

Project Evolution

TWIN CREEK WIND FARM



2019

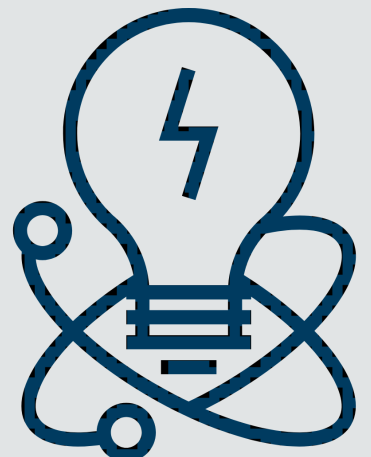
- Development consent received from the State Commission Assessment Panel

APPROVED DEVELOPMENT APPLICATION

2023

- Substantial evolution in wind turbine technology since 2019
- RES is optimising the project to take advantage of better technology
- Aim to re-submit a Planning Application for the revised project in late 2023
- Specialist studies are being updated including socio-economic impacts, visual assessment, noise, biodiversity, heritage, water, traffic, hazard, bushfire, soils and land use

NEW PROPOSAL

 Name plate capacity (MW)	185	270
 Number of turbines	51	42
 Capacity of turbines (MW)	3.6	7.2
 Blade tip height (m)	180	220

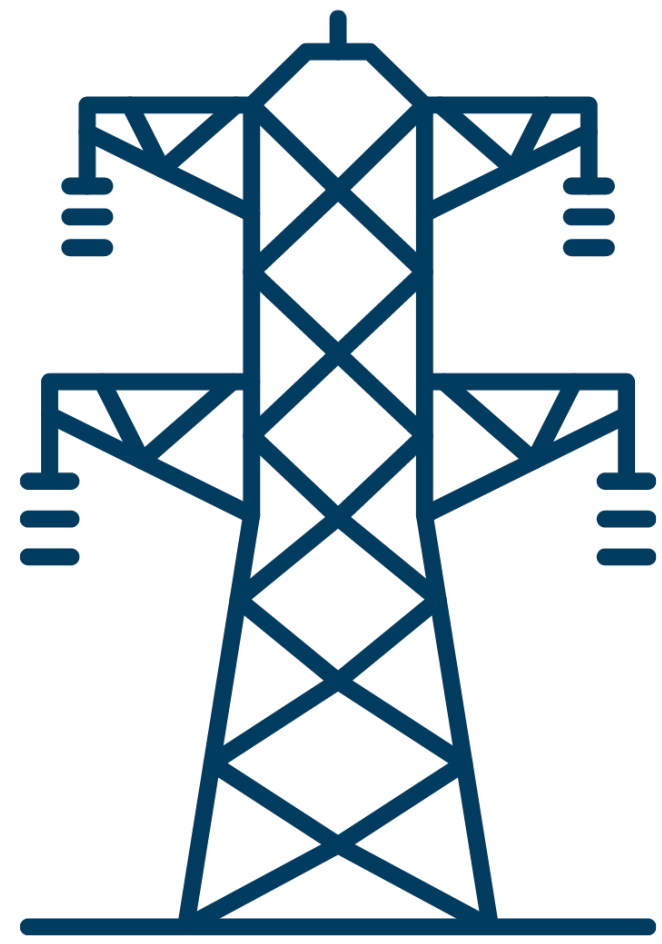
The transmission line and connection point, land size within the project boundary and indicative size of the battery storage have not changed.

Project Overview

TWIN CREEK WIND FARM



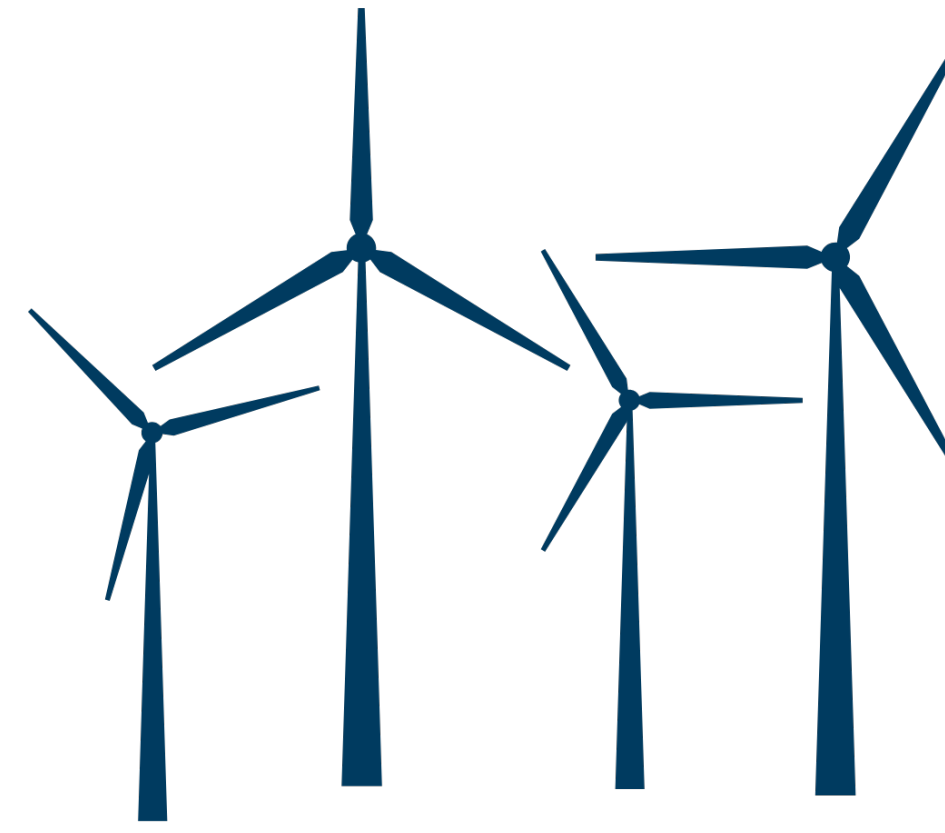
15 KM



TRANSMISSION LINE

275kV

42 TURBINES



WIND FARM

270MW

APPROX 24

BATTERY CONTAINERS



STORAGE

215MW

CLEAN ENERGY IMPACT



270MW

Generation capacity

UP TO 213,000 HOMES

Supplied with electricity

CONTRIBUTING TO NATIONAL GRID

Via the Robertstown to Tungkillo 275kV transmission line

OFFSETTING 7M+ TONNES OF CO₂

Equivalent to over 130M tree seedlings growing for 10 years

CONTRIBUTING TO 100% RENEWABLES TARGET

South Australian Government's current target to achieve 100% net renewables by 2030



44 REGIONAL JOBS
OVER 30+ YEARS

480

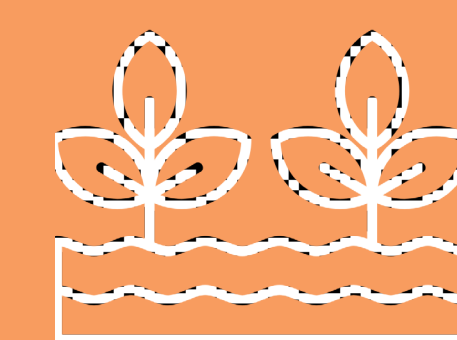
Direct jobs



APPROX

\$5M

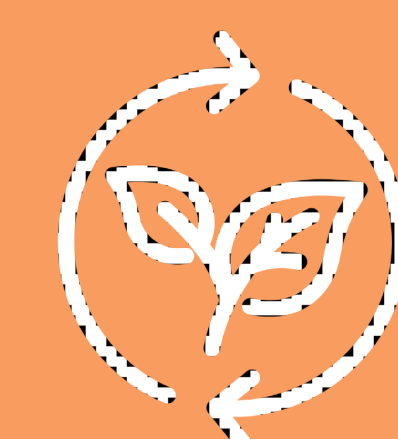
Community
benefit sharing



5600 ha of land



7km north-east of
Kapunda



Continuation of
agricultural activities
(grazing and dry land
cropping)

Community Benefits

TWIN CREEK WIND FARM



480 DIRECT JOBS

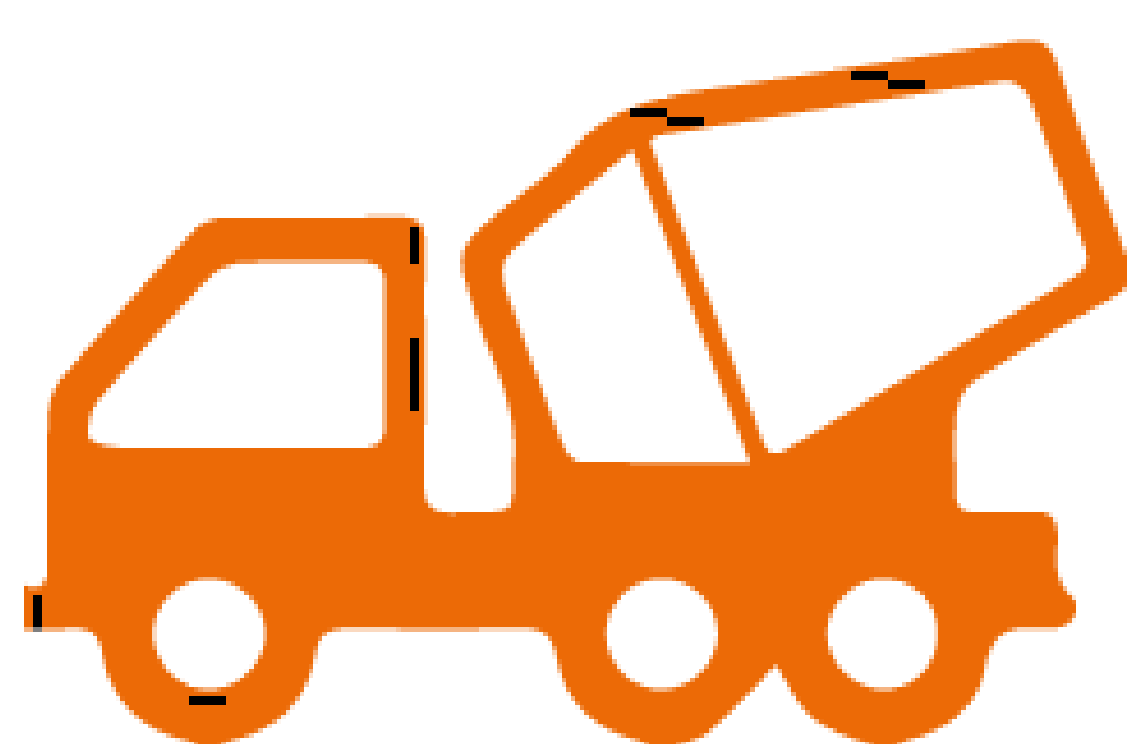
During construction.

105 JOBS

Supported directly and indirectly throughout the 30+ year operation and maintenance phase.

EMPLOYMENT BENEFITS EXTEND TO HOSPITALITY

Including hotels/motels, B&Bs, cafes, pubs, catering, cleaning companies etc.



EMPLOYMENT BENEFITS EXTEND TO SUPPLIERS

Including fuel/water supply, vehicle servicing, uniform suppliers, tradespersons, tool and equipment suppliers etc.

\$5M+ COMMUNITY BENEFIT SHARING*

Established to provide positive and lasting benefits to the local community that extend beyond the life of the project.

**Over the life of the project.*



BENEFIT SHARING SURVEY

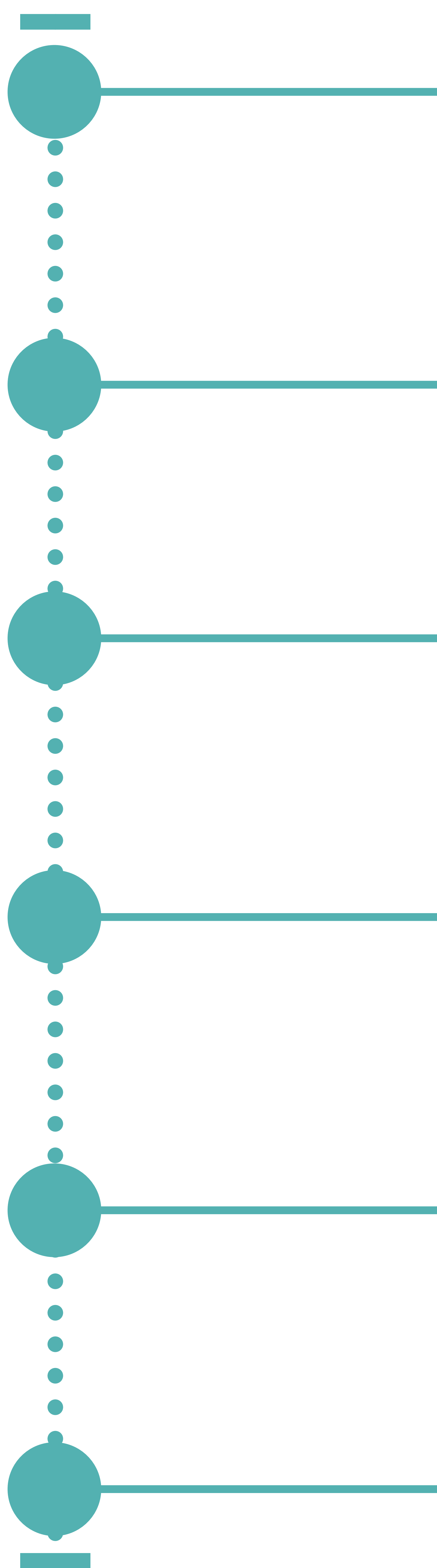
RES is committed to giving back to the communities that host our renewable energy projects.

Please scan the QR code with your phone or tablet camera to have your say about how benefits should be shared with the local community.



Approvals Process

TWIN CREEK WIND FARM



CROWN SPONSORED DEVELOPMENT APPLICATION

Application lodged to the State Planning Commission.

COUNCIL AND AGENCY REFERRALS

Local Councils and relevant state agencies given notice of the application and invited to provide comment on the application (4-6 weeks).

PUBLIC NOTIFICATION

Members of the public are invited to make a written representation during the notification period (min. 15 business days).

ASSESSMENT

Planning Assessment Report is prepared for the consideration of the State Commission Assessment Panel (SCAP).

SCAP HEARING

Any issues or concerns are raised by Councils or referral bodies. The SCAP then provides advice to the Minister for Planning on the proposal.

MINISTER FOR PLANNING DECISION

The Minister for Planning may approve all or part of a development and impose conditions or refuse the proposal.

**APPROVALS
TIMEFRAME**

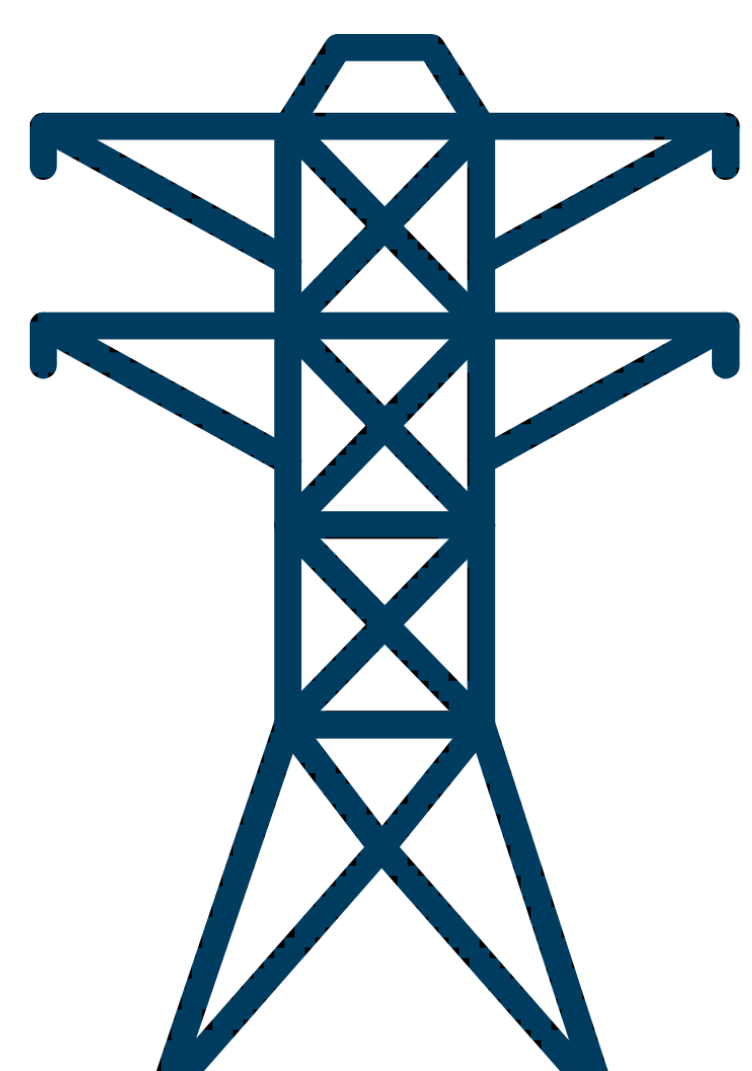
6-12 MTHS

Timeline

TWIN CREEK WIND FARM



DEVELOPMENT APPLICATION
SUBMITTED - LATE 2023



GRID CONNECTION
APPROVED - EARLY 2026



CONSTRUCTION
COMMENCEMENT - MID 2026

CONSTRUCTION

Subject to approvals, construction for the Twin Creek Wind Farm is scheduled to commence in mid-2026 and take between 24 and 30 months.

2 YRS+

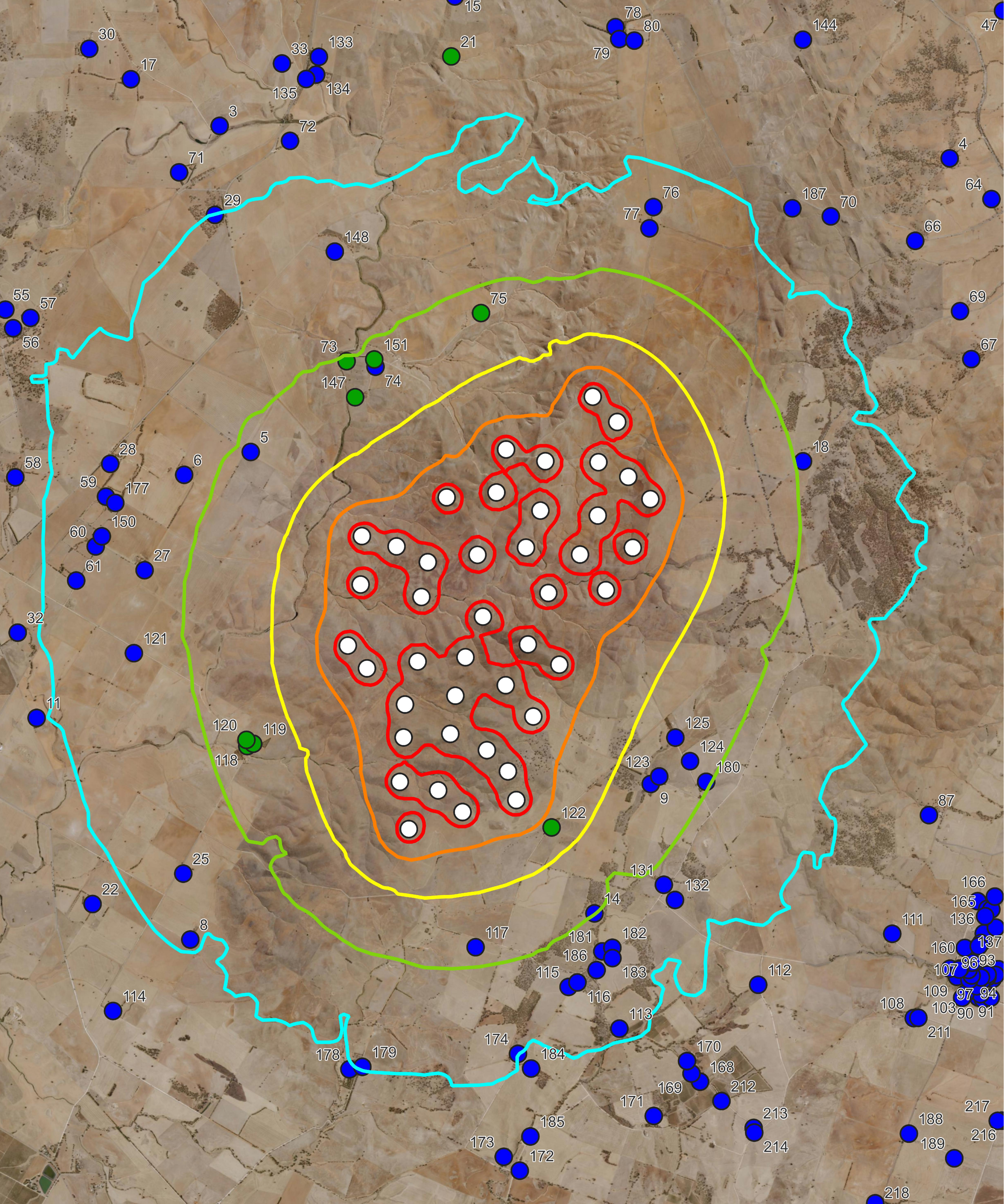
NOISE ASSESSMENT

Wind Turbines

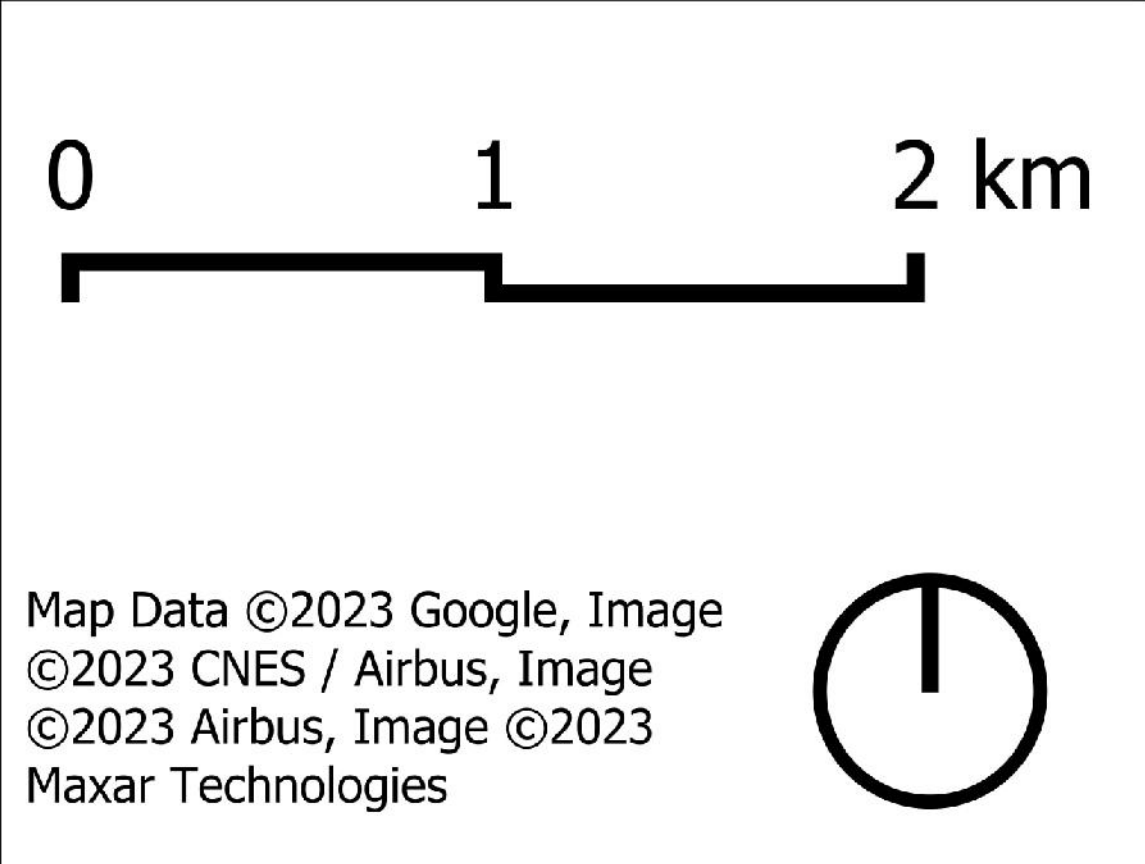
- Assessed in accordance with the *Wind Farms Environmental Noise Guidelines*, released July 2009 and updated November 2021
- Guidelines require the noise at a non-associated residence to not exceed the higher of:
 - 40 dB(A), or,
 - the background noise ($L_{A90,10}$) by more than 5 dB(A)
- Background noise monitoring was previously conducted to establish the criteria
- Noise modelling has been conducted in accordance with the recommendations of the Guidelines
- The results of the noise modelling confirm that the minimum criterion of 40 dB(A) will be achieved (shown on the figure)

Ancillary Equipment

- The project includes plans for a Battery Energy Storage System (BESS) and substations
- Noise from this Ancillary Equipment will be assessed in accordance with the *Environment Protection (Commercial and Industrial Noise) Policy 2023*
- Criteria are established as:
 - 52 dB(A) during the day (7:00 am to 10:00 pm)
 - 45 dB(A) during the night (10:00 pm to 7:00 am)
- As the facility may operate at any time, the assessment will be conducted to achieve the 45 dB(A) criterion.



TWIN CREEK WIND FARM
Noise Contours
12m/s Hub Height Wind Speed



Legend

- Non-Associated Structure
- Associated Structure
- Wind Turbine Locations

Noise Contours

- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)

sonus.

Project Overview

TWIN CREEK WIND FARM



VISUAL IMPACT

A preliminary landscape character and visual impact assessment has been undertaken of the Approved Development Application and New Proposal to understand the likely impact of the Twin Creek Wind Farm.

Key Findings:

- The landscape character of the locality is described as a modified rural landscape
- The surrounding topography creates a defined visual envelope west and north of the proposed development
- To the south, local landforms and existing belt of vegetation associated with Barossa Valley are likely to reduce visual effect
- Relative location, local topography and vegetation belts are likely to result in limited to no visual effect within the surrounding towns of Nuriootpa, Kapunda, Eudunda and Truro
- The likely visual effect from locations within 5 kilometres is likely to be substantial with the visual character of the locality being altered. However, the sensitivity of the underlying landscape to change is low due to the agricultural character.
- Further away from the proposed development (Approved or Optimised), 5-10 kilometres, local ridgelines and tree belts create visual screens that fragment or remove the visual effects and the visual effect is likely to be moderate.
- At distances of over 10 kilometres, the degree of visual changes reduces significantly and is described as slight

What will the wind farm look like?

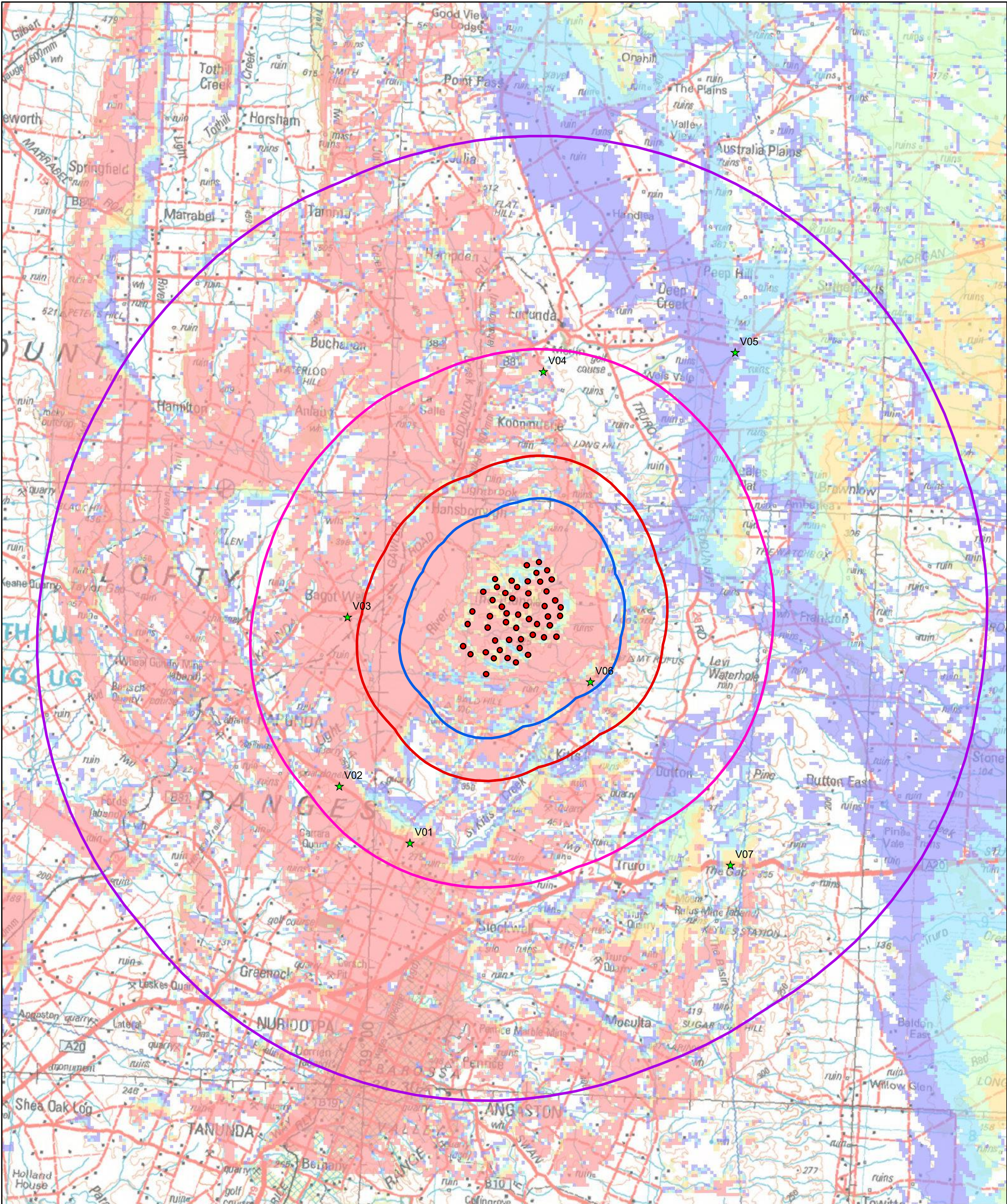
The nature and size of wind turbines mean that some visual impacts will be unavoidable. However every effort will be made through location and orientation of the turbines to minimise the adverse visual effect of them on major public vantage points.

The typical off white/grey turbine colours will assist in minimising visual impacts against the sky backdrop.



Project Overview

TWIN CREEK WIND FARM



Approved Layout 2019

- TurbineLayoutPAUStwc025
- ★ Viewpoints_WAX_20160805
- Buffer_3km
- Buffer_5km
- Buffer_10km
- Buffer_20km
- 1 - 11
- 12 - 21
- 22 - 31
- 32 - 41
- 42 - 51

Zone of Theoretical Visual Influence
Tip of Blade (180m Tip of Blade)

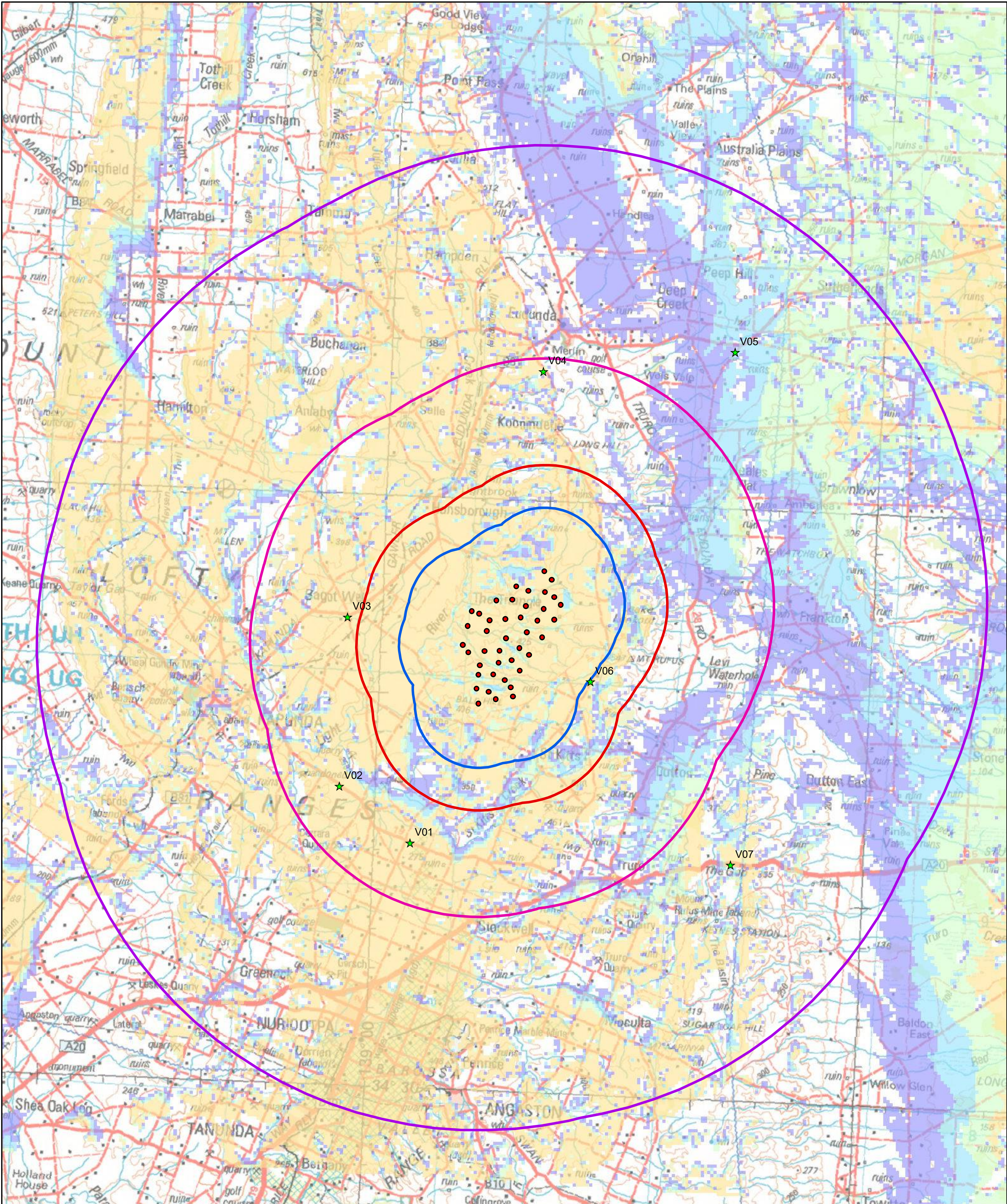
ZTVI represents 'worst case scenario' it is based on 10m contour data and does not take into account vegetation or built form screening or localised ridgelines

5km

September 2023

Project Overview

TWIN CREEK WIND FARM



Optimised Layout 2023

- Optimised Layout
- ★ Viewpoints_WAX_20160805
- Buffer_3km
- Buffer_5km
- Buffer_10km
- Buffer_20km
- 1 - 11
- 12 - 22
- 23 - 32
- 33 - 42

Zone of Theoretical Visual Influence
Tip of Blade (220m Tip of Blade)

ZTVI represents 'worst case scenario' it is based on 10m contour data and does not take into account vegetation or built form screening or localised ridgelines

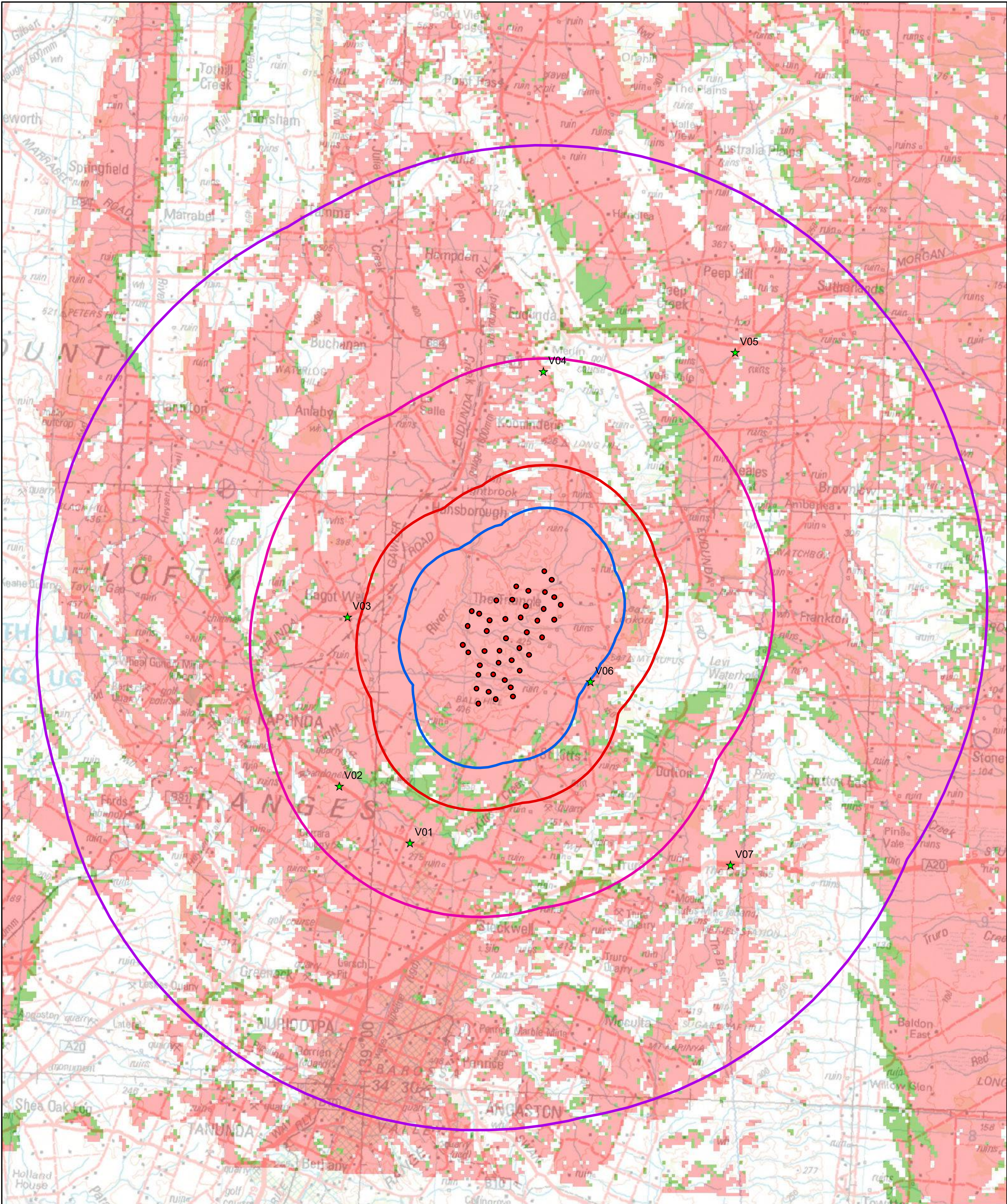
5km



September 2023

Project Overview

TWIN CREEK WIND FARM



Comparative Zone of Theoretical Visual Influence
Tip of Blade

- Optimised Layout
 - ★ Viewpoints_WAX_20160805
 - Buffer_3km
 - Buffer_5km
 - Buffer_10km
 - Buffer_20km
- Approved layout turbine visibility**
- 1 - 51
- Optimised layout additional visibility**
- 1 - 42

ZTVI represents 'worst case scenario' it is based on 10m contour data and does not take into account vegetation or built form screening or localised ridgelines



TWIN CREEK WIND FARM

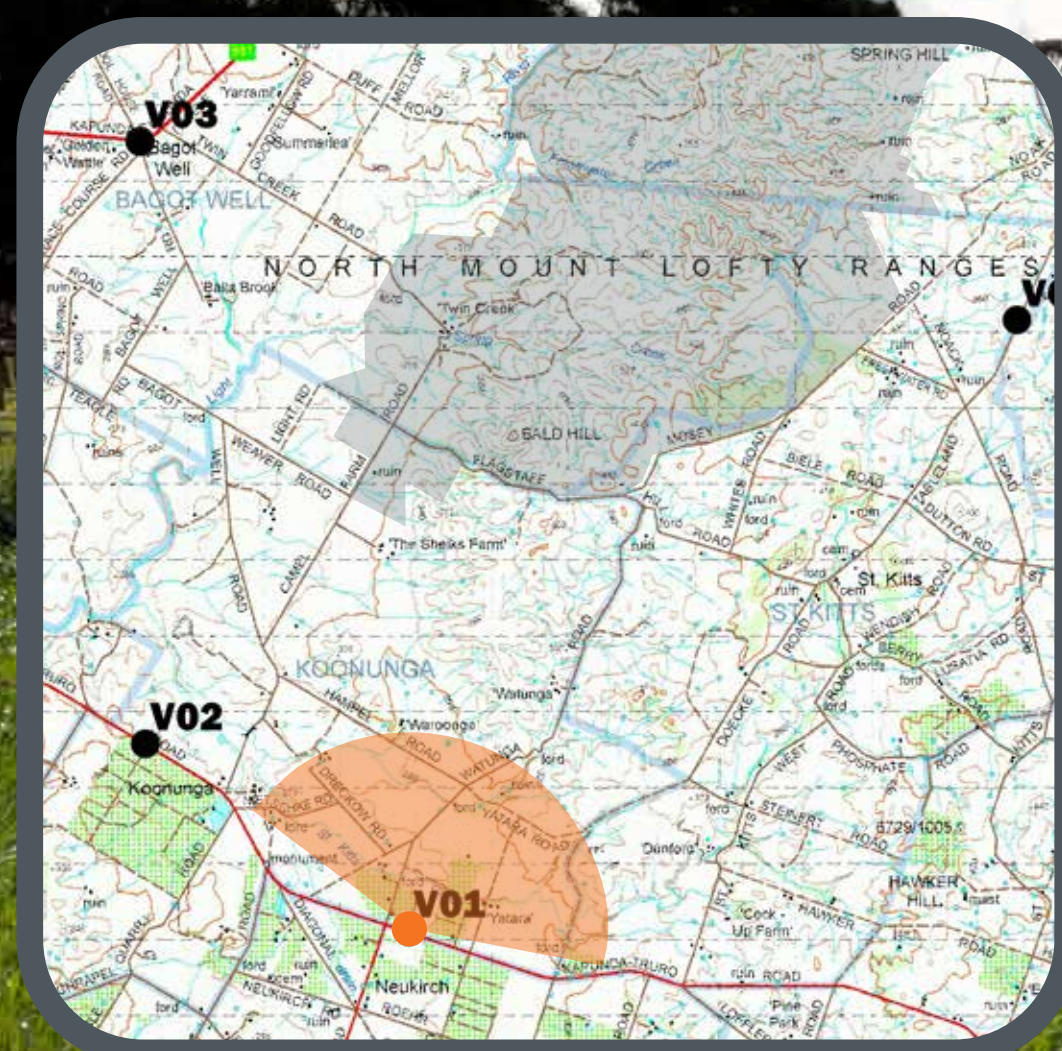
KAPUNDA-TRURO ROAD, EBENEZER LOOKING NORTHEAST (V01)



PHOTOMONTAGE OF APPROVED DEVELOPMENT APPLICATION SHOWING VISIBLE WIND TURBINES



PHOTOMONTAGE OF NEW PROPOSAL SHOWING VISIBLE WIND TURBINES



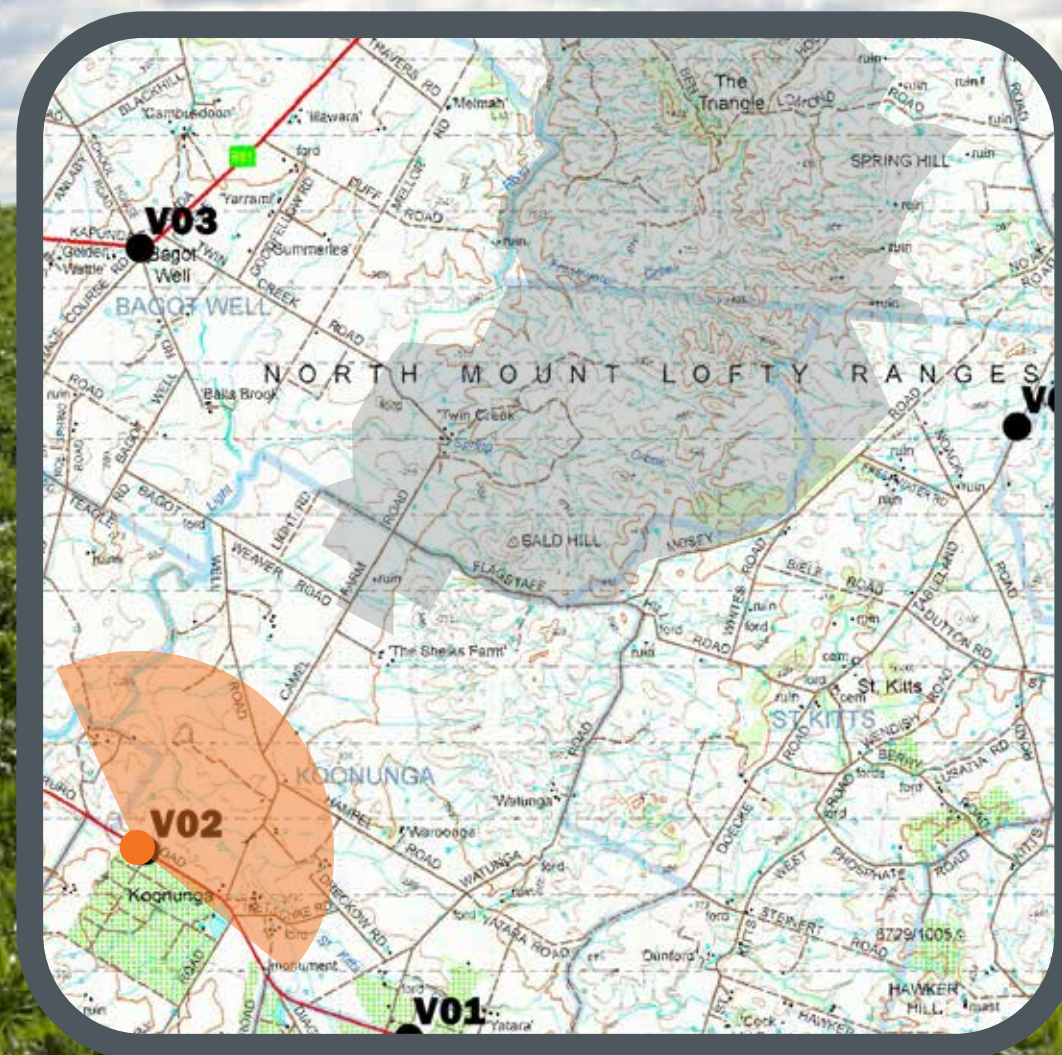


TWIN CREEK WIND FARM

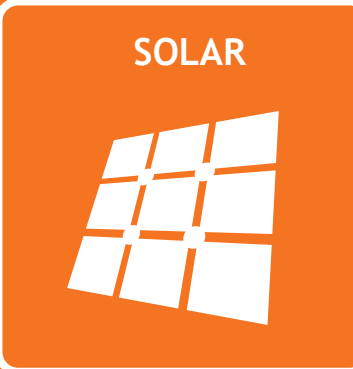
KAPUNDA-TRURO ROAD, KOONUNGA LOOKING NORTHEAST (V02)



PHOTOMONTAGE OF APPROVED DEVELOPMENT APPLICATION SHOWING VISIBLE WIND TURBINES



PHOTOMONTAGE OF NEW PROPOSAL SHOWING VISIBLE WIND TURBINES





TWIN CREEK WIND FARM

CORNER OF THIELE HIGHWAY AND BAGOT WELL ROAD LOOKING EAST (V03)



PHOTOMONTAGE OF APPROVED DEVELOPMENT APPLICATION SHOWING VISIBLE WIND TURBINES

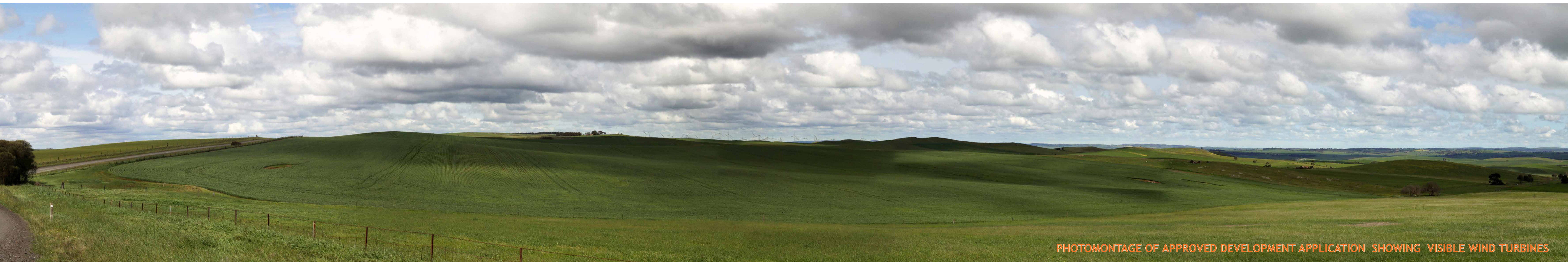


PHOTOMONTAGE OF NEW PROPOSAL SHOWING VISIBLE WIND TURBINES



TWIN CREEK WIND FARM

TABLELAND ROAD (CLOSE TO EUDUNDA) LOOKING SOUTH (V04)



PHOTOMONTAGE OF APPROVED DEVELOPMENT APPLICATION SHOWING VISIBLE WIND TURBINES



PHOTOMONTAGE OF NEW PROPOSAL SHOWING VISIBLE WIND TURBINES

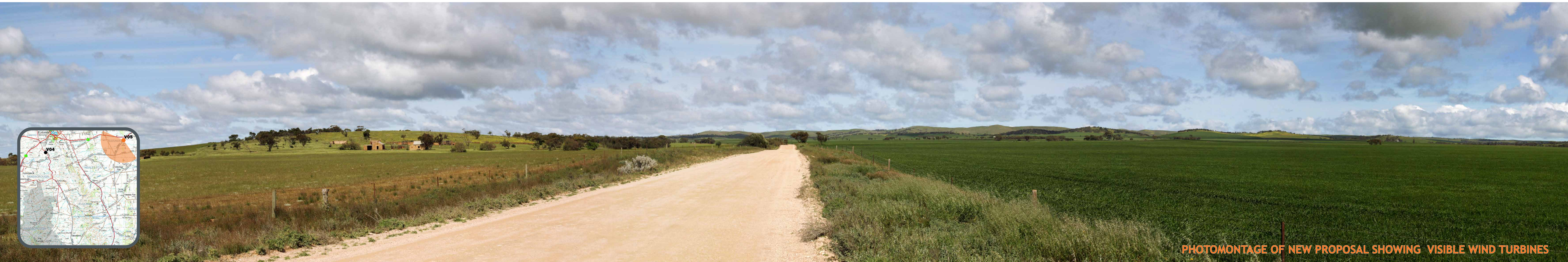


TWIN CREEK WIND FARM

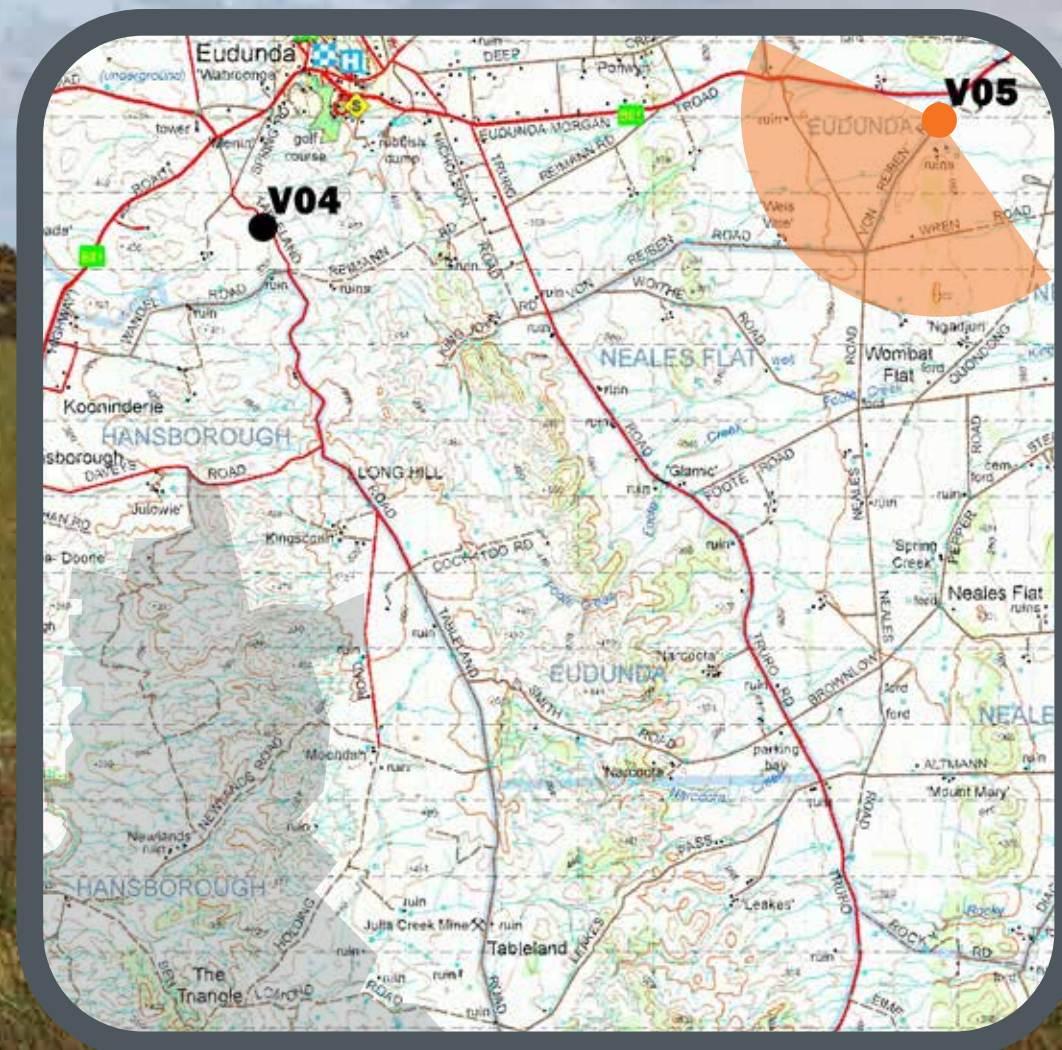
VON REIBEN ROAD LOOKING SOUTHWEST (V05)



PHOTOMONTAGE OF APPROVED DEVELOPMENT APPLICATION SHOWING VISIBLE WIND TURBINES



PHOTOMONTAGE OF NEW PROPOSAL SHOWING VISIBLE WIND TURBINES





TWIN CREEK WIND FARM

TABLELAND ROAD, MOUNT RUFUS LOOKING WEST (V06)



PHOTOMONTAGE OF APPROVED DEVELOPMENT APPLICATION SHOWING VISIBLE WIND TURBINES



PHOTOMONTAGE OF NEW PROPOSAL SHOWING VISIBLE WIND TURBINES



TWIN CREEK WIND FARM

STURT HIGHWAY LOOKING NORTHWEST (V07)



PHOTOMONTAGE OF APPROVED DEVELOPMENT APPLICATION SHOWING VISIBLE WIND TURBINES



PHOTOMONTAGE OF NEW PROPOSAL SHOWING VISIBLE WIND TURBINES