. Talbragar River is the closest major watercourse and runs in a generally east-west direction to the north of the Study Area. Several artificial dams occur within the Study Area. These are used to provide water for agricultural activities. Several rural residential dwellings are scattered around the Project, primarily along Sandy Creek Road, Dapper Road, Tallawonga Road, and Spring Ridge Road (see **Figure 07**).

6.7 Land Use & Land Zoning

Land within the Project Boundary has been heavily modified for cropping and grazing, with vegetated hills designated for minimal use due to steep, undulating terrain, occupying portions of the Project area to the east. The Project, including the solar arrays and associated infrastructure, is proposed on land dedicated to grazing pastures and cropping (see **Figure 08**).

Areas to the east, southeast, and northwest of the Study Area consist of heavily vegetated hills designated for a mix of minimal use, production native forestry and nature conservation. Within the valleys and to the west of the Project Area, the land has been cleared for agricultural production that includes cropping and grazing.

The Project Boundary is located on land zoned RU1 – Primary Production as set out in the *Dubbo Regional Local Environmental Plan, 2022 (LEP)* and the *Warrumbungle Local Environmental Plan (LEP), 2013*. The two (2) main zoning categories in the Study Area include RU1 Primary Production, and RU3 Forestry, outside of SP2 for major road corridors (see **Figure 09**).



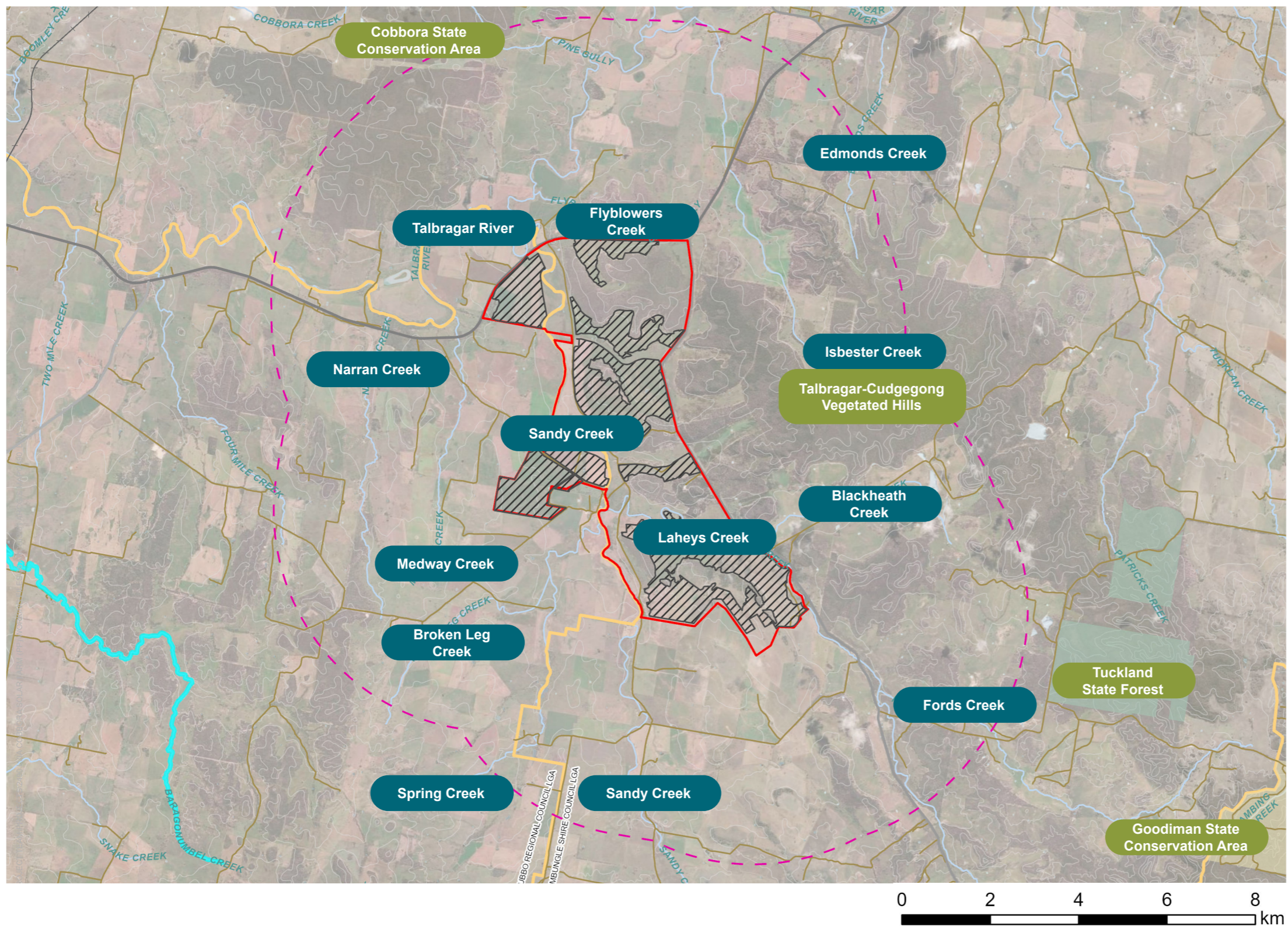
Image 07 – Sandy Creek, with cropping in background.



Image 08 – Vegetated ridges with valleys cleared for pastoral use.

Key Landscape Features

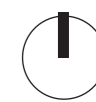
Refer to Section 6.5

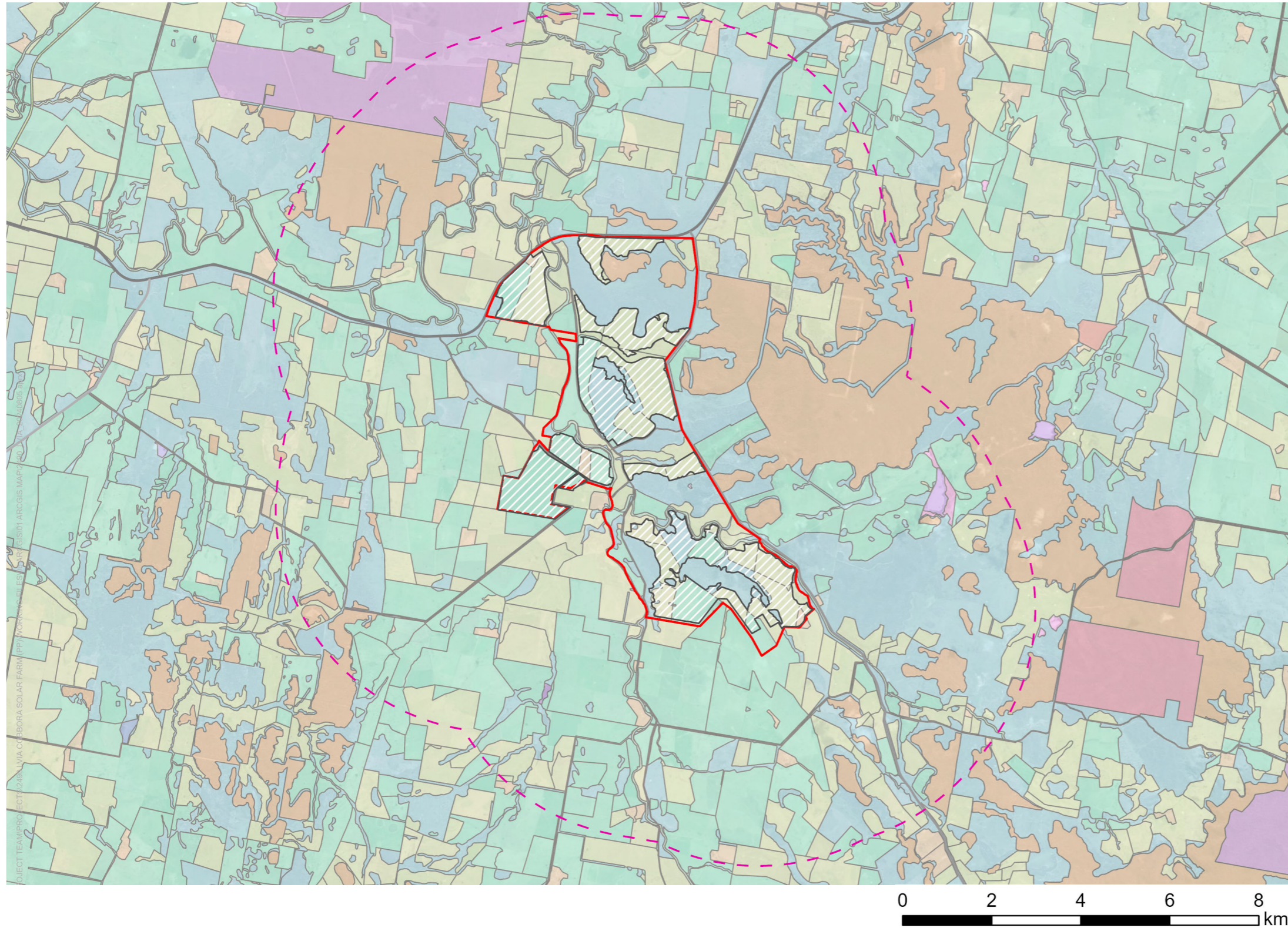


LEGEND

- Project Boundary
- Solar Array Areas
- Study Area (5 km from Solar Array Area)
- Railway
- State Forest
- State Conservation Area
- Local Government Area
- Watercourse
- Contours (10m)
- Highway
- Roads
- Unsealed Roads

Figure 07 – Key Landscape Features
 Basemap Source: ESRI, 2024





Land Use

Refer to Section 6.7

LEGEND

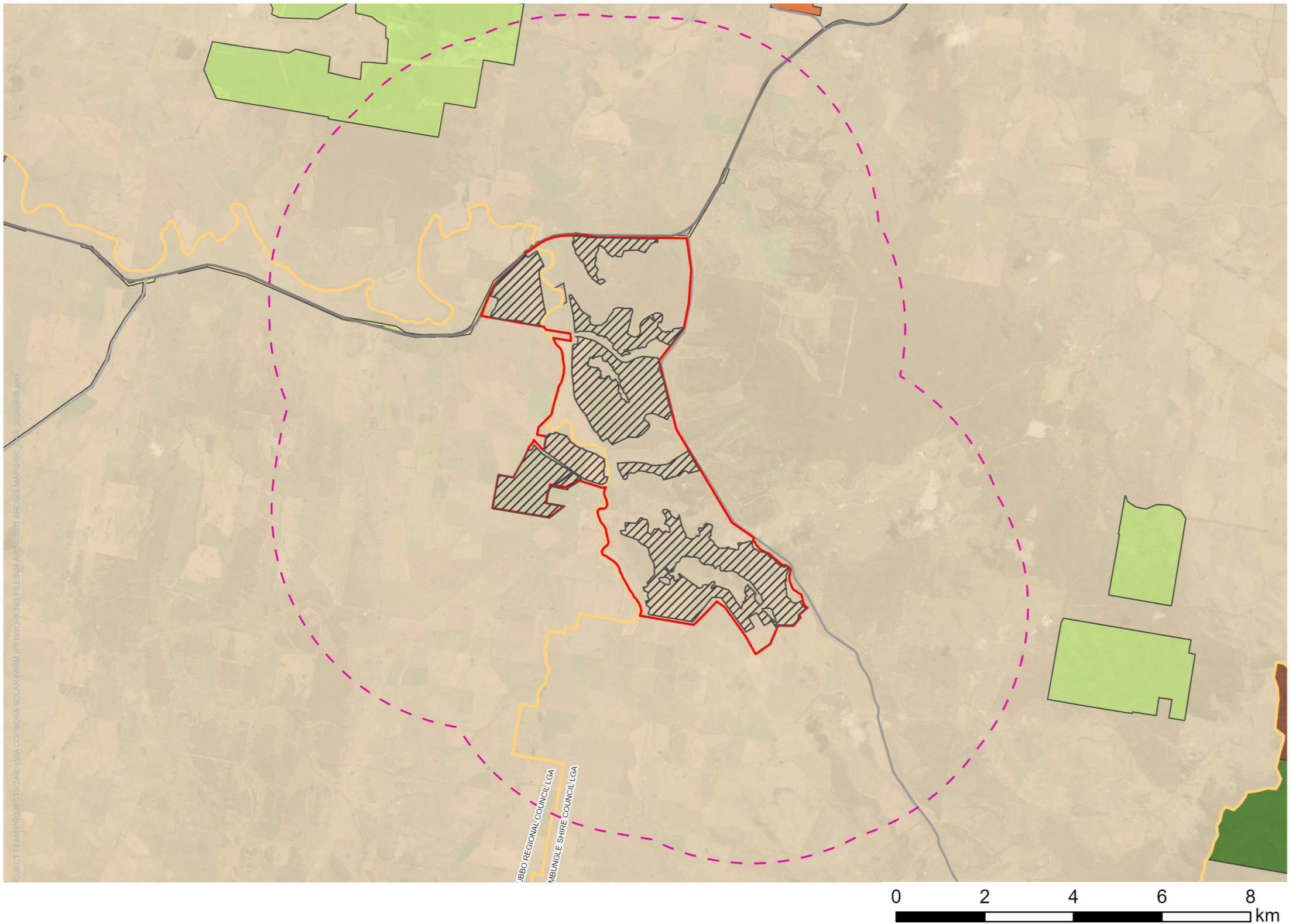
- Project Boundary
- Solar Array Areas
- Study Area (5 km from Solar Array Area)
- Highway
- Roads
- Nature conservation
- Other minimal use
- Grazing native vegetation
- Production native forestry
- Plantation forests
- Grazing modified pastures
- Cropping
- Perennial horticulture
- Irrigated cropping
- Intensive animal production
- Residential and farm infrastructure
- Transport and communication
- Mining
- Reservoir/dam
- River
- Marsh/wetland

Figure 08 – Land Use
 Basemap Source: ESRI, 2024, SEED NSW Landuse2017v1.5, 2024



Land Zoning

Refer to Section 6.7



LEGEND

- Project Boundary
- Solar Array Areas
- Study Area (5 km from Solar Array Area)
- Local Government Area
- Highway
- Roads
- C1 - National Parks and Nature Reserves
- R5 - Large Lot Residential
- RU1 - Primary Production
- RU3 - Forestry
- RU5 - Village
- SP2 - Infrastructure

Figure 09 – Land Zoning
Basemap Source: ESRI, 2024, DHPI ePlanning Portal, 2024



6.8 Large Scale Energy Development

The Project is located within the Central West Orana Renewable Energy Zone (CWO-REZ). The CWO-REZ was designated following a detailed state-wide geospatial mapping exercise undertaken by the NSW Government in 2018. This initial analysis sought to identify optimal locations to host renewable energy generation around the State, including areas with strong renewable energy resource potential, proximity to the existing electricity network, and consideration of potential interactions with existing land uses, including agricultural lands and biodiversity conservation.

Table 03 summarises the currently proposed, in operation, or approved renewable energy projects or major developments within the proximity of the Project that have the potential to have a cumulative impact.

The occurrence of large-scale renewable energy projects within a region has the potential to alter the perception of the overall landscape character, irrespective of being viewed in a single viewshed, as these projects could become part of the existing landscape. It is important to determine whether the effect of multiple projects and other major infrastructure within the region would combine to become the dominant visual element, altering the perception of the general landscape character.

Cumulative Impacts associated with the Project are assessed in **Section 13.0**. According to the Technical Supplement, only 'proposed or approved solar energy projects...' need to be considered in the visual impact assessment phase, therefore **Section 13.0** provides an assessment of Sandy Creek Solar Farm and Dapper Solar Farm as per **Table 03**. An overview of the impacts to the broader landscape character resulting from all projects outlined in **Table 03** is provided in the Landscape character assessment (refer to **Section 7.0**)

Large Scale Energy Development (within immediate proximity of the Project)			
Project	Distance & Direction from the Project	Generation Capacity (MW) / Size	Planning Status & Cumulative Consideration
Sandy Creek Solar Farm (SCSF)	Adjoining Southwest Boundary	700 MW	Proposed (Cumulative Impacts to be assessed)
Dapper Solar Farm (DSF)	Approx. 1.2 km Southwest	300 MW	Proposed (Cumulative Impacts to be assessed)
Spicers Creek Wind Farm (SCWF)	Adjoining Western Boundary	700 MW	Approved
CWO-REZ Transmission Project	Adjoining Southern Boundary	NA	Approved
Avonside Solar Farm	10.2 km East	180 MW	Proposed
Orana Wind Farm	11.0 km East	524 MW	Proposed

Table 03 – Overview of Large Scale Energy Developments
Source: NSW Major Projects, 2025 (current as of the 15/01/2025)

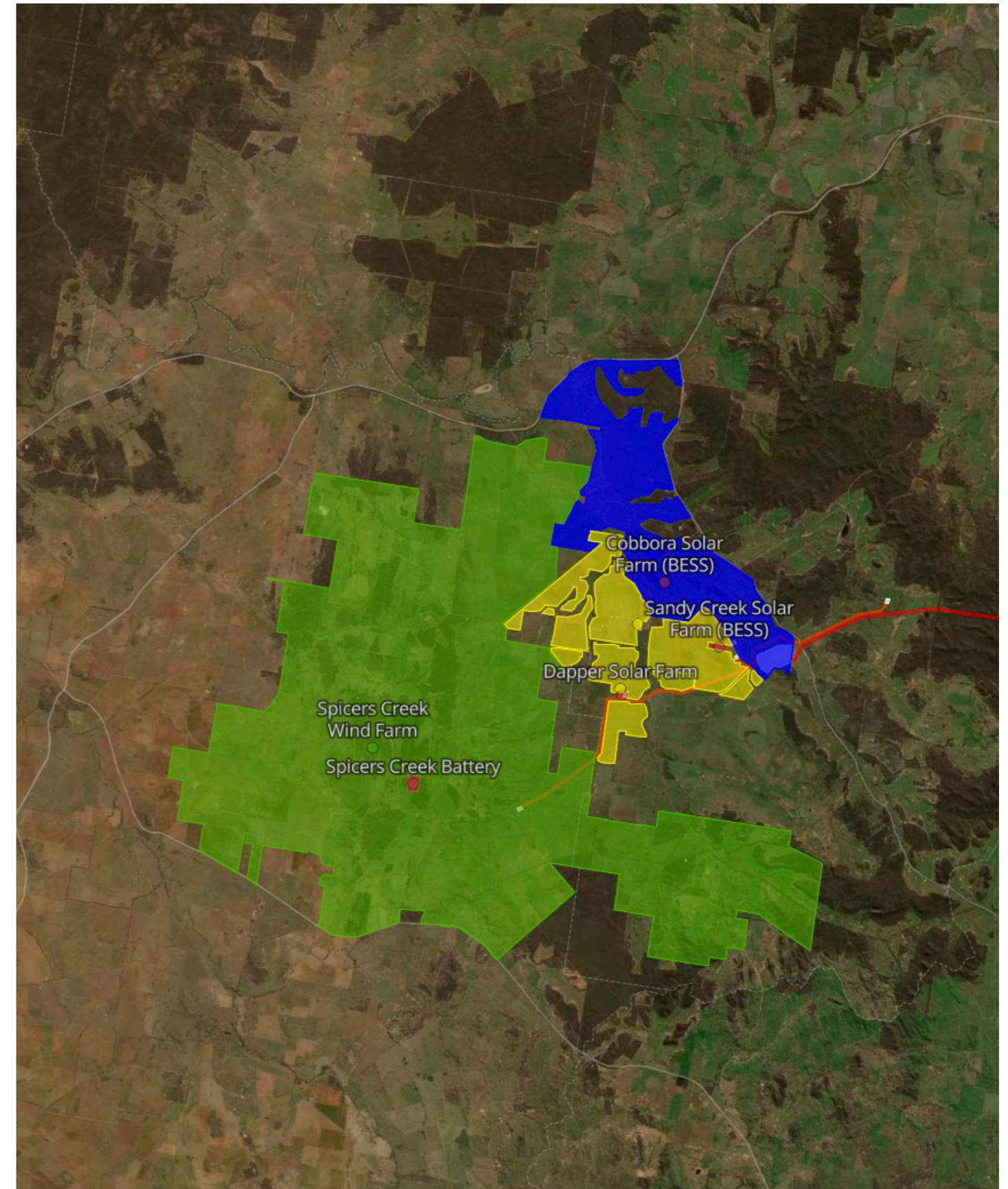


Figure 10 – Nearby Renewable Energy Projects
Basemap Source: RenewMap, 2025

07 Landscape Character Zones



7.0 Landscape Character Zones

7.1 Identify Landscape Character Zones

The Technical Supplement states: "If the landscape includes distinct areas with different qualities, applicants should break down the study area into different character zones.

Landscape character zones should divide the landscape based on common distinguishing visual characteristics, including landforms and major land cover patterns. Combinations of vegetation, waterbodies, landforms and land use form these patterns and allow for the identification of key landscape features. (DPHI, 2024b)"

Figure 11 provides a schematic representation of what defines a Landscape Character Zone (LCZ).

Figure 12 shows the LCZs identified within the 5.0 km of the Site Boundary. Descriptions of each LCZ provided in **Section 7.3**.

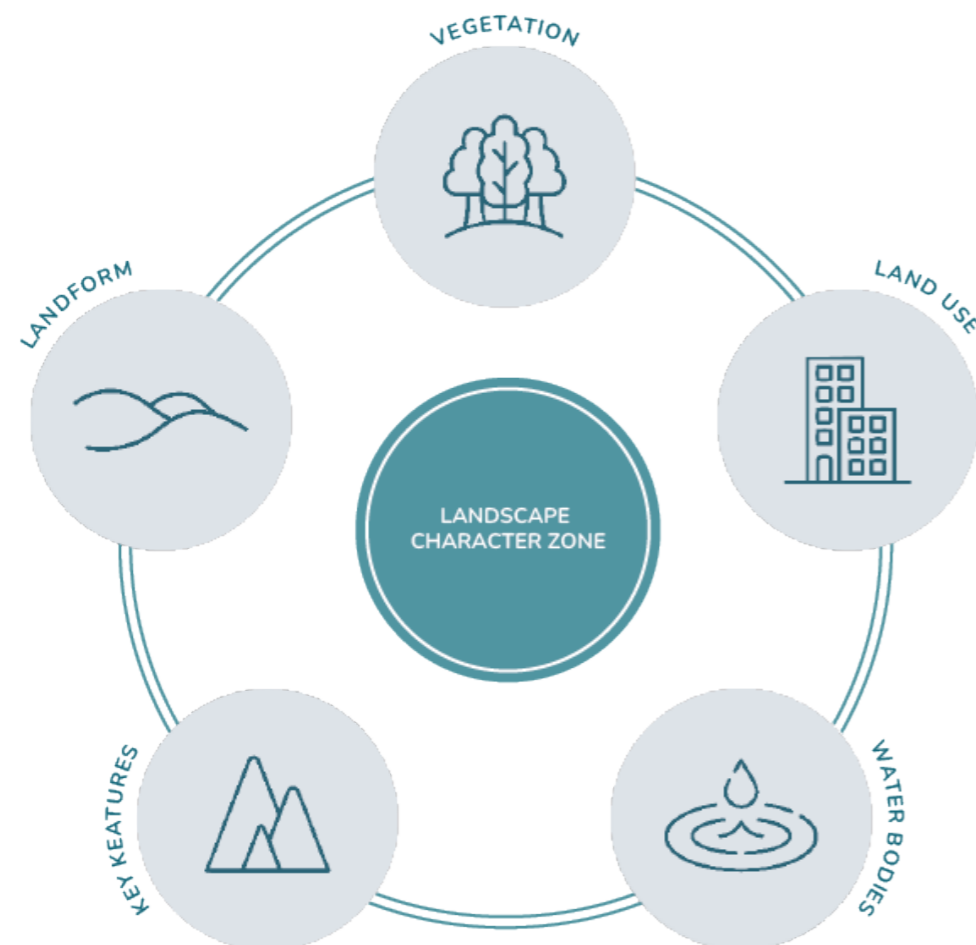


Figure 11 – Defining Landscape Character Zones

Source: Adapted from DPHI, 2024

7.2 Determining Scenic Quality

The Technical Supplement states: "Scenic quality refers to the holistic and relative scenic, cultural or aesthetic value of the landscape within the viewshed based on the presence or absence of key landscape features known to be associated with community perceptions of very low, low, moderate or high scenic quality. It is typically a complex process undertaken by experts in visual impact assessment and must also consider community values. (DPHI, 2024b)"

The baseline analysis and landscape character assessment have been used to inform the classification of scenic quality values. A scenic quality rating has been applied to each LCZ based on the Scenic Quality Frame of Reference and the visual reference for scenic quality values provided in the Technical Supplement (as presented in **Table 04** and **Table 05**).

The scenic quality has assisted in determining the sensitivity of each LCZ, results are shown in **Table 09**.

Scenic Quality Frame of Reference				
Feature	Very Low Scenic Quality	Low Scenic Quality	Moderate Scenic Quality	High Scenic Quality
Landform	<ul style="list-style-type: none"> Large expanses of flat or gently undulating terrain Indistinct, dissected or unbroken landforms that provide little illusion of spatial definition or landmarks with which to orient 	<ul style="list-style-type: none"> Mostly flat or gently undulating terrain with isolated areas of undulating topography 	<ul style="list-style-type: none"> Steep, hilly and undulating ranges that are not visually dominant Broad shallow valleys Moderately deep gorges or moderately steep valley walls Minor rock outcrops 	<ul style="list-style-type: none"> Isolated peaks, steep rocky ridges, cones or escarpments with distinctive form and/or colour contrast that become focal points Large areas of distinctive rock outcrops or boulders Well defined, steep sided valley gorges
Vegetation	<ul style="list-style-type: none"> Extensively cleared and cropped areas with very limited variation in colour and texture Pastoral areas, human created paddocks, pastures or grasslands and associated buildings typical of grazing lands 	<ul style="list-style-type: none"> Predominantly cleared and cropped areas with small areas of variation in colour and texture Mostly pastures or grasslands with small blocks of distinct native vegetation 	<ul style="list-style-type: none"> Predominantly open forest or woodland combined with some natural openings in patterns that offer some visual relief Vegetative stands that exhibit a range of size, form, colour, texture and spacing including human influenced vegetation such as vineyards, and orchards 	<ul style="list-style-type: none"> Strongly defined patterns with combinations of native forest, naturally appearing openings, streamside vegetation and/or scattered exotics Distinctive stands of vegetation that may create unusual forms, colours or textures in comparison to surrounding vegetation
Waterform	<ul style="list-style-type: none"> Absence of natural waterbody Farm dams, irrigation canals or stormwater infrastructure 	<ul style="list-style-type: none"> Minor waterforms such as creeks and streams 	<ul style="list-style-type: none"> Intermittent streams, lakes, rivers, swamps and reservoirs 	<ul style="list-style-type: none"> Visually prominent lakes, reservoirs, rivers, streams, wetlands and swamps Presence of harbour, inlet, bay or open ocean
Social & Cultural	<ul style="list-style-type: none"> Places of worship, cemeteries/memorial parks, private open spaces 	<ul style="list-style-type: none"> Places of worship, cemeteries/memorial parks, private open spaces Local heritage sites 	<ul style="list-style-type: none"> Local or state heritage sites Distinguishable entry ways to a regional city identified in the Transport and Infrastructure SEPP 	<ul style="list-style-type: none"> Culturally important sites, world heritage areas, national parks/reserves, World, national and state heritage sites
Human Presence	<ul style="list-style-type: none"> Dominating presence of infrastructure, human settlements, highly modified landscapes and higher density populations such as regional cities, industrial areas, agricultural transport or electricity infrastructure 	<ul style="list-style-type: none"> Highly modified landscapes with visible infrastructure such as transmission lines and railway corridors 	<ul style="list-style-type: none"> Dispersed yet evident presence of human settlement such as villages, small towns, isolated pockets of production and industry, lower scale and trafficked transport infrastructure 	<ul style="list-style-type: none"> Natural/undisturbed landscape Minimal evidence of human presence and production

Table 04 – Scenic Quality Frame of Reference
 Source: Adapted from DPPI, 2024

Visual Scenic Quality Frame of Reference










Feature	Very Low Scenic Quality	Low Scenic Quality	Moderate Scenic Quality	High Scenic Quality
Landform				
Vegetation				
Waterforms				
Social & Cultural				
Human Presence				

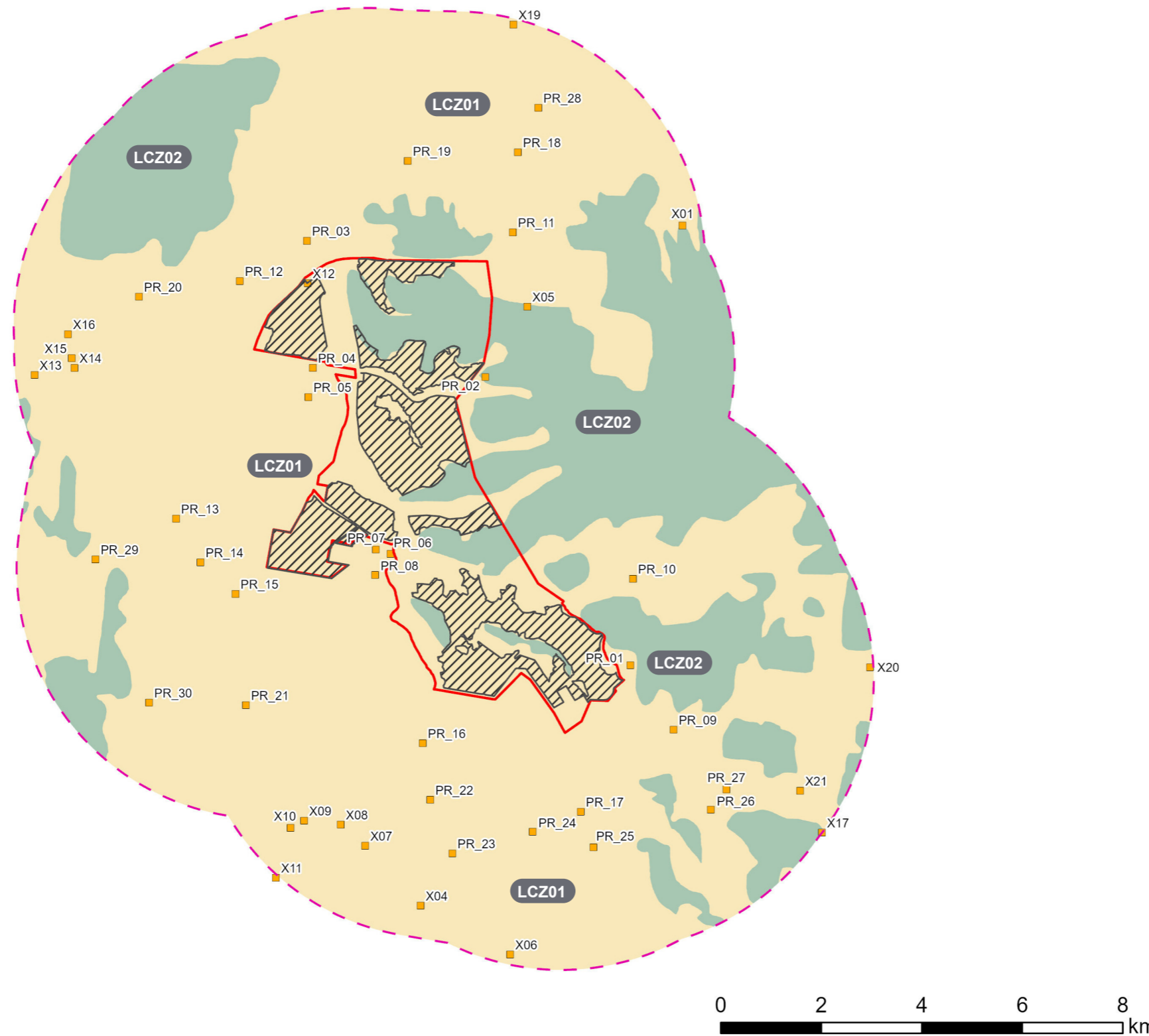
Table 05 – Visual Reference of Scenic Quality
Source: Adapted from DPHI, 2024

Landscape Character Zones

Refer to Section 7.3

LEGEND

- Project Boundary
- Study Area (5 km from Solar Array Area)
- Solar Array Areas
- Non-Associated Dwellings
- LCZ01 - Agricultural Pastures
- LCU02 - Vegetated Hills



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Figure 12 – Landscape Character Zones
 Basemap Source: ESRI, 2024



7.3 Landscape Character Zones

A total of two (2) LCZs have been identified within the Study Area of the Project as part of the Landscape Character Assessment, refer to **Figure 12**.

7.3.1 LCZ01 - Agricultural Pastures

The Project is located in this LCZ. The landform within this LCZ is typically defined by flat to gently undulating open agricultural land and low-density rural dwellings. The vegetation is generally cleared to allow agricultural land use, with patches of vegetation in small pockets. The primary activity in this area is farming, including grazing livestock and some crop cultivation. These activities shape the landscape, with fenced lots defining the pastoral and modified land use characteristic of this LCZ. Development Projects including Spicers Creek Wind Farm, Sandy Creek Solar Farm and Dapper Solar Farm have been proposed within this LCZ. While the landscape is already modified for farming, these developments will add to the existing features.



Image 09 – Typical gently undulating agricultural pastures.



Image 10 – Land cleared for crop production & windbreak vegetation.

Scenic Quality - **Low**

Refer to **Image 09 & 10**

LANDSCAPE CHARACTER ZONE	KEY LANDSCAPE FEATURES (key features within this zone)	KEY VIEWPOINTS	Application of Scenic Quality Rating Frame of Reference						SCENIC QUALITY RATING
			Landform	Waterforms	Vegetation	Human Influence	Activity	Rarity	
LCZ01 - Agricultural Pastures	Grazing and cropping pastures	Golden Highway							LOW
		Sandy Creek Road							
		Dapper Road							
		Danabar Road							
		Sweeneys Lane							
		Tallawonga Road							

Table 06 – LCZ01 Scenic Quality Summary

7.3.2 LCZ02 - Vegetated Hills

The landscape within this LCZ is typically defined by undulating terrain with dense vegetation including the narrow-leaved ironbark and white cypress pine woodland community. Steeper areas and slopes with dense vegetation are subjected to limited agricultural activity.

Overall the scenic quality of this LCZ is rated as Low.

Scenic Quality - Low

Refer to Image 11 & Image 12



Image 11 – Vegetated hills



Image 12 – Typical vegetated ridges breaking up cleared agricultural land.

LANDSCAPE CHARACTER ZONE	KEY LANDSCAPE FEATURES (key features within this zone)	KEY VIEWPOINTS	Application of Scenic Quality Rating Frame of Reference						SCENIC QUALITY RATING	
			Landform	Waterforms	Vegetation	Human Influence	Activity	Rarity		Relationship with Adjoining Landscapes
LCZ02 - Vegetated Hills	Talbragar-Cudgegong Hills Cobbora SCA	Spring Ridge Road	H							LOW
			M							
			L	■	■	■	■	■	■	

Table 07 – LCZ03 Scenic Quality Summary

7.4 Landscape Character Assessment

The Technical Supplement states: "Applicants should determine the impact of the proposal on each landscape character zone by evaluating the sensitivity of the landscape and the magnitude of the project's effects in that area."

The sensitivity and magnitude should get a rating (low, moderate or high) that can help determine the overall landscape character impact on any given zone. Applicants must provide rationale for the ratings as part of the assessment. (DPHI, 2024b)"

The following provides an overview of determining the sensitivity of a LCZ and the magnitude of effect resulting from the Project. The overall level of landscape character impact on each LCZ has been rated as low, moderate or high.

7.4.1 Determine Magnitude

The Technical Supplement states: "Applicants should consider the following when analysing and rating the magnitude of the project:

- size and scale including:
 - the extent of existing landscape elements that may be lost and the contribution of that element to the character of the landscape;
 - the extent to which the project becomes a minor or major element in the landscape and its dominance in the visual catchment;
 - the extent to which the project changes the key characteristics of the landscape, which are critical to its distinctive character;
- geographical area - the area of the landscape that will experience the project's effects. This could vary from the immediate site setting to a larger scale, where the project may influence several landscape character zones. (DPHI, 2024b)

7.4.2 Determine Sensitivity

The Technical Supplement states: "Visual sensitivity refers to the quality of the view and how sensitive it is to the proposed change... Applicants should rate the sensitivity of the landscape character type based on the inherent capability of the area to absorb changes from the project" (DPHI, 2024b).

7.4.3 Determine Impact on LCZ

The overall level of landscape character impact has been determined through the combination of landscape sensitivity and visual magnitude (refer to **Table 08**). Results from the Landscape Character Assessment are shown in **Table 09**.

		VISUAL SENSITIVITY			
		HIGH	MODERATE	LOW	VERY LOW
MAGNITUDE	VERY HIGH	HIGH	HIGH	MODERATE	MODERATE
	HIGH	HIGH	MODERATE	MODERATE	LOW
	MODERATE	MODERATE	MODERATE	LOW	LOW
	LOW	MODERATE	LOW	LOW	VERY LOW
	VERY LOW	LOW	LOW	VERY LOW	VERY LOW

Table 08 – Visual Impact Matrix
Source: Adapted from DPHI, 2024

7.5 Summary of Landscape Character Zones

Landscape Character Assessment					
LCZ:	Name:	Scenic Quality Rating:	Sensitivity:	Magnitude:	Landscape Character Impact:
LCZ01	Agricultural pastures	LOW	<p>LOW</p> <p>The LCZ is a modified environment defined by land predominantly cleared to support pastoral activity such as livestock grazing, agriculture and cropping.</p> <p>As such, it is considered to have some capacity to absorb the type of change envisaged by the Project.</p> <p>The landscape character of this LCZ would remain unchanged as a result of the Project.</p>	<p>MODERATE</p> <p>Multiple energy development projects are proposed within this LCZ, including the Project, Spicers Creek Wind Farm, Dapper Solar Farm, and Sandy Creek Solar Farm.</p> <p>Undulating Topography and existing vegetation is expected help to break up views of multiple projects and their associated infrastructure.</p> <p>Views towards the Project would be available from locations at close range including along Spring Ridge Road, Danabar Road, Sweeneys Lane, Spring Ridge Road and the Golden Highway.</p> <p>Existing vegetation is likely to assist in filtering views of the Project from Spring Ridge Road and the Golden Highway.</p> <p>Due to the many energy developments proposed within this LCZ, while the undulating topography and existing vegetation will aid in preventing extensive views of multiple projects, infrastructure elements are expected to be visible at close range. However the existing scenic quality of this LCZ is low, not being a rare or unique landscape. Additionally, any new infrastructure is expected to coexist with ongoing agricultural activities—particularly grazing—contributing to a multi-use, productive landscape.</p>	LOW
LCZ02	Vegetated hills	LOW	<p>Moderate</p> <p>The LCZ is defined by densely vegetated hills. The landscape is predominantly intact with minor evidence of human intervention through the presence of dwellings, road corridors and other infrastructure. The lack of nature reserves or open spaces within this LCZ limit the possibility of public access.</p> <p>As a result, the Project is not likely to disrupt any key landscape features.</p> <p>The landscape elements that contribute to its quality would remain unchanged.</p>	<p>LOW</p> <p>Opportunities to view the Project from within the LCZ are limited due to isolated roads and screening vegetation.</p> <p>Due to the horizontal scale of the Project, the resulting change is considered minimal in relation to the extent of this LCZ.</p> <p>While this LCZ is located within the Project Area, the Project Footprint including the Solar Arrays and associated infrastructure is located outside this LCU. As a result the resulting magnitude of change is considered to be minor.</p> <p>While multiple energy development projects are proposed in the surrounding landscape, none are located within this LCZ. Furthermore, access to this LCZ is limited, and potential outward views toward the proposed developments are likely to be screened by existing vegetation.</p>	LOW

Table 09 – Landscape Character Assessment Summary

08 Visual Impact Assessment



8.0 Visual Impact Assessment

8.1 Overview of the Visual Impact Assessment

The Technical Supplement states that the Visual Impact Assessment "determines the day-to-day visual effects of a project on people's views from the private and public domain. The likely impacts of a large-scale solar energy development can only be determined by understanding the sensitivity of an area or view to change and the magnitude of a proposed development in that area or view." (DPHI, 2024b).

The Visual Impact Assessment Process "should be proportionate to the likely impacts of the development" (DPHI, 2024b) and is therefore broken down into three (3) assessment stages, the Simple Assessment, Intermediate Assessment and Detailed Assessment (refer to **Figure 13**). A description of each assessment is outlined in following sections, and outlined in **Figure 13**.

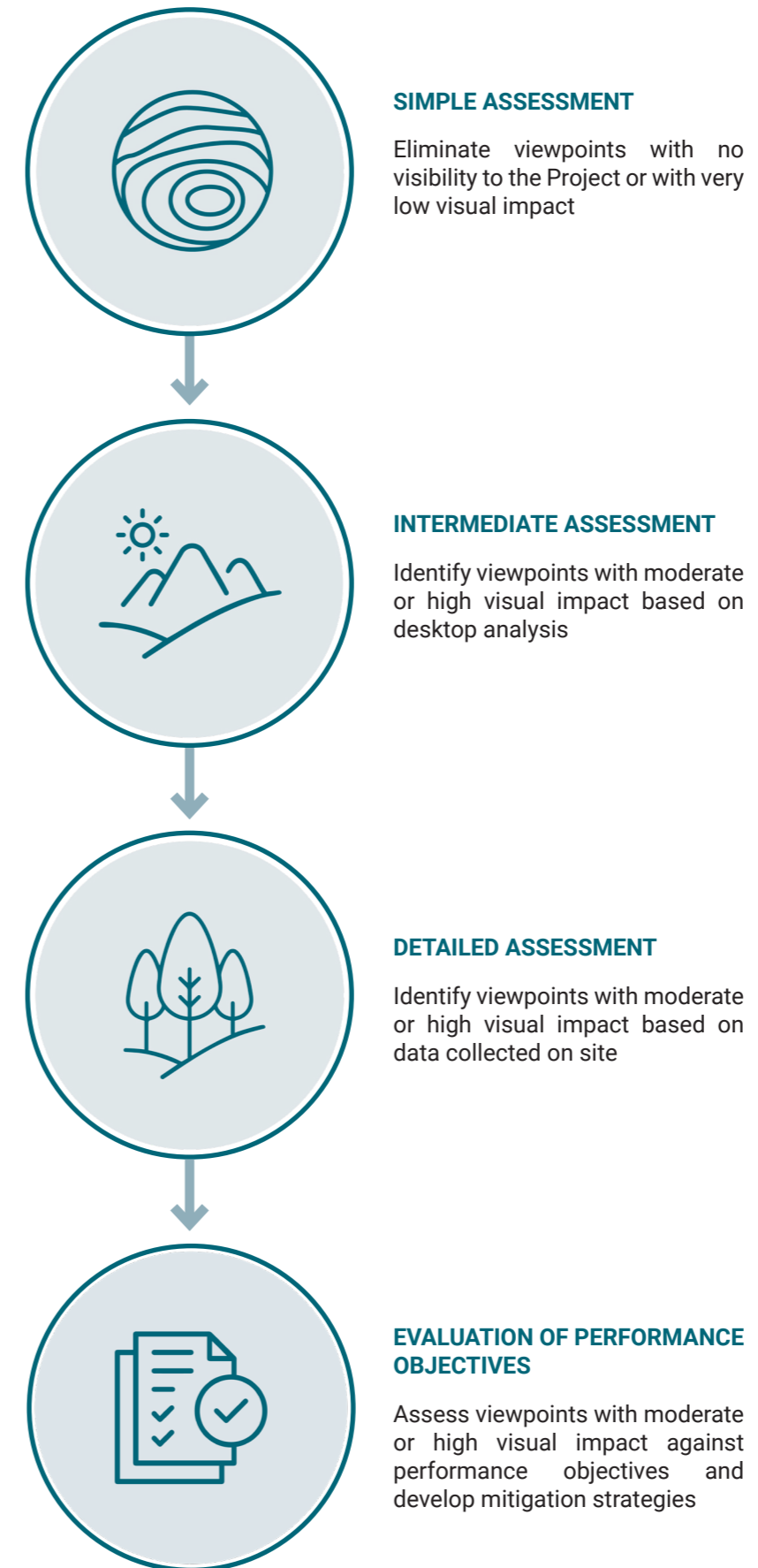


Figure 13 – Visual Impact Assessment Stages

8.1.1 Stage 1: Simple Assessment

The Simple Assessment stage is used to identify viewpoints in the public and private domain that require a detailed assessment (refer to **Section 9.0**). The Simple Assessment includes:

- Application of Simple Assessment Tools
- Viewshed mapping

8.1.2 Stage 2: Intermediate Assessment

The Intermediate Assessment is conducted on viewpoints identified in the Simple Assessment that require further assessment (refer to **Section 10.0**). The Intermediate Assessment includes:

- 3D modelling
- Production of wireframe diagrams
- Application of the Magnitude Grid Tool

Viewpoints identified as having a Moderate or High impact will require a Detailed Assessment.

8.1.3 Stage 3: Detailed Assessment

The Detailed Assessment stage is used to more accurately assess scenic quality and the effectiveness of existing or proposed screening elements in reducing potential impacts (refer to **Section 11.0**). The Detailed Assessment includes:

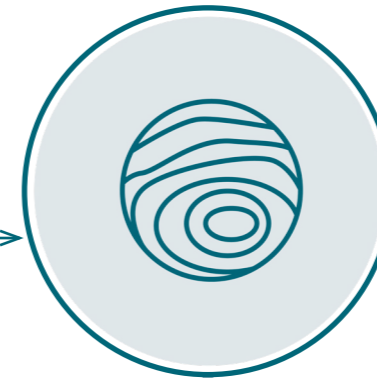
- Site visit and photographic assessment
- Refinement of scenic quality and visual sensitivity
- Preparation of photomontages
- Application of the Magnitude Grid Tool
- Determination of Visual Impact

If the visual impact is Moderate or higher, the Performance Objectives must be assessed.

8.1.4 Stage 4: Evaluate Performance Objectives

Moderate and High impact viewpoints must be assessed against the Performance Objectives as shown in the Technical Supplement (refer to **Section 16.0**). This includes:

- Commentary on visual impact including performance objectives and proposed mitigation
- Preparation of photomontages including mitigation (including age and timing for vegetation)



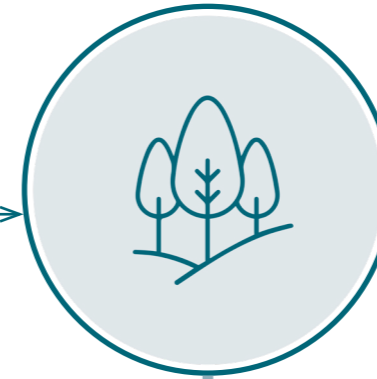
SIMPLE ASSESSMENT

Eliminate viewpoints with no visibility to the Project or with very low visual impact



INTERMEDIATE ASSESSMENT

Identify viewpoints with moderate or high visual impact based on desktop analysis



DETAILED ASSESSMENT

Identify viewpoints with moderate or high visual impact based on data collected on site



PERFORMANCE OBJECTIVES

Assess viewpoints with moderate or high visual impact against performance objectives and develop mitigation strategies

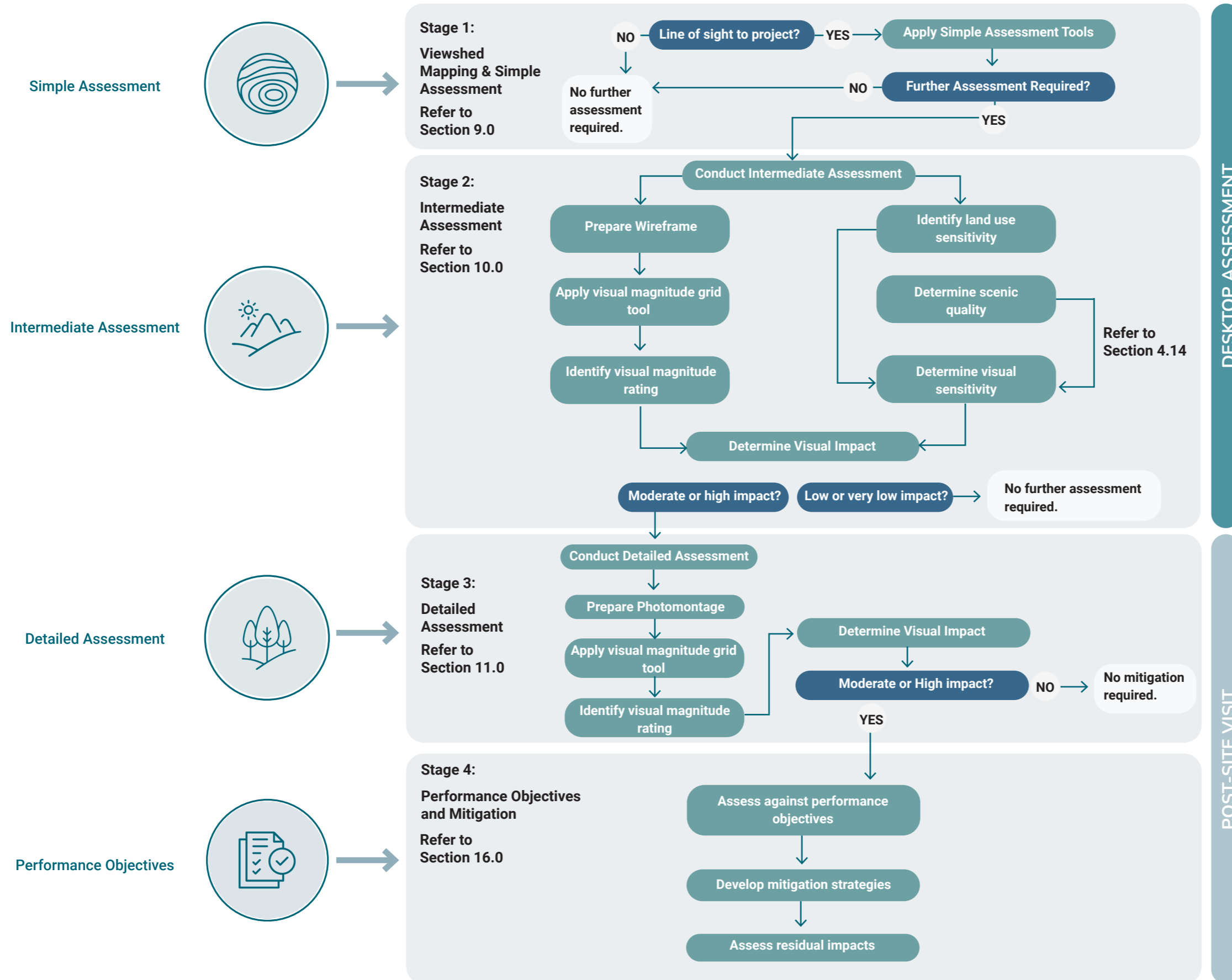


Figure 14 – Visual Impact Assessment Process Overview

8.2 Visual Impact Assessment Methodology

The Technical Supplement states: *"The likely impacts of a large-scale solar energy development can only be determined by understanding the sensitivity of an area or view to change and the magnitude of a proposed development in that area or view"* (DPHI, 2024b).

The methodology for determining visual magnitude and visual sensitivity are outlined in **Section 8.4** and **Section 8.5**.

8.3 Viewpoint Selection

As stated in the Technical Supplement, private receptors (non-associated dwellings) and public viewpoints (picnic areas, lookouts, recreation areas, etc.) are assessed to within 4.0 km of the Project, and road and rail receptors (public receptors) were assessed within 2.5 km of the Project (DPHI 2024b, p.35).

The Technical Supplement states: *"The calculations can be based on either the project area, or the development footprint depending on the level of information available at the time. A more refined approach that uses the development footprint, may result in less viewpoints requiring assessment."* (DPHI, 2024b).

8.4 Visual Magnitude

The visual magnitude of a project is determined by the volume of the horizontal and vertical fields of view occupied.

8.4.1 Visual Magnitude in the Intermediate Assessment

To determine the visual magnitude for each viewpoint in the Intermediate Assessment, the following methodology has been undertaken:

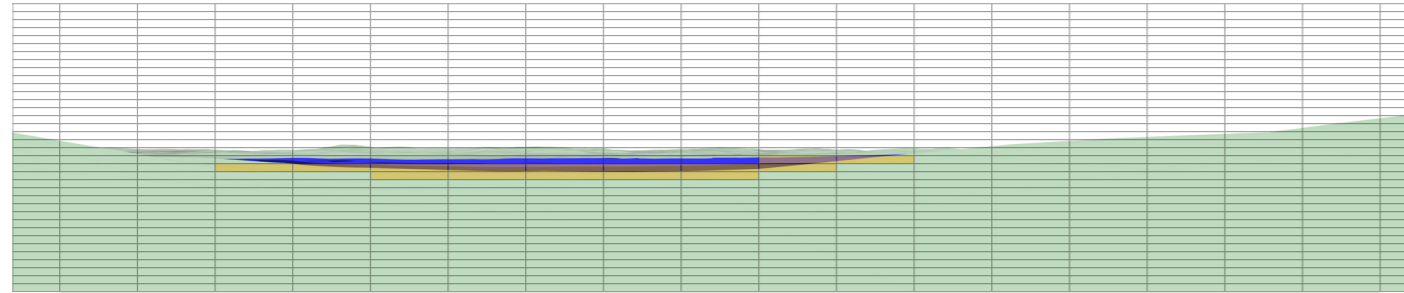
- Step 1.** Produce a 3D massing model wireframe diagram that comprises a 180° field of view.
- Step 2.** Overlay the visual magnitude grid tool on the wireframe.
- Step 3.** Identify and count the number of grid cells that the Project would occupy (over 25% of the cell must be occupied to count).
- Step 4.** Determine the magnitude rating base on the number of cells and thresholds (as outlined in **Figure 15 and Table 10**).

8.4.2 Visual Magnitude in the Detailed Assessment

To determine the visual magnitude for each viewpoint in the Detailed Assessment, the following methodology has been undertaken:

- Step 1.** Produce a photographic panorama that comprises a 180° field of view.
- Step 2.** Align the panorama and the 3D model and render the photomontage.
- Step 3.** Overlay the visual magnitude grid tool on the photomontage.
- Step 4.** Identify and count the number of grid cells that the Project would occupy (over 25% of the cell must be occupied to count).
- Step 5.** Determine the magnitude rating base on the number of cells and thresholds (as outlined in **Figure 15 and Table 10**).

Intermediate Assessment - Calculating Visual Magnitude



Detailed Assessment - Calculating Visual Magnitude



Figure 15 – Visual magnitude for Intermediate vs Detailed Assessment

VISUAL MAGNITUDE THRESHOLDS	
Number of Occupied cells	Visual Magnitude Rating
1 - 7	Very Low
8 - 14	Low
15 - 25	Moderate
26 - 36	High
37 +	Very High

Table 10 – Visual Magnitude Thresholds

8.5 Visual Sensitivity

Visual sensitivity refers to the quality of the existing view and how sensitive the view is to the proposed change. The visual sensitivity is determined through the following three steps:

Step 1. Determine Viewpoint Sensitivity

Step 2. Determine Scenic Quality

Step 3. Determine Visual Sensitivity

8.5.1 Viewpoint Sensitivity

Viewpoint sensitivity relates to the relative importance of viewpoints and the value that the community or visitors may place on landscapes viewed from public use areas, public travelways and non-associated residences such as dwellings. The sensitivity of each viewpoint has been assigned as one of four (4) sensitivity ratings (very low, low, moderate, high) considering the examples in **Figure 12**.

Viewpoint Type	Very Low sensitivity	Low sensitivity	Moderate sensitivity	High sensitivity
Private receptor	Private recreation areas and sporting fields (land zoned RE2)	Secondary dwelling view from dwelling rural area (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential (zoned R5) and environmental and conservation zones	Primary view from dwellings in rural areas (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Tourist and visitor accommodation (bedand-breakfasts, motels and hotels) and places of worship	Dwellings in residential and rural villages (zoned R1, R2, R3, R4 and RU5) Historic rural homesteads/ residences on the national, state or local heritage list
Public viewpoint	State highways, freeways and classified main roads Local sealed and unsealed roads	Cemeteries, memorial parks Tourist roads and scenic drives 4. Significant entry ways to regional towns and cities Walking tracks and navigable waterways	Tourist uses in tourist areas (zoned SP3) Publicly accessible green and open spaces, including picnic areas, parks, public recreation areas and lookouts Town centres and central business districts	n/a

Table 11 – Viewpoint Sensitivity Levels and Examples

8.5.2 Scenic Quality

Scenic quality refers to the relative scenic, cultural or aesthetic value of the landscape within the viewshed based on the presence or absence of key landscape features known to be associated with community perceptions of low, moderate, or high scenic quality. It is typically a complex process undertaken by experts in visual impact assessment and considers community values. The methodology for determining scenic quality is outlined in **Section 7.2**.

8.5.3 Overall Visual Sensitivity

Once the viewpoint sensitivity and scenic quality are determined, these can be combined using the visual sensitivity matrix in **Table 12** to determine the overall visual sensitivity of each identified viewpoint.

VISUAL SENSITIVITY MATRIX				
Viewpoint Sensitivity Level	High Scenic Quality	Moderate Scenic Quality	Low Scenic Quality	Very Low Scenic Quality
HIGH	HIGH	HIGH	MODERATE	LOW
MODERATE	HIGH	MODERATE	MODERATE	LOW
LOW	MODERATE	LOW	LOW	VERY LOW
VERY LOW	VERY LOW	VERY LOW	VERY LOW	VERY LOW

Table 12 – Visual Sensitivity Matrix

8.6 Visual Impact

Once visual magnitude and visual sensitivity have been established for each viewpoint, the overall visual impact is determined by combining the magnitude and sensitivity ratings according to the matrix in **Table 13**.

Viewpoints with very low or low visual impact do not require mitigation. Viewpoints that have a moderate or high visual impact will need to be assessed against the Performance Objectives as outlined in the Technical Supplement.

		VISUAL SENSITIVITY RATING			
		HIGH	MODERATE	LOW	VERY LOW
MAGNITUDE RATING	VERY HIGH	HIGH	HIGH	MODERATE	MODERATE
	HIGH	HIGH	MODERATE	MODERATE	LOW
	MODERATE	MODERATE	MODERATE	LOW	LOW
	LOW	MODERATE	LOW	LOW	VERY LOW
	VERY LOW	LOW	LOW	VERY LOW	VERY LOW

Table 13 – Visual Impact Matrix

8.7 Performance Objectives

Viewpoints with a moderate or high visual impact in the detailed assessment must be assessed against the Technical Supplement's Performance Objectives, as outlined in **Section 8.1**.

Performance Objectives	
Low & Very Low Visual Impact	
All viewpoints	<ul style="list-style-type: none"> No mitigation required
Moderate Visual Impact	
Public viewpoint (roads & rail)	<ul style="list-style-type: none"> Applicants should seek to reduce moderate visual impacts Mitigation can include vegetation or other screening methods Mitigation cannot obstruct important views or sightlines Mitigation can be confined to a relatively small area
Private receptors & all other public viewpoints	<ul style="list-style-type: none"> Mitigation is required in consultation with the land owners Mitigation should be proportionate to the scale of impact Mitigation can include re-designing or re-positioning the PV arrays as well as vegetation screening and landscaping If available mitigation options are not effective or obstruct important views, project redesign should be considered.
High Visual Impact	
All viewpoints	<ul style="list-style-type: none"> This level of impact should be avoided, unless an agreement has been made with the land owner, or it can be justified that: <ul style="list-style-type: none"> all reasonable efforts have been made to reduce the impact all reasonable mitigation methods have been considered mitigation measures would effectively reduce the impact and not obstruct significant views the project site is significant because of the location the project is in the public interest

Table 14 – Performance Objectives

8.8 Project Visualisations

As part of the detailed assessment, select visualisation strategies are utilised, including mass modelling, wireframes, and photomontages.

8.8.1 Wireframes

A simplified mass model was used to create wireframes for intermediate assessments. These models are simplified solid objects, modelled to the relevant Project extent and projected to the Project's maximum height (4.64m). They represent a worst-case scenario and are comparable to utilising a more detailed solar panel render (see **Figure 16 & Figure 17**).

The Intermediate Assessment for the private viewpoints was undertaken using a solid mesh object, modelled to the **Project Boundary** and a maximum **Project Height of 4.64m** (see **Figure 19**).

The Intermediate Assessment for the public viewpoints was undertaken using a solid mesh object, modelling to the **Development Footprint** and a maximum **Project Height of 4.64m** (see **Figure 20**).

8.8.2 Photomontages

Photomontages involve overlaying photographs taken on-site and stitched to a 180-degree panorama facing the Project. These panoramas are matched to a digital model of the Project and then combined in photoshop for a photorealistic representation of the Project from that location (See **Figure 18**).



Figure 16 – Mass Model used for Wireframe Assessments
Imagery Source: Windpro

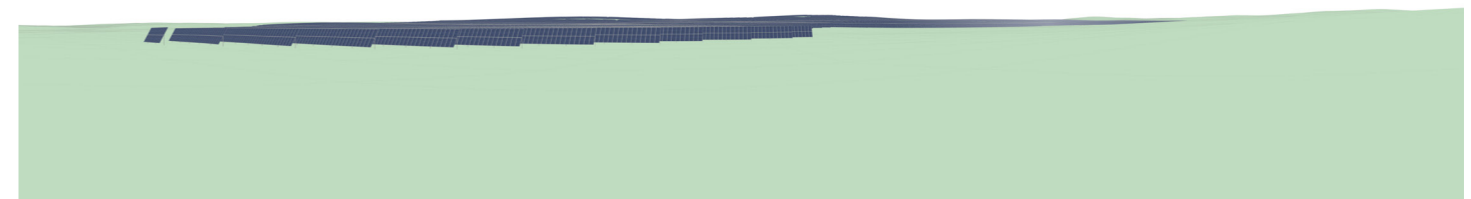


Figure 17 – Project Model used for Photomontage Assessments
Imagery Source: Windpro



Figure 18 – Photomontage Combining Project Model and Panorama Image
Imagery Source: Windpro

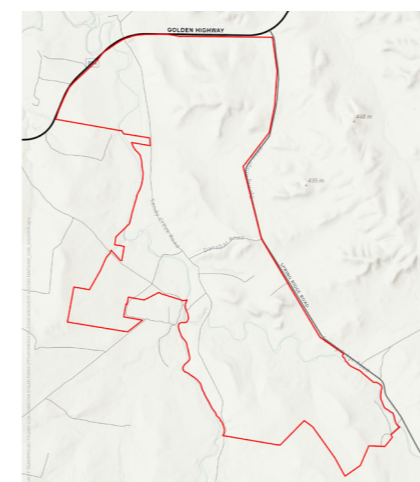


Figure 19 – Model extents for Private Viewpoints (Wireframe Assessment)
Imagery Source: Windpro

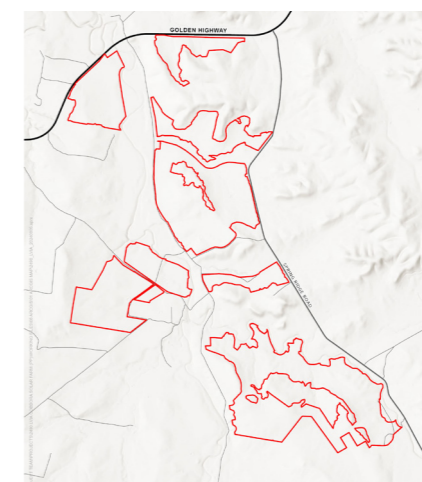


Figure 20 – Model extents for Public Viewpoints (Wireframe Assessment)
Imagery Source: Windpro

8.8.3 Associated Infrastructure

The associated infrastructure including the BESS, main substation, secondary substations, workers accommodation, 33kV transmission lines and 330kV transmission lines were included in the visualisations for the intermediate and detailed assessment.

A simplified mass model was used to visualise the BESS, Substation and Workers Accommodation. These models are simplified solid objects, modelled to the relevant infrastructure's extent and projected to the infrastructure's maximum height (See **Table 15**). They represent a worst-case scenario and are comparable to utilising a more detailed model (see **Figure 16 & Figure 17**).

Associated Infrastructure 3D Modelling		
Infrastructure Type	Model Height (based on worst-case scenario maximum height)	Model Type
BESS (Battery Energy Storage System)	4 m	Mass Model - blue colour
Main Substation	25 m	Mass Model - blue colour
Secondary Substations	25 m	Mass Model- yellow colour
Workers Accommodation	10 m	Mass Model - orange colour
330kV Transmission Line	55 m	Transmission Tower
33kV Transmission Line	26 m	Transmission Pole

Table 15 – Associated Infrastructure 3D Model Parameters

09 Simple Assessment



9.0 Simple Assessment

9.1 Overview of the Simple Assessment

The Technical Supplement states: *“The level of a visual impact assessment required for private receivers and public viewpoints should be proportionate to the likely impacts of the development. Applicants can begin by carrying out a simple assessment using desktop data and high-level assumptions. They should conduct further assessment if impacts are likely to be moderate or higher.”* (DPHI, 2024b).

The purpose of the Simple Assessment process is to eliminate the need to further assess public and private viewpoints that are likely to experience very low and low visual impacts.

9.2 Simple Assessment Tools

The Simple Assessment Tools are used to identify viewpoints that require further assessment. The tools are designed to eliminate the need to assess viewpoints that are likely to experience very low to low impacts. This is based on the vertical and horizontal field of view that a development is likely to occupy when viewed from each viewpoint and is influenced by distance, height elevation changes, and width of a project.

Figure 22 provides an overview of the requirement of the Simple Assessment (in accordance with the Technical Supplement) and where these have been addressed in this report.

Assessment Parameters:

The Technical Supplement states: *“The calculations can be based on either the project area, or the development footprint depending on the level of information available at the time. A more refined approach that uses the development footprint, may result in less viewpoints requiring assessment.”* (DPHI, 2024b).

For the purpose of this report, the Simple Assessment Tools have been applied to the Development Footprint (the Project).

The Technical Supplement states that the visual study areas should be:

- 2.5 km from the Project for all road and rail receptors
- 4.0 km from the Project for all private receptors and public viewpoints

Viewpoints assessed in the Simple Assessment are shown in **Figure 26**.

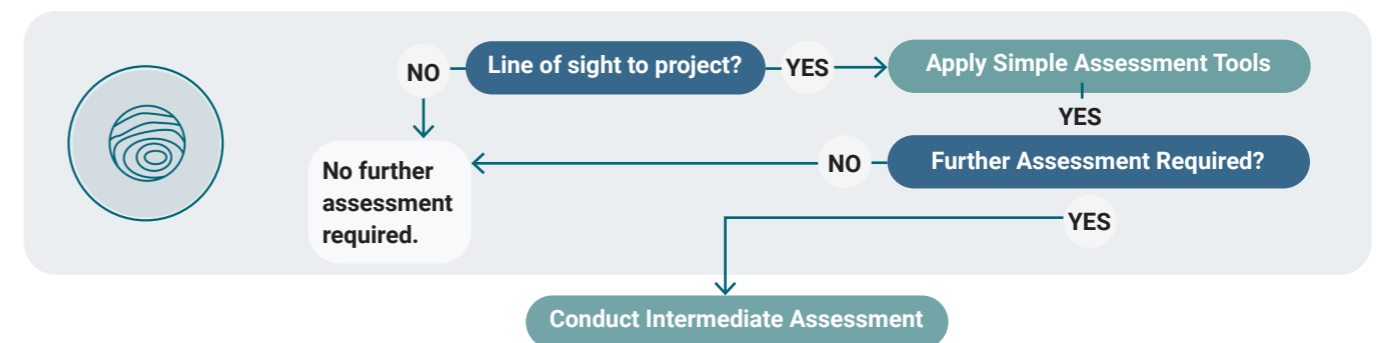


Figure 21 – Simple Assessment Overview

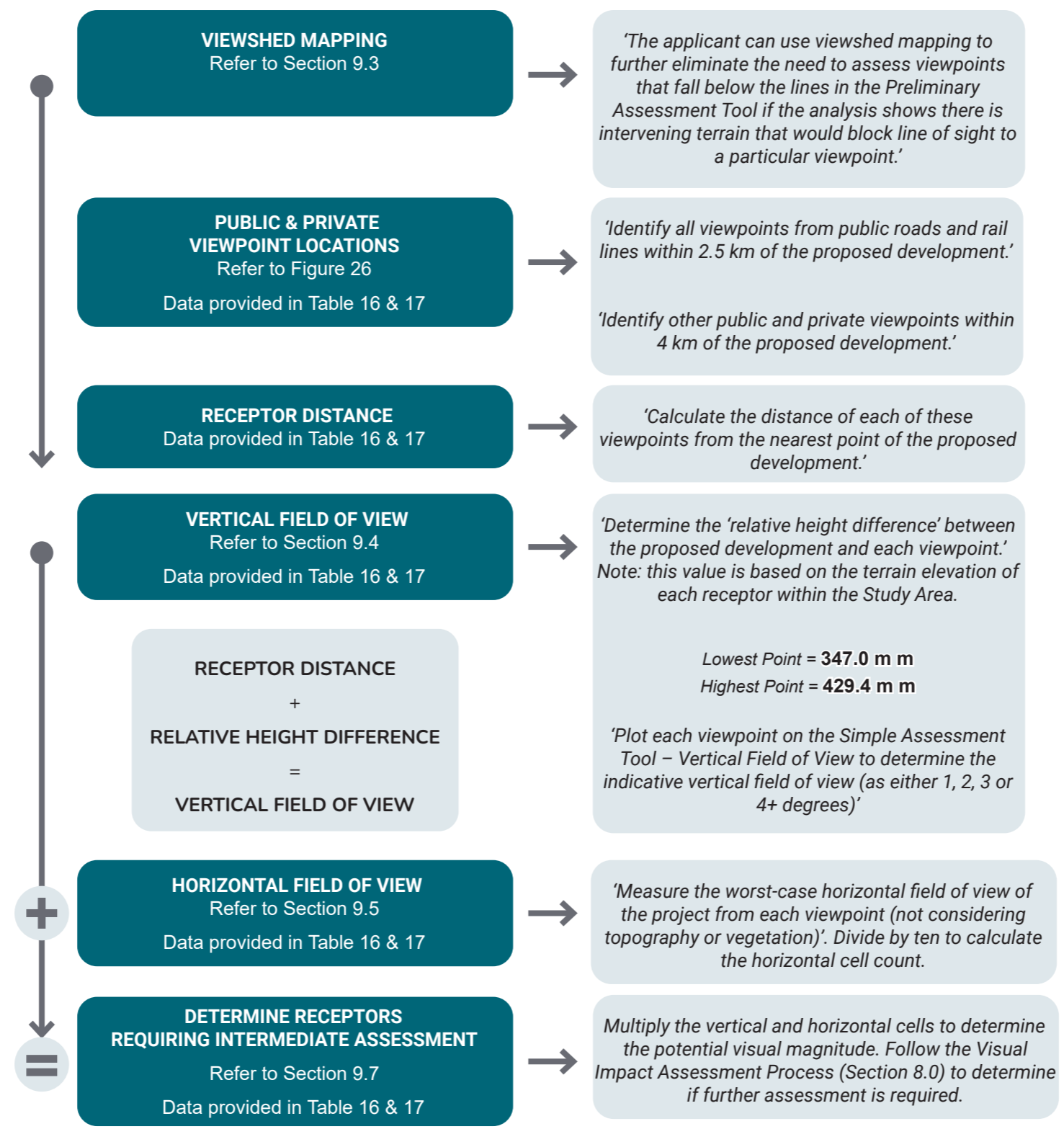


Figure 22 – Overview of Simple Assessment Tools

9.3 Viewshed Mapping

A viewshed map identifies all areas from which a project may be viewed. Viewshed mapping can be achieved by using geographic information systems (GIS) that account for topography and line of sight between viewpoints and the project.

The purpose of the viewshed map is to further eliminate the need to assess viewpoints in the Simple Assessment if the analysis shows there is intervening terrain that would block line of sight to a particular viewpoint.

Viewshed mapping was undertaken for the Project to eliminate viewpoint locations that will not have a line of sight to the Project (refer to **Figure 23**). It is important to note that the viewshed map provides an assessment based on topography alone and does not take into account intervening elements such as vegetation and structures. The viewshed map, therefore, represents a theoretical worst case scenario.

Viewshed mapping has been undertaken based on a panel height of **4.64 m**.

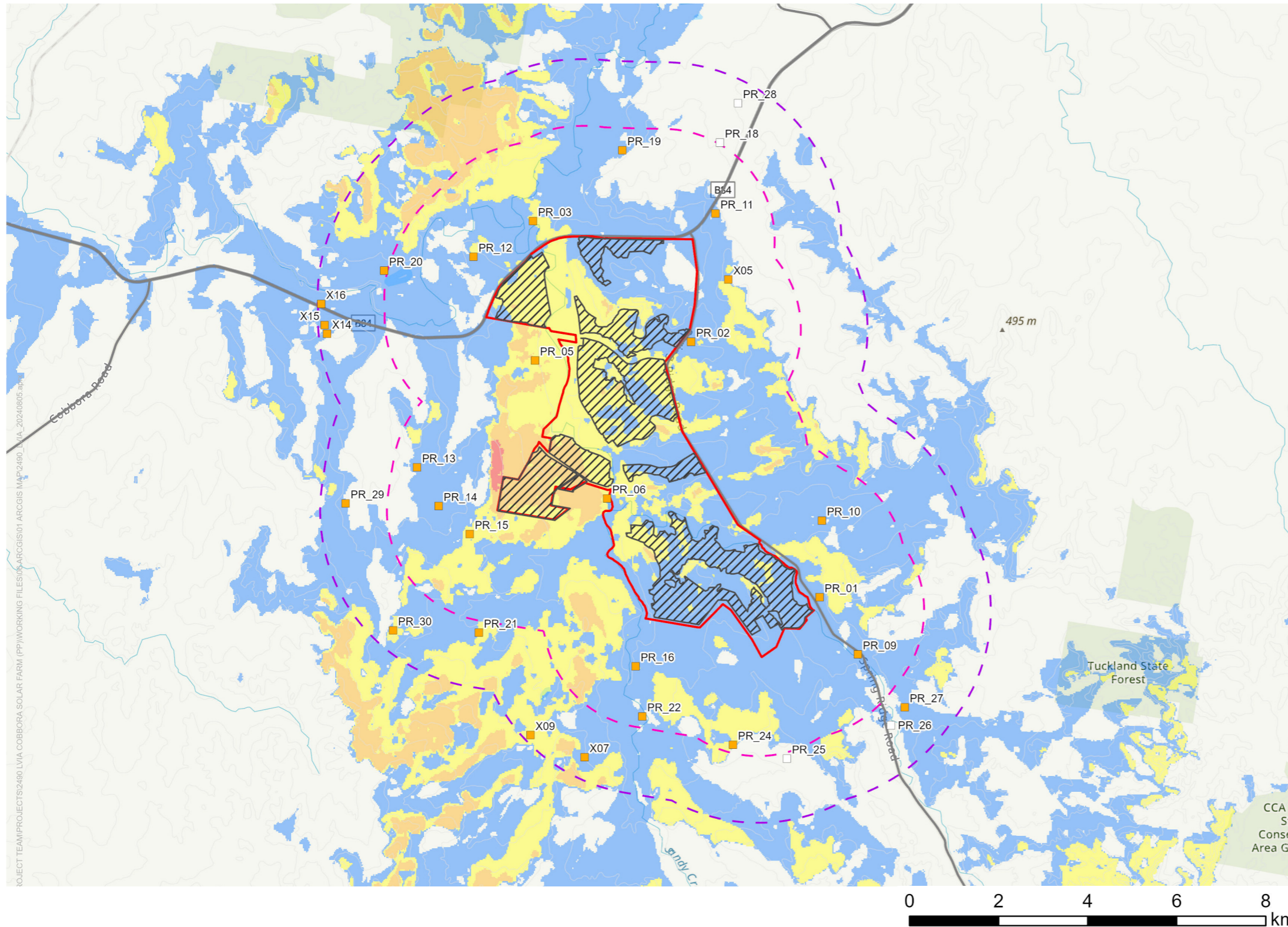
Summary of Viewshed Map:

The following provides a summary of the viewshed map prepared for the 4 km of the Project Area (Refer to **Figure 23**):

- Due to the undulating landform of the surrounding landscape, the majority of the Project will be screened from view to the northeast, and far south east and west.
- Based on topography alone, the majority of the Project will be visible along viewing corridors to the northwest and southwest of the Project.

Viewshed Mapping

Refer to Section 9.3



LEGEND

- Project Boundary
- Solar Array Areas
- Public & Railway Receptors Study Area (2.5 km from Solar Array Area)
- Sensitive Private Receptors Study Area (4.0 km from Solar Array Area)
- Contours (10m)
- Highway
- Roads
- Non-Associated Dwellings with a theoretical line of sight to Project
- Non-Associated Dwellings with no visibility of Project

ZVI Visibility (Based on 4.64 m Panel Height)

- No Visibility
- 0 - 25% of Development Footprint
- 25 - 50% of Development Footprint
- 50 - 75% of Development Footprint
- 75 - 100% of Development Footprint

NOTE

Viewshed Map is an assessment tool representing a bare-ground scenario—i.e., a landscape without screening, structures, or vegetation. As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note that the map is based solely on topographic information. Therefore, this form of mapping should be acknowledged as representing the worst-case scenario.

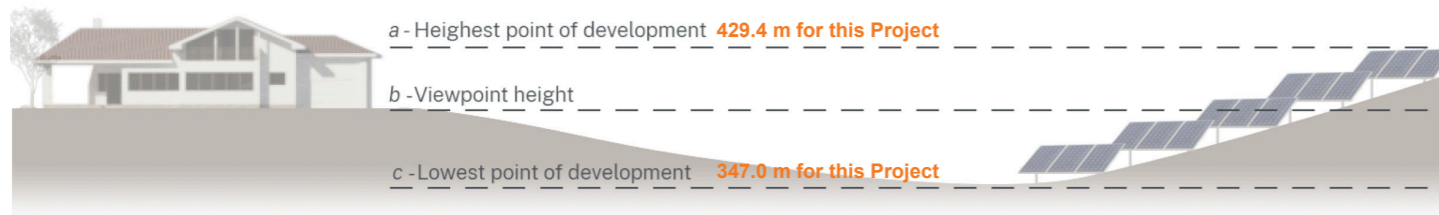
Figure 23 – Viewshed Mapping
Basemap Source: ESRI 2024



9.4 Vertical Field of View Calculation

Figure 24 below illustrates how the vertical field of view is calculated for each viewpoint location. Once calculated, these points are added to the DPHI provided spreadsheet document to determine the vertical field of view of either **1, 2, 3, or 4 degrees**, which is derived from the value combined with the receptor distance.

Project located above and below viewpoint (a - c)



Project located above viewpoint (a - b)



Project located below viewpoint (b - c)

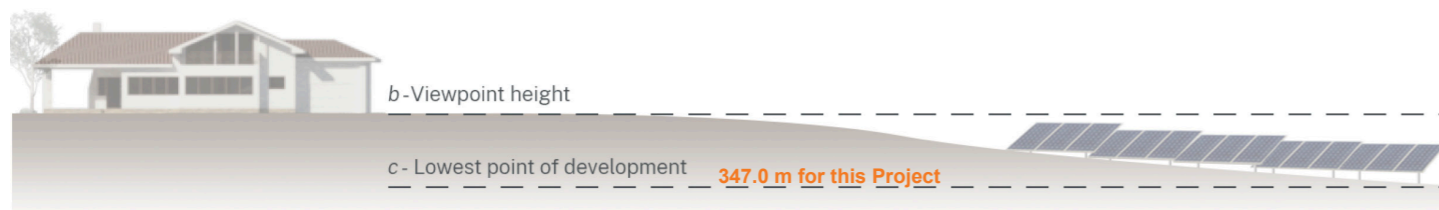


Figure 24 – Vertical Field of View Calculations
Imagery Source: DPHI, 2024

9.5 Horizontal Field of View Calculation

Figure 32 below illustrates how the horizontal field of view is calculated for each viewpoint location. For the purpose of this report, the horizontal field of view has been calculated based on the Development Footprint to provide a worst-case scenario assessment.

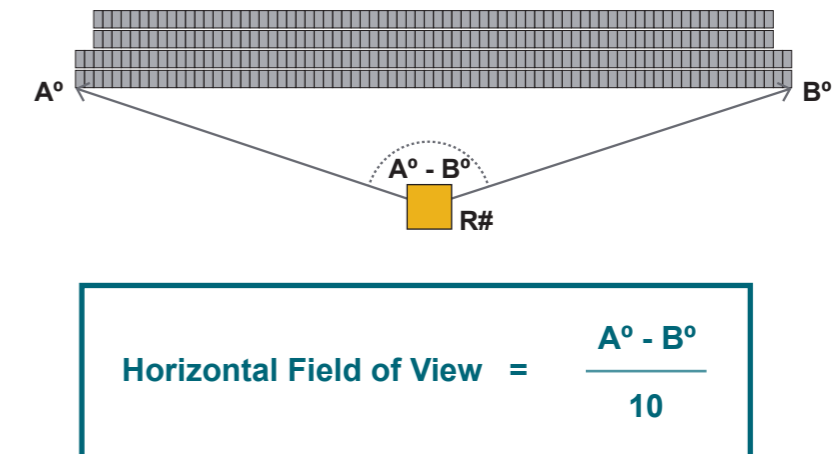


Figure 25 – Horizontal Field of View Calculations

Source - Adapted from DPHI, 2024

9.6 Calculation of Potential Magnitude

Multiply the vertical and horizontal cells to determine the potential visual magnitude from a viewpoint and rate it using **Table 10** (Visual Magnitude Thresholds) to determine the magnitude rating.

9.7 Results of Simple Assessment

The simple assessment identifies public and private viewpoints for further assessment. These results are summarised below.

Private Viewpoints

A total of **31** non-associated dwellings were identified within 4 km of the Development Footprint with a line of sight to the Project. The simple assessment identified fifteen (15) non-associated dwellings that require further assessment (refer to **Figure 26** and **Table 16**).

Public Viewpoints

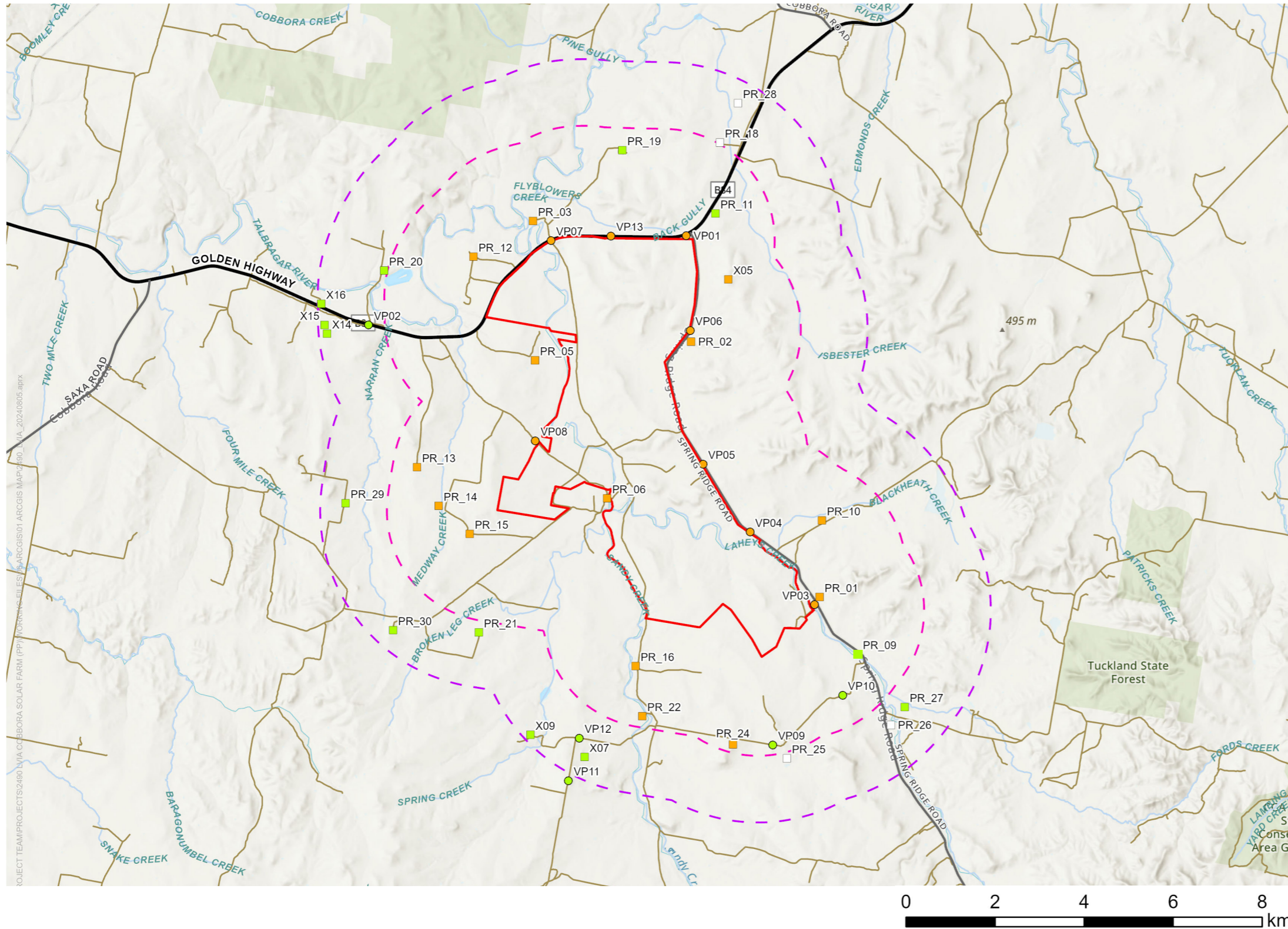
Fifteen (13) viewpoints were identified within 2.5 km of the Development Footprint and assessed in **Appendix A**. VP02, VP11 and VP12 are located just outside 2.5 km but have been included in the assessment to consider views from the Golden Highway and Dapper Road as part of the visual assessment. The simple assessment identified that out of the thirteen (13) viewpoints, a total of eight (8) viewpoints require further assessment (refer to **Figure 26** and **Table 17**).

Summary of Simple Assessment - Private (within 4.0 km)											
Dwelling ID	Line of Sight? <i>(based on Viewshed Mapping)</i>	Elevation of Receptor (m)	Distance to nearest Panel (m)	Vertical Field of View (FOV) X °	Horizontal Cell Count	Total Occupied Cells	Magnitude Rating	Overall Sensitivity (Conservative Assumption)	Visual Impact Rating	Viewpoint Type	Intermediate Assessment Required?
Dwelling PR_01	Yes	398	259	4	14	56	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_10	Yes	398	1284	3	15	45	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_11	Yes	402	2551	1	10	10	Low	Moderate	Low	Rural Residential	NO
Dwelling PR_12	Yes	364	921	4	10	40	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_13	Yes	395	1953	2	10	20	Moderate	Moderate	Moderate	Rural Residential	YES
Dwelling PR_14	Yes	392	1325	3	11	33	High	Moderate	Moderate	Rural Residential	YES
Dwelling PR_15	Yes	412	821	4	12	48	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_16	Yes	385	1156	3	13	39	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_18	No	377	2258	2	7	14	Moderate	Moderate	Moderate	Rural Residential	NO
Dwelling PR_19	Yes	358	3082	1	8	8	Low	Moderate	Low	Rural Residential	NO
Dwelling PR_02	Yes	387	189	4	21	84	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_20	Yes	348	2609	1	8	8	Low	Moderate	Low	Rural Residential	NO
Dwelling PR_21	Yes	410	2780	1	10	10	Low	Moderate	Low	Rural Residential	NO
Dwelling PR_22	Yes	389	2185	2	10	20	Moderate	Moderate	Moderate	Rural Residential	YES
Dwelling PR_24	Yes	440	2127	2	8	16	Moderate	Moderate	Moderate	Rural Residential	YES
Dwelling PR_25	No	428	2425	1	6	6	Very Low	Moderate	Low	Rural Residential	NO
Dwelling PR_26	No	411	2985	1	5	5	Very Low	Moderate	Low	Rural Residential	NO
Dwelling PR_27	Yes	408	2946	1	5	5	Very Low	Moderate	Low	Rural Residential	NO
Dwelling PR_29	Yes	394	3419	1	8	8	Low	Moderate	Low	Rural Residential	NO
Dwelling PR_03	Yes	349	797	4	12	48	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_30	Yes	443	3576	1	8	8	Low	Moderate	Low	Rural Residential	NO
Dwelling PR_05	Yes	365	750	4	25	100	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_06	Yes	369	271	4	30	120	Very High	Moderate	High	Rural Residential	YES
Dwelling PR_09	Yes	399	1383	3	7	21	Moderate	Moderate	Moderate	Rural Residential	YES
Dwelling X01	No	417	3959	1	8	8	Low	Moderate	Low	Dwelling Entitlement	NO
Dwelling X05	Yes	425	713	4	16	64	Very High	Moderate	High	Rural Residential	YES
Dwelling X07	Yes	422	3405	1	8	8	Low	Moderate	Low	Rural Residential	NO
Dwelling X09	Yes	416	3680	1	8	8	Low	Moderate	Low	Rural Residential	NO
Dwelling X14	Yes	360	3601	1	7	7	Very Low	Moderate	Low	Rural Residential	NO
Dwelling X15	Yes	356	3641	1	7	7	Very Low	Moderate	Low	Rural Residential	NO
Dwelling X16	Yes	346	3724	1	7	7	Very Low	Moderate	Low	Rural Residential	NO

Table 16 – Results of Simple Assessment (Private Viewpoints/Receptors)

Summary of Simple Assessment - Public Viewpoints/Receptors (within 2.5 km)											
Viewpoint ID	Line of Sight? <i>(based on Viewshed Mapping)</i>	Elevation of Receptor (m)	Distance to nearest Panel (m)	Vertical Field of View (FOV) X °	Horizontal Cell Count	Total Occupied Cells	Magnitude Rating	Overall Sensitivity (Conservative Assumption)	Visual Impact Rating	Viewpoint Type	Intermediate Assessment Required?
VP01	Yes	387	528	4	11	44	Very High	Low	Moderate	Public (Road)	YES
VP02	Yes	356	2857	1	8	8	Low	Low	Low	Public (Road)	NO
VP03	Yes	395	130	4	22	88	Very High	Low	Moderate	Public (Road)	YES
VP04	Yes	389	286	4	22	88	Very High	Low	Moderate	Public (Road)	YES
VP05	Yes	399	211	4	22	88	Very High	Low	Moderate	Public (Road)	YES
VP06	Yes	386	18	4	19	76	Very High	Low	Moderate	Public (Road)	YES
VP07	Yes	352	333	4	15	60	Very High	Low	Moderate	Public (Road)	YES
VP08	Yes	374	164	4	24	96	Very High	Low	Moderate	Public (Road)	YES
VP09	Yes	444	2278	2	7	14	Low	Low	Low	Public (Road)	NO
VP10	Yes	418	1816	2	5	10	Low	Low	Low	Public (Road)	NO
VP11	Yes	454	4148	1	8	8	Low	Low	Low	Public (Road)	NO
VP12	Yes	423	3164	1	9	9	Low	Low	Low	Public (Road)	NO
VP13	Yes	368	65	4	18	72	Very High	Low	Moderate	Public (Road)	YES

Table 17 – Results of Simple Assessment (Public Viewpoints/Receptors)



Results of the Simple Assessment

Refer to Section 9.7

LEGEND

- Project Boundary
- Public & Railway Receptors Study Area (2.5 km from Solar Array Area)
- Sensitive Private Receptors Study Area (4.0 km from Solar Array Area)
- Watercourse
- Highway
- Roads
- Unsealed Roads
- VPXX = Public Viewpoint
- PR_01 / X01 = Non-Associated Dwellings/Receptors

SIMPLE ASSESSMENT RESULTS

- Assessment Required
- No Assessment Required
- No Visibility of Project

Figure 26 – Results of Simple Assessment
 Basemap Source: ESRI, 2024



10 Intermediate Assessment



10.0 Intermediate Assessment

10.1 Intermediate Assessment Requirements

The intermediate assessment stage involves undertaking an additional assessment of the visual impacts of receptors identified as having a potential for impact in the simple assessment.

This stage involves creating a simple massing model of the Project and creating wireframe renders from the viewpoints identified in the simple assessment. If the viewpoint assessed has a low or very low impact from the wireframe model, then no further assessment will be required.

The process for the intermediate visual impact assessment is provided in **Figure 27**.

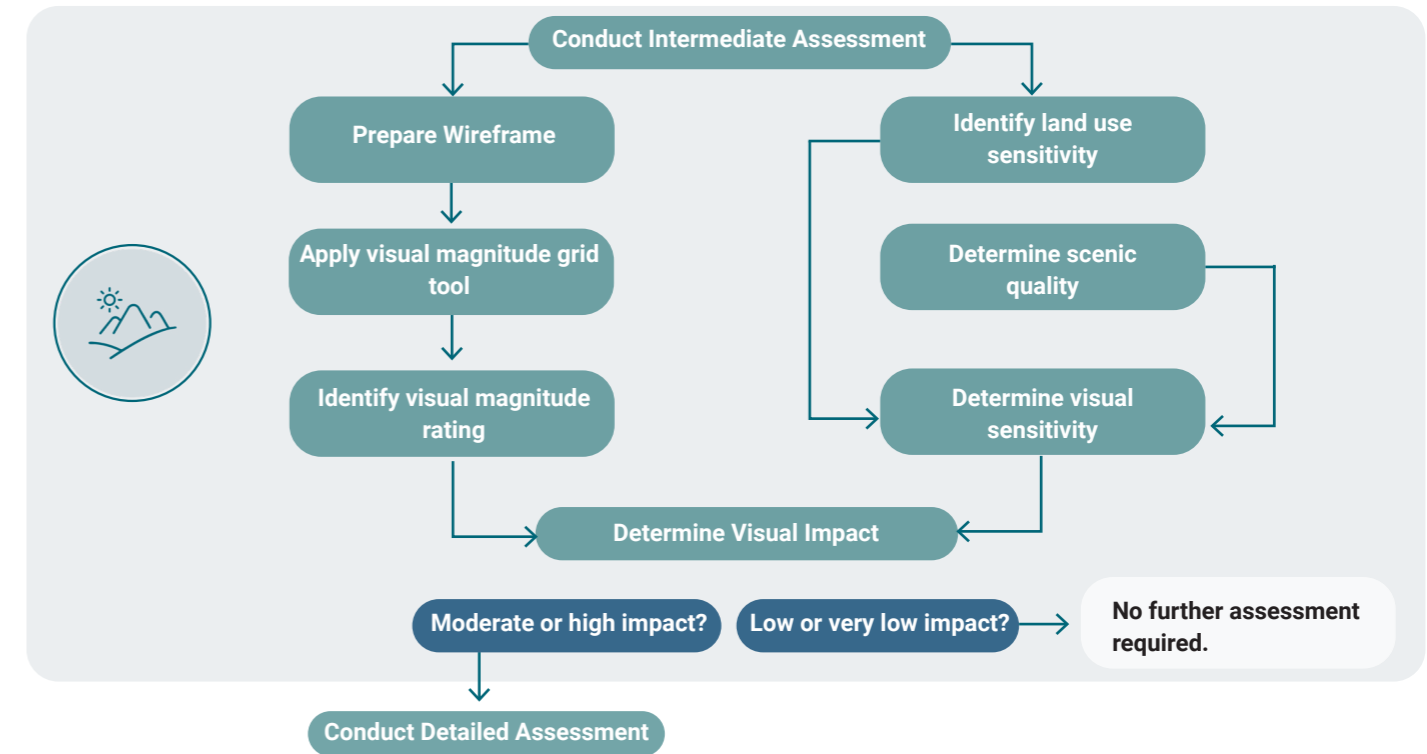


Figure 27 – Intermediate Assessment Overview

10.2 Results of Intermediate Assessment

The following summarises the intermediate assessment for all viewpoints identified in the simple assessment. **Appendix A** provides a detailed viewpoint analysis for public viewpoints. **Appendix B** provides a detailed receptor analysis for public and private viewpoints using wireframes and the occupied cell overlay to determine the overall visual magnitude.

10.2.1 Private Viewpoints

The simple assessment identified fifteen (15) non-associated dwellings requiring intermediate assessment. The Intermediate assessments using wireframe analysis and the application of the Visual Magnitude Tool found that:

- Two (2) non-associated dwellings (PR_02, & PR_06) resulted in a 'high' visual impact rating. The 'high' visual impact rating triggered the need for further assessment using a photomontage from the two (2) non-associated dwellings.
- Three (3) non-associated dwellings (PR_01, PR_05 & X05) resulted in a 'moderate' visual impact rating. The moderate' visual impact rating triggered the need for further assessment using a photomontage from the three (3) non-associated dwellings.
- The remaining ten (10) non-associated dwellings resulted in a 'low' or 'very low' visual impact rating. Therefore, no further assessment or mitigation measures are required for these dwellings.

Therefore, a total of five (5) non associated dwellings resulted in either a 'high' or 'moderate' impact rating, triggering the need for further detailed assessment using a photomontage.

The results are shown in **Table 18** and **Appendix B**.

Public Viewpoints

The simple assessment identified eight (8) public viewpoints as requiring further assessment. No rail viewpoints were identified within 2.5 km of the development footprint. The intermediate assessment using wireframes determined that of the eight (8) public viewpoints:

- Five (5) viewpoints (VP03, VP04, VP06, VP08, & VP13) returned a moderate visual impact rating. As a result, further assessment using photomontages was required.
- Three (3) public viewpoints resulted in a 'low' or 'very low' visual impact rating. Therefore, no further assessment or mitigation measures are required from these public viewpoint locations.

The results are shown in **Table 19** and **Appendix B**.

Summary of Intermediate Assessment - Private (Wireframe Analysis)									
Receptor ID	Elevation of Receptor (m)	Distance to nearest Panel (m)	Receptor Sensitivity	Scenic Quality	Overall Sensitivity	Occupied Cells	Magnitude Rating	Visual Impact Rating	Detailed Assessment Required?
PR_01	398	259	Moderate	Low	Moderate	20	Moderate	Moderate	YES
PR_10	398	1284	Moderate	Low	Moderate	4	Very Low	Low	NO
PR_12	364	921	Moderate	Low	Moderate	11	Low	Low	NO
PR_13	395	1953	Moderate	Low	Moderate	3	Very Low	Low	NO
PR_14	392	1325	Moderate	Low	Moderate	0	Very Low	Low	NO
PR_15	412	821	Moderate	Low	Moderate	10	Low	Low	NO
PR_16	385	1156	Moderate	Low	Moderate	8	Low	Low	NO
PR_02	387	189	Moderate	Low	Moderate	37	Very High	High	YES
PR_22	389	2185	Moderate	Low	Moderate	6	Very Low	Low	NO
PR_24	440	2127	Moderate	Low	Moderate	6	Very Low	Low	NO
PR_03	349	797	Moderate	Low	Moderate	13	Low	Low	NO
PR_05	365	750	Moderate	Low	Moderate	32	High	Moderate	YES
PR_06	369	272	Moderate	Low	Moderate	87	Very High	High	YES
PR_09	399	1383	Moderate	Low	Moderate	5	Very Low	Low	NO
X05	425	713	Moderate	Low	Moderate	18	Moderate	Moderate	YES

Table 18 – Results of Intermediate Assessment - Private (Wireframe Analysis)

Summary of Intermediate Assessment - Public (Wireframe Analysis)

Receptor ID	Elevation of Receptor (m)	Distance to nearest Panel (m)	Receptor Sensitivity	Scenic Quality	Overall Sensitivity	Occupied Cells	Magnitude Rating	Visual Impact Rating	Detailed Assessment Required?
VP01	387	528	Low	Low	Low	2	Very Low	Very Low	NO
VP03	395	130	Low	Low	Low	36	High	Moderate	YES
VP04	389	286	Low	Low	Low	31	High	Moderate	YES
VP05	399	211	Low	Low	Low	17	Moderate	Low	NO
VP06	386	18	Low	Low	Low	77	Very High	Moderate	YES
VP07	352	333	Low	Low	Low	13	Moderate	Low	NO
VP08	374	164	Low	Low	Low	37	Very High	Moderate	YES
VP13	368	65	Low	Low	Low	62	Very High	Moderate	YES

Table 19 – Results of Intermediate Assessment - Public (Wireframe Analysis)

Intermediate Assessment Results

Refer to Section 10.2

LEGEND

- Project Boundary
- Public & Railway Receptors Study Area (2.5 km from Solar Array Area)
- Sensitive Private Receptors Study Area (4.0 km from Solar Array Area)
- Watercourse
- Highway
- Roads
- Unsealed Roads
- VPXX = Public Viewpoint
- PR_01 / X01 = Non-Associated Dwellings/Receptors

INTERMEDIATE ASSESSMENT RESULTS

- High (Photomontage Required)
- Moderate (Photomontage Required)
- Low (No Further Assessment Required)
- Very Low (No Further Assessment Required)
- No Assessment Required

NOTE

This Figure shows the results of the intermediate assessment, meaning the visual impact rating from each receptor derived from this stage of assessment.

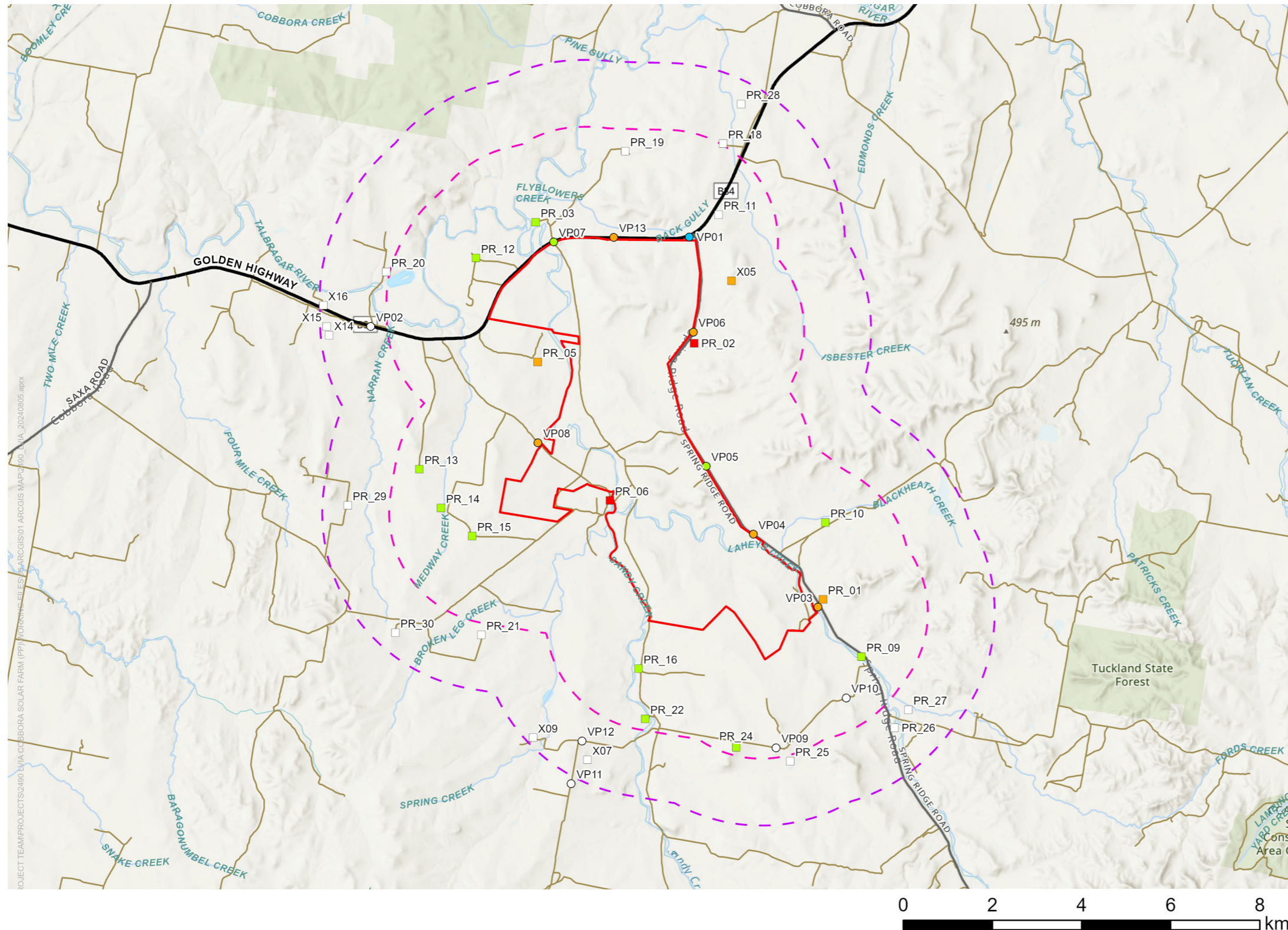


Figure 28 – Detailed Assessment - Wireframe Results
 Basemap Source: ESRI, 2024



11 Detailed Assessment



11.0 Detailed Assessment

11.1 Detailed Assessment Requirements

The detailed assessment stage involves undertaking a comprehensive assessment of the visual impacts of receptors identified as having a potential for impact in the intermediate assessment. Based on the results of the detailed assessment, options for mitigating impacts are considered.

The process for the detailed visual impact assessment is provided in **Figure 29**.

11.2 Stage 1 - Refine and Classify Receptors

All public and private viewpoints requiring detailed assessment have been identified through the application of the intermediate assessment (refer to **Section 10.0**).

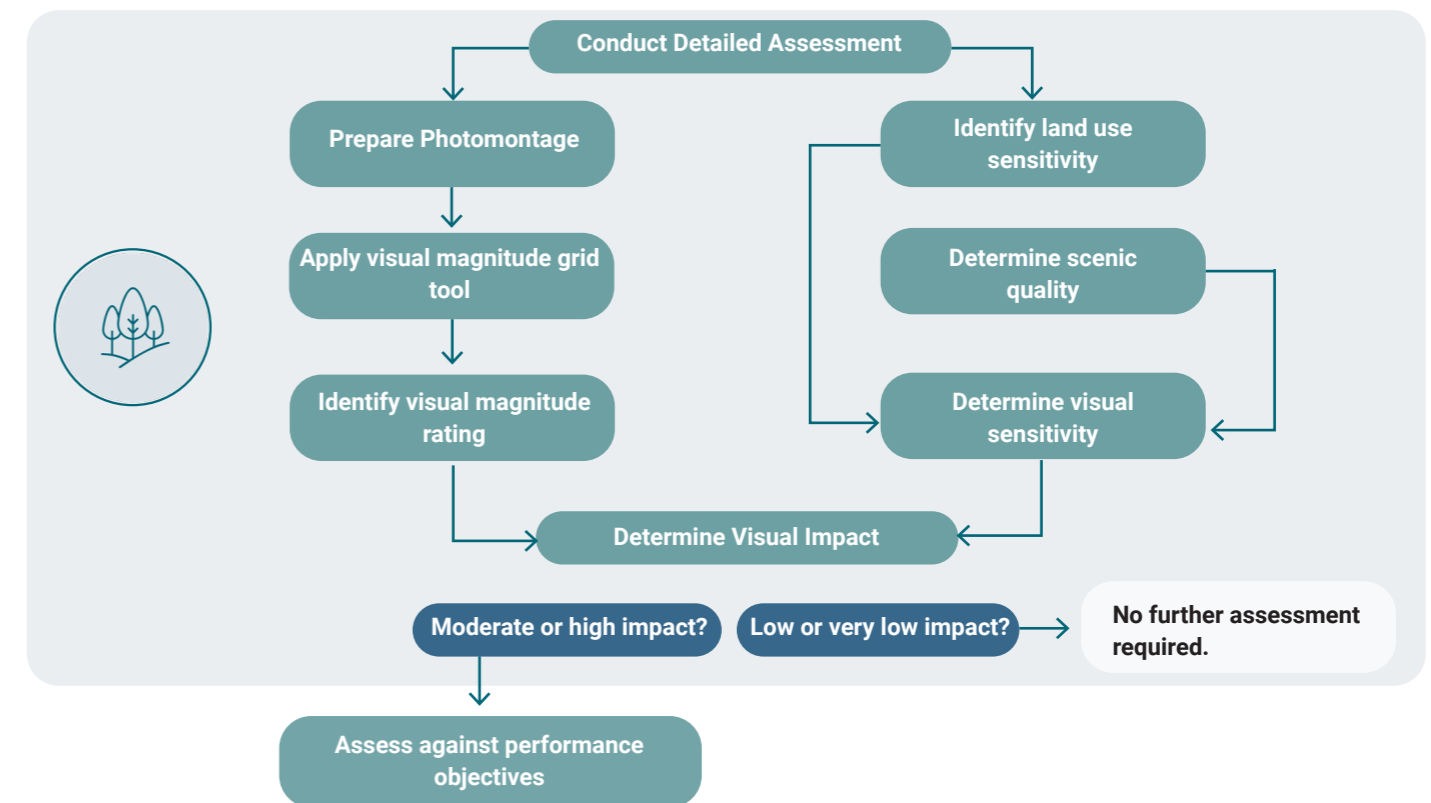


Figure 29 – Detailed Visual Impact Assessment Process
Source: DPE 2024

11.3 Results of Detailed Assessment

The following provides a summary of the detailed visual impact assessment using photomontages.

11.3.1 Private Viewpoints

Detailed assessments using photomontages found that all five (5) non-associated dwellings resulted in a 'low' visual impact rating. In accordance with the performance objectives, no mitigation is required for locations rated as 'low' visual impact. Results are shown in **Table 20** and found in **Appendix B**.

11.3.2 Public Viewpoints

A detailed assessment using a photomontage found that one (1) public viewpoint (VP06) returned a 'moderate' visual impact. In accordance with the performance objectives, mitigation is required for locations rated as 'moderate' visual impact. Results are shown in **Table 20** and found in **Appendix B**.

Summary of Detailed Assessment - Private & Public (Photomontage Analysis)									
Receptor ID	Elevation of Receptor (m)	Distance to nearest Panel (m)	Receptor Sensitivity	Scenic Quality	Overall Sensitivity	Occupied Cells	Magnitude Rating	Visual Impact Rating	MITIGATION REQUIRED?
PR_01	398	259	Moderate	Low	Moderate	6	Very Low	Low	NO
PR_02	387	189	Moderate	Low	Moderate	2	Very Low	Low	NO
PR_05	365	750	Moderate	Low	Moderate	8	Low	Low	NO
PR_06	369	272	Moderate	Low	Moderate	2	Very Low	Low	NO
X05	425	713	Moderate	Low	Moderate	0	Very Low	Low	NO
VP03	395	130	Low	Low	Low	20	Moderate	Low	NO
VP04	389	286	Low	Low	Low	5	Very Low	Very Low	NO
VP06	386	18	Low	Low	Low	54	Very High	Moderate	YES
VP08	374	164	Low	Low	Low	9	Low	Low	NO
VP13	368	65	Low	Low	Low	25	Moderate	Low	NO

Table 20 – Results of Assessment - Private & Public (Photomontage Analysis)

Detailed Assessment Results

Refer to Section 11.3

LEGEND

- Project Boundary
- Public & Railway Receptors Study Area (2.5 km from Solar Array Area)
- Sensitive Private Receptors Study Area (4.0 km from Solar Array Area)
- Watercourse
- Highway
- Roads

- VPXX = Public Viewpoint
- PR_01 / X01 = Non-Associated Dwellings/Receptors

DETAILED ASSESSMENT RESULTS

- Moderate (Mitigation Required)
- Low (No Mitigation Required)
- Very Low (No Mitigation Required)
- No Assessment Required

NOTE

This Figure shows the results of the detailed assessment, meaning the visual impact rating from each receptor derived from this stage of assessment.

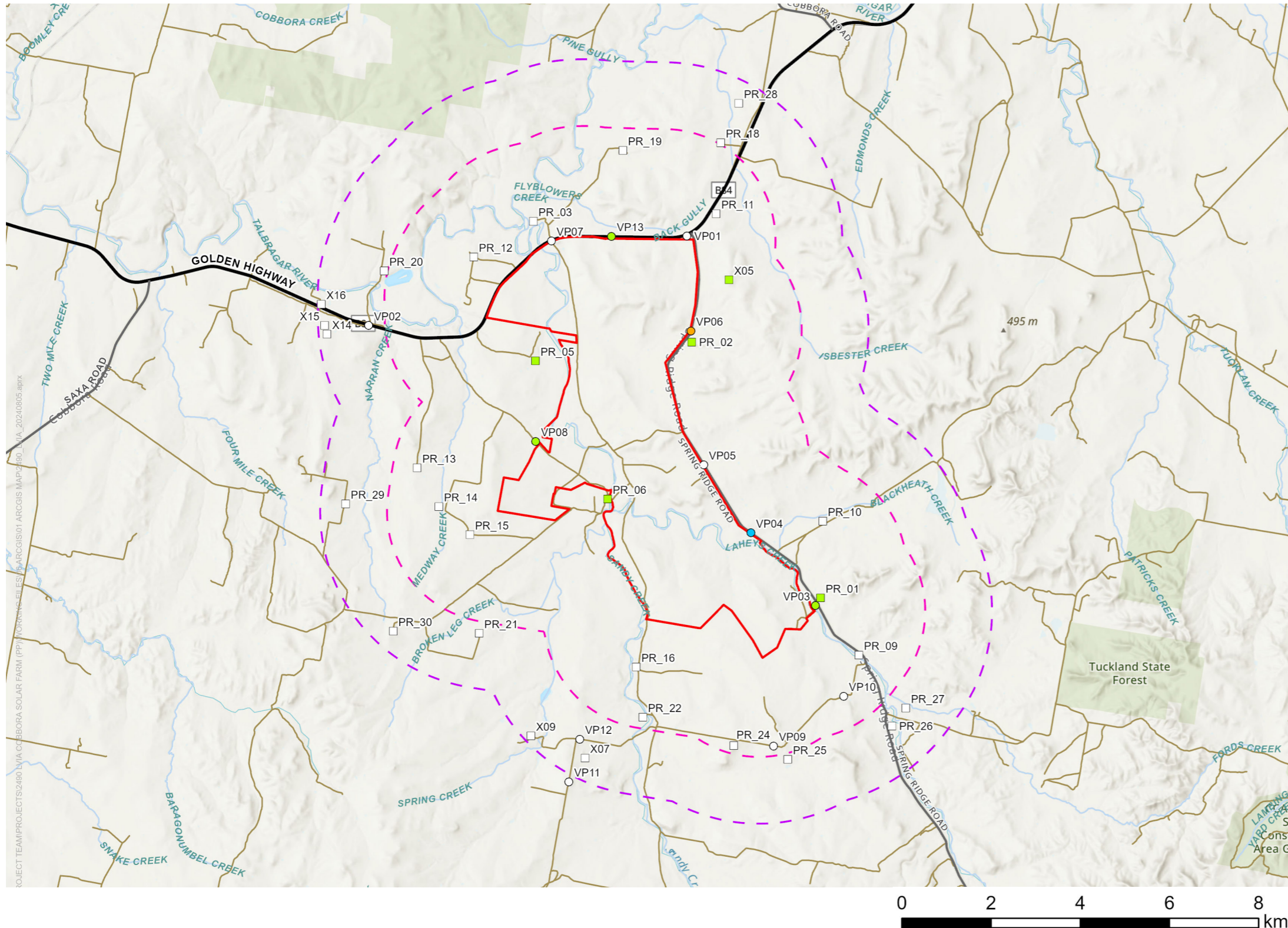


Figure 30 – Detailed Assessment - Photomontage Results
 Basemap Source: ESRI, 2024



11.4 Assessment of Associated Infrastructure

In addition to the proposed development footprint, the associated infrastructure has the potential to contrast with the existing visual landscape. Due to a relatively low scale and siting of the Project, access roads, transmission lines and other ancillary structures are unlikely to alter the existing visual landscape outside of the immediate vicinity.

An overview of the potential visual impact resulting from associated infrastructure and Project components is provided below. A summary of the proposed infrastructure associated with the Project can be found in **Section 3.2**.

11.4.1 BESS & Substations

A 400 MW / 1600 MWh BESS is proposed for the Project. It is located along the southern boundary of the Project, sited away from nearby roads.

Up to four on-site substations are proposed for the Project. The main substation is located adjacent to the BESS facility, along the southern boundary of the Project. The other three (3) secondary substations are located along the western boundary of three different Solar Arrays, adjacent to Sandy Creek Road.

While the BESS and main substation are sited away from roads and will have a minimal visual impact on surrounding viewpoints, the three (3) secondary substations are located adjacent to Sandy Creek Road and will likely be visible. However, Sandy Creek Road is an unsealed, low-use road with a low sensitivity and lies within a low scenic quality area. Therefore, the presence of the BESS and substation infrastructure will not be detrimental to the existing landscape character.

Views from non-associated dwellings within 2.5 km of the BESS and substations are limited due to the distance and existing intervening elements, such as vegetation and surrounding ancillary buildings.

Therefore, the overall visual impact will be low.

11.4.2 Electrical Reticulation

The Project proposes an internal network of 330 KV and 33 KV transmission lines located adjacent to Sandy Creek Road. The transmission lines will connect the inverters to the on-site substations and the existing high-voltage transmission line.

According to the 2024 transmission guidelines for NSW (DPHI, 2024), dwellings only need to be

considered within 1.1 km of transmission line easements. Two (2) non-associated dwellings (PR_5 & PR_6) were identified within 1.1 km of the transmission corridor.

The detailed assessment results (refer to **Section 11.3 & Appendix B**), found that both dwellings resulted in a 'low' visual impact rating. This is due to the views from PR_06 being contained by dense vegetation, and PR_5's views being limited due to intervening vegetation and distance to the Project.

While Sandy Creek Road is located adjacent to the proposed transmission easement, it is an unsealed, low-use road with a low sensitivity and lies within a low scenic quality area. Therefore, the presence of the transmission line infrastructure will not be detrimental to the existing landscape character.

Therefore, the overall visual impact will be low.

11.4.3 Carpark, Amenities, Control Room, Site Offices & Operational Buildings

The Project proposes a heliport, accommodation camp and operation and management facilities to be located off Spring Ridge Road, in the centre of the Project Area. The potential visual impacts of these facilities on surrounding public receptors will be limited due to dense roadside vegetation along Spring Ridge Road fragmenting views.

Therefore, the overall visual impact will be low.

11.5 Design Considerations

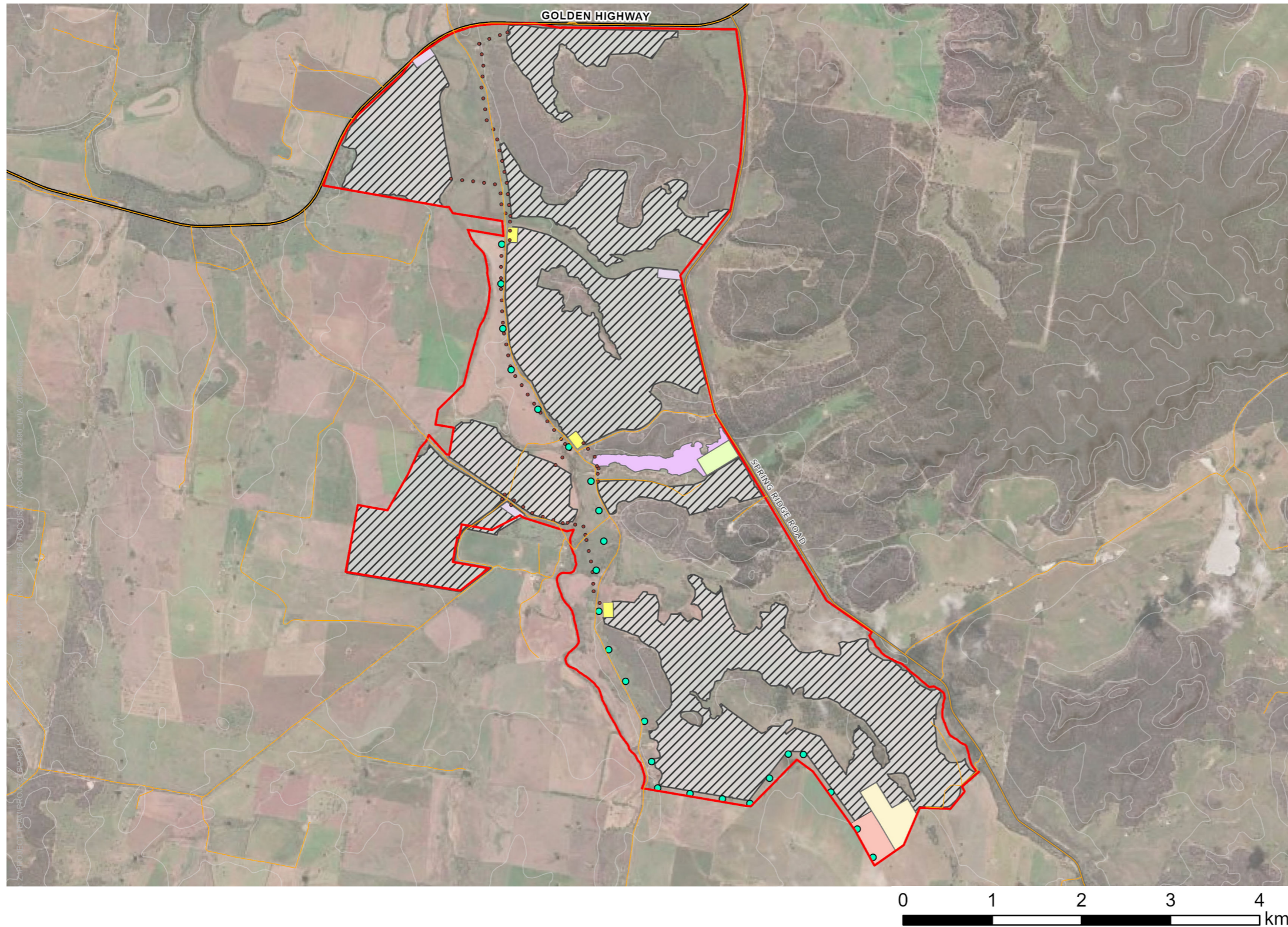
Good design principles employed through the Project design phase can significantly reduce the visual impacts of the Project and associated infrastructure. These include the siting principles, access, layout and other aspects of the design which directly influence the appearance of the proposed development.

The following outlines the design considerations that have been developed in response to the associated infrastructure:

- Existing vegetation generally present around the Project Area would be retained and protected to maintain the existing level of screening and to reduce the overall visual impact.
- Incorporated setbacks to infrastructure to allow for on-site screening where required in the form of perimeter planting.
- Consideration of the height of ancillary structures to ensure the Project does not contrast significantly with surrounding landscape.
- The colours of the ancillary structures would be considered in detail design phase to ensure minimal contrast and to help blend into the surrounding landscape to the extent practicable.

Associated Infrastructure

Refer to Section 11.4



LEGEND

- Project Boundary
- Solar Array Areas
- 330kV Transmission Towers
- 33kV Transmission Poles
- Accommodation Camp
- BESS 400MW
- Main Construction Area
- Construction Areas
- Helipoint
- Main Substation
- Secondary Substations
- Contours (10m)
- Highway
- Roads
- Unsealed Roads

Figure 31 – Associated Infrastructure
 Basemap Source: ESRI, 2024



12 Assessment of Development Rights



12.0 Assessment of Development Rights

12.1 Development Right Assessment Requirements

The guideline states: The applicant may need to consider whether the proposed development would impact the right for neighbouring landholders to develop their land for a permitted use.

An assessment of development rights has been undertaken to determine whether the proposed development would impact the right for neighbouring landholders to develop their land for the purposes of any of the following permitted land uses:

- residential accommodation
- tourist and visitor accommodation
- eco-tourist facility.

The guidelines state that the assessment should only be undertaken for impacts on vacant land. That is, land in which there is a development right that has not been acted upon and is vacant of buildings and structures. Additionally, an assessment should only be undertaken if the land is vacant at the time the Planning Secretary's environmental assessment requirements are issued, and would:

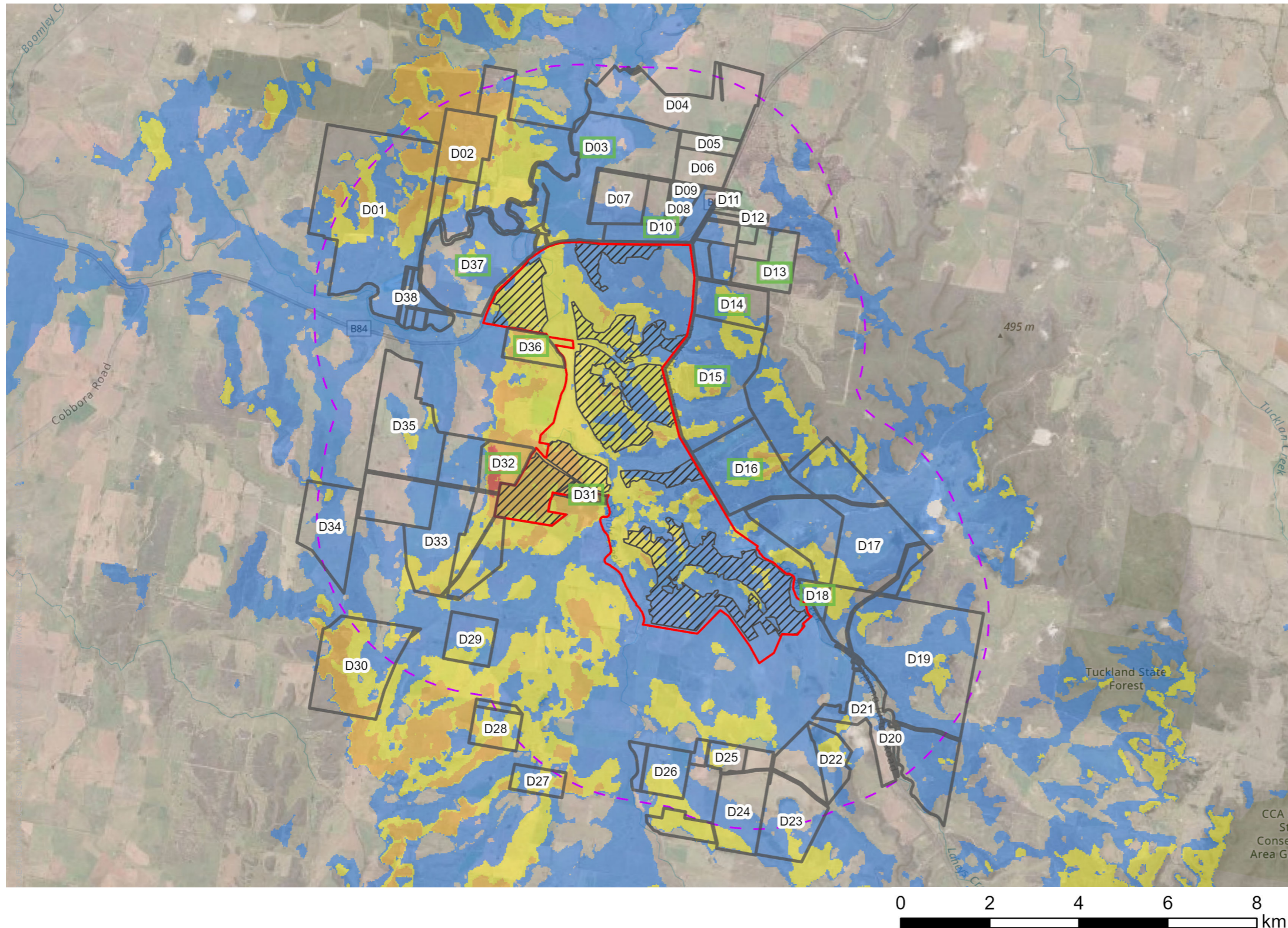
- immediately adjoin the development, or
- experience exceedances of the relevant noise criteria.

12.2 Overview of Lots with Development Rights

Figure 32 shows all the lots with dwelling entitlements located within 4,000 m (Study Area for Private Receptors) of the nearest Solar Array. Viewshed mapping has been overlaid to illustrate the potential visibility of the solar panels for each lot (based on topography alone). It is important to understand that the viewshed mapping represents a bare ground scenario and does not consider intervening elements such as vegetation and structures.

Table 21 provides an overview of the Project visibility for each neighbouring lot based on a desktop assessment that includes the viewshed mapping and aerial imagery. The assessment includes recommendations for where a development could be sited to reduce potential visual impacts.

No lots were identified as having constraints to future development rights as a result of the Project.



Lots with Development Rights

Refer to Section 12.1

LEGEND

- Project Boundary
- Solar Array Areas
- Lot identified within Study Area with Development rights
- Sensitive Private Receptors Study Area (4.0 km from Solar Array Area)
- Neighbouring lot

ZVI Visibility (Based on 4.64 m Panel Height)

- No Visibility
- 0 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 100%

NOTE

Viewshed Map is an assessment tool representing a bare-ground scenario—i.e., a landscape without screening, structures, or vegetation. As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note that the map is based solely on topographic information. Therefore, this form of mapping should be acknowledged as representing the worst-case scenario.

Figure 32 – Lots with Dwelling Entitlements
 Basemap Source: ESRI, 2024



Summary of Development Rights on Neighbouring Lots				
MS ID	Lot / DP Address	Lot Size	Viewshed Mapping Results	Assessment Notes
D03	111//DP1238586	973 ha	Potential visibility of the Project ranges across the lot between 0 - 75 %.	D03 is located to the north of the Project. The lot is a large lot (973 hectares). The viewshed map identified a large area of land to the east with no visibility of the Project due to topography. The Project is not anticipated to constrain the lots potential for future development
D10	7002//DP1071555	117 ha	Potential visibility of the Project across the lot is between 0 - 25 %	D10 is located to the north of the Project. It is recommended that structures are sited to the north where access is available from the Golden Highway. In this location topography and intervening vegetation will eliminate potential views of the Project. The Project is not anticipated to constrain the lots potential for future development
D13	7660-220	315 ha	Potential visibility of the Project across the lot is between 0 - 25 %	The lot is located to the north east of the Project. The viewshed map identifies that intervening topography eliminates potential views of the Project in the eastern area of the lot. The Project is not anticipated to constrain the lots potential for future development.
D14	1//DP1268359	139 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located to the north east of the Project adjacent to the Project boundary. Viewshed mapping indicates a large area of land to the east of the lot that has no line of site to the Project. Aerial imagery shows the lot is densely vegetated. The Project is not anticipated to constrain the lots potential for future development.
D15	2//DP1268359	450 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located adjacent to the eastern boundary of the Project fronting Spring Ridge Road. A large percentage of the lot has 0 - 25% visibility of the Project. Existing vegetation associated with Spring Ridge Road would limit views to the Project from the lot. The Project is not expected to impact the ability of the land to be developed in the future.
D16	44//DP754289	522 ha	Potential visibility of the Project across the lot is between 25- 75 %	The lot is located to the east of the Project adjacent to the Project boundary fronting Spring Ridge Road. Aerial imagery shows the lot is densely vegetated. The Project is not anticipated to constrain the lots potential for future development.
D18	127//DP754305	34 ha	Potential visibility of the Project across the lot is between 25 - 50 %	D18 is a small (34 ha) lot located adjacent to Spring Ridge Road to the east of the Project. The lot is predominantly cleared with some areas of remnant vegetation. Roadside vegetation associated with Spring Ridge Road and Laheys Creek limits views to the west towards the Project Site. The Project is not anticipated to constrain the lots potential for future development.
D31	75//DP754317	14 ha	Potential visibility of the Project across the majority of the lot is between 50 - 75 %	D31 is a small (14 ha) lot located to the south of the Project to the south of Sweeneys Lane. A dense band of vegetation associated with Sweeneys Lane limits views to the north towards the Project from this lot. Additionally, scattered remnant vegetation could further contain views to the Project from this lot. A dwelling could be sited with consideration of the Project, utilising existing roadside vegetation and scattered vegetation on the Site to screen views to the Project. The Project is not anticipated to constrain the lots potential for future development.
D32	2//DP605613	277 ha	Potential visibility of the Project across the lot is between 0 - 100 %	D32 is located to the west of the Project, accessed via Sweeneys Lane. The lot is 277 hectares in size and is predominantly cleared. The viewshed for the Project indicates views to the Project would be screened by topography from western area of the lot. There is an opportunity to site a dwelling in the western area to reduce potential visibility of the Project. Alternatively, a dwelling could be sited and orientated to the north west facing away from the Project. Given these options are available, the Project is not anticipated to constrain the lots potential for future development.
D36	19//DP754317	78 ha	Potential visibility of the Project across the majority of the lot is between 25 - 75 %	D36 is located to the west of the Project, accessed from the Golden Highway. The northern boundary adjoins the Project boundary and an array associated with the Project is sited approximately 200 m to the east of the lot. Viewshed mapping indicated the entire lot would have a level of visibility of the Project. Sandy Creek runs along the eastern edge of the lot with some vegetation which would assist in fragmenting views to the Project. Given these options are available, the Project is not anticipated to constrain the lots potential for future development, however consideration of dwelling orientation and screening vegetation would be required to reduce visual impacts prior to construction.
D37	109//DP1238586	355 ha	Potential visibility of the Project across the lot is between 0 - 50 %	D37 is located to the north west of the Project, with access off the Golden Highway. The viewshed map identified large areas of land on the lot with no visibility of the Project due to topography. The Project is not anticipated to constrain the lots potential for future development

Table 21 – Summary of Development Rights - Neighbouring Lots

Summary of Development Rights on Lots within Study Area				
MS ID	Lot / DP Address	Lot Size	Viewshed Mapping Results	Assessment Notes
D01	42//DP257240	855 ha	Potential visibility of the Project ranges across the lot between 0 - 75 %.	The lot is partly located within study area (4000 m). Since the proposed dwelling location is unknown, it is recommended that structures are sited further away to the northwest to eliminate potential visual impact.
D02	18//DP754312	200 ha	Potential visibility of the Project for the majority of the lot is between 50- 75 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited where depressions in the topography reduce potential visual impact.
D04	3//DP624368	403 ha	Potential visibility of the Project across the lot is between 0 - 25 %	The majority of the lot is located within study area (4000 m). It is recommended that structures are sited to the east where intervening topography eliminates potential views of the Project.
D05	36//DP754301	48 ha	No visibility	NA
D06	35//DP754301	93 ha	No visibility	NA
D07	8415-46	179 ha	Potential visibility of the Project across the lot is between 0 - 25 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited to the north where intervening topography eliminates potential views of the Project.
D08	13//DP754289	31 ha	Potential visibility of the Project across the lot is between 0 - 25 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited where depressions in the topography eliminate potential visual impact.
D09	12//DP754289	17 ha	No visibility	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited to the north where intervening topography eliminates potential views of the Project.
D11	27//DP754289	16 ha	No visibility	NA
D12	7//DP754289	18 ha	No visibility	NA
D17	42//DP754289	484 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited further away to the east where existing vegetation screens potential views of the Project.
D19	141//DP721256	941 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is partly located within study area (4000 m). It is recommended that structures are sited to the east where intervening topography eliminates potential views of the Project.
D20	139//DP257470	15 ha	Potential visibility of the Project across the lot is between 0 - 25 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited to the south where intervening topography eliminates potential views of the Project.
D21	119//DP754305	124 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited to the south where intervening topography eliminates potential views of the Project.
D22	31//DP771038	93 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited to the south where intervening topography eliminates potential views of the Project.

Table 21 - Summary of Development Rights - Neighbouring Lots - Continued

Summary of Development Rights on Lots within Study Area				
MS ID	Lot / DP Address	Lot Size	Viewshed Mapping Results	Assessment Notes
D23	1//DP608368	313 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is partly located within study area (4000 m). It is recommended that structures are sited on lower elevation, where intervening topography eliminates potential views of the Project.
D24	116//DP754305	287 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is partly located within study area (4000 m). It is recommended that structures are sited on lower elevation to the north, where intervening topography eliminates potential views of the Project.
D25	95//DP754305	68 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited on lower elevation to the east, where intervening topography eliminates potential views of the Project.
D26	7//DP754305	126 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited on lower elevation to the east, where intervening topography reduces potential views of the Project.
D27	13//DP754302	67 ha	Potential visibility of the Project across the lot is between 25 - 75 %	The majority of the lot is located outside the study area (4000 m). It is recommended that structures are sited further away to the south for reduced potential visual impact.
D28	11//DP754302	90 ha	Potential visibility of the Project across the lot is between 25 - 75 %	The majority of the lot is located outside the study area (4000 m). It is recommended that structures are sited further away to the southwest, on lower elevation for reduced potential visual impact.
D29	9//DP754317	111 ha	Potential visibility of the Project across the lot is between 25 - 50 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited further away to the southwest, on lower elevation for reduced potential visual impact.
D30	25//DP754302	365 ha	Potential visibility of the Project across the lot is between 0 - 75 %	The majority of the lot is located outside the study area (4000 m). It is recommended that structures are sited to the southwest where intervening topography eliminates potential views of the Project.
D33	1//DP605613	341 ha	Potential visibility of the Project across the lot is between 0 - 75 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited further away to the southwest and screening that limits views of the Project is considered for reduced potential visual impact.
D34	64//DP754317	220 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is partly located within study area (4000 m). It is recommended that structures are sited to the west where intervening topography eliminates potential views of the Project.
D35	49//DP754317	504 ha	Potential visibility of the Project across the lot is between 0 - 50 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited to the west where intervening topography eliminates potential views of the Project.
D38	8631-181	117 ha	Potential visibility of the Project across the lot is between 0 - 25 %	The lot is located entirely within the study area (4000 m). It is recommended that structures are sited further away to the northwest where existing vegetation reduces potential visual impact.

Table 21 - Summary of Development Rights - Neighbouring Lots - Continued

13 Cumulative Impact Assessment



13.0 Cumulative Impact Assessment

13.1 Overview of Cumulative Impact Assessment

The following chapter provides an assessment of the potential cumulative visual impacts from public and private viewing locations. In accordance with the Technical Supplement, cumulative assessments must consider 'any visible proposed or approved solar energy projects. resulting from the project and any proposed or approved solar energy projects. Together with the Project, two (2) additional solar energy projects have been considered in the cumulative visual impact assessment. These Projects are: Sandy Creek Solar Farm (SCSF) and Dapper Solar Farm (DSF). Both projects are in the development phase.

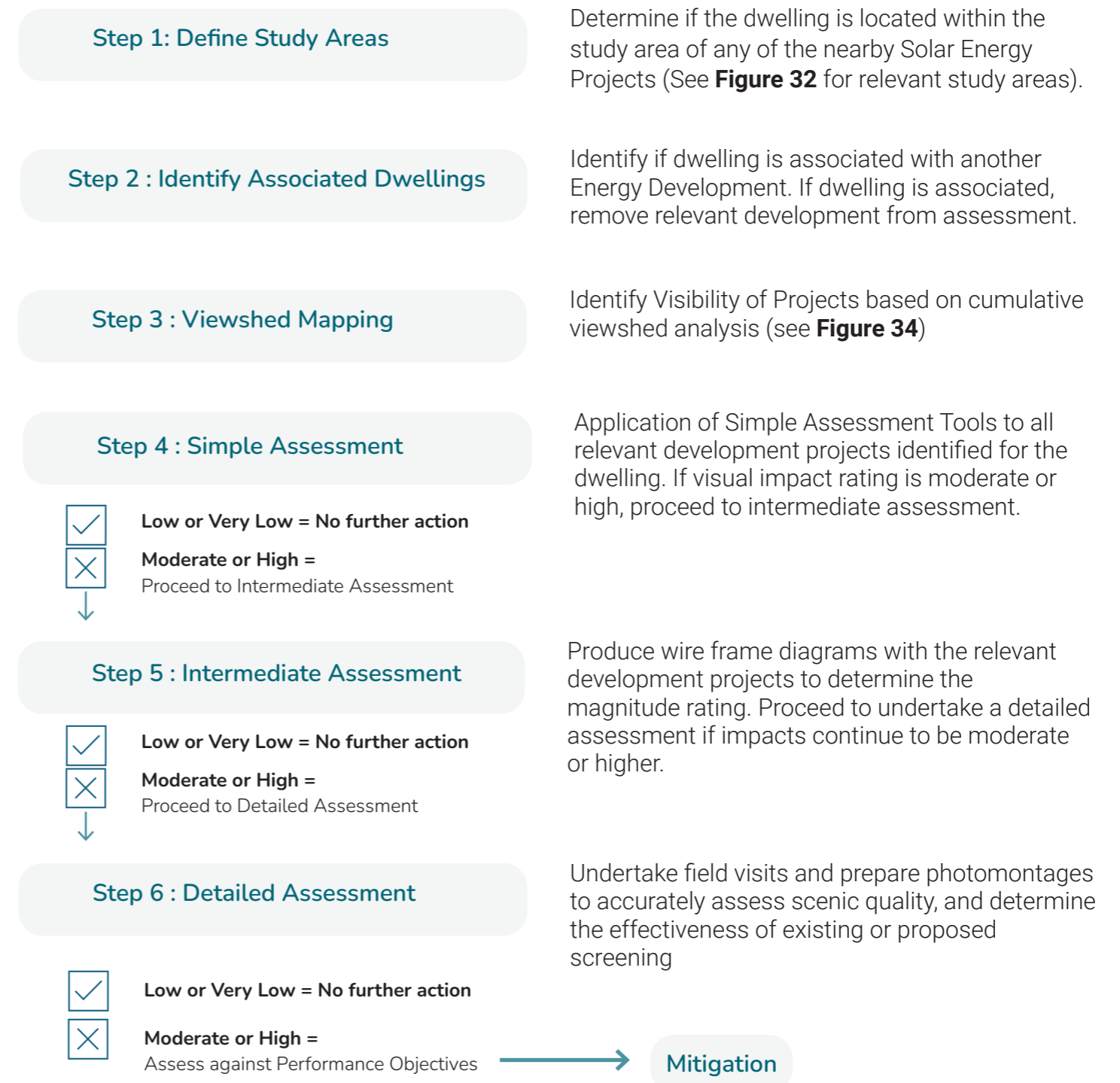
Study Areas of Large Scale Energy Development (within immediate proximity of the Project)			
Project Name	Distance to the Project	Source of Project Information/ Layout	Project Status
Sandy Creek Solar Farm (SCSF)	Immediately adjacent	EIS Submission March 2024	Proposed
Dapper Solar Farm (DSF)	1.29 km	Scoping Report November 2022	Proposed

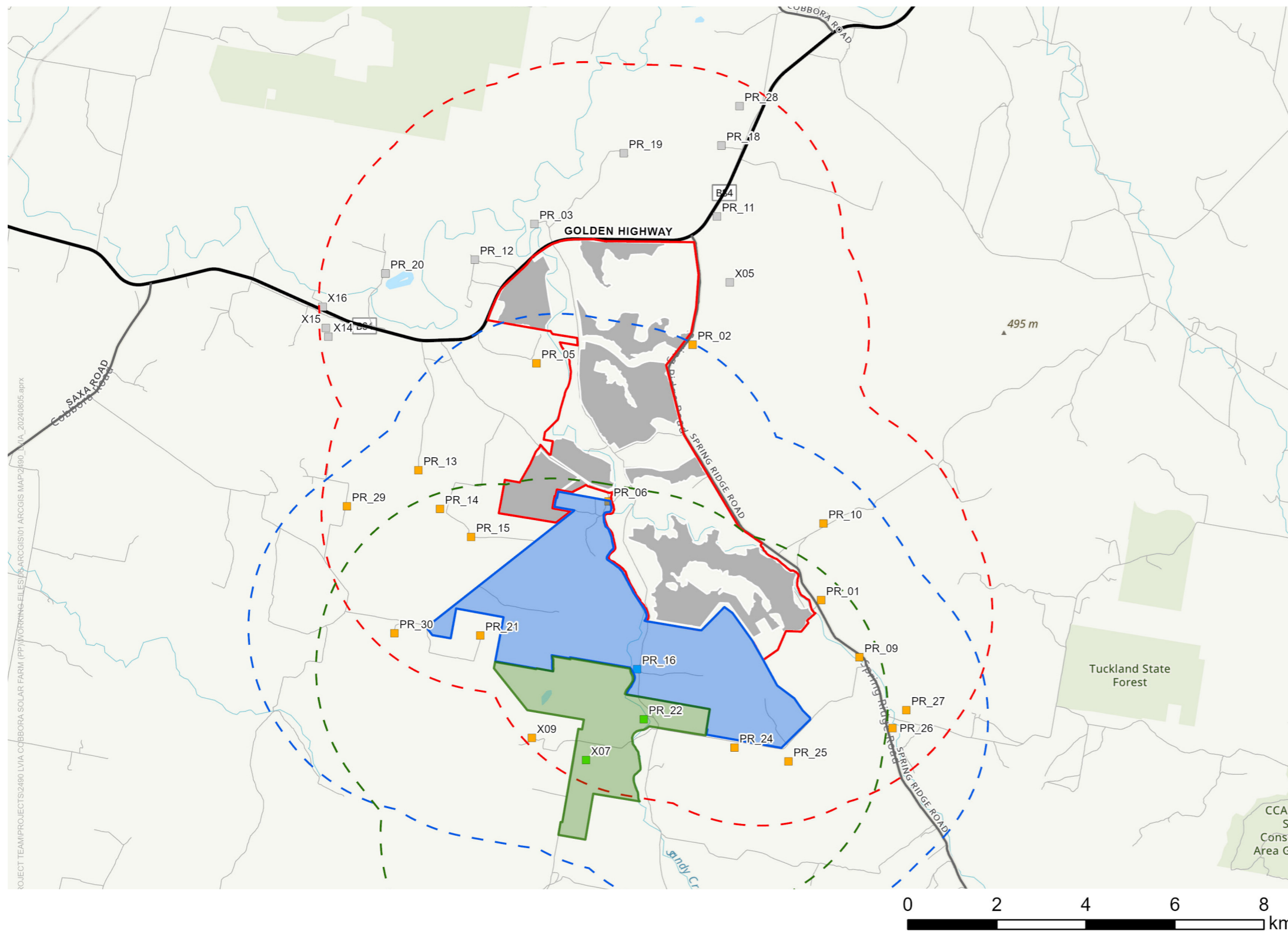
Table 22 – Overview of Study Areas for surrounding Large Scale Energy Developments

Due to the siting of the Project within a REZ, other proposed, approved and operating infrastructure projects are located throughout the region, outside of the Study Area. An overview of the assessment of cumulative impacts resulting from other project types on the broader landscape character is provided in Section 7.0.

13.2 Cumulative Impact Assessment Methodology for Non-associated Dwellings

The following provides an overview of the process for the cumulative impact assessment at Non-associated dwellings.





Nearby Solar Energy Projects

Refer to Section 13.1

LEGEND

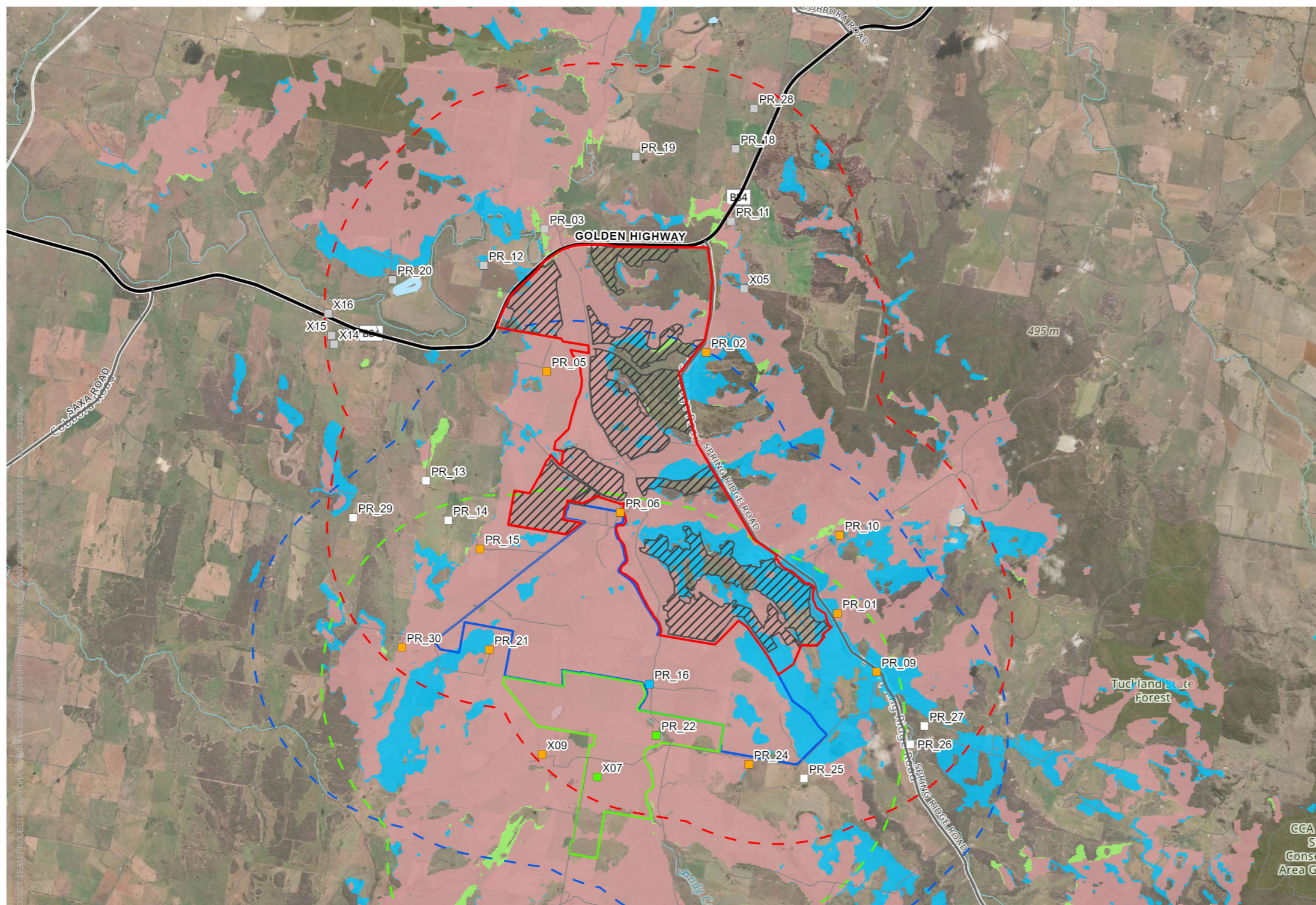
- Project Boundary
- Solar Array Areas
- Sensitive Private Receptors Study Area (4.0 km from Solar Array)
- Highway
- Roads
- Unsealed Roads
- Sandy Creek Solar Farm
- Sandy Creek Solar Farm (4km from Project Boundary)
- Dapper Solar Farm
- Dapper Solar Farm (4km from Project Boundary)
- Dwelling Associated with Dapper Solar Farm
- Dwelling Associated with Sandy Creek Solar Farm
- Non-Associated Dwelling
- Dwelling located outside 4km Study Area for DSF & SCSF

Figure 33 – Other Nearby Renewable Projects
 Basemap Source: ESRI, 2024



Cumulative Viewshed (SCSF & DSF)

Refer to Section 13.3



LEGEND

- Project Boundary
- Solar Array Areas
- Sensitive Private Receptors Study Area (4.0 km from Solar Array Area)
- Highway
- Roads
- Unsealed Roads
- Sandy Creek Solar Farm - Project Boundary
- Sandy Creek Solar Farm (4km from Project Boundary)
- Dapper Solar Farm - Project Boundary
- Dapper Solar Farm (4km from Project Boundary)
- Dwelling Associated with Dapper Solar Farm
- Dwelling Associated with Sandy Creek Solar Farm
- Non-Associated Dwelling
- Dwelling located outside 4km Study Area for DSF & SCSF
- No Visibility of Multiple Project

Simultaneous Visibility of Projects (based off topography alone)

- DSF and the Project
- SCSF and the Project
- DSF, SCSF and the Project

NOTE

Viewshed Map is an assessment tool representing a bare-ground scenario—i.e., a landscape without screening, structures, or vegetation. As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note that the map is based solely on topographic information. Therefore, this form of mapping should be acknowledged as representing the worst-case scenario.



Figure 34 – Cumulative Viewshed
Basemap Source: ESRI, 2024



13.3 Summary of Cumulative Assessment for Non-associated Dwellings

Table 23 provides an overview of the cumulative visual impact assessment. The following provides a summary of the results based on the study method outlined in **Section 13.2**.

13.3.1 Study Area

Figure 33 shows the Study Area for each of the projects considered in the cumulative impact assessment. Any dwellings outside of the 4 km Study Area of Dapper Solar Farm (DSF) and Sandy Creek Solar Farm (SCSF) do not require any additional assessment.

A total of 20 non-associated dwellings were identified within the study area of multiple projects.

13.3.2 Dwellings associated with other Projects

Of the 20 dwellings identified within the Study Area of multiple Projects, two (2) dwellings were associated with DSF (dwellings PR_22 and X07) one (1) dwelling was associated with SCSF (PR_16). It was determined through a massing model that views to surrounding projects would be screened by the project that they're associated with, therefore these three (3) non-associated dwellings were excluded from additional assessment. The massing models have been provided in **Appendix D** for reference.

A total of 17 non-associated dwellings required further assessment.

13.3.3 Cumulative Viewshed Mapping

A viewshed analysis was prepared to identify whether non-associated dwellings have a line of sight to multiple projects. Of the 17 non-associated dwellings, topography screens views from six (6) dwellings.

The remaining 11 non-associated dwellings require further assessment. Refer to **Figure 34**.

13.3.4 Cumulative Simple Assessment Results

A simple assessment was undertaken for each of the 11 non-associated dwellings. The simple assessment determined eleven (11) required an intermediate assessment.

13.3.5 Cumulative Intermediate Assessment Results

Two (2) non-associated dwellings (PR_2 and PR_6) were excluded from the intermediate assessment due to being surrounded by sufficient intervening vegetation (as identified through a site visit). An

intermediate assessment was undertaken for each of the remaining nine (9) non-associated dwellings, of which three (3) returned a low visual impact rating.

The remaining six (6) non-associated dwellings returned a moderate cumulative visual impact assessment rating and require a detailed assessment.

13.3.6 Cumulative Detailed Assessment Results

Of the six (6) non-associated dwellings that required a detailed assessment, it was determined that the Project did not contribute any cells to the magnitude rating for three (3) dwellings (X09, PR_24, PR_21) resulting in no cumulative visual impacts. The detailed dwelling assessment determined that intervening vegetation would limit views from two (2) of the dwellings, resulting in a low cumulative visual impact rating.

Summary of Cumulative Impact - Non-associated dwellings within 4km of the Project

Summary of Cumulative Impact - Private Receptors					
Receptor ID	Projects considered in cumulative assessment (due to being within study area and visible based on viewshed map)	Cumulative Simple Assessment Results	Cumulative Intermediate Assessment Results	Results of Cumulative Detailed Dwelling Assessment	Cumulative Impact Summary
PR_1	DSF SCSF	HIGH	MODERATE	LOW	A cumulative intermediate (wireframe) assessment was undertaken for this dwelling. The total cell count was 19, resulting in an overall moderate visual impact. (Refer to Appendix D). A detailed assessment shows that the majority of the Project will be screened by existing vegetation (Refer to Appendix B and Table 20) resulting in a low visual impact rating.
PR_2	SCSF	HIGH	N/A	N/A	The detailed assessment revealed that the majority of the Project will be screened by existing roadside vegetation (Refer to Appendix B and Table 20). Therefore, there will be limited opportunities to view the Project concurrently with other energy projects. As a result, it was deemed unnecessary to prepare a cumulative intermediate assessment for this dwelling.
PR_5	SCSF	HIGH	MODERATE	LOW	A cumulative intermediate (wireframe) assessment was undertaken for this dwelling. In the assessment, SCSF did not contribute to any additional cells. The detailed dwelling assessment was undertaken for this dwelling, resulting in a low visual impact assessment.
PR_6	SCSF DSF	HIGH	N/A	N/A	The detailed assessment for the Project demonstrated that views will be screened by existing vegetation and structures surrounding the dwelling (Refer to Appendix B and Table 20) resulting in a low visual impact rating. As a result, it was deemed unnecessary to prepare a cumulative intermediate assessment for this dwelling.
PR_9	SCSF DSF	MODERATE	LOW	N/A	A cumulative intermediate (wireframe) assessment was undertaken for this dwelling. The total cell count was 5, resulting in a very low magnitude and an overall low visual impact. (Refer to Appendix D).
PR_10	SCSF	HIGH	LOW	N/A	A cumulative intermediate (wireframe) assessment was undertaken for this dwelling. The total cell count was 5, resulting in a low cumulative visual impact. (Refer to Appendix D)
PR_15	SCSF DSF	HIGH	MODERATE	MODERATE	A cumulative intermediate (wireframe) assessment was undertaken for this dwelling resulting in moderate cumulative visual impact. A breakdown of the results revealed that the Project contributed to five (5) cells, DSF contributed 4 cells and SCSF contributed 12 cells. As the Project is contributing five (5) cells to the north east of the Project, it is anticipated existing intervening vegetation will reduce potential views to the Project from this dwelling. If the Project results in a cumulative visual impact, the proponent has committed to providing additional screen planting on completion of the construction of DSF and SCSF.
PR_21	SCSF DSF	MODERATE	MODERATE	NIL	The dwelling is located to the south of SCSF. This results in potential views of the Project being screened by SCSF. A wireframe from this dwelling was prepared to demonstrate this. While cell count was 25, resulting in a moderate visual impact, the Project did not add any additional cells to the assessment. Therefore the Project's cumulative impact is nil. (Refer to Appendix D)
PR_24	SCSF DSF	HIGH	MODERATE	NIL	The dwelling is located to the south of SCSF. This results in potential views of the project being screened by SCSF. A wireframe from this dwelling was prepared to demonstrate this. While cell count was 30, resulting in a moderate visual impact, the Project did not add any additional cells to the assessment. Therefore the Project's cumulative impact is nil. (Refer to Appendix D)
PR_30	SCSF DSF	HIGH	LOW	N/A	The dwelling is located to the southeast of SCSF. A cumulative intermediate (wireframe) assessment was undertaken for this dwelling. The total cell count was 13, resulting in a low magnitude and an overall low visual impact. A breakdown of the results revealed that the Project contributed 2 cells, DSF contributed 2 cells and SCSF contributed 2 cells. (Refer to Appendix D).
X09	SCSF DSF	MODERATE	MODERATE	NIL	The dwelling is located to the south of DSF. This results in potential views of the project being screened by DSF. A wireframe from this dwelling was prepared to demonstrate this. While cell count was 21, resulting in a moderate visual impact, the Project did not add any additional cells to the assessment. Therefore the Project's cumulative impact is nil. (Refer to Appendix D)

Table 23 – Summary of cumulative impact on Dwellings

14 Night lighting



14.0 Night lighting

14.1 Overview of Potential Night lighting Sources

The SEARs issued for the Project outline the following assessment requirements for the LCVIA: “a detailed assessment of the likely visual impacts (including night lighting) of all components of the project on surrounding dwellings (including approved developments, lodged development applications and dwelling entitlements) (...)” (DPHI, 2024).

The requirements for night lighting of ancillary infrastructure for this Project is generally limited to security lighting for the onsite substation, and O&M facilities, internal roads and the car park area. The light sources are limited to low level lighting for security, night time maintenance and emergency purposes. It is unlikely the proposed night lighting associated with the ancillary infrastructure would create a noticeable impact on the existing night time landscape.

14.2 Design Principles

The following recommendations have been developed considering the principles outlined in relevant best practice guidelines for lighting design. The Dark Sky Planning Guidelines (hereafter referred to as the Dark Sky Guidelines) (DPHI, 2023) provide lighting practices that support the maintenance of a dark sky and improve lighting practices. The Dark Sky Guidelines are related to developments within 200 km of the Siding Spring Observatory.

The Project is located within this zone, approx. 90 km from the Observatory. Due to the distance from the observatory, there is not likely to be impact from a lighting perspective. The Project is located outside the zone where either lighting measures or LEP requirements apply; however, these guidelines provide relevant guidance to reduce potential light pollution that can be used for lighting design for the ancillary infrastructure associated with the Project.

The National Light Pollution Guidelines for Wildlife (DCCEEW, 2023) may also be considered during the detailed design phase for night lighting considerations.

Control the Level of Lighting

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

Lighting Design

- Use the lowest intensity required for the job.
- Use energy-efficient bulbs and warm colours.
- Direct light downwards to eliminate light spilling upwards.
- Ensure lights are not directed at reflective surfaces.
- Use non-reflective dark-coloured surfaces to reduce the reflection of lighting (Figure 36).
- Keep lights close to the ground and directed downwards (Figure 37).
- Use light shield fittings to avoid light spills (Figure 35).

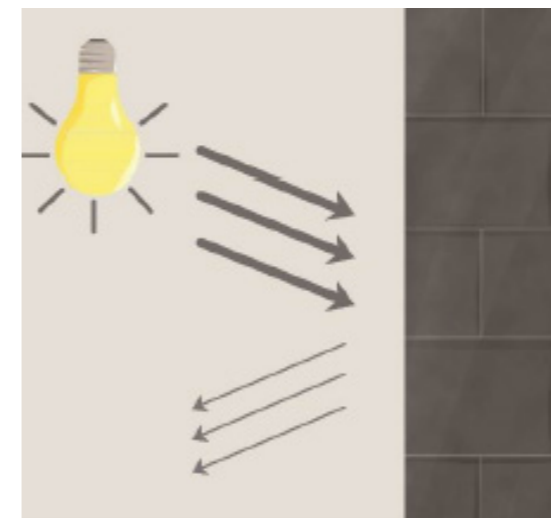


Figure 36 – Surface Reflectivity

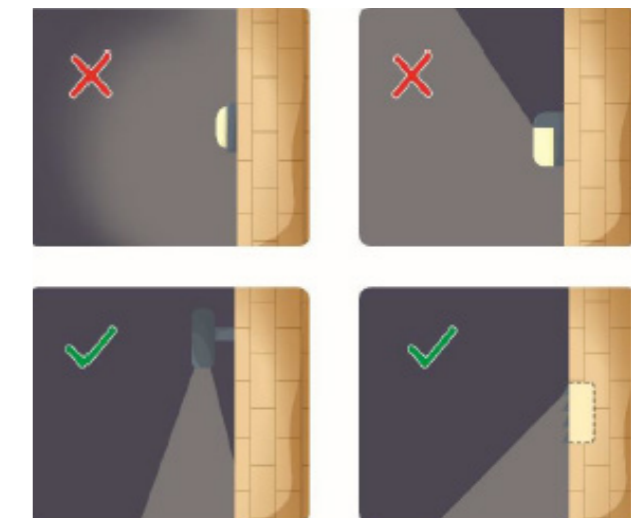


Figure 37 – Downward Lighting



Figure 35 – Light Shielding

Source: Department of Environment and Energy National Light Pollution Guidelines for Wildlife 2020

15 Glint & Glare Assessment



15.0 Glint & Glare Assessment

15.1 Glint & Glare Principles & Requirements

The fundamental principles for ensuring the Project can be undertaken whilst maintaining an acceptable level of amenity in relation to glint & glare are outlined in the Guidelines as follows:

- Solar panels should be sited to reduce the likely impacts of glint and glare.
- Solar panels and other infrastructure should be constructed of materials and treated to minimise glint and glare.
- If large-scale solar energy development is likely to exceed the relevant glare criteria and glint standards, mitigation strategies should be adopted.

The Glint and Glare Assessment has been prepared in accordance with the DPHI guideline. The objective of the assessment, as stated in the Guideline, is to “*demonstrate that glint and glare would not pose a significant risk to motorists or pilots and that nuisance from glare is minimised for residential locations in accordance with the objectives outlined in [the Guideline]*” (DPHI, 2024).

The Guideline provides Performance Objectives for the impacts of glare only, therefore this report has focused on the impact of glare on surrounding receptors.

In accordance with the requirements outlined in the Guideline and the Technical Supplement, a Glint and Glare Assessment has been undertaken and is included in **Appendix C** of this report.



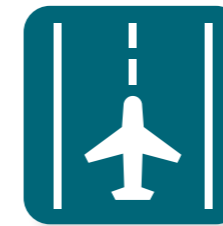
Residential Viewpoints

Assess all residential dwellings within 3 km of the development footprint that have a line of sight.



Road and Rail Viewpoints

Assess all roads and rail lines within 1 km of the development footprint.



Aviation Viewpoints

Assess all air traffic control towers and take off / landing approaches to any runway or landing strip within 5 km of the development footprint.



Performance Objectives

Summary of the assessment with reference to performance objectives.



Mitigation Recommendations

Overview of proposed strategies to either avoid or mitigate impacts.

15.2 Summary of Assessment Results

The purpose of the Glint and Glare assessment is to identify potential glint and glare impacts from the Project on the surrounding residential receptors (within 3 km of development footprint), road and rail receptors (within 1 km of the development footprint) and aviation receptors (within 5 km of the development footprint).

The following summarises the key findings based on the assumptions and parameters above.

15.2.1 Private Receptors

An assessment was undertaken considering a total of 19 non-associated dwellings identified within 3 km of the development footprint and with a line of site of the Project. Based on the glare assessment, zero (0) residential receptors have been assessed as having potential for glare. Therefore, no mitigation is required.

15.2.2 Road and Rail Receptors

An assessment was undertaken considering two (2) sealed road receptors (Golden Highway and Spring Ridge Road) and four (4) unsealed road receptors (Danabar Road, Sandy Creek Road, Sweeneys Lane and Tallawonga Road) within 1 km of the development footprint.

Based on the glare assessment, zero (0) potential “Yellow” glare was identified for all road receptors.

Potential for ‘Green’ glare was identified for three (3) road receptors (Spring Ridge Road, Sweeneys Land and Tallawonga Road).

However, ‘Green’ glare is not expected to cause a temporary after-image, and only causes eye strain after a long period. Due to the speed of travel along the road and rail routes, the time frame to experience the impacts of ‘Green’ glare are short, therefore the impacts of ‘Green’ glare are negligible and do not require mitigation.

15.2.3 Aviation Receptors

No aviation receptors were identified within 5 km of the development footprint.

15.3 Mitigation Measures

In accordance with the *Large-Scale Solar Energy Guideline*, the potential glare impacts on residential and road receivers is acceptable. Therefore, no mitigation is required.

16 Performance Objectives & Mitigation



16.0 Performance Objectives & Mitigation

16.1 Mitigation Requirements

As a result of the Detailed Assessment (refer to **Section 11.0**), VP06 along Spring Ridge Road was rated with a Moderate visual impact. In accordance with the Visual Performance Objectives in the Technical Supplement (refer to **Table 24**), mitigation is required.

16.2 Landscaping Principles

Screen planting is a mitigation method to reduce the visual impact of the Project. General guidelines to adhere to when planning for landscaping and visual screening include:

- Planting should remain in keeping with existing landscape character;
- Species selection is to be typical of the area;
- Plantings should use fast growing small trees and bushes, and low lying vegetation to ensure a naturalistic effect.
- Planting layout should avoid screening views of the broader landscape;
- Avoid the clearing of existing vegetation. Where appropriate reinstate any lost vegetation; and
- Allow natural vegetation to regrow over any areas of disturbance.
- Locally native plant species are preferred, as they help to preserve the landscape character and scenic quality of the area as well as building habitat for local fauna. Native species are also well-suited to local conditions (ie. soil, climate, etc.) and will build on the existing vegetation assemblages in the area.

16.3 Overview of Proposed Mitigation

Mitigation in the form of screen planting is proposed to fragment views of the Project from Spring Ridge Road. Where possible, existing vegetation is to be retained, and proposed screen planting should follow the existing vegetation character, and fill in the gaps in existing roadside vegetation. (Refer to Landscape Mitigation Plan for details).

Performance Objectives	
Low & Very Low Visual Impact	
All viewpoints	<ul style="list-style-type: none"> • No mitigation required
Moderate Visual Impact	
Public viewpoint (roads & rail)	<ul style="list-style-type: none"> • Applicants should seek to reduce moderate visual impacts • Mitigation can include vegetation or other screening methods • Mitigation cannot obstruct important views or sightlines • Mitigation can be confined to a relatively small area
Private receptors & all other public viewpoints	<ul style="list-style-type: none"> • Mitigation is required in consultation with the land owners • Mitigation should be proportionate to the scale of impact • Mitigation can include re-designing or re-positioning the PV arrays as well as vegetation screening and landscaping • If available mitigation options are not effective or obstruct important views, project redesign should be considered.
High Visual Impact	
All viewpoints	<ul style="list-style-type: none"> • This level of impact should be avoided, unless an agreement has been made with the land owner, or it can be justified that: <ul style="list-style-type: none"> • all reasonable efforts have been made to reduce the impact • all reasonable mitigation methods have been considered • mitigation measures would effectively reduce the impact and not obstruct significant views • the project site is significant because of the location • the project is in the public interest

Table 24 – Visual Performance Objective
Source: DPHI 2024

17 Conclusion



17.0 Conclusion

17.1 Conclusion

With all visual impact assessments the objective is not to determine whether the Project is visible or not visible, it is to determine how the Project will impact on existing visual amenity, landscape character and scenic quality. The intent of the LCVIA report is to determine if there is a potential for a negative impact on these factors, and investigate if and how this impact can be mitigated to the extent that the impact is reduced to an acceptable level.

Fieldwork was undertaken by Moir Studio in October 2024 to determine the existing landscape character against which the Project has been assessed. The assessment determined the regional landscape character is typical of the Talbragar Valley Subregion of the Brigalow Belt South Bioregion.

The visual impact of a solar farm project will depend on the characteristics and values of the existing landscape, the extent to which the existing landscape is changed by the Project and how these changes are perceived by individuals and the broader community. The assessment identified the key landscape features and viewpoints within the Study Area, defined as 5.0 km from the Development Footprint of the Project.

The viewshed analysis showed that potential visibility of the Project beyond the immediate vicinity is available mainly to the northwest and southwest. In addition, due to the undulating topography and the lack of vertical scale to the Project, views of the Project will be easily be screened by hills and vegetation obstructing views.

A Simple Assessment was undertaken for a total of 31 non-associated dwellings and thirteen (13) public viewpoints from public roads. The assessment identified:

- Fifteen (15) non-associated dwellings required further Intermediate Assessment. The remaining 35 non-associated dwellings did not require further assessment according to the Simple Assessment Tools.
- Eight (8) public viewpoints required further Intermediate Assessment.

An Intermediate Assessment was conducted for fifteen (15) non-associated dwellings and eight (8) public viewpoints as required. The assessment identified:

- Five (5) non-associated dwellings returned a 'high' or 'moderate' visual impact rating and required further Detailed Assessment. The remaining eight (8) non-associated dwellings returned a 'low' or 'very low' impact and therefore did not require further assessment.

- Five (5) public viewpoints returned a 'moderate' visual impact rating and required further Detailed Assessment. The remaining three (3) public viewpoints returned a 'low' or 'very low' impact rating and therefore did not require further assessment.

An Detailed Assessment was conducted for the five (5) non-associated dwellings and five (5) public viewpoints as required. The assessment identified:

- All five (5) non-associated dwellings returned a 'low' visual impact rating.
- One (1) public viewpoint (VP06) returned a 'moderate' visual impact rating. The remaining four (4) public viewpoints returned a 'low' visual impact rating.

In accordance with the Technical Supplement's Performance Objectives, mitigation is required for receptors determined to have a 'moderate' or greater impact at the details assessment stage. Therefore mitigation has been proposed for VP06 along Spring Ridge Road in the form of screen planting (see Landscape Mitigation Plan for details).

A Glint and Glare Assessment was completed in accordance with the Technical Supplement. The findings of the assessment were:

- No potential glare has been identified for any non-associated dwellings within the 3 km Study Area.
- No potential "Yellow" glare has been identified for any roads within the 1 km Study Area.

In accordance with the *Large-Scale Solar Energy Guideline*, the potential glare impacts on residential and road receivers is acceptable. Therefore, no mitigation is required.

A Cumulative Visual Impact Assessment was conducted, assessing the Project together with nearby proposed solar farms including Dapper Solar Farm and Sandy Creek Solar Farm. The findings of the assessment were:

- One (1) non-associated dwelling has a moderate cumulative visual impact. A detailed assessment of PR_15 will be undertaken to further assess the potential cumulative visual impact associated with Dapper Solar Farm and Sandy Creek Solar Farm, and determine the additional screen planting to be implemented, in consultation with the landowner.

Overall, the existing landscape within the Study Area has the ability to absorb the Project with a low degree of visual impact. The Project could be developed whilst still maintaining the landscape character of the area. In this regard, the Project satisfies the objectives as outlined in the Guideline.

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