Preliminary Visual Impact Assessment

Burrawong Wind Farm

moir
landscape architecture

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1.0 Introduction

1.1 Introduction

Moir Landscape Architecture have been commissioned by Windlab Pty Ltd to prepare a Preliminary Visual Impact Assessment (PVIA) for the proposed Burrawong Wind Farm (the Project). The purpose of this PVIA is to provide a preliminary assessment of the potential visual impacts of the proposed Burrawong Wind Farm.

The Project is State Significant Development (SSD) and requires consent under Division 4.7 of Part 4 of the Environmental Planning & Assessment Act 1979 (EP&A Act). This PVIA is to be submitted in conjunction with the Scoping Report to the Secretary of the Department of Planning, Industry & Environment (DPIE).

This PVIA will assist the Secretary in issuing the Secretary's Environmental Assessment Requirements (SEARs) that will direct the Environmental Impact Statement (EIS).

1.2 Relevant Experience

The Bulletin states *the proponent is expected to engage professionals from relevant natural resource management and design professions (for example environmental planners, geographers, landscape architects, or other visual resource specialists), with demonstrated experience and capabilities in visual assessment to carry out a wind energy project visual assessment.*

Moir Landscape Architecture Pty Ltd is a professional design practice and consultancy specialising in the areas of Landscape Architecture, Landscape Planning and Landscape and Visual Impact. Our team has extensive experience in undertaking Landscape and Visual Impact Assessments for wind energy projects. In the context of our experience and with guidance from the Visual Assessment Bulletin we have developed methodologies to ensure a comprehensive and qualitative assessment of the Project.

Relevant experience includes the preparation of Landscape and Visual Impact Assessments for the following Wind Energy Projects:

- *Crudine Ridge Wind Farm (New South Wales)*
- *Bodangora Wind Farm (Bodangora, New South Wales)*
- *Capital II Wind Farm (Bungendore, New South Wales)*
- *Uungula Wind Farm (Wellington, New South Wales)*
- *Lord Howe Island Wind Turbines (Lord Howe Island, New South Wales)*
- *Hills of Gold Wind Farm (Nundle, New South Wales)*

1.0 Introduction

1.3 Overview of Preliminary Visual Impact Assessment

The purpose of this Preliminary Visual Impact Assessment (PVIA) is to provide a preliminary assessment of the potential visual impacts of the Project and has been prepared in accordance with the *Wind Energy: Visual Assessment Bulletin December 20*16.

The visual assessment process is broken into two main stages (see **Figure 1**):

Phase 1: Preliminary Environmental Assessment and
Phase 2: EIS

This PVIA forms apart of ***Phase 1: Preliminary Environmental Assessment*** to be submitted to DPIE together with the Scoping Report for the request for SEARs.

The requirements of Stage 1: Preliminary Environmental Assessment are as follows:

At the Preliminary Environmental Assessment stage, a process consisting of community consultation regarding key landscape values and application of preliminary assessment tools has been developed. The tools include consideration of the potential impact of the proposals on dwellings and key public viewpoints.

The preliminary assessment tools have been designed to assist proponents to drive better outcomes. They will assist in identifying early in the process the locations where wind turbines may have impacts that warrant further consideration. This in turn provides an opportunity to refine the proposed wind turbine layout to avoid or minimise impacts, or justify the proposed design prior to lodgement of the application.

Proponents will be required to submit, with the request for SEARs, a Preliminary Environmental Assessment that includes a map with key information, results of community consultation and the application of the preliminary assessment tools. This will form the basis for the issue of the SEARs that will identify the matters that must be addressed in the EIS.

This PVIA has been prepared to meet the requirements of 'Stage 1' of the Visual Assessment Process as per the Wind Energy: Visual Assessment Bulletin.

Figure 1 Steps in Visual Assessment Process
(Source: Wind Energy Visual Assessment Bulletin, 2016)

2.0 Study Method

2.1 Study Method

The following has been undertaken to develop the PVIA:

Desktop Assessment:

- Application of Preliminary Assessment Tools to determine receptors with potential sensitivity.
- Preparation of a preliminary Zone of Visual Influence (ZVI) to establish a theoretical zone of visibility of the Project.
- Identification of key viewpoints and landscape features using available mapping and background documents.

Site Inspection:

Photographic survey work for the assessment was undertaken in January 2021 to carry out a preliminary assessment of the existing landscape character from publicly accessible land within the Study Area (as defined in Section 3.3). The findings of the site inspection have been included in the PVIA and will form the basis for discussion with the community in the EIS Phase of the Project.

Community Consultation:

Community consultation has been undertaken through the scoping phase of the Project. Results of the community consultation documented in previous studies have also been utilised to gain perspective on the landscape values held by the community to inform the PVIA.

Community consultation will be continued through the EIS phase of the Project.

2.2 Report Structure

The following table provides an overview of the requirements of the Bulletin and where these have been addressed in the PVIA:

Preliminary Visual Impact Assessment Report Structure:	
Bulletin Requirements:	**Addressed in report:**
• *Undertake community consultation to establish key landscape features valued by the community, key viewpoints in the area (both public and private) along with information about the relative scenic quality of the area.*	**Refer to Section 4.0:** **Community Consultation**
• *Production of a map detailing key landscape features (informed by community consultation and any ground-truthing undertaken), the preliminary wind turbine layout, the location of dwellings and key public viewpoints, and an overlay of the wind resource.*	**Refer to Section 5.0 :** **Existing Landscape Character**
• *Results of the preliminary assessment tools for both the visual magnitude and multiple wind turbine parameters.*	**Refer to Section 6.0:** **Preliminary Assessment Tools**
	Appendix A & B **Preliminary Dwelling and Viewpoint Assessments**
• *The use of Geographic Information Systems (GIS) to facilitate the application of the tools will streamline the evaluation phase of a project during the pre-lodgement stage. Most GIS systems can establish the theoretical 'zone of visual influence' of the proposal (the area from which the proposal is theoretically visible or the 'visual catchment').*	**Refer to Section 7.0:** **Preliminary Zone of Visual Influence**
Summary and Recommendations - Section 8.0	

Table 1 Preliminary VIA Report Requirements and Structure

3.0 Project Overview

3.1 Regional Contaxt

The Burrawong Wind Farm is a proposed wind energy project located in the South-West region of New South Wales, within the Murray River Council Local Government Area (LGA). Nearby localities include Balranald 15km to the north and Kyalite 10km to the south. The Limondale Solar Farm and Sunraysia Solar Farm are located to the west of the project area.

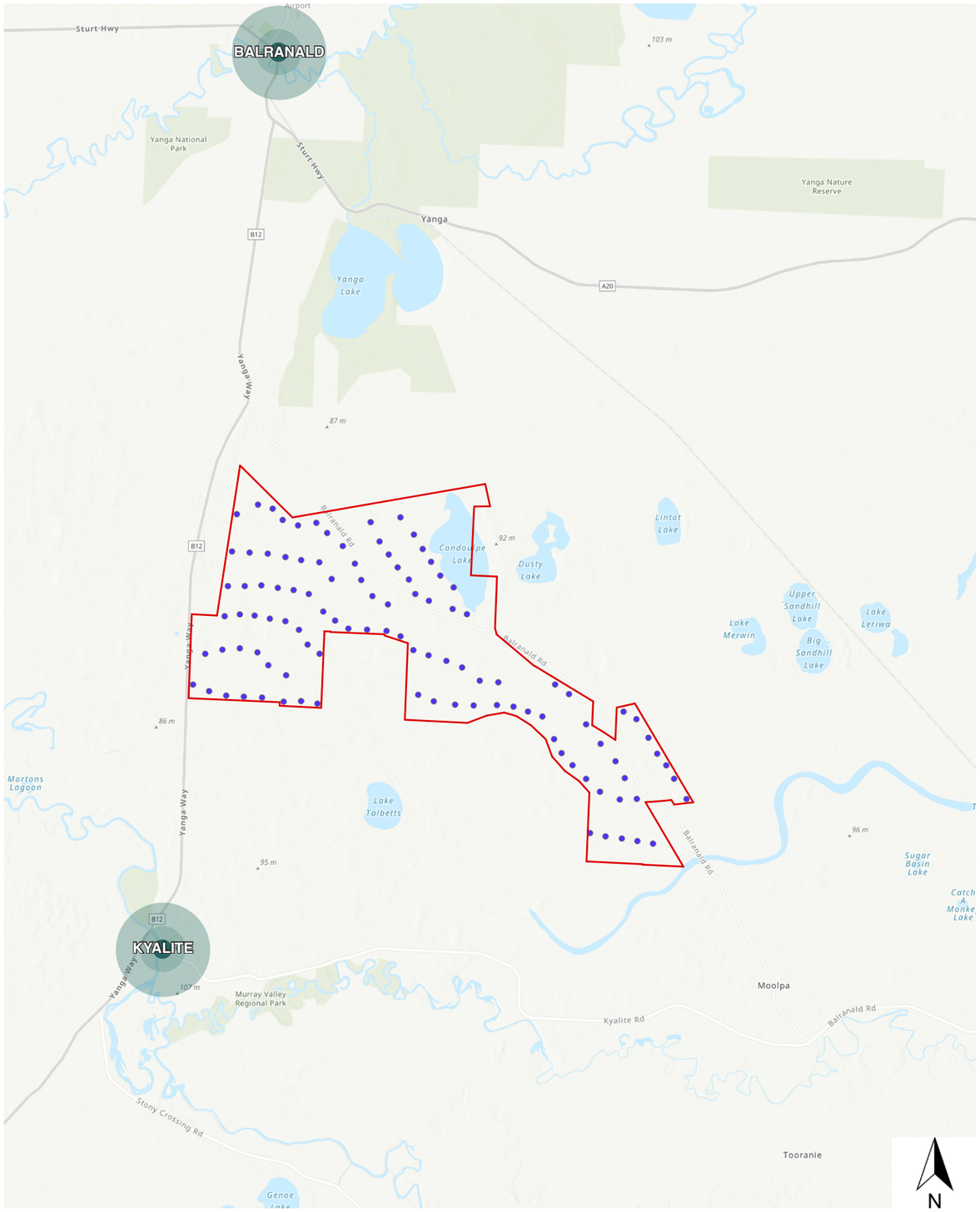


Figure 2: The Project Site - Regional Context

3.0 Project Overview

3.2 The Project Area

The area of interest predominately comprises freehold land, with a small number of Crown land easements within the project area, including both roads and waterways. The area of interest is approximately 15,000 hectares. The site features flat topography with scattered sand hills and patches of remnant native vegetation. Current land use is predominantly agricultural grazing and broad scale cropping activities. It is expected that there will be minimal impact to these activities once the project is in operations. Refer to **Figure 3** and **4**.

3.3 The Study Area

Referred to in this report, the Study Area is generally defined as the Project Area and surrounding land which requires assessment. The Study Area is generally defined as the land up to 8,000 m from the nearest turbine, however does extend beyond to include Balranald and Kyalite as shown in **Figure 3**.

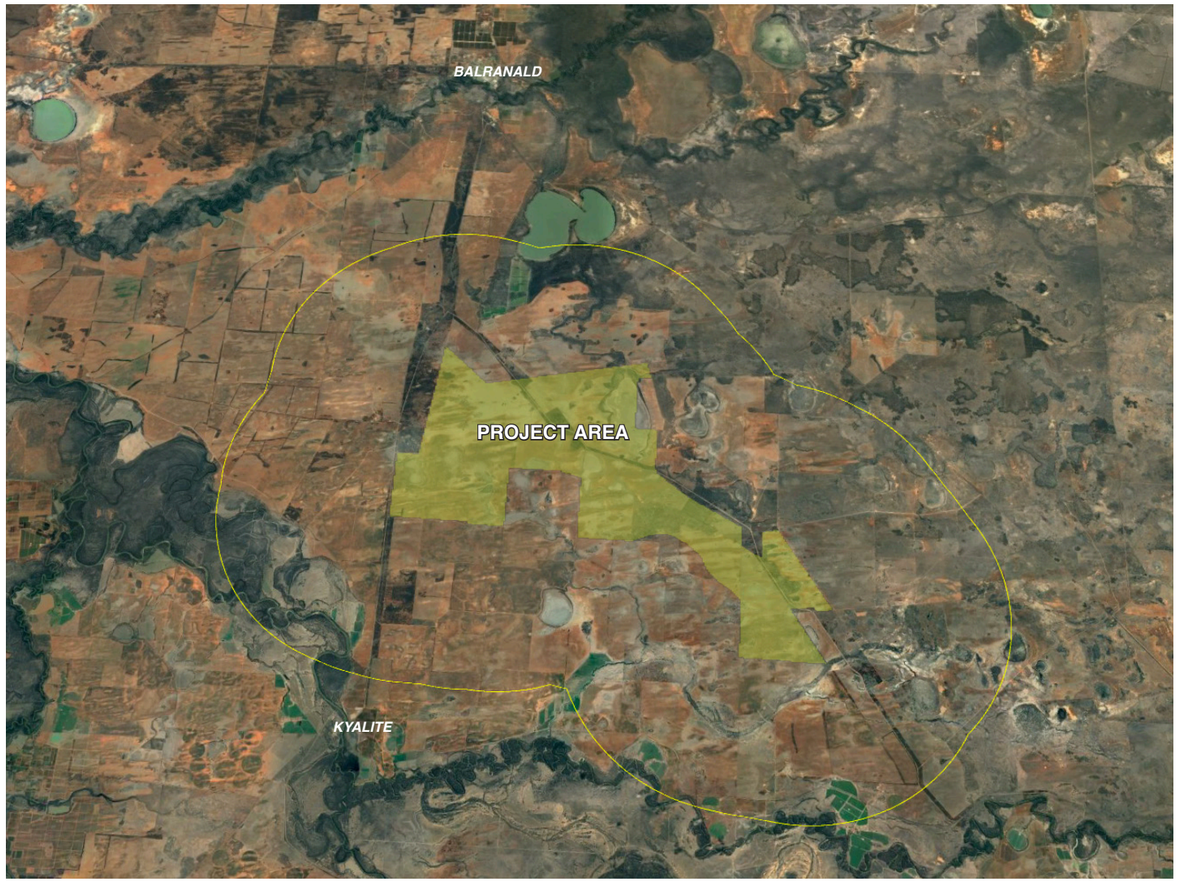


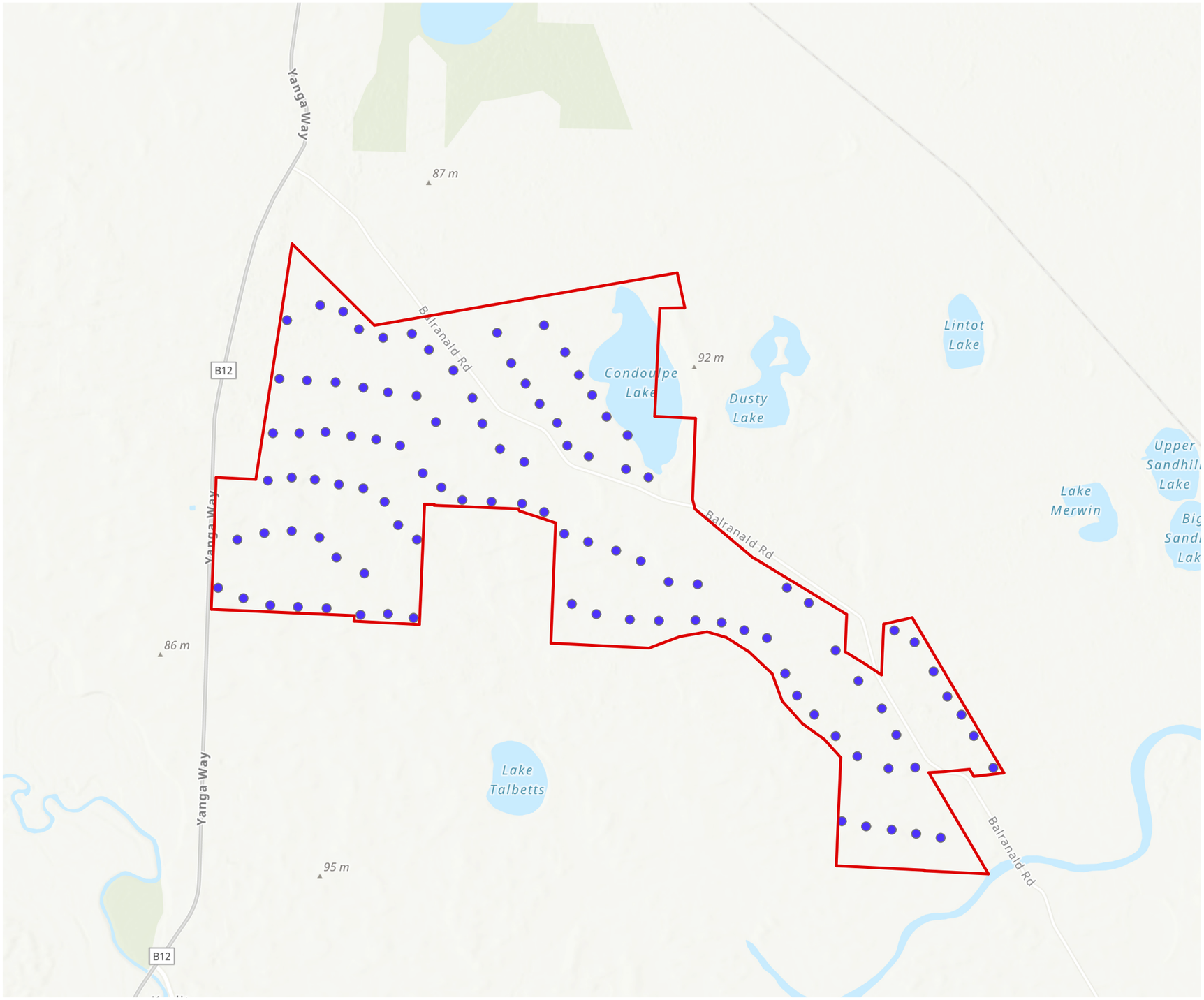
***Figure 3** Birds Eye View - Study Area (Source: Google Earth)*

3.4 The Proposed Development

The project will involve the construction, operation and decommissioning of up to 107 wind turbine generators (WTG) and associated ancillary infrastructure. With advances in turbine technology, the project could have an installed capacity of up to 750MW.

Associated infrastructure includes operation and maintenance buildings, battery storage, internal access roads, civil works and electrical infrastructure.

3.0 Project Overview



Preliminary Project Layout
Proposed Burrawong Wind Farm

LEGEND

- Project Boundary
- Indicative 300m Wind Turbine Location

N

0 2 4 6 8 10km

Figure 4 Preliminary Project Layout

4.0 Community Consultation

4.1 Community Consultation Process

The Visual Assessment Bulletin states: c*ommunity consultation at this early stage may be broad, but should include discussions about the proposed project area, likely corridors of development, or preliminary turbine layouts and must involve people from the visual catchment. The purpose of community consultation is to establish key landscape features, areas of scenic quality and key public viewpoints valued by that community*.

The purpose of community consultation is to:

- Establish key landscape features
- Defined areas of scenic quality and
- Identify key public viewpoints valued by that community.

In accordance with the Bulletin, ongoing community consultation has been undertaken by the proponent through face to face meetings and a questionnaire which was made available online. As of the 1st of July 2021, a total of 20 questionnaires have been completed, the results of which have been outlined in the following section. A hard copy was also made available at the Balranald Shire Council Office, Moulamein Business Centre and Kyalite Pub. A copy of the responses from the community has been included in **Appendix B**.

Community engagement will continue through the Project and provide the community with further opportunities to provide input into the Visual Baseline Study of the LVIA.

4.2 Results of Community Consultation

Understanding of the community perception towards the proposed development is an intrinsic component of the Landscape and Visual Impact Assessment process. A CSIRO study published in 2012: Exploring community acceptance of rural wind farms in Australia provides a snapshot of community acceptance levels regarding Australian wind farms from a variety of stakeholder perspectives. It found levels of acceptance among the public are highly subjective and can differ depending on location, local context and place attachment.

4.2.1 Landscape Values

Landscape values are highly subjective and can differ depending on location, local context and place attachment. The results of specific questions assisted in the identifying key areas of concern and ensuring the LVIA provided comprehensive assessment taking into account landscape values held by the community.

In response to the question *'what do you value most about your local area?'*, the majority of respondents (75%) identified farming as highly valued by the community. Following this, Community / Family and Employment Opportunities were identified as valued by the community (65% and 50% of respondents respectively). See graph (**Figure 5**).

Responses to the question *'what do you value about the existing natural and built environment?'* varied, however the common theme in the responses relating to landscape values generally related to the following:

- Sense of isolation from the built environment (existing lack of man-made buildings and structures)
- Presence of wild life (in particular bird life)
- The river and associated valley
- Existing bushland / vegetation
- Hills and topography

The responses to the questionnaire have been included in **Appendix B** and will be considered in further detail through the Visual Baseline Study in the EIS Phase.

4.0 Community Consultation

Question: What do you value most about your local area?

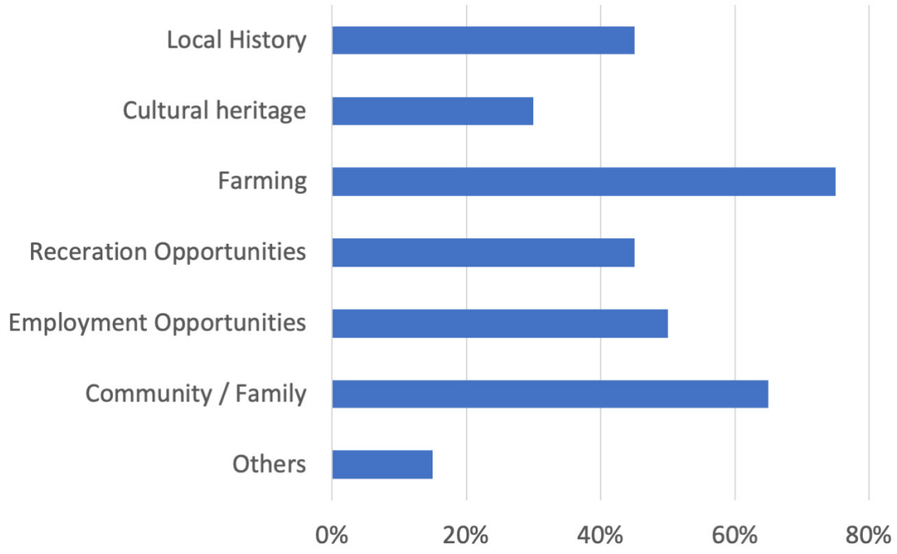


Figure 5 ***Results of Landscape Values Questionnaire Question 2***

Question: Based on your current understanding of renewable energy, what do you believe are the most positive benefits of the proposed project?

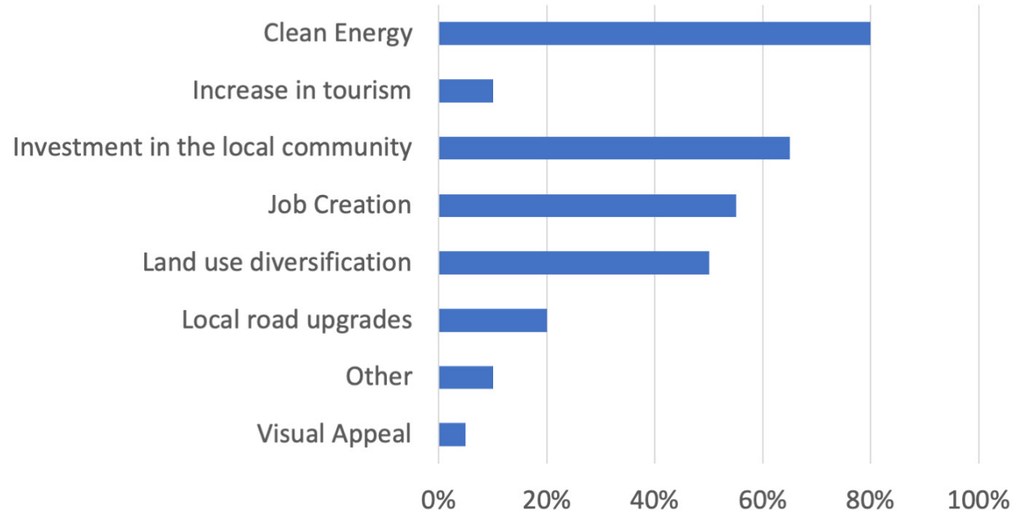


Figure 6 ***Results of Community Survey Question 4***

4.2.2 Community Perception

80% of respondents identified clean energy as a positive benefit of the Project followed by 65% appreciated the investment in the local community. See graph (**Figure 6**).

The main concerns surrounding the project include noise (80%), effects on flora and fauna (70%) and traffic (70%). The concerns have been raised based on current understanding of the Project. 50% of respondents identified visual as a main concern. See graph (**Figure 7**).

Question: Based on your current understanding of renewable energy and the proposed project, what are your main concerns?

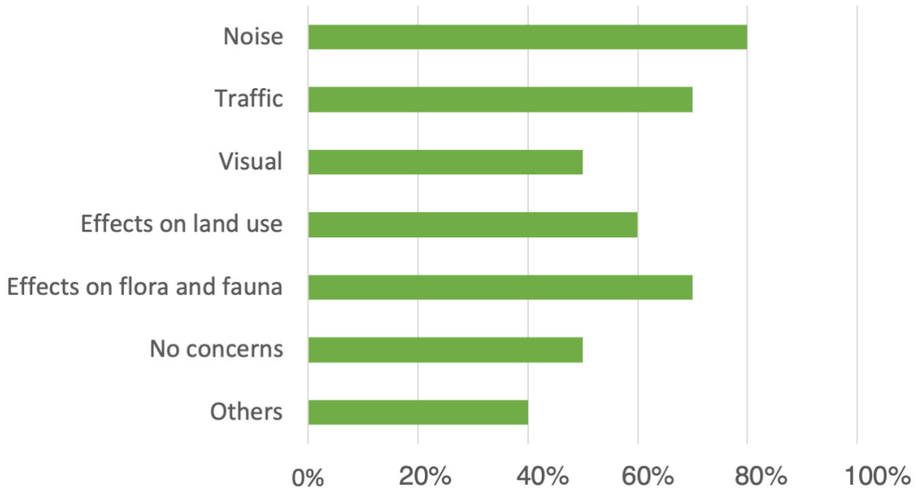


Figure 7 ***Results of Community Survey Question 6***

4.0 Community Consultation

4.2.1 Key Landscape Features & Areas of Scenic Quality

In addition to a review of existing landscape maps and detailed field work undertaken by Moir LA (see Section 5.0) the community consultation questionnaire asked respondents to identify key landscape features of importance to them. A large percentage of the respondents identified the Murrumbidgee River and Lake Yanga and associated National Park as a key landscape feature of the area. The following lists the features identified by the community:

- *Murrumbidgee River*
- *Edwards River*
- *Lake Yanga*
- *Yanga National Park*
- *Yanga Homestead*
- *Mungo National Park*
- *Murray River Systems*
- *Kyalite Pub*
- *Wakool River*

Broad landscape features identified included:

- *Undulating hills and farming land*
- *Lakes and river systems*
- *Natural scenery*

The results of the questionnaire have been provided in full in **Appendix B.** The key landscape features have been included on **Figure 10** and will be assessed in further detail in the EIS Phase of the Project.

4.2.1 Key Landscape Features & Areas of Scenic Quality

Key viewpoints identified by the community for further assessment include:

- *Kayaking along the river*
- *Bush walking Trails*
- *Private property*

These locations have been included on **Figure 10** and where possible will be assessed in further detail in the EIS Phase.

5.0 Existing Landscape Character

5.1 Overview of Bioregion

The Project Area sits within the sandplain between dunefields and the Riverine Plain near Balranald.

The Riverina Biogregion lies in southwest NSW and extends into central-north Victoria. It very similar to the Darling Riverine Plains Bioregion and the Murray and Murrumbidgee Rivers are one the major tributaries in this region. The Bioregion comprises of alluvial fans of the Lachlan, Murrumbidgee and Murray Rivers west of the Great Dividing Range. It is characterised by river channels, floodplains, backplains, swamps, lakes and lunettes with ecological communities that are unique to this region.

The topographic character of this area is fairly flat with gentle undulations along river plains, swales and lakes.

The region is predominantly characterized by solonized brown soils, dunes of deep browinsh sands, and drainage basins of grey cracking clays.

Vegetation in this region consists of dense to scattered belah (Casuarina cristata) and mallee (Eucalyptus socialis, E. dumosa), drainage basins of dense black box, variable speargrass, annual saltbushes and forbs. Vegetation groups in the immediate vicinity of the site include Black Box Woodland/Old Man Saltbush species such as Eucalyptus largiflorens, Artiplex nummalaria, Einadia nutans and Cotton Bush/Dillion bush species such as Maireana aphylla, Artiplex vesicaria and Rhodanthe stuartiana (Yanga Conservation Management Plan, 2013).

The Riverina Bioregion is dominated by floodplains, river channels, backplains, swamps, lakes and lunettes that are all of Quarternary age and present themselves as important habitats for unique flora and fauna within this region (Environment NSW, 2016). There are also a series of depressions, distributory channels and lakes in areas near the Project Site.

The Riverina Bioregion is typically characterised by alluvial fans and overflow of lakes. Much of the geology and geomorphology of the region is consistent to that of the Darling Riverine Plains Bioregion.

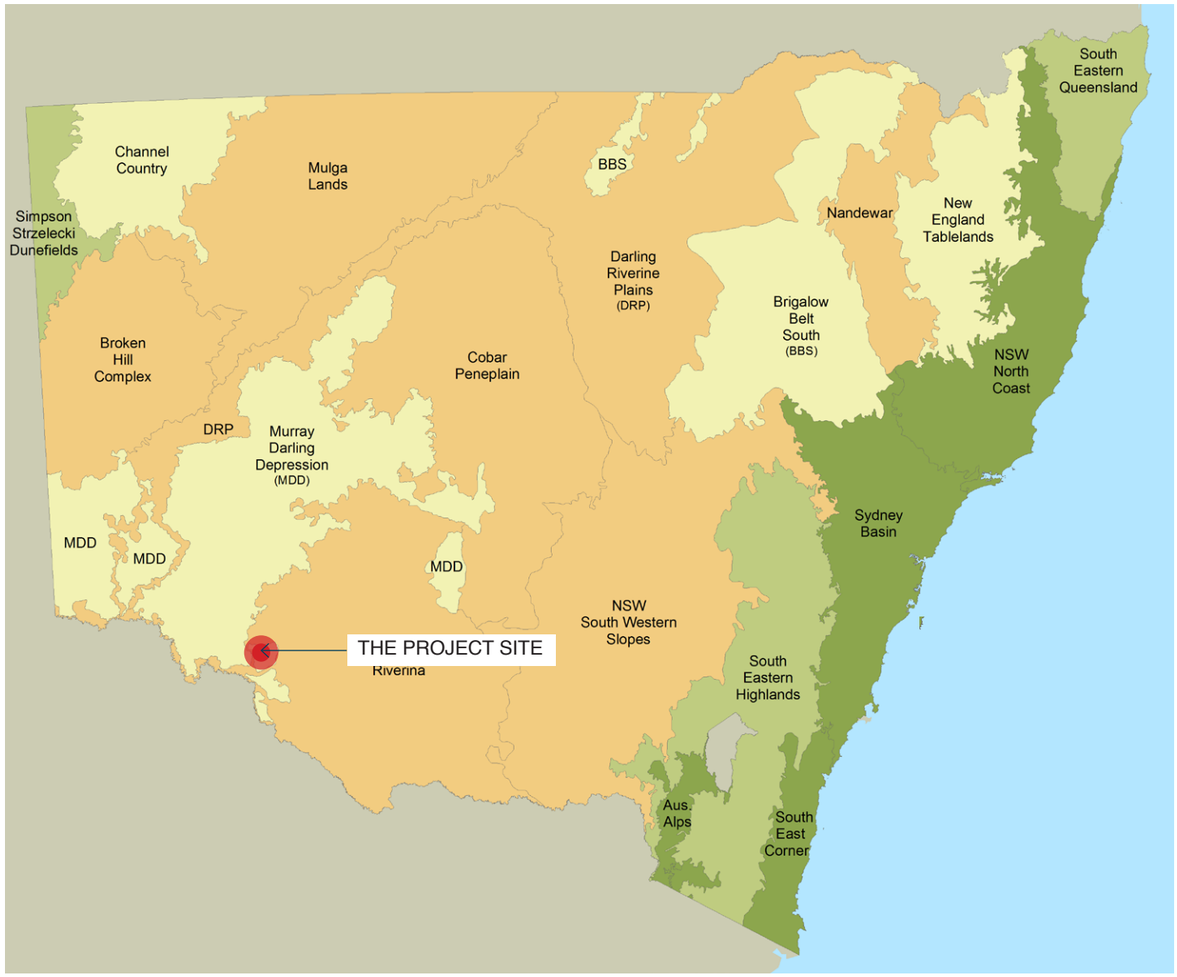


***Figure 8* Bioregions of New South Wales (Source: NPWS)**

5.0 Existing Landscape Character

5.2 Land Zoning

The Project Site is located adjacent to the Murrumbidgee Valley in the Balranald and Murray River LGA's. The following provides an overview of the land use zoning within the Study Area and its immediate surrounds (Refer to **Figure 9**).

RU1 - Primary Production

RU3 - Forestry

E1 - Natural Parks and Nature Reserves

RU1 Primary Production

The Project Site and surrounding land is predominantly zoned RU1 - Primary Production. Both Balranald and Murray River LEP state the following objective of the RU1 zoning that is relevant to the visual impact assessment:

'To protect significant scenic landscapes'.

RU3 Forestry

The western site boundary adjoins land parcels that are zoned RU3 Forestry and are to enable development for forestry purposes and other development that is compatible with forestry land uses.

E1 Natural Parks and Nature Reserves

Yanga State Conservation Area and Yanga National Park which sits within the broader context of Murrumbidgee Valley extends along the northern boundary of the Project Site for about 35 km. The Murray Valley Regional Park is located approximately 8km south of the Project Site.

These areas are classed as E1 - Natural Parks and Nature Reserves.

Nature reserves are reserved under the National Parks and Wildlife Act 1974 to protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena.

Under the Act (section 30J), nature reserves are managed to:

A nature reserve is to be managed in accordance with the following principles—

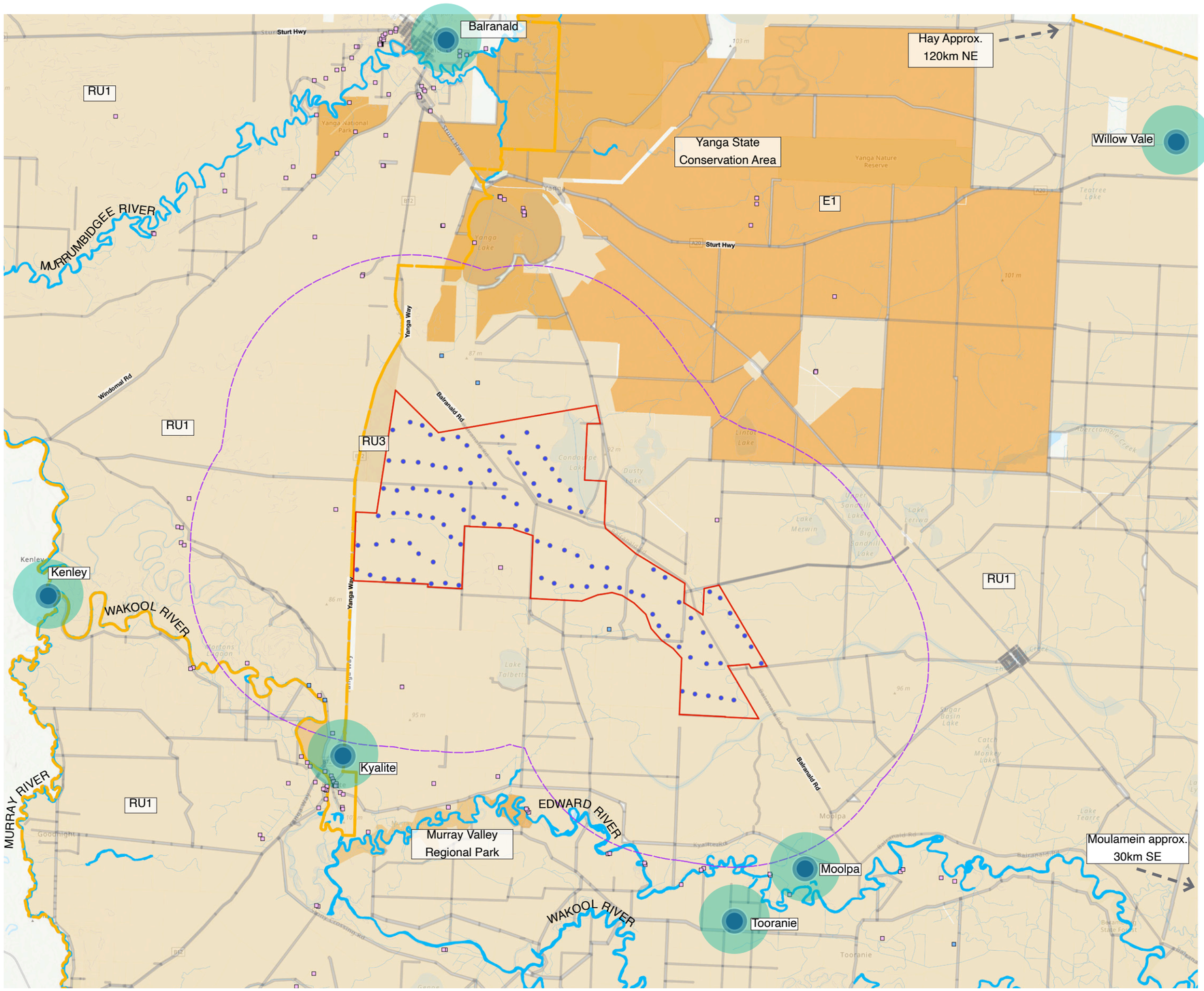
- *(a) the conservation of biodiversity, the maintenance of ecosystem function, the protection of geological and geomorphological features and natural phenomena,*
- *(b) the conservation of places, objects, features and landscapes of cultural value,*
- *(c) the promotion of public appreciation, enjoyment and understanding of the nature reserve's natural and cultural values,*
- *(d) provision for appropriate research and monitoring,*
- *(e) provision for the carrying out of development in any part of a special area (within the meaning of the Hunter Water Act 1991) in the nature reserve that is permitted under section 185A having regard to the conservation of the nature reserve's natural and cultural values.*

In addition to the areas that are classed as E1 - Natural Parks and Nature Reserves, there are a number of creeks and dry lakes that emerge from the Murrumbidgee and Edward Rivers that contribute to the character of this area. The flat topography allows for the predominance of agricultural activities such as dryland cropping, grazing and irrigated lands.

5.3 Land Use

The flat topography allows for the predominance of agricultural activities such as dryland cropping, grazing and irrigated lands. Land within the Project Site is predominately utilised for dryland cropping. Land to the north of the Site is generally Nature Conservation associated with the SCA. Land defined as mining / waste land use is located along the western boundary of the Site. Refer to **Figure 10**.

5.0 Existing Landscape Character

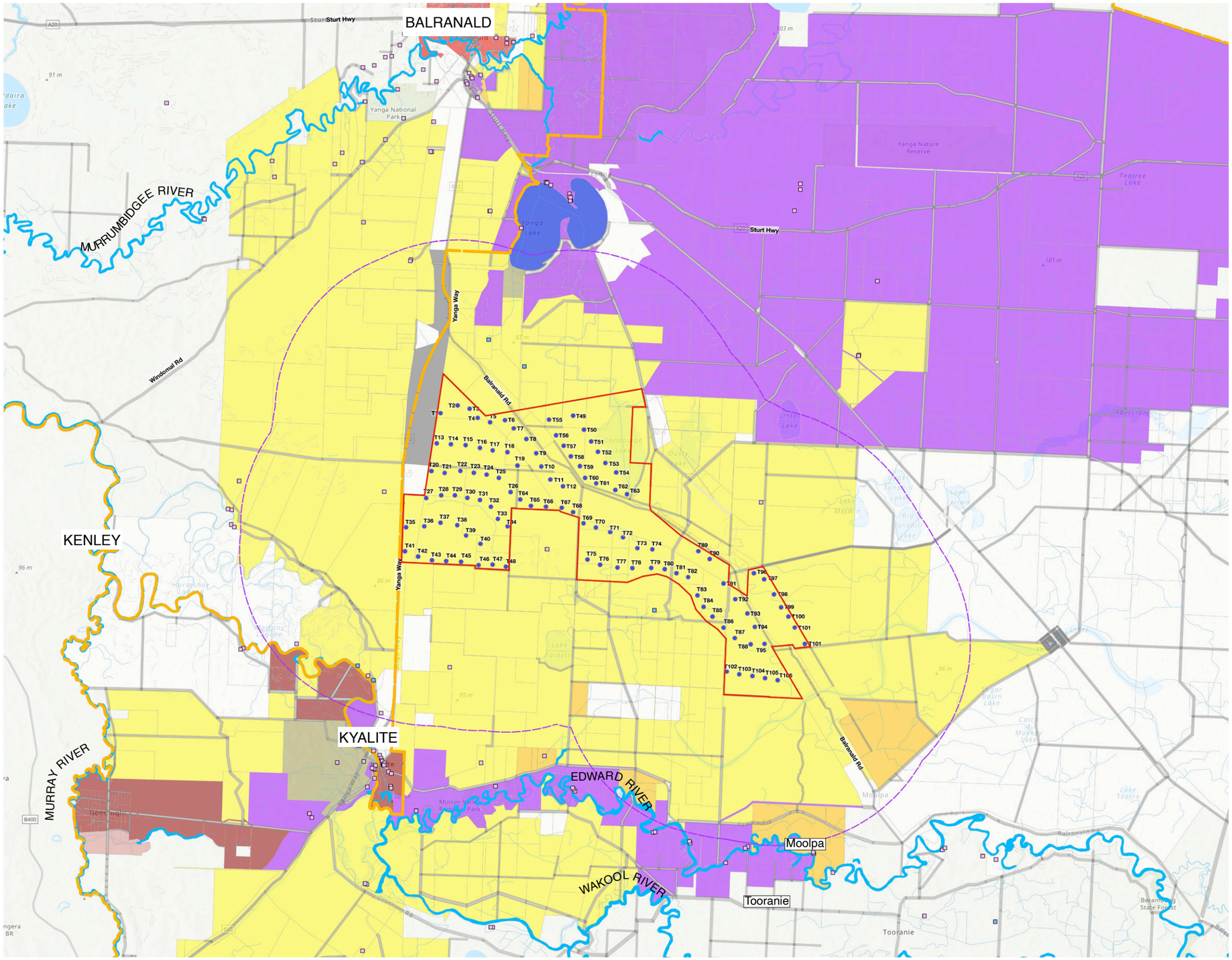


Land Zoning

- Project Boundary
- 8000m radius from wind turbines
- RU1 - Primary Production
- RU3 - Forestry
- E1 - Natural Parks and Nature Reserves
- WTG locations
- Involved dwellings
- Non-involved dwellings
- Town/Village
- LGA Boundary

***Figure 9** Land Zoning*

5.0 Existing Landscape Character



Land Use

- Project Boundary
- 8000m from wind turbines
- Dryland cropping
- Irrigated pastures
- Irrigated cropping
- Irrigated horticulture
- Intensive animal & plant production
- Grazing, native vegetation
- Nature conservation
- Mining & Waste
- Water bodies
- Urban and intensive areas
- Rivers & creeks
- WTG locations
- Non-involved dwellings
- Involved dwellings

Figure 10** **Land Use

5.0 Existing Landscape Character

5.4 Key Landscape Features

A variety of key landscape features exist within the Study Area and help to define the specific landscape character areas (refer to **Figure 11**).

Rivers and Creeks

The Murrumbidgee River runs to the northwest of the Project Area. It is a major tributary of the Murray River and continues to draw a number of people for recreational purposes in Balranald and Kyalite. To the south of the site lies Edward River and to the southwest is the Wakool River which are also tributaries of the Murray River. A number of creeks that feed into small lakes run within the region but they remain dry through most of the year.

Low-use roads generally follow the Rivers and major highways cut across with bridges. The Rivers form an important part of the Riverina basin and support diverse ecological groups predominant in this region.

Lakes

Yanga Lake is a freshwater lake that offers birdwatching and scenic views at the Yanga Homestead's viewing platform. The Lake is an important tourist attraction within the Yanga National Park and is also of high ecological value because it serves as a vital feeding and breeding ground for a number of migratory and water birds.

There are also a number of dry lakes such as Condoulpe Lake, Dusty Lake, Lintot Lake, Harveys Lake and Lake Talbetts that are located within or adjacent to the Project Area.

National Park and Nature Reserve

Yanga National Park is located to the north and northeast of the Project Area. It comprises of The Yanga National Park, Yanga Nature Reserve and Yanga State Conservation Area and is characterised by River Red Gum forest, Black Box - Nitre Goosefoot Swamp, Belah-Rosewood woodlands, native grasslands and saltbush plains that spread across 76,000 hectares over flat river plains. The Murrumbidgee River forms the 160km long western boundary of this National Park. It is also home to a variety of native and migratory fauna which rely on this ecological system for sustenance (Yanga Conservation Management Plan, 2013). Currently Yanga Lake and Homestead precinct offer recreational opportunities such as bird watching and there is considerable interest in further development of recreational opportunities at this reserve. The area is largely flat with elevations ranging from 60m to 70m, thus offering extensive views of surrounding areas.

State Forest

The Murray Valley Regional Park is located to the south and southwest of the Project Area along Wakool River and Edward River. These areas are mostly used for recreational activities such as fishing, boating, camping, bird watching and walks. The Park also supports a range of native wildlife elements.

Topography

The landscape is generally flat with very gentle undulations near lakes and rivers reminiscent of the Riverine Plain character. The Lakes in the region have sandy lunettes associated to them and these date back to 40,000 to 15,000 years ago (Bowler, 1976).

Scenic Lookouts and Points of Interest

The Nature Reserves along the rivers and Yanga Lake are a major draw card to the area. There are a number of campgrounds and resting spots that attract tourists, especially to the Murray Valley Regional Park. Yanga Homestead, Picnic Area and Viewing Platform serves as an important tourist destination which offers scenic views of the Lake and opportunities for passive recreation.

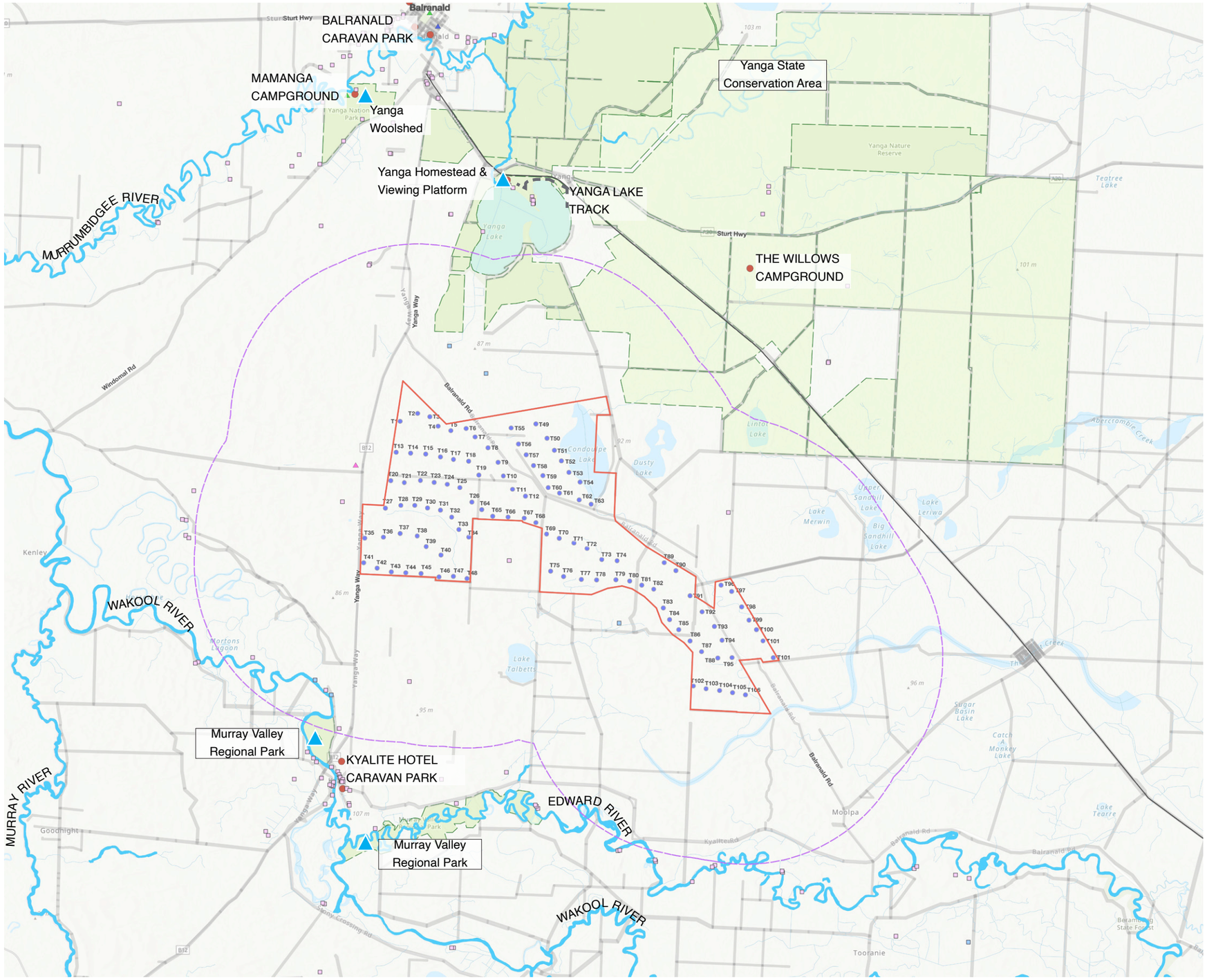
The Yanga Woolshed is also an important heritage element and it offers areas for picnic and walking tours. None of the tourist elements are located within the project area but are located within a 10km radius from the proposed turbine locations.

Walking Tracks & Camp Grounds

The Yanga Lake Walking track is a 1km loop track that runs along the Lake and offers scenic views of the Lake. Yanga Woolshed also has some picnic areas that can be used as a starting point for water-based and land-based activities such as fishing, boating, walking, cycling or resting spots.

Campgrounds and Caravan Parks are located in the vicinity of the Murrumbidgee and Edward River. The Mamanga/Yanga campground, Balranald caravan Park, Edward River Bridge campground and Kyalite campground are prominent tourist spots which receive high tourist footfall.

5.0 Existing Landscape Character



Landscape Features and Key Viewpoints

- Project boundary
- WTG locations
- Involved residence
- Non-involved residence
- 8000m from turbine
- National Park / Nature Reserve
- State Forest
- Walking Tracks
- Campgrounds
- Points of Interest
- Rivers & creeks

Figure 11** **Landscape Features and Key Viewpoints

5.0 Existing Landscape Character

5.5 Preliminary Landscape Character Units

A number of Landscape Character typologies exist within the Study Area (refer to **Figure 12**). As apart of the Preliminary Landscape Character Assessment, a total of five (5) key landscape typologies referred to hereafter as Landscape Character Units (LCU) have been identified.

The following section provides an overview of the LCUs and preliminary Scenic Quality Ratings applied. The LCUs and Scenic Quality Ratings will be determined in the EIS Phase of the Project to reflect input provided by the community during ongoing consultation.

Table 2 provides a brief overview of the potential visibility of the Project from each of the LCUs .

5.5.1 LCU01: Yanga Lake National Park

With largely flat parcels of land with gentle undulations around Lakes and Rivers, this character unit comprises of the National Park, Nature Reserve and State Conservation Area that spread over an area of 72,336 hectares. It is characterised by native endemic flora and fauna which are unique to this region. The land is classified as nature conservation area and has major recreational significance. The Yanga Homestead and historical outbuildings are located with the National Park.

Historical outbuilding associated with Yanga Homestead

Yanga Lake within Yanga National Park

5.5.2 LCU02: Murrumbidgee River Plain

The banks of the Murrumbidgee River offer some very gentle undulations in an otherwise flat landscape presented within the region. Land use in the area is mostly grazing and native vegetation areas with pockets of dryland or irrigated cropping, modified pastures and recreational areas in proximity to the River. A small parcel of the Yanga National Park is located along the River and this includes the Mamanga/Yanga campground and Yanga Woolshed sites. Dense vegetation is a unique characteristic of the area.

Picnic Area at Murrumbigdee River

Murrumbigdee River on Mayall Street, Balranald

5.0 Existing Landscape Character

5.5.3 LCU03: Murray Valley

Edward River and Wakool River are tributaries of the Murray River. The ecological character of area is highly significant and an important widlife corridor. Some parcels of land are under the Murray Valley National Park but the land use is mostly dryland agriculture, irrigated pastures and grazing lands. Vegetation in the area is generally located along rivers and creeklines. The two settlements within this precinct are Kyalite and Moolpa which are characterised by a small group of houses and basic amenities rather than any major infrastructure.

Picnic Area at Wakool River, Kyalite

Kyalite Bridge crossing the Wakool River

5.5.4 LCU04: Dry Lakes

Depressions within the landscape have created some shallow lakes that remain dry through most of the year. There are no recreational associations with these lakes and they may or may not serve as feeding grounds for wildlife. The land is mostly utilised for dryland cropping and is located on private properties. Some of the lakes are located within the Yanga Nature Reserve.

Depression and vegetation associated with Harveys Lake

5.5.5 LCU05: Agricultural Lands

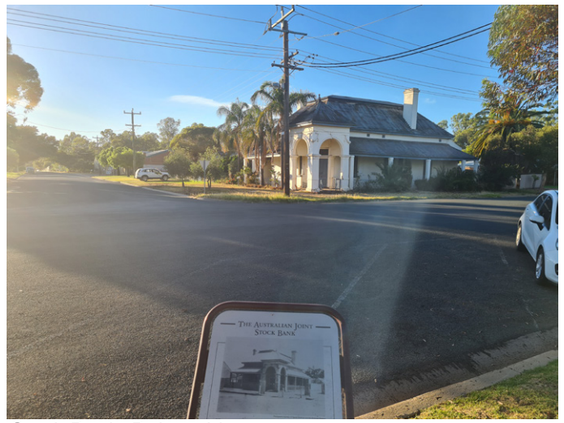
This character unit comprises of the largest number of land parcels and is the predominant character of this region. The land is extensively used for dryland cropping, grazing lands and irrigated horticulture, pastures and cropping. Flat land parcels serve well for agricultural purposes and the vegetation in these areas is highly modified. The project area is located within this precinct.

Typical character of Agricultural Lands LCU

Dryland Cropping Typical of the LCU

5.5.6 LCU06: Town / Village

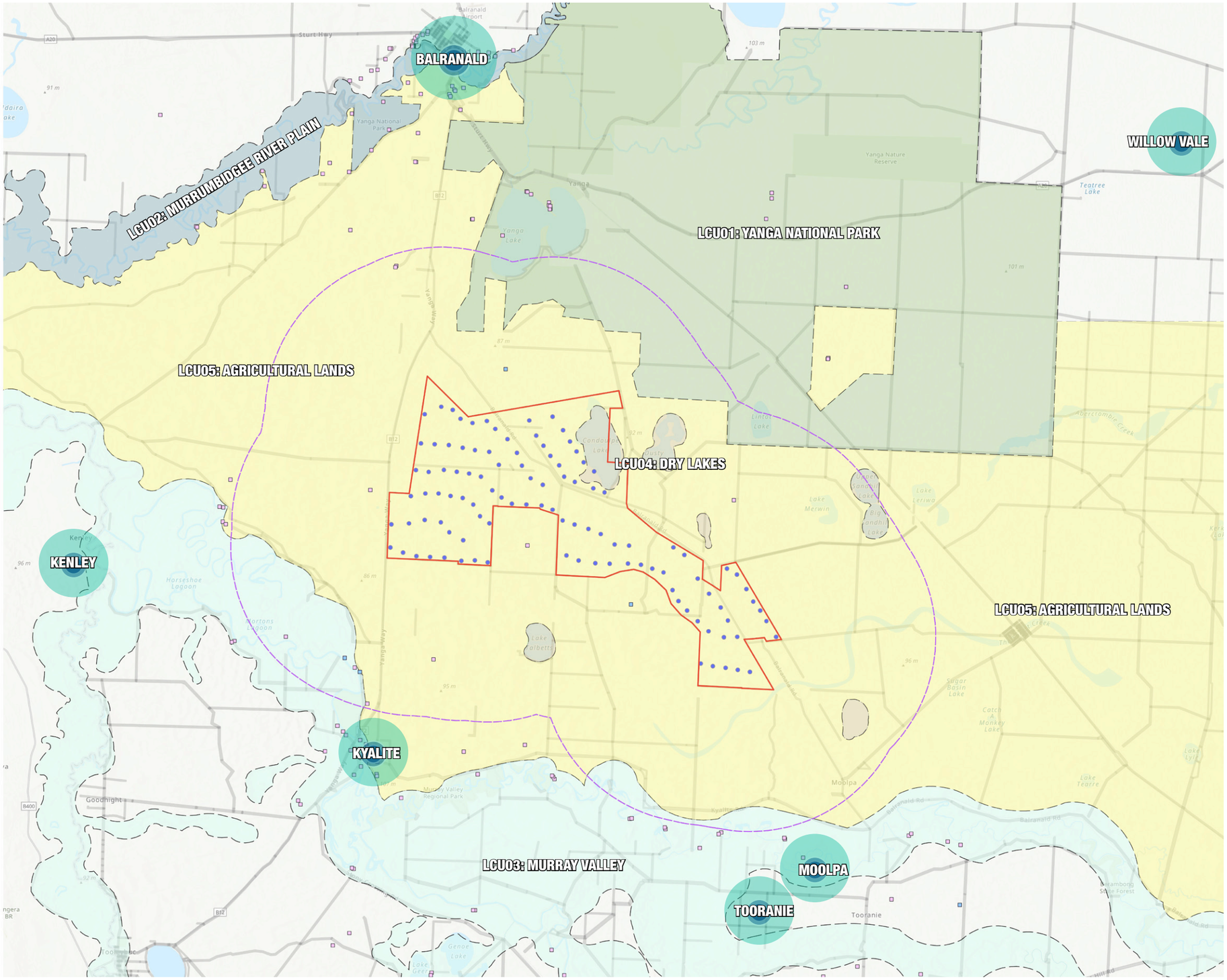
This character unit comprises of the towns and villages that are located within the Study Area. In particular Balranald and Kyalite. Balranald is a heritage town located on the Murrumbigdgee River. Kyalite is a small village which consists of rural dwellings and a caravan park.



Stock Bank, Balranald

Market Street, Balranald (Source: Google Maps)

5.0 Existing Landscape Character



Preliminary Landscape Character Units

- Project Boundary
- LCU01: Yanga Lake National Park
- LCU02: Murrumbidgee River Plain
- LCU03: Murray Valley
- LCU04: Dry lakes
- LCU05: Agricultural lands
- WTG locations
- Involved Residences
- Non-involved Residences
- Town/Village

Figure 12 ***Preliminary Landscape Character Units***

5.0 Existing Landscape Character

5.6 Overview of Preliminary Landscape Character Units

The following table providea a preliminary assessment of the potential visual impacts resulting from the Project on the identified Landscape Character Units (LCU).

The following section provides an overview of the LCUs and preliminary Scenic Quality Ratings applied. The LCUs and Scenic Quality Ratings will be determined in the EIS Phase of the Project to reflect input provided by the community during ongoing consultation.

Table 2 provides a brief overview of the potential visibility of the Project from each of the LCUs .

Landscape Character Units		
LCU:	**Name:**	**Preliminary Visual Impact Assessment**
LCU01	**Yanga Lake National Park**	Due to the flat topography and relatively low vegetation in the Yanga National Park. It is likely views to the Project will be available from some of the limited accessible areas within the Yanga National Park. Views of the Project from the National Park will be limited to distant views (in excess of 10 kilometers).
LCU02	**Murrumbigdgee River Plain**	Views from the Murrumbigdee River Plain are generally contained by vegetation. As a result it is expected the visual impacts resulting from the Project will be minimal from this LCU.
LCU03	**Murray Valley**	Land associated with the Murray Valley LCU is generally characterised by vegetation associated with the associated rivers. As a result it is expected the visual impacts resulting from the Project will be minimal from this LCU.
LCU04	**Dry Lakes**	The Dry Lakes LCU is characterised by uninhabited land. As a result the Project is unlikely to result in a visual impact on the LCU.
LCU05	**Agricultural Lands**	Views to the Project are likely to be available at varying degrees from the LCU characterised as agricultural lands. Detailed assessment of key public viewpoints and non-involved landowners with potential visual impacts will be undertaken in the LVIA phase.
LCU06	**Town / Village**	Distant views to the Project may be available from Balranald and Kyalite. Detailed assessment of key public viewpoints with potential visual impacts will be undertaken in the LVIA phase.

Table 2 ***Overview of Preliminary Visual Impact Assessment of LCUs***

6.0 Preliminary Assessment Tools

6.1 Preliminary Assessment Tools

Preliminary assessment tools have been developed in the Bulletin to provide an early indication of where turbines require careful consideration because of potential visual impacts. The tools apply to both dwellings and key public viewpoints in the study area. The tools provide an early indication of where placement of turbines will require further assessment and justification, and where consultation with potentially affected landowners needs to be focused – including discussions for landholder agreements.

The preliminary assessment tools involve analysis of two key visual parameters:
1. Visual Magnitude (***Refer to Section 6.2***)
2. Multiple Wind Turbine Tool (***Refer to Section 6.4***)

6.2 Preliminary Assessment Tool 1: Visual Magnitude

The Visual Magnitude Threshold is based on the height of the proposed wind turbines to the tip of the blade and distance from dwellings or key public viewpoints as shown in ***Figure 13***.

In accordance with the Bulletin ***'proposed turbines below the black line must be identified along with the dwellings or key public viewpoints as part of the request for SEARs'.*** The proposed wind turbines are based on a worst case scenario with a tip height of 300 metres. The 'black line 'intersects at a distance of ***4000 metres*** and the 'blue line' intersects at ***5900 metres***.

For the purpose of the Preliminary Assessment, the Visual Magnitude thresholds are based on a 2D assessment of the Project alone. Further assessment may indicate factors such as topography, relative distance and existing vegetation may minimise or eliminate the impacts of the project from residences.

6.3 Overview of Preliminary Visual Magnitude Assessment

- The Preliminary Assessment Tool 1 identified a total of **three (3)** non-involved dwellings (BALWF58, BALWF123, BALWF147) within ***4000m*** of a proposed turbine.

- The Preliminary Assessment Tool 1 identified **one (1)** non-involved dwelling (BALWF067) within ***4000 - 5900m*** of a proposed turbine.

- ***Residences identified within 5900m of the nearest proposed turbine are shown on Figure 14 and listed in Table 3.***

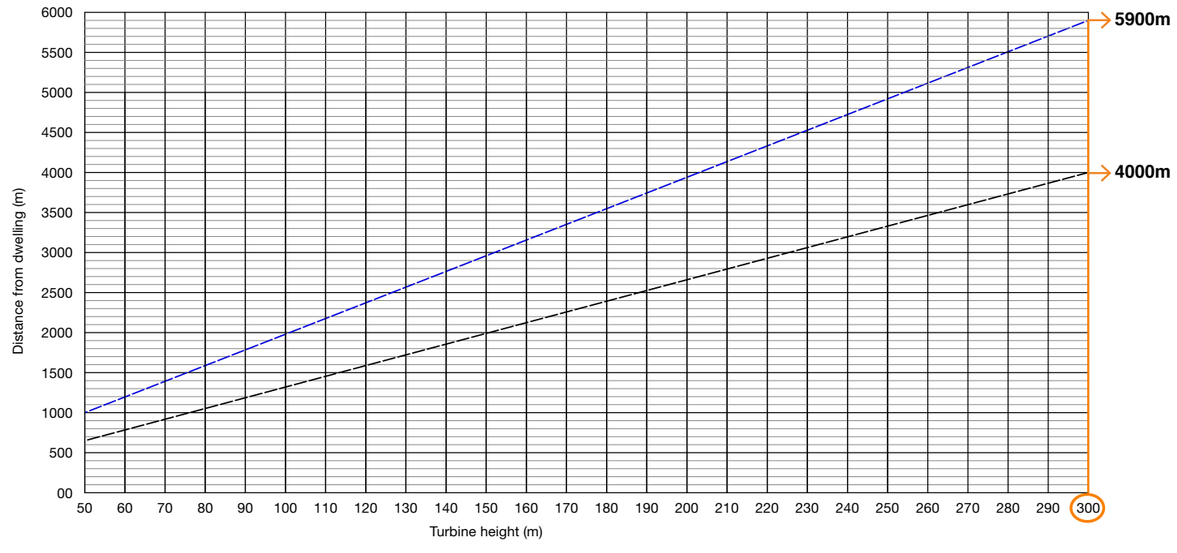
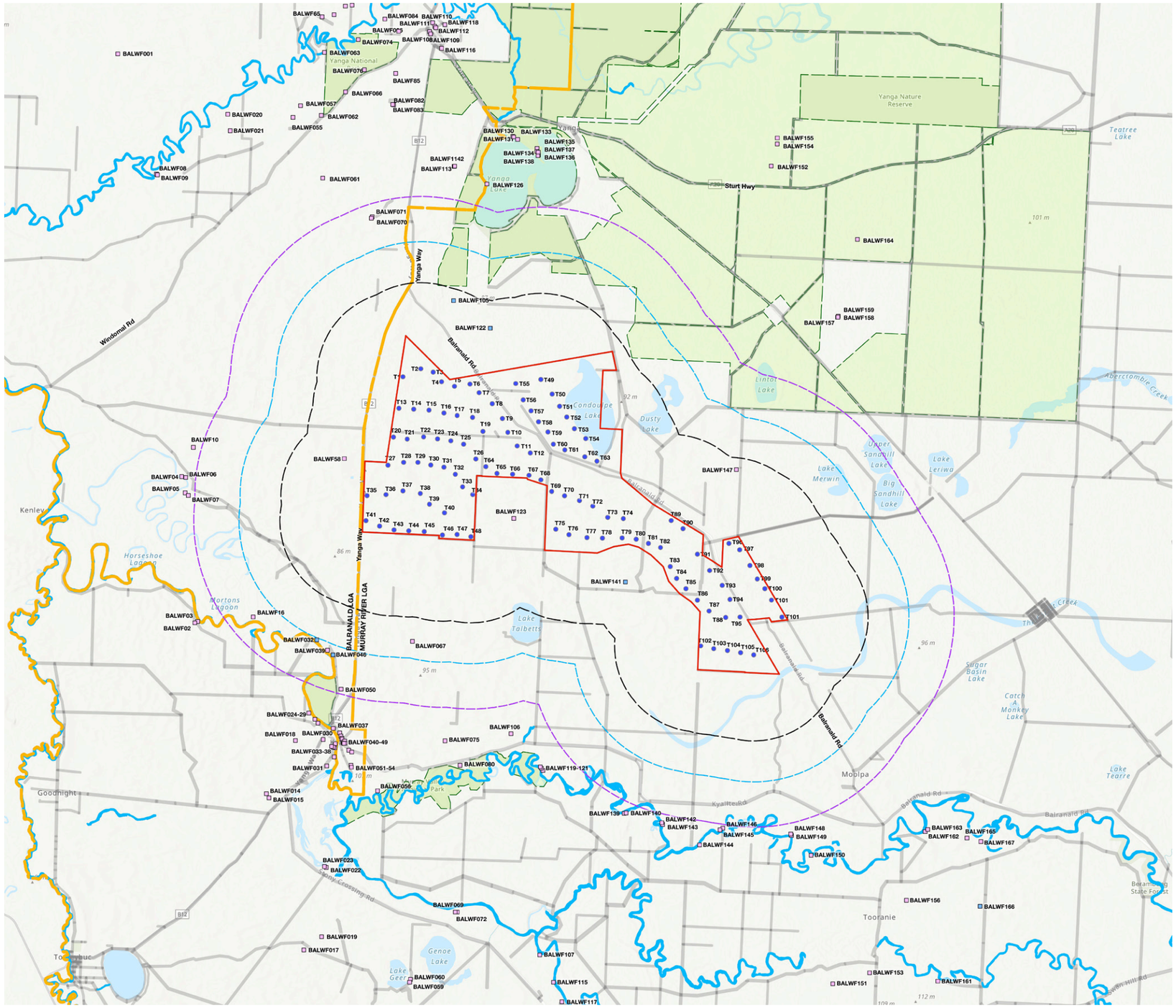


Figure 13 Visual Magnitude thresholds for Project Layouts

(Source: Visual Assessment Bulletin)

Next Steps:

'Further assessment and justification for placement of turbines located in these sensitive areas in the EIS will be required, along with a description of mitigation and management measures being employed to reduce impacts. This assessment may identify that factors such as topography, relative distance and existing vegetation may minimise or eliminate the impacts of the project'.



Preliminary Visual Magnitude
Proposed Burrawong Wind Farm

LEGEND

- Project Boundary
- Proposed 300 m Turbine Location
- Involved Dwelling
- Non-involved Dwelling
- 4000 m from turbine
- 5900 m from turbine
- 8000 m from turbine
- Main Road
- Minor Road
- National Park / Nature Reserve
- State Forest
- LGA Boundary
- Rivers & Creeks

Note:

Preliminary Assessment Tool 1: Visual Magnitude is based on a 2D Assessment alone and does not take into account topography, vegetation or other screening factors which may reduce the potential for viewing turbines.

***Figure 14** Preliminary Visual Magnitude - Burrawong Wind Farm*

6.0 Preliminary Assessment Tools

6.4 Preliminary Assessment Tool 2: Multiple Wind Turbine Tool

The Multiple Wind Turbine Tool provides a preliminary indication of potential cumulative impacts arising from the proposed wind energy project. To establish whether the degree to which dwellings or key public viewpoints may be impacted by multiple wind turbines, the proponent must map into six sectors of 60° any proposed turbines, and any existing or approved turbines within eight kilometres of each dwelling or key public viewpoint. ***Figure 15*** below provides examples of where a dwelling or key public viewpoint may have views to turbines in multiple 60° sectors.

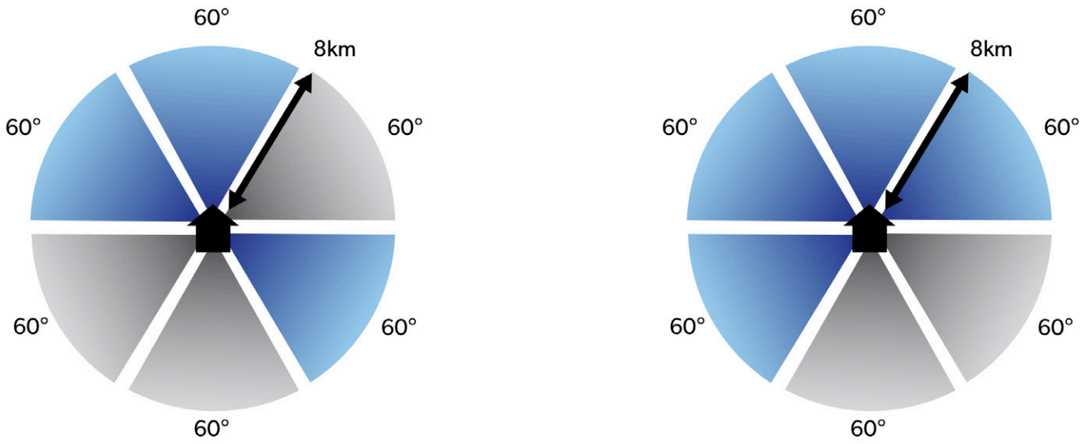


***Figure 15* Preliminary Assessment Tool: Multiple Wind Turbines**

(Source: Visual Assessment Bulletin)

In accordance with the Bulletin *Where wind turbines are visible within the horizontal views of the dwelling or key public viewpoints in three or more 60° sectors, the proponents must identify the turbines, relative dwelling and key public viewpoint, along with the relative distance and submit these to the Department as part of the request for SEARs.* These turbines will become a focus for assessment in the EIS.

Figure 16 provides an overview of the number of 60° sectors visible from each of the dwellings identified within 8 kilometres.

6.5 Overview of Preliminary Multiple Wind Turbine Tool Assessment

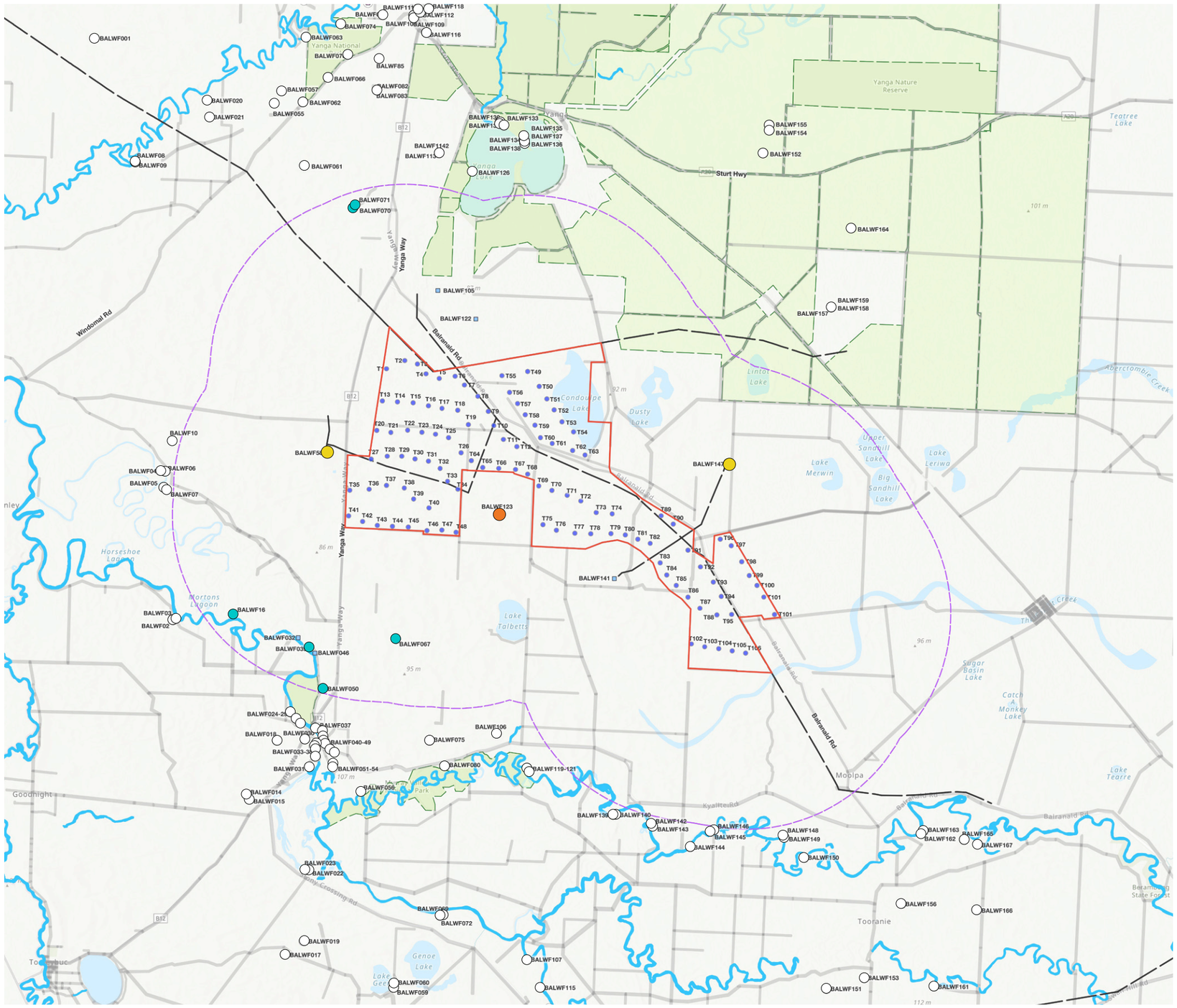
Note the following preliminary assessment of the multiple wind turbine tool is based on a 2D assessment in accordance with the Bulletin:

- One (1) non-involved dwelling has the potential to view turbines in up to four (4) 60 degree sectors (BALWF123).
- Two (2) non-involved dwellings have the potential to view turbines in up to three (3) 60 degree sectors (BALWF058 and BALWF147).
- The remaining dwellings are likely to have views to turbines in up to one (1) 60° sector or are in excess of 8km from the nearest turbine which is deemed acceptable.

Residences identified with three or more sectors are shown on Figure 15 and identified in Table 2. Further assessment and justification of these dwellings will be detailed in the EIS.

Next Steps:

Further assessment and justification for placement of turbines in multiple sectors will need to be detailed in the EIS, along with a description of the mitigation and management measures being employed to reduce impacts. Such further assessment may identify that factors such as topography, relative distance and existing vegetation may minimise the impacts of the project.



Preliminary Multiple Wind Turbine Tool

Proposed Burrawong Wind Farm

LEGEND

- Project Boundary
- Proposed 300m Turbine Location
- Involved Dwelling
- Non-involved Dwelling
- 8000m from nearest turbine
- Main Road
- Minor Road
- National Park / Nature Reserve
- State Forest
- Transmission Line
- Rivers & Creeks

NUMBER OF NON-INVOLVED SECTORS (Within 8kms):

- Dwelling in excess of 8 kilometres
- One 60° Sector (60°)
- Up to 2 60° Sectors (120°)
- Up to 3 60° Sectors (180°)
- Up to 4 60° Sectors (240°)

Note:

Preliminary Assessment Tool 2: Multiple Wind Turbine Tool is based on a 2D Assessment alone and does not take into account topography, vegetation or other screening factors which may reduce the potential for viewing multiple turbines.

***Figure 16** Multiple Wind Turbine Tool - Burrawong Wind Farm*

7.0 Preliminary Zone of Visual Influence

7.1 Preliminary Zone of Visual Influence

The Bulletin states *'the use of Geographic Information Systems (GIS) to facilitate the application of the tools will streamline the evaluation phase of the evaluation phase of a project during the pre-lodgement stage. This can also assist in refining the number of turbines and viewpoints that will ultimately need more detailed assessment.'*

A preliminary Zone of Visual Influence (ZVI) has been prepared for Burrawong Wind Farm to illustrate the theoretical visibility of the proposed project (based on the preliminary layout). A wind turbine height of 300 metres has been used to provide a worst case scenario.

The Zone of Visual Influence (ZVI) represents the area over which a development can theoretically be seen, and is based on a Digital Terrain Model (DTM). The ZVI usually presents a bare ground scenario - ie. A landscape without screening, structures or vegetation, and is usually presented on a base map. It is also referred to as a zone of theoretical visibility (The Landscape Institute and the institute of Environmental Management and Assessment, 2002).

The ZVI has been determined through the use of digital topographic information and 3D modelling software *WindPro*. The ZVI has been assessed to approximately 10km from the project. Although it is possible for the development to be visible from further than 10km away, it is generally accepted that beyond 10km visibility is greatly diminished.

A preliminary ZVI figure has been prepared by Moir LA to assess the Burrawong Wind Farm. ***Figure 17*** depicts the areas of land from which the proposed development may be visible and provides an indicative number of visible wind turbines.

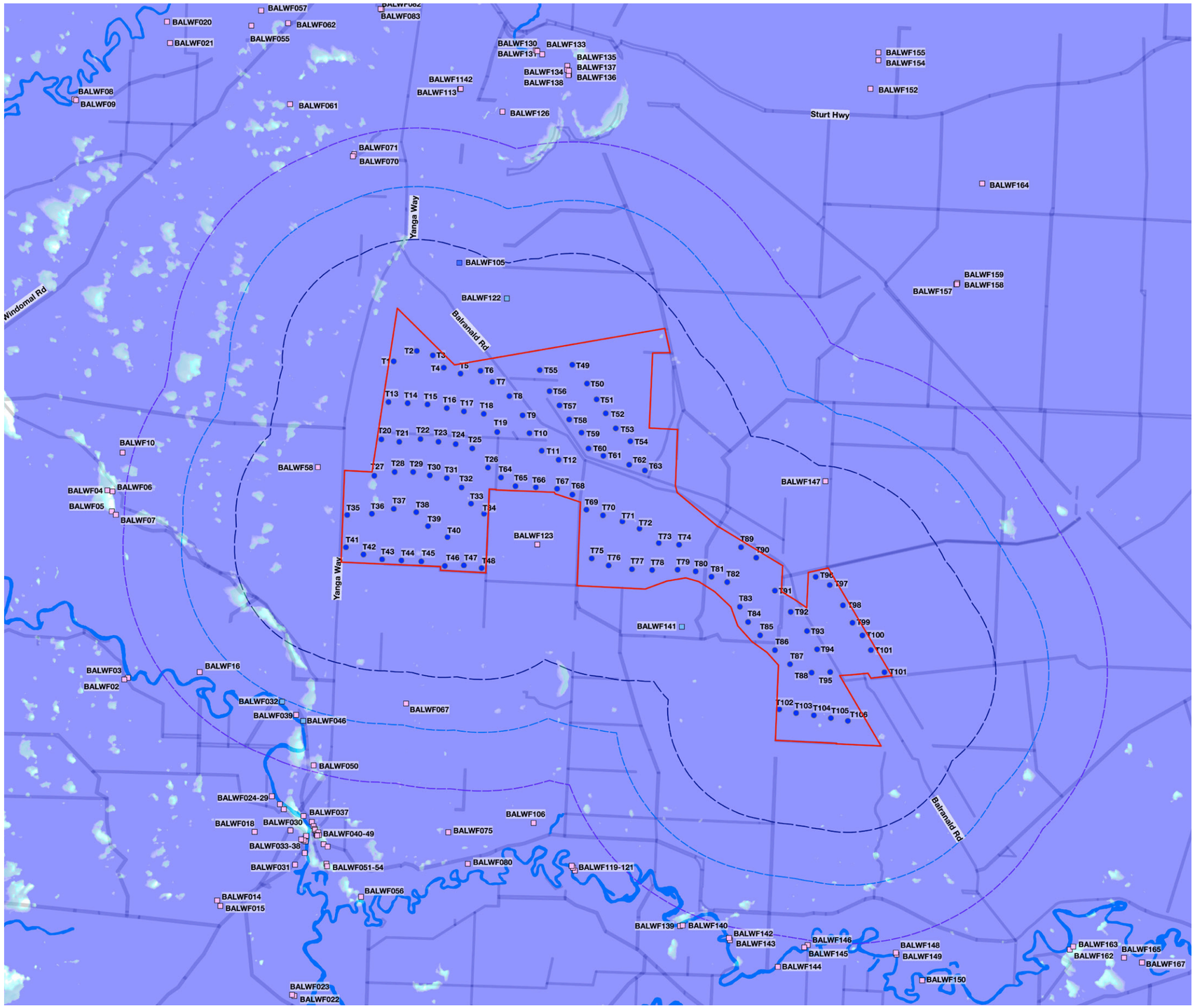
7.2 Summary of Preliminary Zone of Visual Influence

The following provides a brief summary of the Preliminary Zone of Visual Influence map prepared for Burrawong Wind Farm:

- Due to the relatively flat topography that characterises the landscape, the majority of turbines associated with the Project are likely to be visible from most areas surrounding the Site.
- Some small pockets of land to the west of the site have been identified in the ZVI as having views to a number of visible turbines screened by topography.
- Views to the majority of turbines associated with the Project are likely to be visible from all dwellings within 8 kilometres of the Project.

It is important to reiterate this is a preliminary ZVI is based on a worst case scenario assessment with no vegetation or structures. Ground truthing during field work will ascertain potential visibility taking into account structures and vegetation.

7.0 Preliminary Zone of Visual Influence



Zone of Visual Influence

Proposed Burrawong Wind Farm

LEGEND

- Project Boundary
- Proposed Turbine Location
- Involved Dwelling
- Non-involved Dwelling
- 4000m from nearest turbine
- 5900m from nearest turbine
- 8000m from nearest turbine
- Road
- Rivers & Creeks

ZVI Number of Visible Turbines:

- 0
- 1-49
- 50-89
- 90-107

Note:

The ZVI is a preliminary assessment tool that represents a bare ground scenario - ie. 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 the ZVI is based solely on topographic information. Therefore this form of mapping should be acknowledged as representing the worst case scenario.

0 2 4 6 8 10km

N

***Figure 17** Theoretical Zone of Visual Influence - Burrawong Wind Farm 300m Turbine Height*

8.0 Preliminary Dwelling and Viewpoint Analysis

8.1 Preliminary Assessment of Dwellings

Table 2 provides a summary of the application of the preliminary assessment tools for each of the residences within 5900 metres of the nearest turbine.

Appendix A provides detailed assessment with the application of preliminary assessment tools for the following four (4) residences within 5900 metres of the nearest turbine:

- BALWF058
- BALWF123
- BALWF147
- BALWF067

Refer to **Figure 18.**

Further detailed assessment and justification for the placement of turbines within 4000 metres of a dwelling and in multiple sectors will be undertaken at the EIS stage of the visual impact assessment.

8.2 Preliminary Assessment of Public Viewpoints

Appendix C provides preliminary assessments from Public Viewpoints. A total of ten (10) preliminary viewpoints have been selected to illustrate the varying landscape character typologies throughout the Study Area and provide a preliminary assessment of the potential visibility of the Project (as shown on **Figure 18**).

Non-involved residences within 4000 metres of nearest WTG (Black Line of Visual Magnitude)					
Dwelling ID:	**Location**	**Approx distance to nearest WTG (kms)**	**Nearest WTG**	**Number of 60° sectors (Based on 2D Assessment)**	**Approx. number of potentially visible WTGs (Based on ZVI)**
Non-involved:					
BALWF058	*Mallee Highway*	**2.218 km**	**T35**	**3**	**107**
	Views likely to be available of all proposed turbines to the east. Scattered vegetation is expected to fragment views.				
BALWF123	*Arundel Road*	**1.990 km**	**T75**	4	**107**
	Views likely to be available of all proposed turbines to the west, north and east. Wind break planting surrounding the dwelling vegetation is expected to screen views.				
BALWF147	*Big Sandhill Road*	**3.360 km**	**T96**	**3**	**107**
	Views likely to be available of all proposed turbines to the south west. Scattered vegetation is likely to fragment views.				
Non-involved residences within 4000 - 5900 metres of nearest WTG (Blue Line of Visual Magnitude)					
Dweling ID:	**Location**	**Approx distance to nearest WTG (kms)**	**Nearest WTG**	**Number of 60° sectors (Based on 2D Assessment)**	**Approx. number of potentially visible WTGs (Based on ZVI)**
Non-involved					
BALWF067	*Off Yanga Way*	**5.065 km**	**T46**	1	**107**
	Views likely to be available of all proposed turbines to the north east. Scattered vegetation is likely to fragment views.				

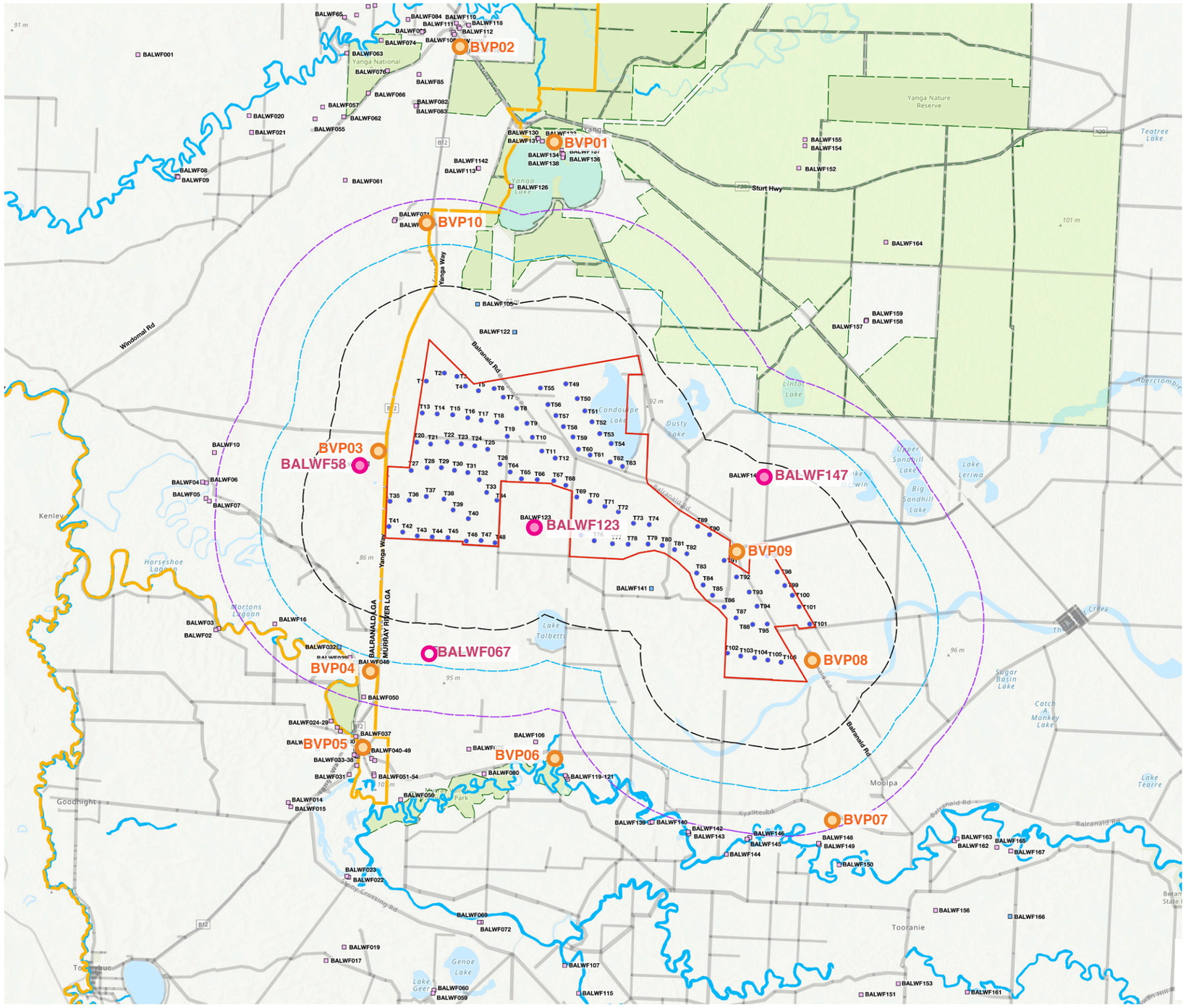
Table 3 Overview of Preliminary Assessment for residences within 5900 metres

KEY:

Three (3) 60° Sectors (180°)

Four (4) 60° Sectors (240°)

8.0 Preliminary Dwelling and Viewpoint Analysis



Preliminary Dwelling and Viewpoint Analysis Locations

Proposed Burrawong Wind Farm

LEGEND

- Project Boundary
- Proposed 300m Turbine Location
- Preliminary Dwelling Analysis Location **(Refer to Appendix A)**
- Preliminary Public Viewpoint Analysis Location **(Refer to Appendix C)**
- Involved Dwelling
- Non-involved Dwelling
- 4000m from turbine
- 5900m from turbine
- 8000m from turbine
- Main Road
- Minor Road
- National Park / Nature Reserve
- State Forest
- LGA Boundary
- Rivers & Creeks

Figure 18** **Preliminary Dwelling and Viewpoint Assessment Locations

9.0 Summary and Recommendations

9.1 Summary of Preliminary Visual Impact Assessment

This PVIA report has been undertaken in accordance with the Visual Assessment Bulletin, and will be submitted with the Scoping Report in the request for Secretary's Environmental Assessment Requirements SEARs. The following provides a brief summary of the PVIA and outlines the steps that will be undertaken in the Landscape and Visual Impact Assessment (LVIA) which will be undertaken during the EIS Phase of the Project.

Community Consultation

The report outlined the findings of community consultation to date which assisted in establishing the following:

- Key landscape features
- Defined areas of scenic quality and
- Identify key public viewpoints valued by that community.

Next Steps:

Community consultation will be ongoing through the Project. Ongoing input from the community will assist the preparation of the LVIA.

Existing Landscape Character

This PVIA provided a detailed assessment of the existing landscape character of the Study Area through the following:

- Identified land uses, key landscape features and key viewpoints,
- Categorisation of six (6) preliminary Landscape Character Units (LCUs),
- A brief preliminary overview of the potential visual impacts has been provided for each LCU.

Next Steps:

- Utilise the landscape character assessment to prepare a detailed Visual Baseline Study.
- Identify any additional key features, key viewpoints valued by the community through consultation.
- Refine the Landscape Character Units and allow the community to provide feedback on the relative scenic quality ratings of LCUs.
- Determine the Visual Influence Zone of key viewpoints and assess against the objectives outlined in the Visual Assessment Bulletin.

Application of the Preliminary Assessment Tools:

The purpose of the Preliminary Assessment Tools in the PVIA is to identify 'sensitive receptors' for further assessment in the EIS Phase of the Project.

- The Visual Magnitude Tool identified a total of **three (3) non-involved dwellings** within the black line of visual magnitude (4,000 m) and **one (1) non-involved dwellings** within the blue line of visual magnitude (4,000 - 5,900 m).
- The Multiple Wind Turbine Tool (MWTT) was applied to all dwellings within 8000 m of the nearest proposed turbine.
- The MWTT identified three (3) dwellings with turbines in more than two (2) 60 degree sectors.

Next Steps:

- Undertake detailed dwelling assessment at sensitive non-involved dwellings.
- The LVIA will assess each 'sensitive receptor' in detail to take into account topography, vegetation and other screening factors.
- Determine the potential visual impact of each sensitive receptor and provide mitigation methods to reduce potential visual impacts.

Zone of Visual Influence

A Zone of Visual Influence (ZVI) has been prepared to illustrate the theoretical visibility of the Project and to assist in defining the visual catchment.

Next Steps:

- The LVIA will require further detailed assessment from areas identified as having potential visibility in the Preliminary ZVIs.
- Graphic representations of the Project using GIS technology including wire frame diagrams and photomontages will be provided in the EIS phase.

References

References:

NSW Planning and Environment, *Wind Energy: Visual Assessment Bulletin For State significant wind energy development*, December 2016.

NSW Department of Planning, Industry and Environment, *New South Wales National Parks and Wildlife Services, Developments adjacent to National Parks and Wildlife Service lands: Guidelines for consent and planning authorities*, 2020.

https://www.environment.nsw.gov.au/bioregions

Maps:

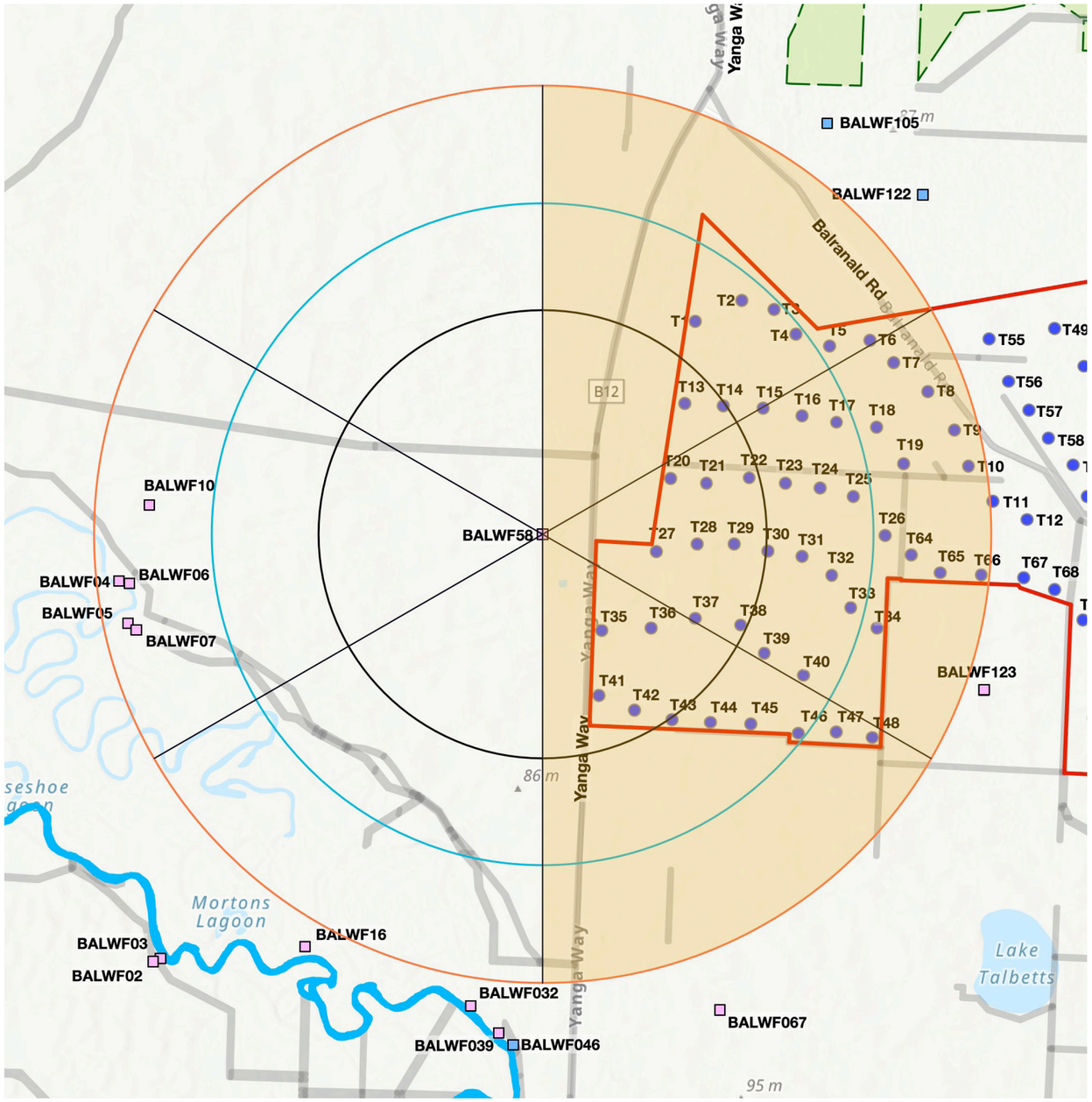
NSW Government Land and Property Information, Spatial Information Exchange SIX Maps, Accessed at: <http://maps.six.nsw.gov.au/> [Accessed between January 2021 – July 2021]

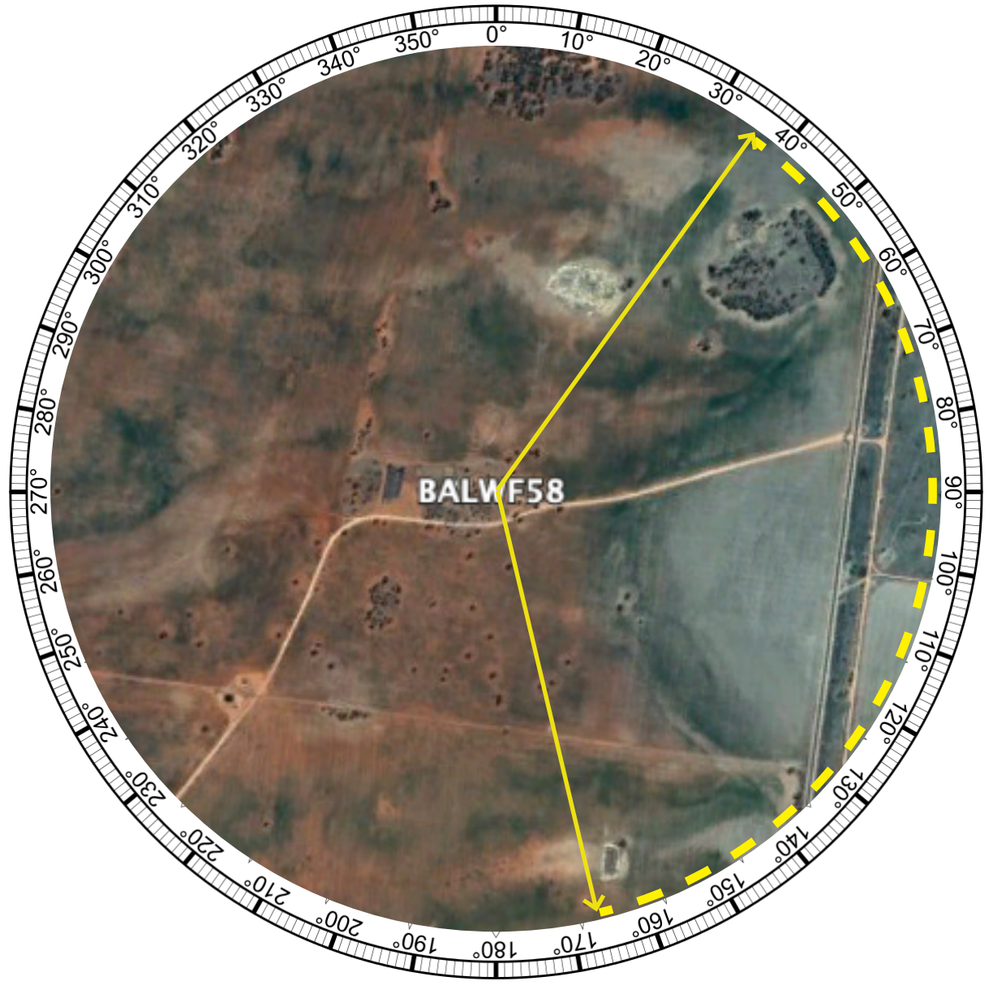
Google Earth Pro 2021 [Viewed January 2021 - July 2021] www.google.com/earth/index.html

Appendix A

Preliminary Dwelling Assessment

BALWF058 Preliminary Assessment Tools



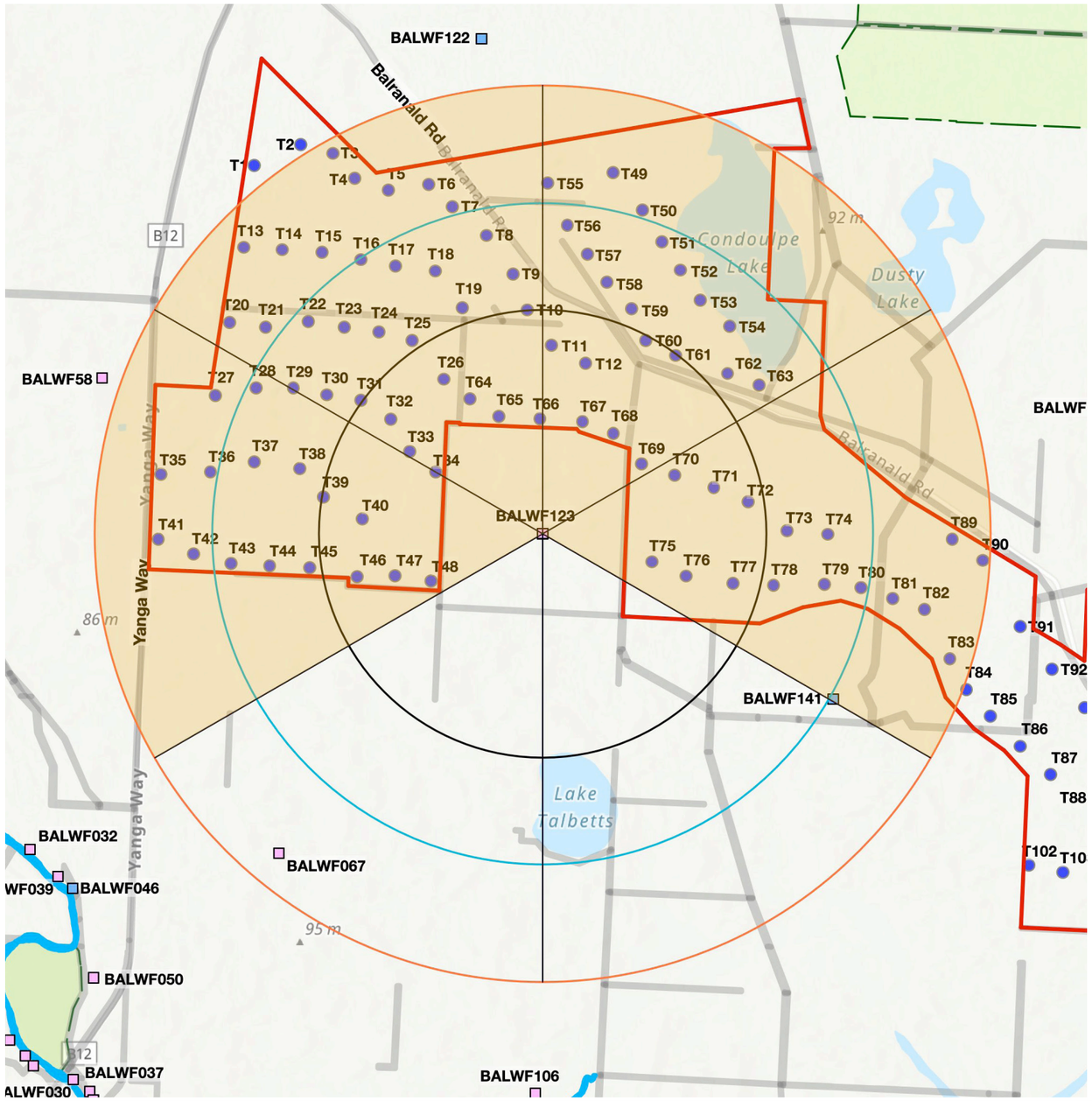


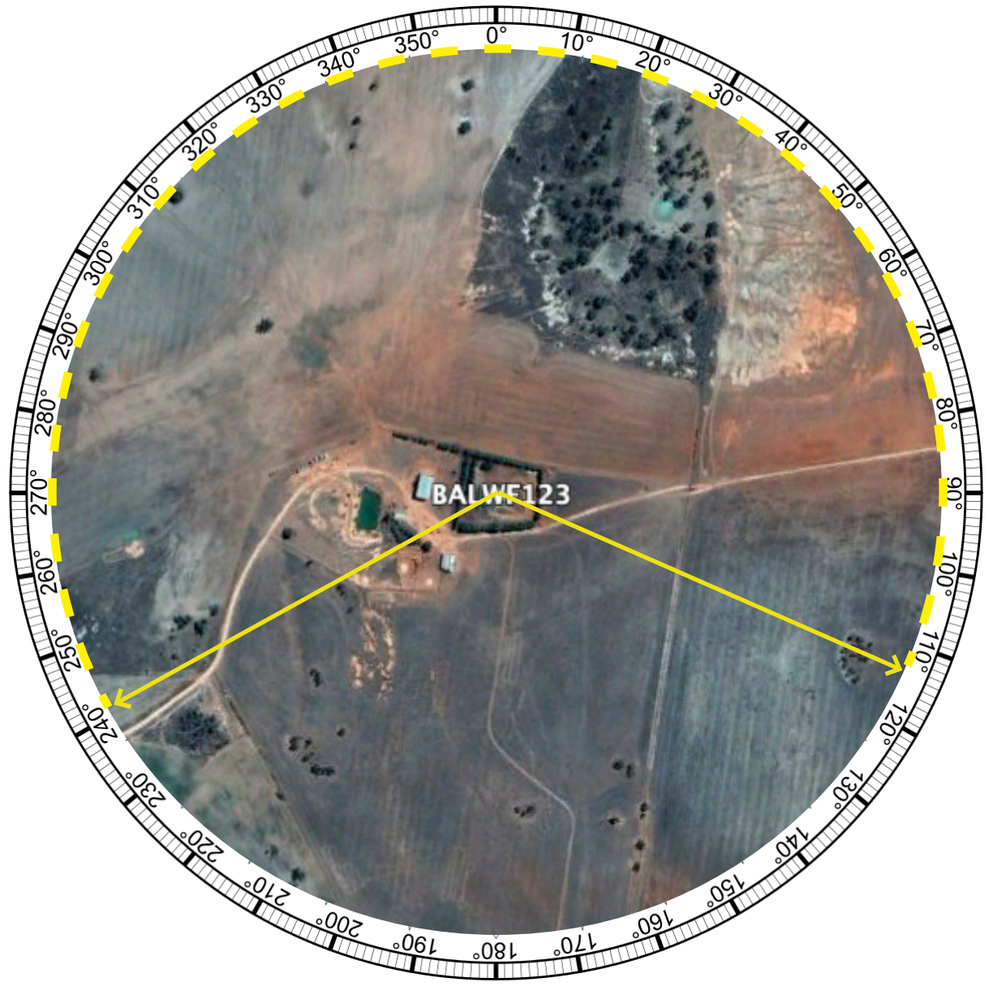
LEGEND

- Project Boundary
- Proposed Turbine Location
- Involved Dwelling
- Non-involved Dwelling
- 4,000 m from nearest turbine (Black Line)
- 5,900 m from nearest turbine (Blue Line)
- 8,000 m from nearest turbine
- 60° sector
- 60° sector with turbines

Summary of Preliminary Assessment Tools:	
Distance to Nearest Turbine:	**2.218 km**
Number of proposed turbines within Black Line (4,000 m):	**16**
Number of theoretical 60° sectors (Based on 2D assessment):	**3 (Up to 180°)**

BALWF123 Preliminary Assessment Tools



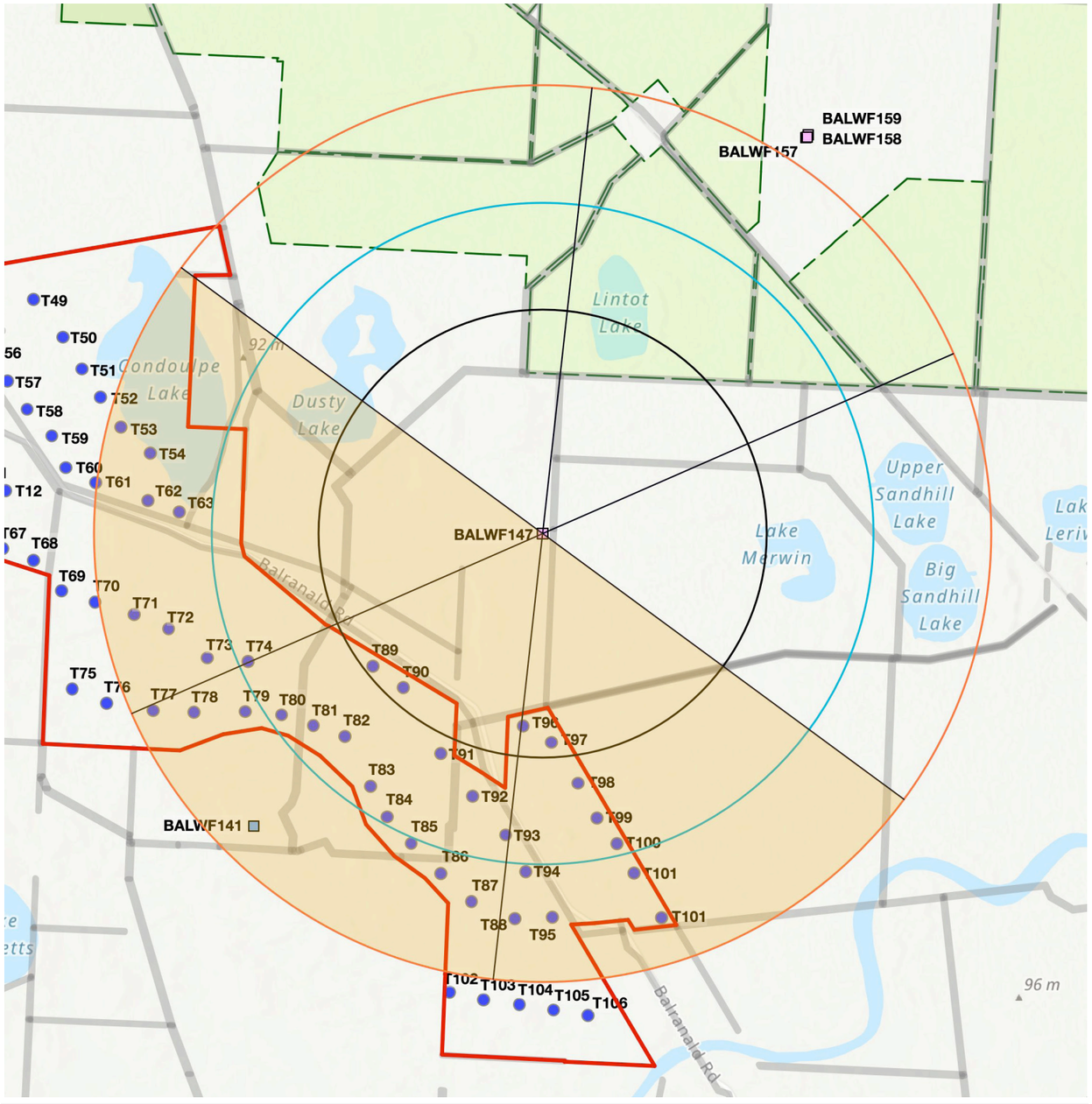


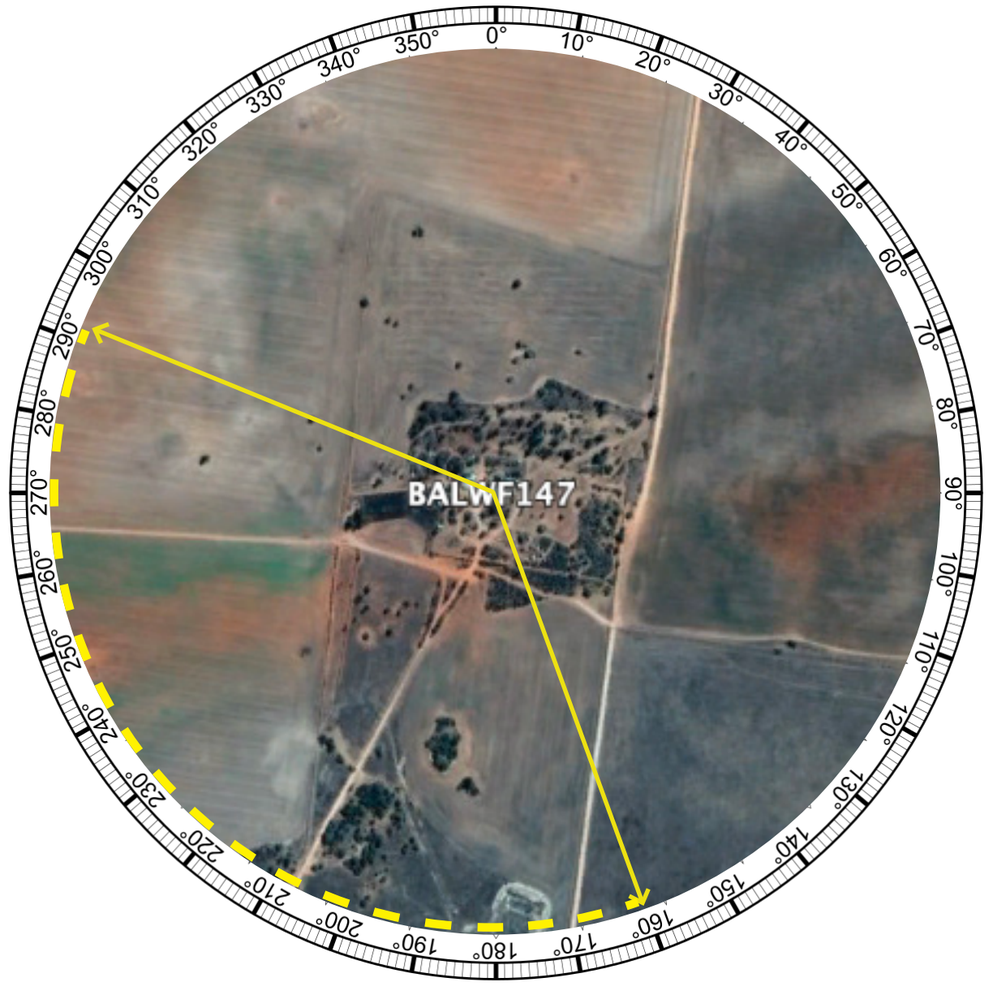
LEGEND

- Project Boundary
- Proposed Turbine Location
- Involved Dwelling
- Non-involved Dwelling
- 4,000 m from nearest turbine (Black Line)
- 5,900 m from nearest turbine (Blue Line)
- 8,000 m from nearest turbine
- 60° sector
- 60° sector with turbines

Summary of Preliminary Assessment Tools:	
Distance to Nearest Turbine:	**1.990 km**
Number of proposed turbines within Black Line (4,000 m):	**23**
Number of theoretical 60° sectors (Based on 2D assessment):	**4 (Up to 240°)**

BALWF147 Preliminary Assessment Tools



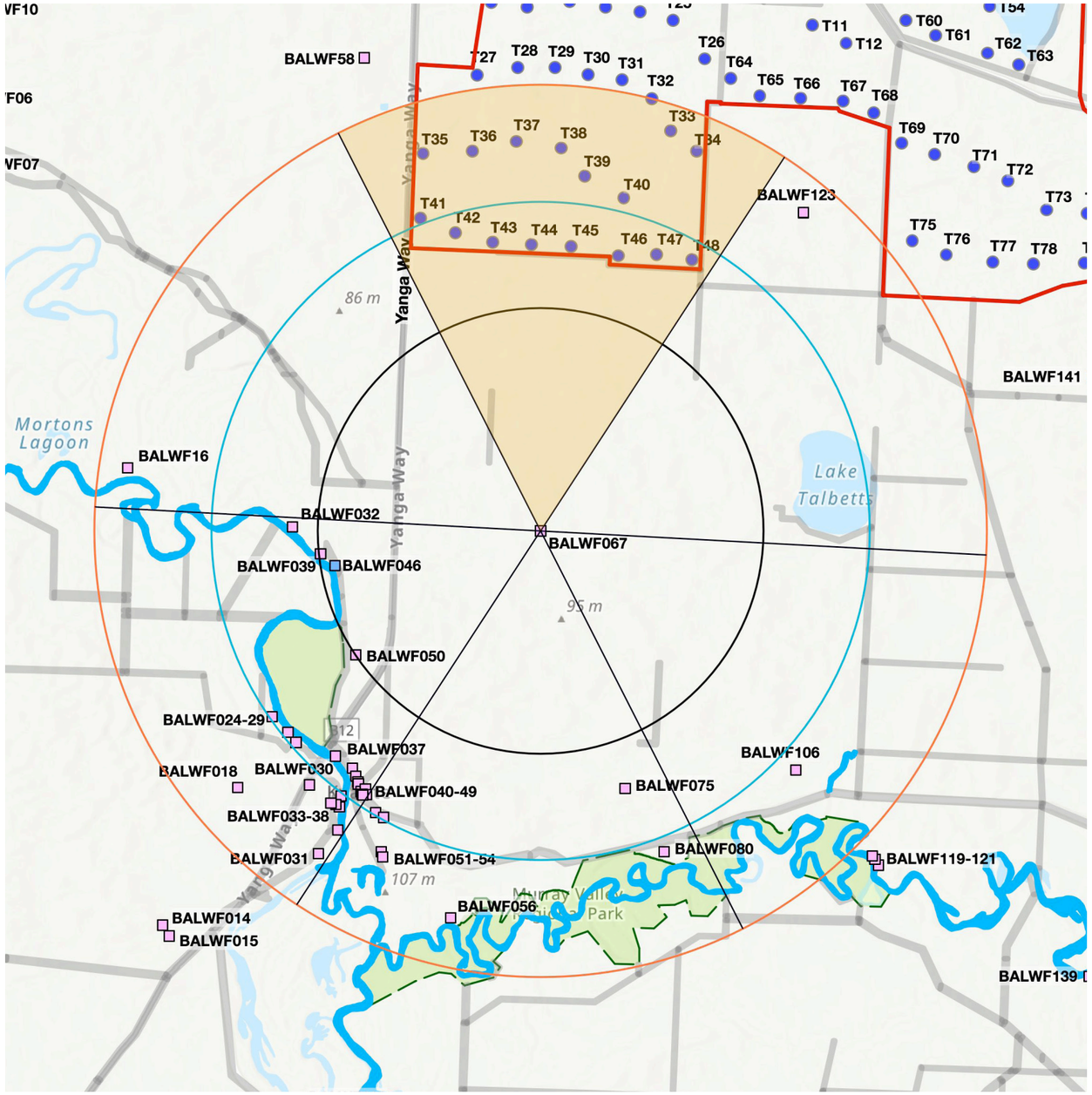


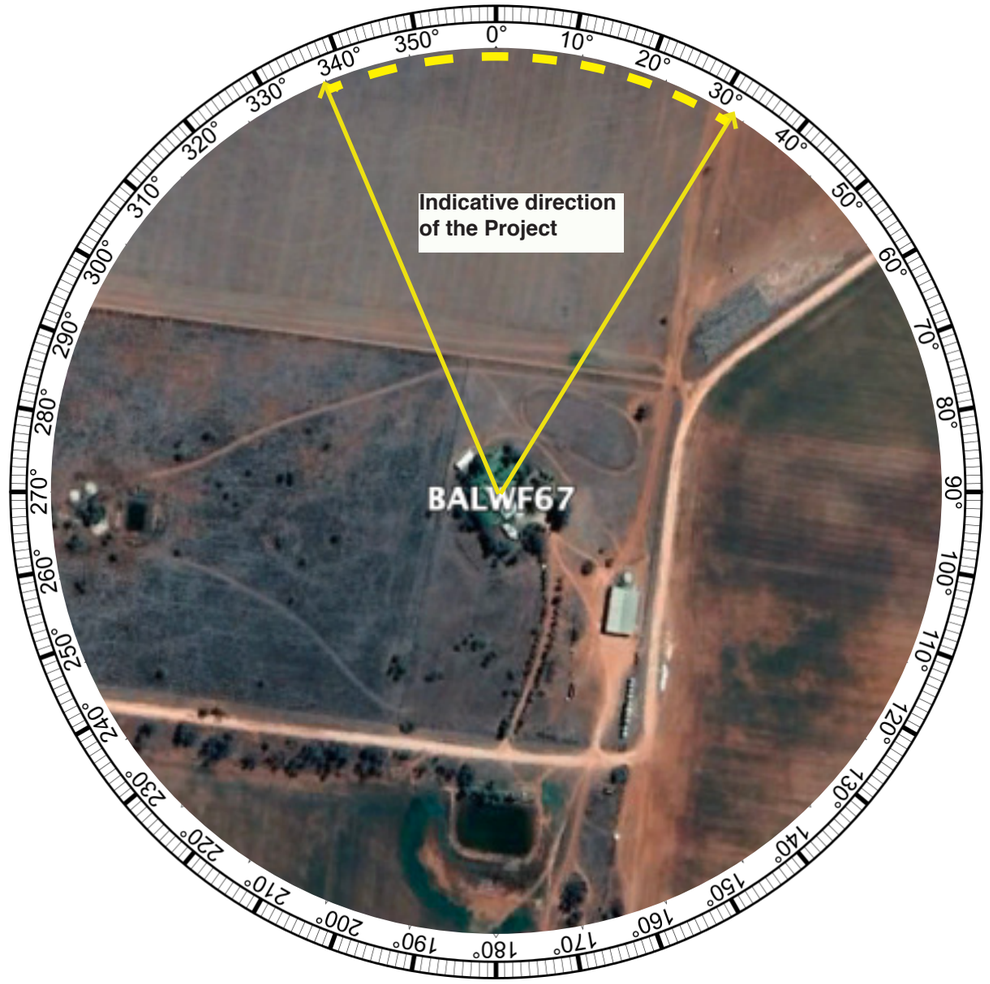
LEGEND

- Project Boundary
- Proposed Turbine Location
- Involved Dwelling
- Non-involved Dwelling
- 4,000 m from nearest turbine (Black Line)
- 5,900 m from nearest turbine (Blue Line)
- 8,000 m from nearest turbine
- 60° sector
- 60° sector with turbines

Summary of Preliminary Assessment Tools:	
Distance to Nearest Turbine:	**3.360 km**
Number of proposed turbines within Black Line (4,000 m):	**4**
Number of theoretical 60° sectors (Based on 2D assessment):	**3 (Up to 180°)**

BALWF067 Preliminary Assessment Tools





LEGEND

- Project Boundary
- Proposed Turbine Location
- Involved Dwelling
- Non-involved Dwelling
- 4,000 m from nearest turbine (Black Line)
- 5,900 m from nearest turbine (Blue Line)
- 8,000 m from nearest turbine
- 60° sector
- 60° sector with turbines

Summary of Preliminary Assessment Tools:	
Distance to Nearest Turbine:	**5.065 km**
Number of proposed turbines within Black Line (4,000 m):	**Nil**
Number of theoretical 60° sectors (Based on 2D assessment):	**1 (Up to 60°)**

Appendix B

Community Consultation Responses

APPENDIX B Community Consultation

Community Values Survey

Thank you for taking the time to provide feedback on what you value about the Balranald and Kyalite area. This survey will take 5 minutes and your answers will be used for Windlab to understand what matters to you.
It's optional, but if you would like to stay up to date on the project, you can also share your contact details with us.
For more information, or if answers need to be changed, please email Windlab on windlabnsw@windlab.com or phone (02) 6175 4600.

1. Which of the following best describe where you live?

- ○ Balranald
- ○ Kyalite
- ○ Moolpa
- ○ Yanga
- ○ Outside of Riverina area
- ○ Other (Please specify)

Next

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Source: https://www.windlab.com/our-projects/burrawong-wind-farm/

Community Values Survey

Enable Immersive Reader

Section

2. What do you value most about your local area?
(Please select one or more)

- ☐ Community / Family
- ☐ Cultural Heritage
- ☐ Employment opportunities
- ☐ Farming
- ☐ Local history
- ☐ Recreation opportunities
- ☐ Other (Please specify)

3. If Other, please specify what you value most about your local area

Enter your answer

4. Based on your current understanding of renewable energy, what do you believe are the most positive benefits of the proposed project?
(Please select one or more)

- ☐ Clean energy
- ☐ Increase in tourism
- ☐ Investment in the local community
- ☐ Job creation
- ☐ Land use diversification
- ☐ Road upgrades
- ☐ Visual appeal
- ☐ Other (Please specify)

Source: https://www.windlab.com/our-projects/burrawong-wind-farm/

5. If Other, please specify the most positive benefits of the proposed project

Enter your answer

6. Based on your current understanding of renewable energy and the proposed project, what are your main concerns?

(Please select one or more)

- [ ] Effects on flora and fauna
- [ ] Effects on land use
- [ ] No concerns
- [ ] Noise
- [ ] Traffic
- [ ] Visual
- [ ] Other (Please specify)

7. If Other, please specify what your main concerns are?

Enter your answer

8. In your opinion what are the key landscape features in the area?

(Note these can include natural features such as a distinct mountain peak or cultural features such as an iconic church)

Enter your answer

9. What are the best lookouts / public viewing locations within the study area and its surrounds?

(If you have a visitor, where do you take them to showcase your local area?)

Enter your answer

Source: https://www.windlab.com/our-projects/burrawong-wind-farm/

10. Please rate the scenic value of the following landscape features

(The high = most valued)

	Low	Moderate	HIgh
Bushland Areas	○	○	○
Grazing Land	○	○	○
Hills	○	○	○
Ridgelines	○	○	○
Rivers / Creeks	○	○	○
Townships	○	○	○
Vegetation	○	○	○

Back Next

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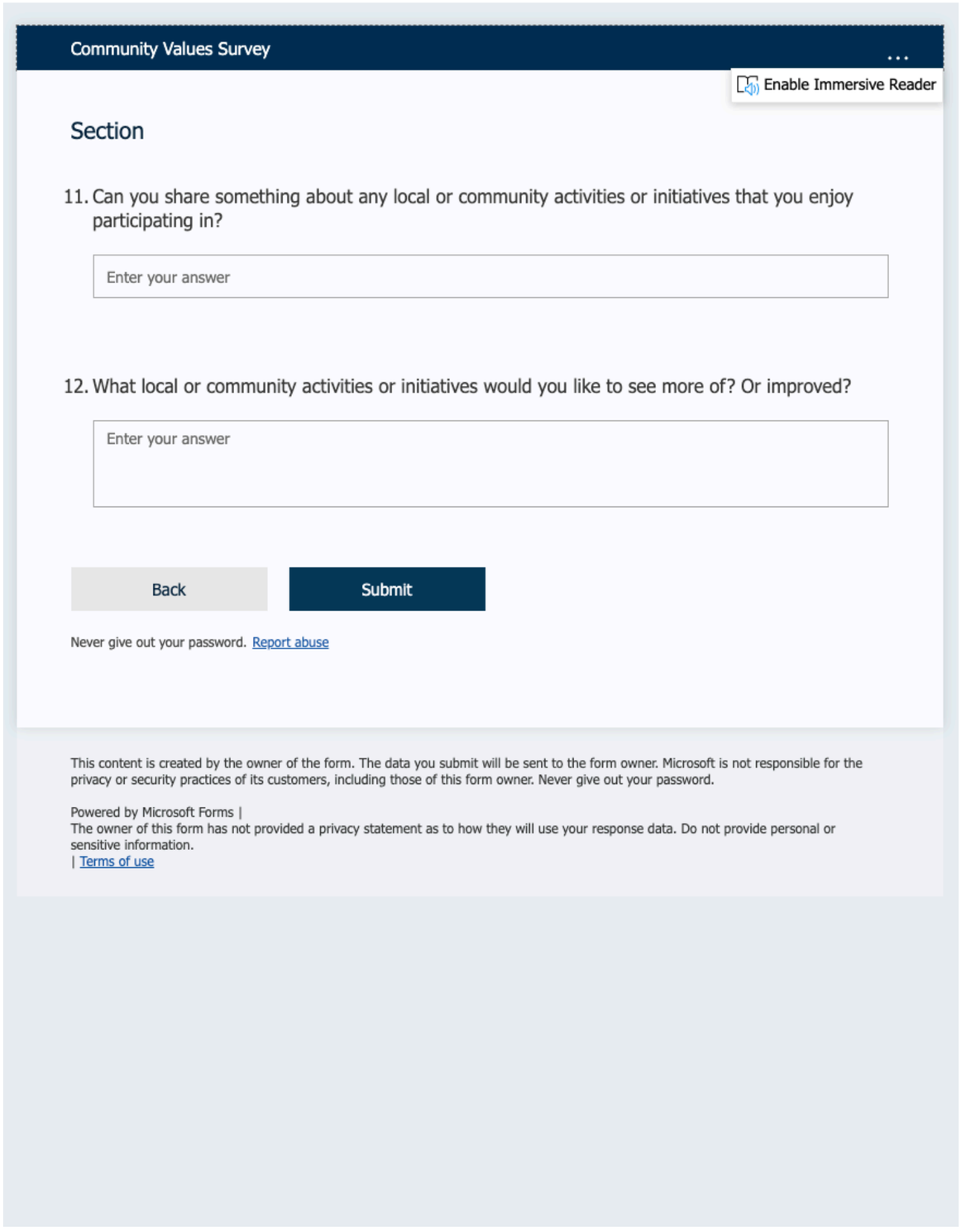
Source: https://www.windlab.com/our-projects/burrawong-wind-farm/

APPENDIX B Community Consultation



Community Values Survey

...

Enable Immersive Reader

Section

11. Can you share something about any local or community activities or initiatives that you enjoy participating in?

Enter your answer

12. What local or community activities or initiatives would you like to see more of? Or improved?

Enter your answer

Back

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Source: https://www.windlab.com/our-projects/burrawong-wind-farm/

APPENDIX B Community Consultation

Question 8: In your opinion what are the key landscape features in the area?	Question 9: What are the best lookouts / public viewing locations within the study area and its surrounds?
Murray River	Yanga National Park, Mungo National Park, Murrumbidgee River for kayaking & Bush Walking
Edwards River	River Scenery. Yanga shearing sheds & homestead.
Lachlan River	Kyalite Hotel
Lake Yanga and Yanga National Park. Murrumbidgee River and River red gums, box trees etc. Farming Land.	Yanga Station (Homestead) viewing over Lake Yanga. Balranald Township (Lake Yanga).
Lake and rivers	Yanga Homestead
Lake Yanga Homestead, Mallee Trees, Murrumbidgee River	Lake Yanga, Yanga Woolshed, Weir, Kyalite
There is nil of any substantial significance. Climate change and drought have had an effect - renewable energy will make the area look more economically useful and beneficial use of land.	Yanga National Park, Swing bridge in Balranald Township
The beauty of the land forms with small rises and falls.	Yanga woodshed, yanga homestead, Wakool, Edwards & Murray River systems
The Wakool River	Mungo National park, Yanga National Park and river tours
Regent parrots, rivers.	
I think windmills will enhance the local undulating land.	
We are flat and very little landscape to impede	

APPENDIX B Community Consultation

Question 7: Based on your current understanding of renewable energy and the proposed project, what are your main concerns?
Effects on flora and fauna;Effects on land use;Noise;
Capacity in the existing transmission line. Noise - based on frost fans at Tooleybuc grape farm. Potential for batteries to explode. No updates from proponents.
Effects on flora and fauna;Noise;Traffic;Visual;
Traffic;Other (Please specify); Road maintenance, Road condition
Not green or economic
The possibility that these structures will be visible from the river bank and valley. This area has been renowned as a beautiful spot from hundreds of years. People come to explore, camp, fish and enjoy being in nature where there is no visible sign of any industrial structures.
No Concerns
Limited capacity of the grid
Wind farms may create a micro climate
Health impact from infra-sound
Turbines ‘look spooky’
‘I don’t have an issue with wind farms unless they were to be in my backyard’
That WindLab might oversell/under deliver on the local suppliers and contractors. More a suggestion to try avoid this.
Frustrated that there are positive energy development but they can’t get reliable and volumes of power in the Kyalite, Tooleybuc region.
What type of workers does a wind project attract compared to in their opinion the ‘back-packer’ labour for the recent solar projects.

Some Initial Questions from the neighbours and the community
From the Neighbours: • *What is the location of the wind farm?* • *Can Windlab put turbines on their property Too?* • *Can they learn more about the technical components of the turbines and the works associated with potential Construction?* • *How does wind work with the existing Solar?* • *What will the impact to neighbours of noise to and recreational flying from the turbines.*
From Interest Groups and Community: *What are the indicative timeframes and the forecast investment and expenditure into the Balranald area.*
From the Business Community: • *With one existing solar farm at half capacity isn’t there limited grid capacity?* • *What timeframes are we looking At?* • *Tell us more about being Australian owned and is there a potential to purchase power?*

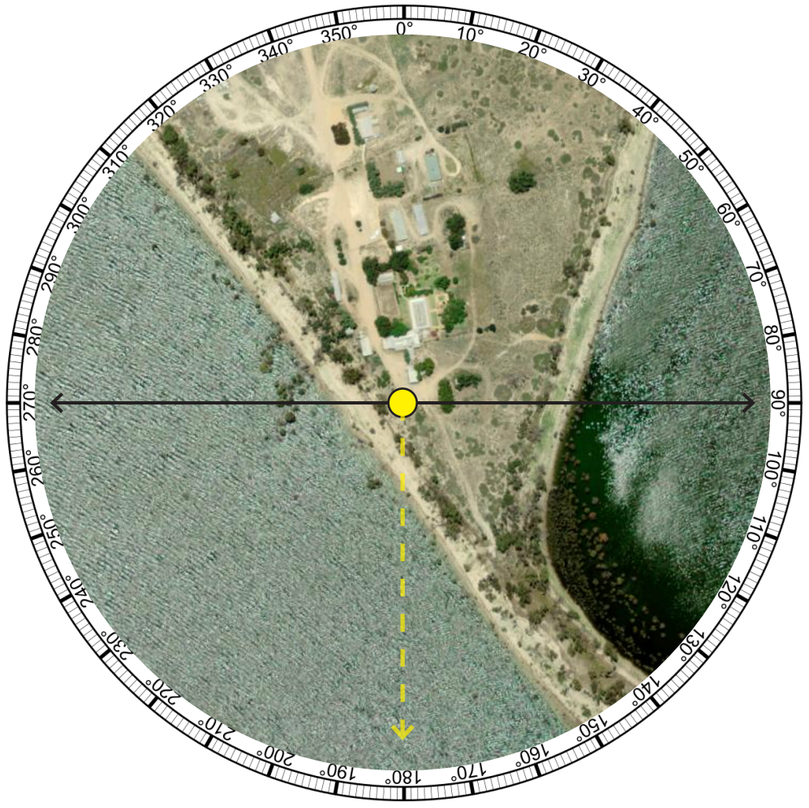
Appendix C

Preliminary Viewpoint Analysis

BVP01 Yanga Lake Viewing Platform, Yanga Homestead Access Drive

EXTENT OF POTENTIALLY VISIBLE TURBINES

Existing View



Aerial Image BVP01 (Aerial Image Source: Six Maps)

VIEWPOINT BVP01

Viewpoint Summary:	
Location:	Elevation:
Yanga Homestead Viewing Platform, Yanga.	70m
Coordinates:	Viewing Direction:
34°42’57.92”S 143°36’32.16”E	South
Distance to nearest WTG:	Visibility Distance Zone:
10.23 km	**Near Background (NB)**

Existing Landscape Character Description:

This viewpoint was taken from the viewing platform at Yanga Homestead, within the Yanga National Park. Views are expansive, extending across the Yanga Lake in the foreground to vegetation in the middleground. Land in this area is flat with limited vegetation.

Potential Visual Impact:

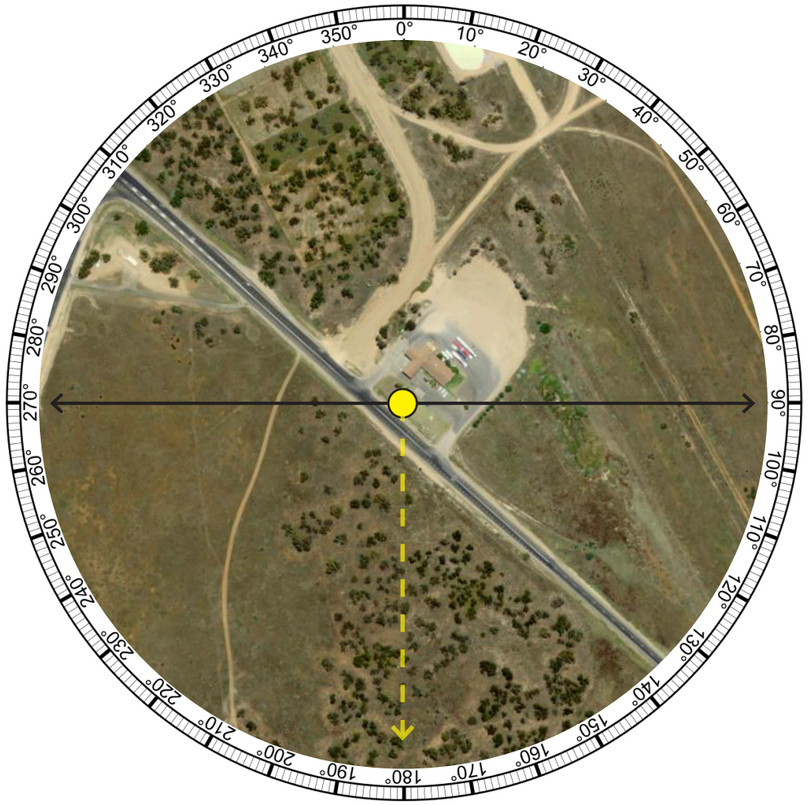
From this location, it is likely the turbines will be visible in the near background, the nearest turbine is in excess of 10 km from the viewing platform. The turbines are likely to be a noticeable element in the landscape, however due to distance they will not be a dominant feature in the landscape. Further detailed assessment will be undertaken from Yanga National Park in the EIS Phase.

BVP02 BP Truckstop at 94, Sturt Highway, Balranald.

EXTENT OF POTENTIALLY VISIBLE TURBINES

E 100° 110° 120° 130° 140° 150° 160° 170° S 190° 200° 210° 220° 230° 240° 250° 260° W

Existing View



Aerial Image BVP02 (Aerial Image Source: Six Maps)

VIEWPOINT BVP02

Viewpoint Summary:	
Location:	Elevation:
BP Truckstop at 94, Sturt Highway, Balranald.	67m
Coordinates:	Viewing Direction:
34°40'4.68"S 143°33'54.46"E	South
Distance to nearest WTG:	Visibility Distance Zone:
14.87km	**Mid Background (MB)**

Existing Landscape Character Description:

View from BP truck stop south of Balranald located off Sturt Highway looking in a south direction towards the Project Site. Sturt Highway is a major travel corridor connecting Balranald to Hay. Land in this area is flat with an area of vegetated land to the south of the highway screening views to the south.

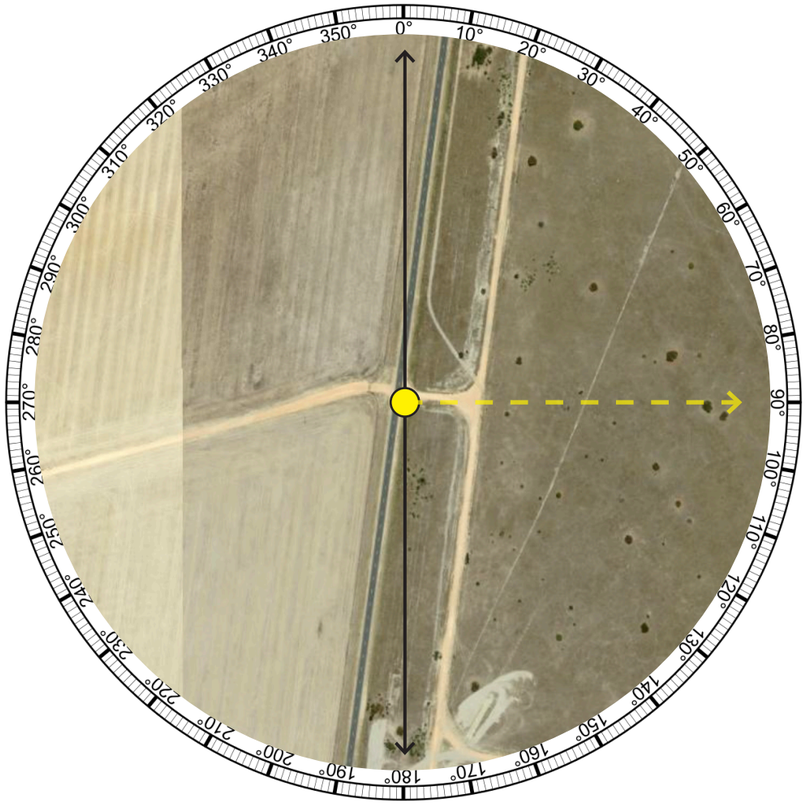
Potential Visual Impact:

Views from this location it is likely that a combination of distance and vegetation in the foreground will screen views to the Project.

BVP03 Yanga Way / Mallee Highway, Kyalite.

EXTENT OF POTENTIALLY VISIBLE TURBINES

Existing View



Aerial Image BVP03 (Aerial Image Source: Six Maps)

VIEWPOINT BVP03

Viewpoint Summary:	
Location:	Elevation:
Indicative of BAWF 70,71 on Yanga Way/Mallee Highway.	62m
Coordinates:	Viewing Direction:
34°49'55.13"S 143°30'25.95"E	East
Distance to nearest WTG:	Visibility Distance Zone:
1.40km	**Far Foreground (FF)**

Existing Landscape Character Description:

This photograph was taken from the corner of Yanga Way and Mallee Highway near Kyalite. The Mallee Highway is a major travel corridor connecting Balranald to Kyalite. Land in this area is flat with some scattered vegetation through the otherwise cleared landscape. Land in this area is characterised by agricultural land utilised for dryland cropping.

Potential Visual Impact:

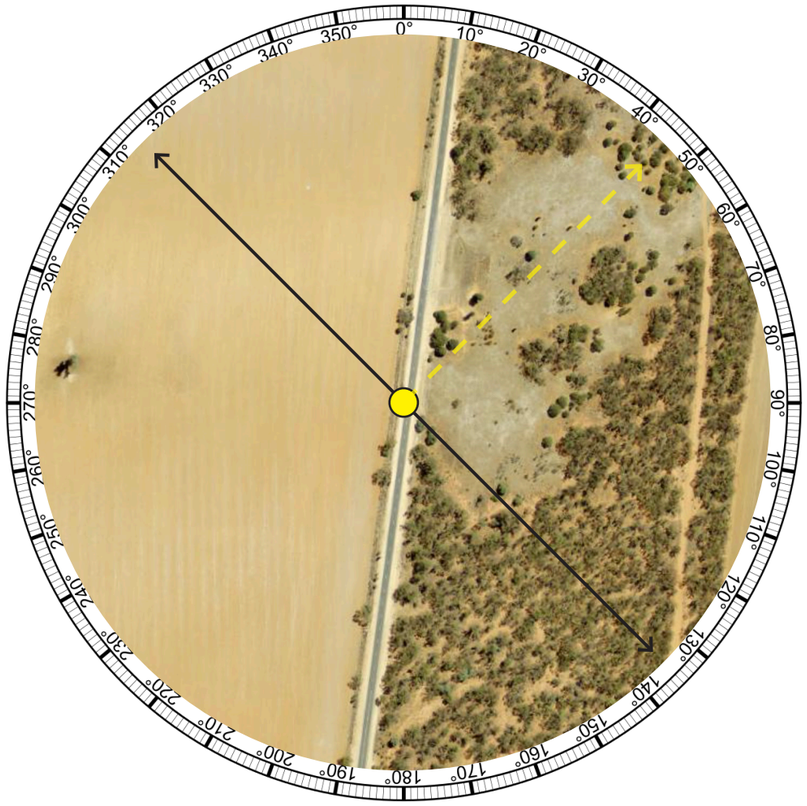
The Project is located to the east of the Mallee Highway. The nearest turbine to this viewpoint is 1.40 kilometres to the east of this location. The Project will be viewed in its entirety from this location due to the flat topography and limited intervening vegetation.

BVP04 Mallee Highway, Kyalite

EXTENT OF POTENTIALLY VISIBLE TURBINES

320° 330° 340° 350° N 10° 20° 30° 40° 50° 60° 70° 80° E 100° 110° 120° 130°

Existing View



Aerial Image BVP04 (Aerial Image Source: Six Maps)

VIEWPOINT BVP04

Viewpoint Summary:	
Location:	Elevation:
Indicative of dwellings BAWF 61, 62, 80, 81 at Yanga Way, Kyalite	66m
Coordinates:	Viewing Direction:
34°55'7.81"S 143°29'36.73"E	Northeast
Distance to nearest WTG:	Visibility Distance Zone:
6.5 km	**Far Middleground (FM)**

Existing Landscape Character Description:

This photograph was taken from the Yanga Way approximately 3.5 kilometres north of Kyalite. Mallee Highway is a major travel corridor connecting Kyalite to Balranald. Land is flat and characterised by agricultural land to the west and vegetated land to the east.

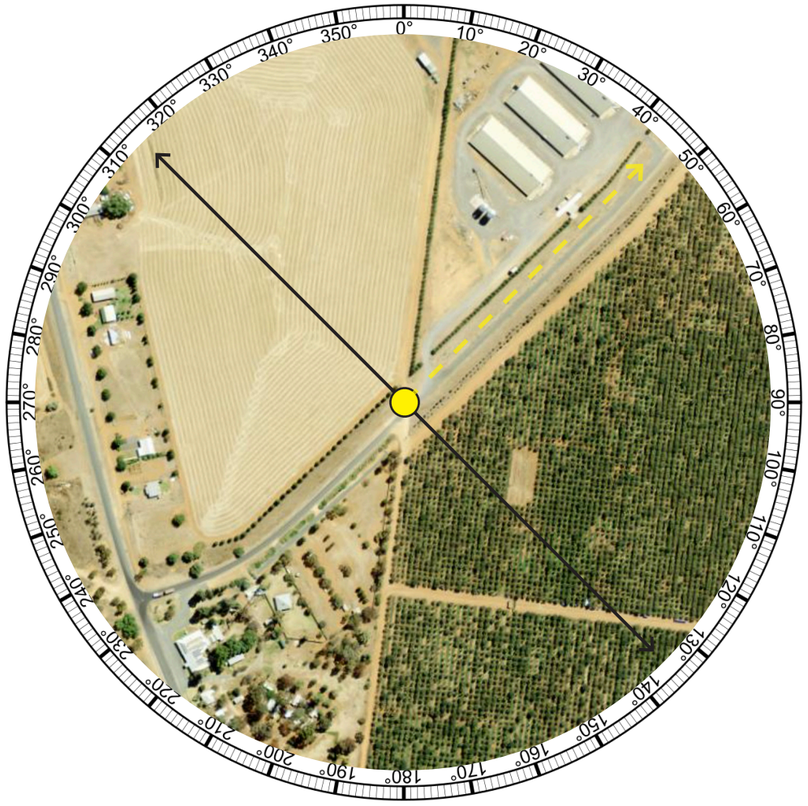
Potential Visual Impact:

The Project is located approximately 6.5 kilometres north east of this location. Views to the turbines are likely to be fragmented by vegetation to the north east of this location.

BVP05 Wakool Pistachio farm entrance, Keogh Road, Kyalite.

EXTENT OF POTENTIALLY VISIBLE TURBINES

Existing View



Aerial Image BVP05 (Aerial Image Source: Six Maps)

VIEWPOINT BVP05

Viewpoint Summary:	
Location:	Elevation:
Indicative of BAWF 50-60 (Kyalite Caravan Park) on Keogh Road, Kyalite	72m
Coordinates:	Viewing Direction:
34°56'52.85"S 143°29'7.43"E	Northeast
Distance to nearest WTG:	Visibility Distance Zone:
9.75 km	**Near Background (NB)**

Existing Landscape Character Description:

This photograph was taken from Keogh Road, in the locality of Kyalite at the entry to Wakool Pistachio Farm. Land in this area is flat with vegetation associated with the pistachio farm to the east.

Potential Visual Impact:

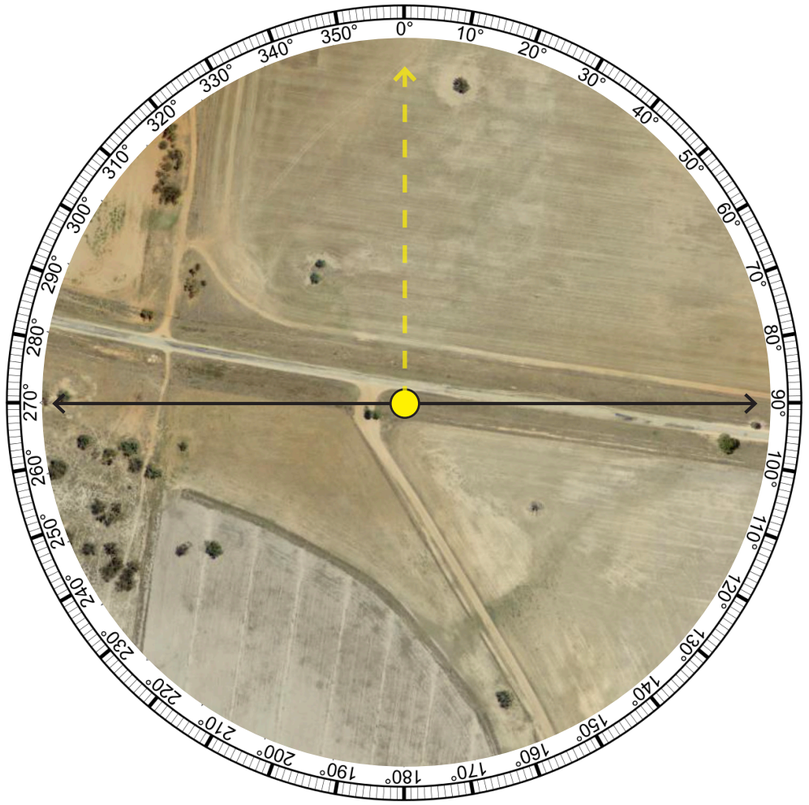
The Project is located approximately 9.75 kilometres to the north east of this viewpoint. Views to the turbines will be difficult to discern from this location due to a combination of distance and vegetation.

BVP06 Kyalite Road, Kyalite.

EXTENT OF POTENTIALLY VISIBLE TURBINES

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

Existing View



Aerial Image BVP06 (Aerial Image Source: Six Maps)

VIEWPOINT BVP06

Viewpoint Summary:	
Location:	Elevation:
Indicative of BAWF 137-139 on Kyalite Road, Kyalite	65m
Coordinates:	Viewing Direction:
34°57'31.22"S 143°34'54.47"E	North
Distance to nearest WTG:	Visibility Distance Zone:
8.68km	**Near Background (NB)**

Existing Landscape Character Description:

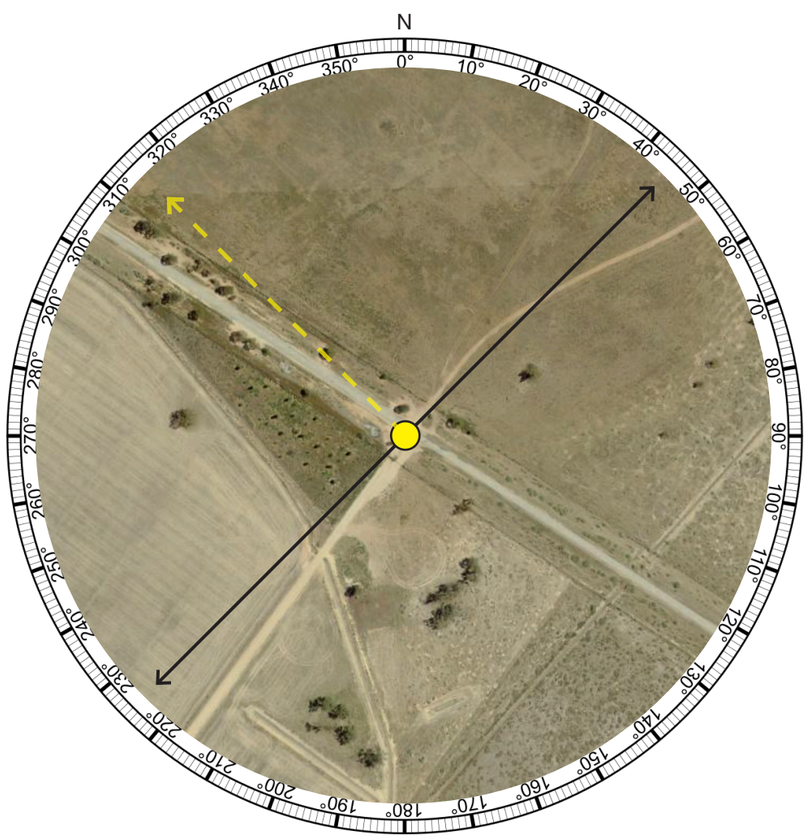
View from Kyalite Road, approximately 3 kilometres west of Arundel Road. Land in this area is typical of the character of the Agricultural Lands LCU. The topgoraphy is flat and vegetation has been cleared for dryland cropping. Kyalite Road is a sealed road which runs in a generally east direction from Kyalite to Moolpa.

Potential Visual Impact:

The Project is likely to be visible in the distance. Vegetation in the middleground is likely to fragment views to some turbines.

BVP07 Kyalite Road, Moolpa.

Existing View



Aerial Image BVP07 (Aerial Image Source: Six Maps)

VIEWPOINT BVP07

Viewpoint Summary:	
Location:	Elevation:
Indicative of BAWF 168-169 on Kyalite Road, Moolpa	66m
Coordinates:	Viewing Direction:
34°59'40.49"S 143°42'51.00"E	Northwest
Distance to nearest WTG:	Visibility Distance Zone:
7.41km	**Far Middleground (FM)**

Existing Landscape Character Description:

This photograph was taken from Kyalite Road in a generally north west direction towards the Project. Land in this area is typically flat with some scattered vegetation amongst the cleared cropping land. Views extend towards vegetation in the middleground.

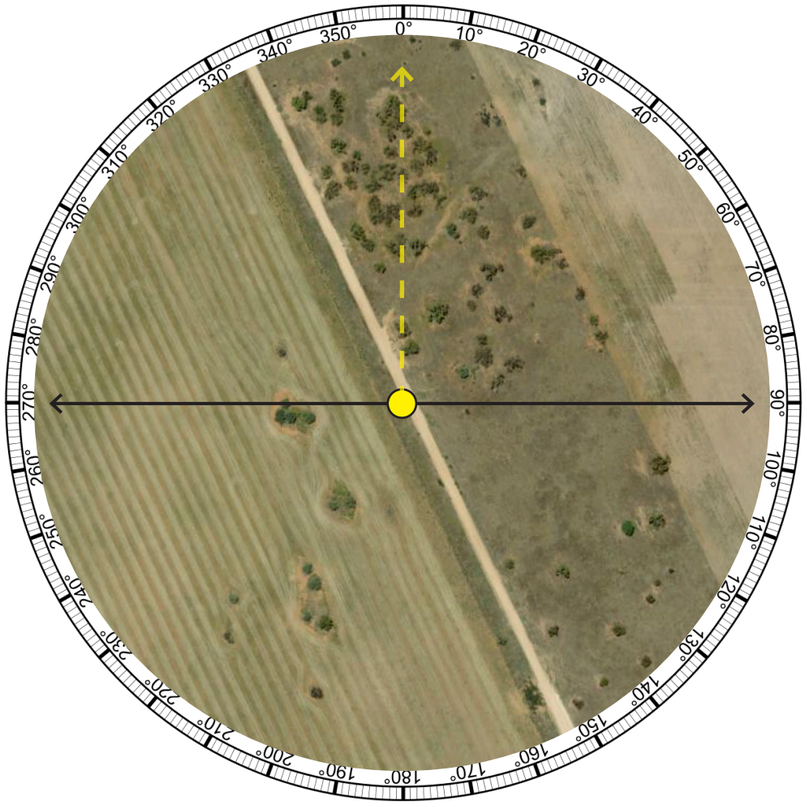
Potential Visual Impact:

Views to the majority of turbines associated with the Project will be available to the NNW of this viewpoint. The turbines will be visible to motorists travelling in a generally west direction along Kyalite Road. Existing vegetation in the middlegroud may assist in fragmenting views to the turbines.

BVP08 Balranald Road, Moolpa.

EXTENT OF POTENTIALLY VISIBLE TURBINES

Existing View



Aerial Image BVP08 (Aerial Image Source: Six Maps)

VIEWPOINT BVP08

Viewpoint Summary:	
Location:	Elevation:
Balranald Road, Moolpa (used for access to dwellings between Balranald & Moolpa)	68m
Coordinates:	Viewing Direction:
34°55'53.18"S 143°42'37.93"E	North
Distance to nearest WTG:	Visibility Distance Zone:
1.57 km	**Far Foreground (FF)**

Existing Landscape Character Description:

View from Balranald Road, taken in a generally north direction. Balranald Road is an unsealed minor road which runs in a generally north west direction from Moolpa to the Mallee Highway (approximately 15 kms south of Balranald).

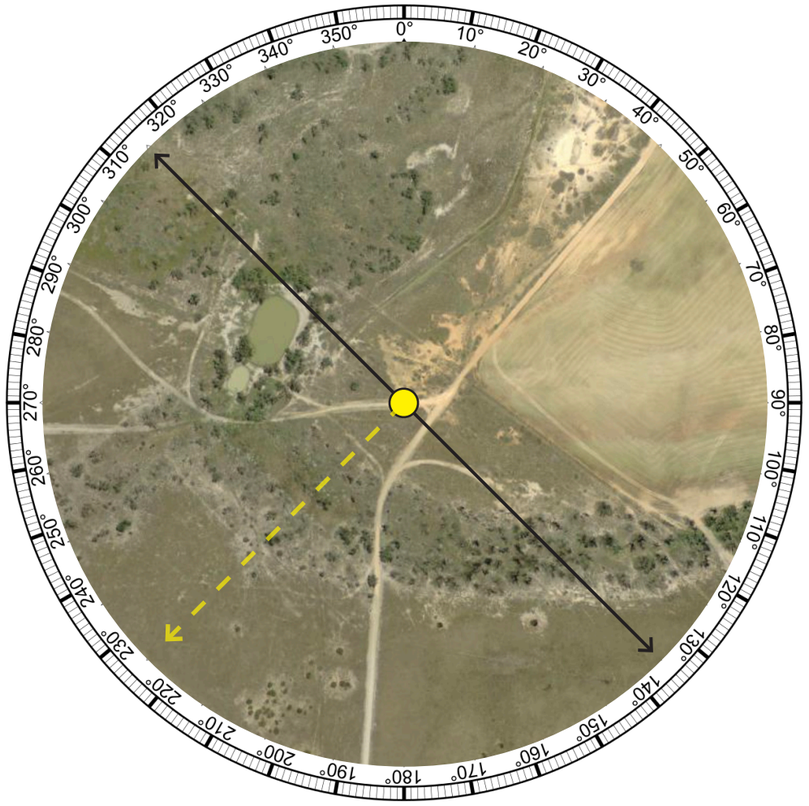
Potential Visual Impact:

Views of the Project will be available from this location due to the flat topography. Vegetation in the foreground is expected to partially screen views to turbines to the north.

BVP09 Impimmi Road, Kyalite

EXTENT OF POTENTIALLY VISIBLE TURBINES

Existing View



Aerial Image BVP09 (Aerial Image Source: Six Maps)

VIEWPOINT BVP09

Viewpoint Summary:	
Location:	Elevation:
Indicative of BAWF167 on Impimmi Road, Moolpa	67m
Coordinates:	Viewing Direction:
34°52’33.05”S 143°40’44.66”E	Southwest
Distance to nearest WTG:	Visibility Distance Zone:
1.03 km	**Far Foreground (FF)**

Existing Landscape Character Description:

View from Impimmi Road approximately 500 metres from Balranald Road. Impimmi Road is an unsealed, minor road which runs in a north east direction off Balranald Road, to the east of the Project. Impimmi Road provides access to isolated homesteads. Land in this area is flat with a moderate coverage of vegetation.

Potential Visual Impact:

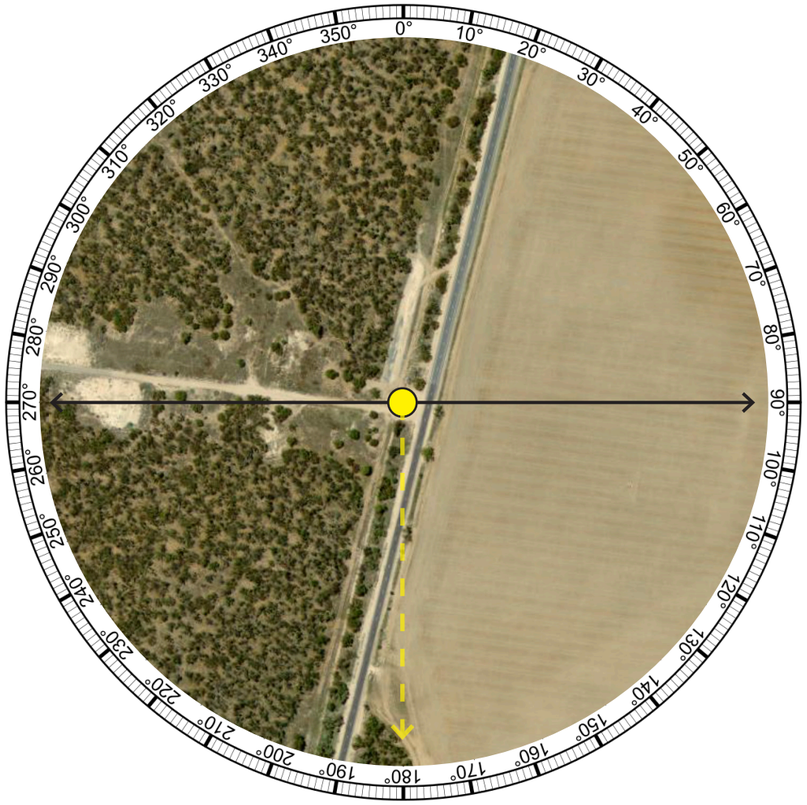
The Project is located to the south west and north of this viewpoint. The Project will be visible from this location due to the close proximity and flat topography.

BVP10 Yanga Way, Balranald.

EXTENT OF POTENTIALLY VISIBLE TURBINES

E 100° 110° 120° 130° 140° 150° 160° 170° S 190° 200° 210° 220° 230° 240° 250° 260° W

Existing View



Aerial Image BVP10 (Aerial Image Source: Six Maps)

VIEWPOINT BVP10

Viewpoint Summary:	
Location:	Elevation:
Yanga Way, Balranald.	71m
Coordinates:	Viewing Direction:
34°43’42.76”S 143°32’33.92”E	South
Distance to nearest WTG:	Visibility Distance Zone:
7.85km	**Far Middleground (FM)**

Existing Landscape Character Description:

Photograph taken from Yanga Way, approximately 7 kilometres south of the Sturt Highway. Land is flat and cleared to the east, and vegetated to the west. Views from this location extend across cleared land to vegetation in the background.

Potential Visual Impact:

From this viewpoint, the Project will be visible in the distance to the SSE. Existing roadside vegetation associated with the highway is expected to partially screen the Project from this location.