

URBIS

KING ROCKS WIND FARM

DEVELOPMENT APPLICATION

PREPARED FOR

THE SHIRE OF KONDININ

AUGUST 2022



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We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

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1. INTRODUCTION

This development application report has been prepared by Urbis on behalf of SynergyRED, to address all relevant planning and technical requirements in support of the King Rocks Wind Farm (**KRWF**) proposal. The KRWF is located 35km north-east of the town of Hyden located within the Shire of Kondinin, in the eastern Wheatbelt region of Western Australia.

Once operational, the KRWF will generate up to 150MW which has the ability to power up to 100,000 average Western Australian homes per year. This would save up to 200,000 tonnes of carbon emissions per year, contributing to the State's renewable energy future.

This report provides a detailed overview of the KRWF and presents key technical details relevant to the application, including:

- Environmental Review Document (including Flora and Fauna Survey)
- Traffic Impact Statement
- Aboriginal Heritage study
- European Heritage study
- Landscape and Visual Impact Assessment
- Acoustic Assessment
- Electromagnetic Interference Assessment
- Shadow Flicker Assessment
- Aviation Assessment.
- Planning Compliance Assessment

Given the envisaged development value of the KRWF (approximately \$300 million), the application will be determined by the Regional Joint Development Assessment Panel (**JDAP**) on the advice of the Shire of Kondinin and relevant Government agencies.

1.1. SYNERGYRED

The KRWF is being developed by Synergy Renewable Energy Developments (**SynergyRED**), a wholly owned subsidiary of Synergy whose purpose is to explore and develop renewable energy solutions for our intelligent energy future. Western Australia is undergoing an energy transformation; SynergyRED is developing a portfolio of renewable energy assets such as wind, solar and large-scale battery storage. SynergyRED, and its predecessors, have previously developed some of WA's best renewable projects including:

- Albany Grasmere Wind Farm
- Warradarge Wind Farm
- Mumbida Wind Farm
- Greenough River Solar Farm

The KRWF will be part of an ongoing development of renewable energy assets within the south-west region of Western Australia.

1.2. SITE SUITABILITY

The KRWF site has been selected by SynergyRED based on detailed investigations which has determined the suitability of the site for a proposed wind farm. In summary, these suitable characteristics include:

- The strong local wind resource and cool night-time temperatures, determined through over a decade of wind monitoring at the site.
- Proximity to existing 132kV power lines that traverse the site, comprising the Western Power Kondinin to Bounty transmission line (servicing the Forrestania load area).
- The topography of the subject land which is gently undulating upward from west to east.
- Physical and environmental conditions, primarily that the site is largely cleared and only contains small pockets of remnant, good quality vegetation which will largely be retained through location of the wind turbines and supporting infrastructure.
- Access to the site via the regional road network from Ports, with minimal (and only localised) upgrades required.
- Consolidated landownership, with two private landowners affected, sparsely populated surrounds and minimal sensitive land uses.

1.3. PROJECT SUMMARY

This application proposes to install a maximum 150MW wind farm with up to 30 wind turbines and associated infrastructure at a site approximately 35km north-east of Hyden. The turbines will be installed on towers up to 150 metres tall with blades up to 90 metres long, delivering a total tip-height of up to 240 metres. The turbines will be supported by key infrastructure includes access roads, transmission lines, substation facilities and staff offices.

The exact specifications of the wind turbines including the make, model and size as well as the specific location of infrastructure, will be confirmed through the process of SynergyRED appointing a turbine contractor. On this basis, this development application seeks approval for the 'worst case scenario' in terms of level of impact. The relevant technical studies have all been based on this scenario.

The proposed development encompasses two freehold lots and adjacent road reserves with a total area of approximately 3,120 hectares. The site and surrounding area is primarily utilised for low intensity agricultural uses and is mostly cleared, however there are some segments of remnant native vegetation which are proposed to be largely retained.

A summary of key project details is summarised below at **Table 1**. The site plan at **Figure 1** illustrates the proposed 'wind farm envelope' including the indicative location of the turbines and infrastructure.

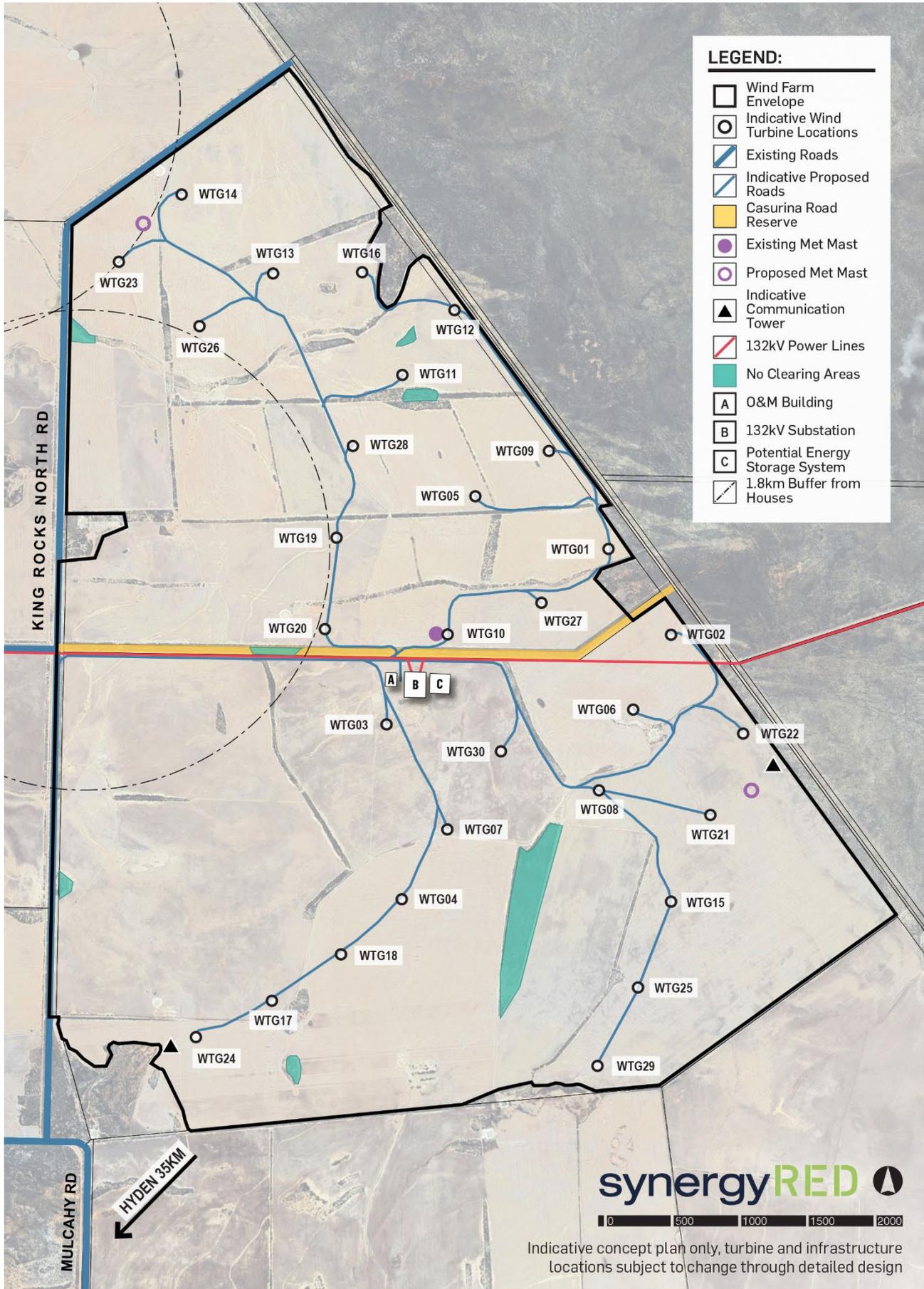
Table 1 – Key Project Details

Item	Summary	Report Section
Location	The proposed site is approximately 35km north-east of Hyden, which is bound by King Rocks Road North to the west, agricultural land to the north and south, and the Great Western Woodlands to the east	Section 2
Site Area	The proposed subject site encompasses two freehold lots (Lot 2485 and 2640) with a total area of approximately 3,120ha. Of this total, the proposed 'wind farm envelope' totals 3,075ha. Some supporting infrastructure such as access roads will cross over adjacent road reserves.	Section 2

Item	Summary	Report Section
Existing Development	Primarily cleared agricultural land with some isolated remnant pockets of vegetation and windbreaks. A single residential dwelling exists to the west of the site (outside the wind farm envelope), adjoining King Rocks Road North.	Section 2
Layout	The proposed indicative turbine layout is displayed in Figure 1	Section 3.1.1
Turbine Number	Maximum of 30 turbines	Section 3.2.1
Turbine Design	Three bladed, horizontal axis wind turbines as illustrated in Figure 4	Section 3.2.1
Turbine Size	Tower/Hub height up to 150m Blade length up to 90m (180m diameter) Turbine tip height up to 240m	Section 3.2.1
Power Output	Up to 150MW	Section 3.2.1
Potential Turbine Rotation Speed	Typical clockwise rotation speed for a 4-6megawatt (MW) sized turbine is approximately 4-12 rotations per minute (dependent upon the wind speed and the turbine specifications)	Section 3.2.1
Turbine Colour	The turbines will be colours light grey or white with a semi-matte finish to reduce their contrast with background sky and minimise reflection. The turbines will be uniform in colour and will not contain any prominent company logo or branding.	Section 3.2.1
Access Roads	A single site main access point is proposed via King Rocks Road North (likely in the vicinity of Casuarina Road), on the western boundary of the subject site with multiple additional gravel roads internal to the wind farm.	Section 3.2.6 and 3.2.7
Ancillary Features	Concrete foundations installed up to 4.0m below ground in existing cleared farmland Up to two permanent wind monitoring (meteorological mast) towers up to 150m tall Up to two communications towers up to 100m tall One new 132kV electrical substation and switchyards (approximately 200m x 200m) One permanent site office, workshop and maintenance building/warehouse with associated lunchroom, amenities and bathrooms (Operations and Maintenance building) Approximately 30km of gravel capped access road One new permanent main site entry point via King Rocks Road North	Section 3.4

Item	Summary	Report Section
	<p>Installation and/or upgrade of gates and fences, as required</p> <p>Underground and above ground power and communication cables</p> <p>Approximately 1km (or less) 132kV transmission line connection between existing line 132kV transmission line and new substation.</p> <p>Approximately 30km underground 33kV cables connecting the substation to each wind turbine</p> <p>Temporary laydown and stockpile areas</p> <p>Temporary construction compounds</p> <p>Temporary concrete batching plant and storage facilities.</p> <p>Potential future installation of energy storage system.</p>	
Extent of Clearing	Minor clearing of native vegetation required (<4ha).	Section 4.1
Project Timeframes	<p>Construction phase – approximately 24 months</p> <p>Operations phase – approximately 35+ years</p>	Section 3.3

Figure 1 - Wind Farm Site Plan



1.4. STAKEHOLDER AND COMMUNITY ENGAGEMENT

SynergyRED commenced early discussions and negotiations with key landowners and stakeholders approximately 12 years ago, with the first wind monitors placed on the subject site in 2010. With over 10 years of data accumulated in that time, SynergyRED has now recommenced discussions and engagement with key landowners, stakeholders and the Shire.

In the lead up to lodgement of this development application, SynergyRED and the Project Team has conducted various engagement with relevant stakeholders (including various Government Agencies) and the community. A record of this engagement is provided at **Appendix A**.

1.4.1. KRWF Community Fund

The KRWF will establish a community investment programme that supports activities and initiatives that address local needs and provide lasting benefit to the community. SynergyRED will work with the Shire and local community to ensure that the programmes implemented are meaningful, appropriate and deliver measurable social, economic and environmental outcomes for the community in the Shire of Kondinin.

Community investment could include a grants and community partnerships programme that offers one-off financial support for projects and initiatives, as well as medium to long-term partnerships that deliver positive outcomes for the local community and KRWF. Focus areas include environment and sustainability, grass-roots community programs and initiatives that promote inclusion and diversity. SynergyRED appreciate that supporting community programs and initiatives are an important way to give back to and collaborate with the communities in which we operate.

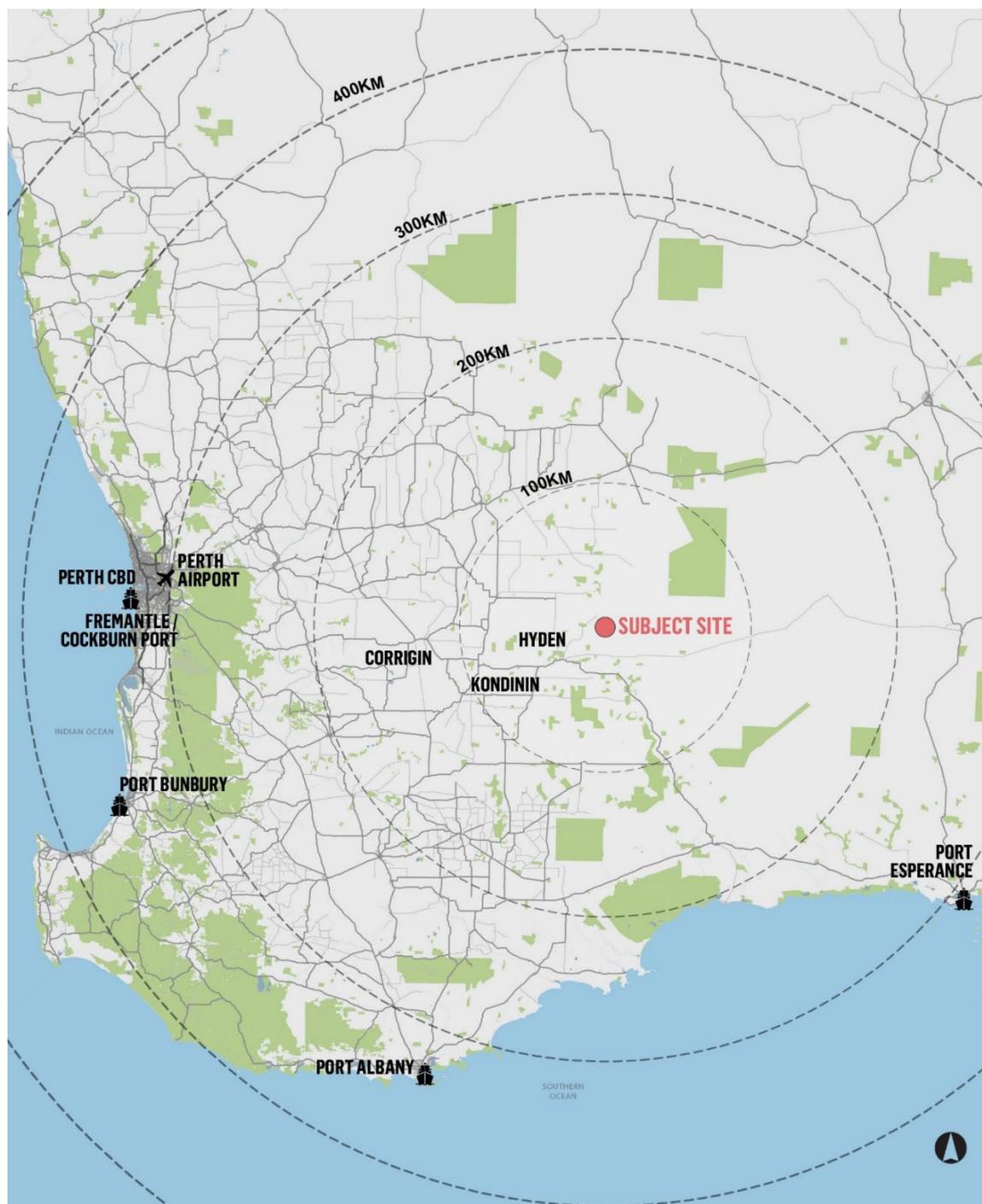
2. SITE CONTEXT

2.1. REGIONAL CONTEXT

The KRWF is located within the eastern Wheatbelt region of Western Australia, as shown in **Figure 2** below. The Shire of Kondinin is located 350km east of Perth, comprising the towns of Kondinin, Karlgarin and Hyden. The Shire comprises large agricultural plains, granite monoliths, woodlands and salt lakes.

The subject site is located within the Wheatbelt and Intensive Land Use Zone (DPIRD 2022). This zone has been extensively cleared for agricultural farming purposes including crop and grain production or sheep grazing. It comprises approximately 31% remaining native vegetation, with approximately 10% of the sub-region is reserved for conservation.

Figure 2 - Regional Context Plan



2.2. LOCAL CONTEXT

Locally, the KRWF is located approximately 35km north-east of the town of Hyden, with access provided via Hyden Lake King Road and King Rocks Road North. The context immediately surrounding the site comprises Unallocated Crown Land (Greater Western Woodlands) to the east and rural farmland. The site is bound by perimeter vegetation along King Rocks Road North and is divided by a corridor of retained vegetation that extends into the site from Casuarina Road.

Hyden is home to several popular tourist attractions including Mulka's Cave, Hippo's Yawn and Wave Rock, with the latter bringing in 130,000 visitors to the town each year (Development WA 2022). Other notable features surrounding the site include:

- King Rocks – a large granite rock which is located 6.5km south and sits at approximately 400m AHD at its highest point and offers 360-degree views of the surrounding landscape.
- Lake Liddelow Nature Reserve – located 22km south-east of the site.
- Rabbit Proof Fence – running north-south immediately east of the site.
- Other key landscape and cultural features including Mulkas Cave, The Humps, Gibb Rocks and Anderson Rocks.

The site sits on the border of the Shire of Narembeen and the Shire of Yilgarn to the north.

Figure 3 - Local Context Plan



2.3. THE SITE

The proposed development will be established across two freehold lots and adjacent road reserves with a total area of approximately 3,120ha (the **subject site**). The proposed construction footprint occupies a small portion of the subject site.

The site is primarily utilised for low intensity agricultural uses and is mostly cleared, however there are segments of linear vegetation typically being windbreaks, with some larger pockets of vegetation which are proposed to be retained. A 132kV transmission line currently bisects the site on an east-west axis, comprising the Western Power Kondinin to Bounty transmission line (servicing the Forrestania load area).

An aerial plan of the site is provided at **Figure 4**.

2.3.1. Lot Details

The subject site comprises two freehold lots (Lot 2485 and 2640 King Rocks Road North) and adjacent road reserves, which are owned and managed by the Shire of Kondinin.

The below table highlights the specific lot details, with lot boundaries illustrated at **Figure 5**. Copies of Certificates of Title and Deposited Plans are provided at **Appendix B**.

Table 2 - Lot Details

Lot	Plan/Diagram	Vol/Folio	Proprietor	Area (ha)	Easements
2640	210252	1899/851	Thomas Murray Hughes	1247	Refer to Titles (Appendix B)
2485	209641	1717/195	Hyden Faraway Pty Ltd	1873	Refer to Titles (Appendix B)

SynergyRED commenced early discussions and negotiations with key landowners and stakeholders approximately 12 years ago, with the first wind monitors placed on the subject site in 2010. With over 10 years of data accumulated in that time, SynergyRED recommenced discussions and engagement with key landowners, stakeholders and the Shire in the lead up to lodging this application.

SynergyRED is in the process of finalising lease agreements with landowners and intends to conclude agreements with neighbours, in accordance with wind farm good industry practice. Lease agreements will span for the life of the project (likely approximately 30-35 years) and will enable landowners to continue to utilise their land for rural and agricultural purposes through the operating life of the wind farm.

Figure 4 - Site Aerial Plan

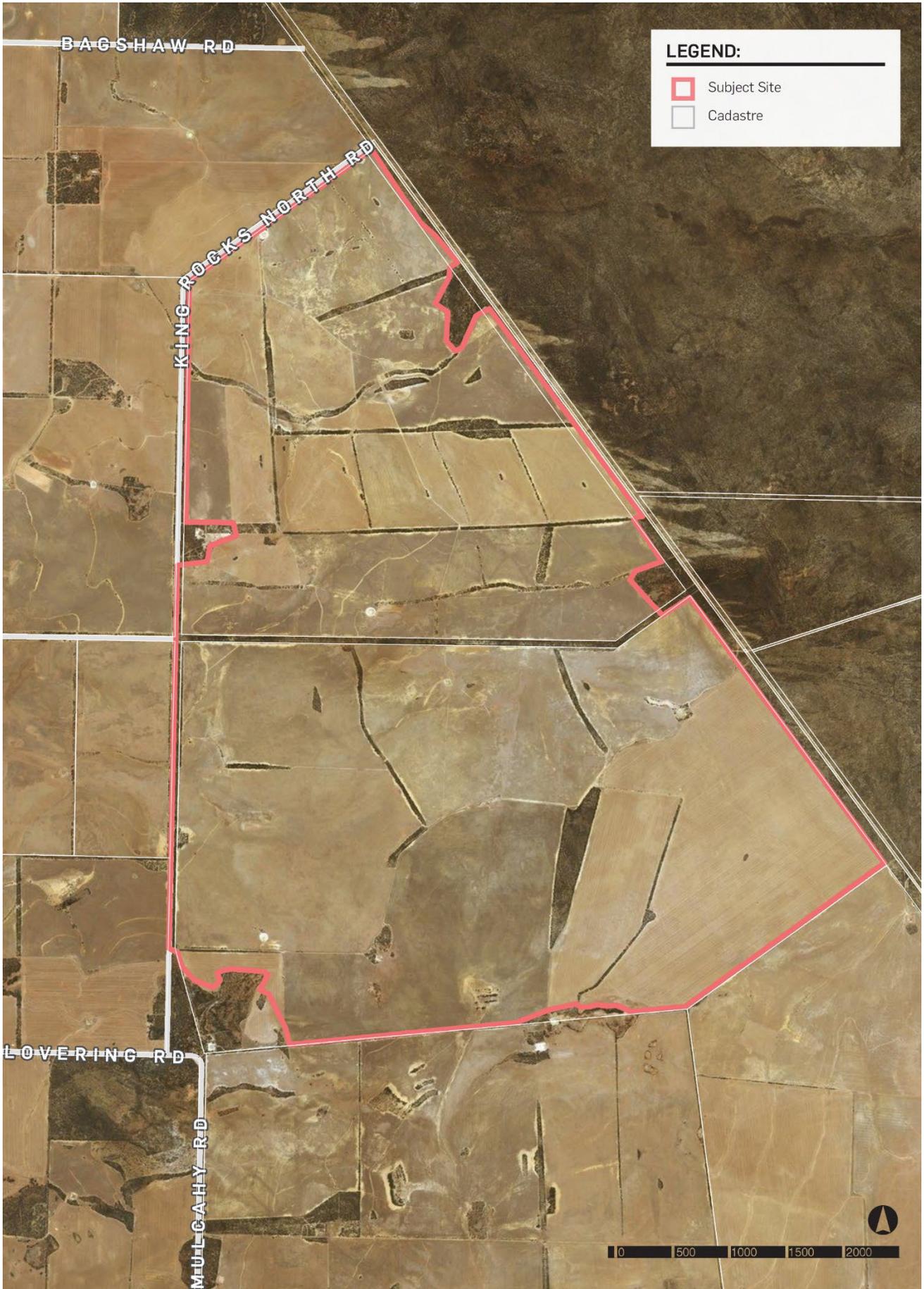
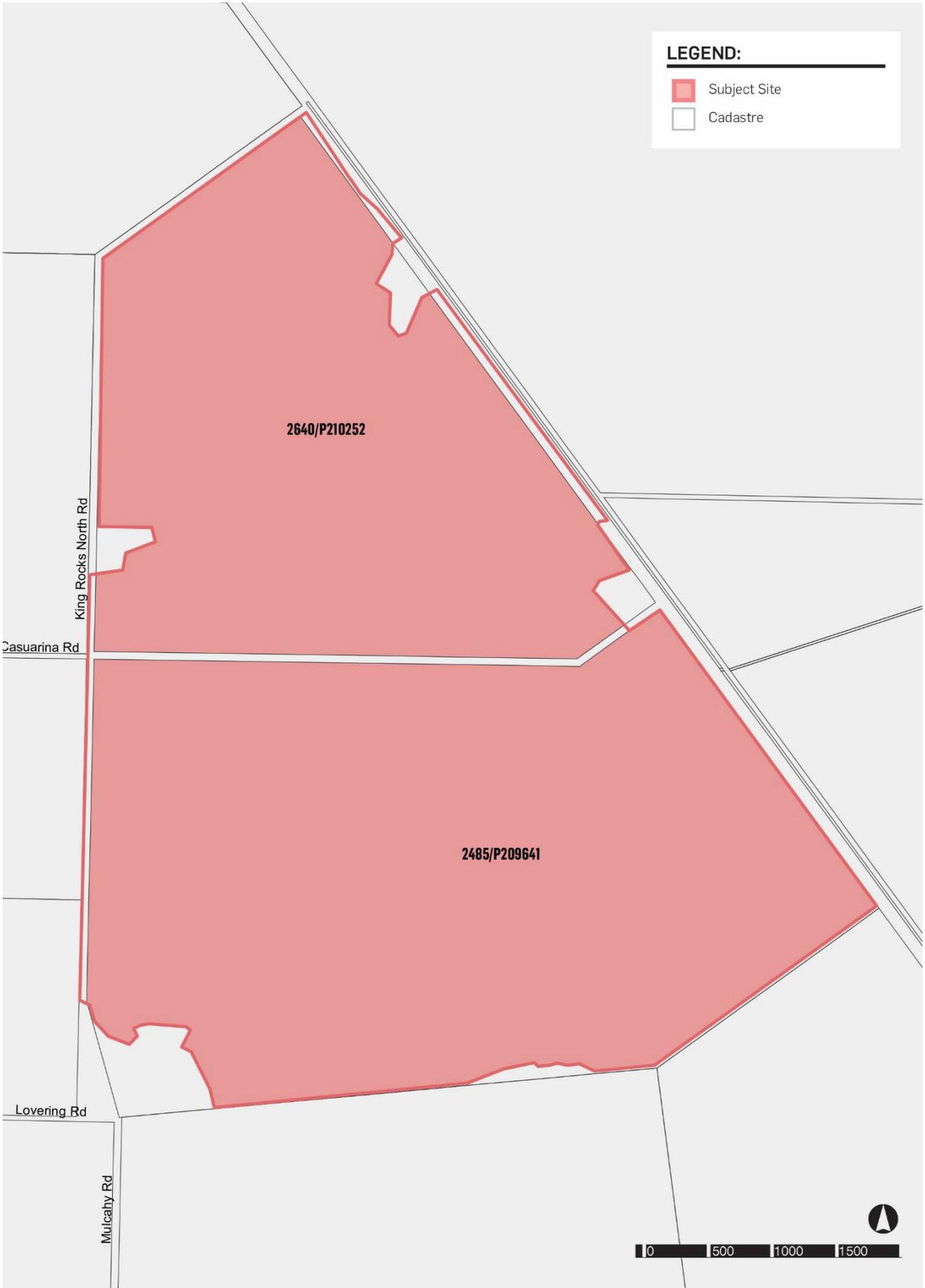


Figure 5 - Land Tenure Plan



2.4. SITE CHARACTERISTICS

2.4.1. Site Features

The subject site spans across two rural freehold lots and adjacent road reserves, bound by King Rocks Road North to the west and the Great Western Woodlands to the east. In a similar manner to most of the surrounding land uses, the rural land has been cleared for cropping and sheep grazing, although windbreaks and isolated pockets of vegetation have been maintained throughout the property.

2.4.2. Existing Land Uses

The subject site itself is located within agricultural land which has been mostly cleared, with only narrow linear remnant vegetation remaining. It is anticipated that the existing rural land uses will be largely unaffected by the KRWF and will be able to continue the various cropping, livestock and agricultural activities that currently operate on site once the construction of the wind farm is complete.

2.4.3. Climate

Climate data from 2000 to 2022 was obtained from the Hyden Station (Station 010568), which is the closest data collection site located 4km east of Hyden and 33km south-west from the subject site. The annual mean minimum temperature ranges from 4.7°C in July and August to 15.9°C in February, and the mean maximum temperature ranges from 16.5°C in July to 33.8°C in January (BoM, 2022). The average amount of rain received in Hyden over a year is 340.2mm (BoM, 2022).

2.4.4. Topography and Contours

The topography of the site is gently undulating in a westerly direction. Elevations range from 350 to 420m Australian Height Datum (AHD).

2.4.5. Key Heritage Features

While no registered sites of Aboriginal or European heritage significance exist on the subject site, relevant studies have been undertaken to confirm any heritage impacts or considerations. Specifically, a desktop assessment of the site confirmed that there are no recorded Aboriginal Heritage sites or places of cultural heritage significance within 9km of the subject site. Refer **Section 4.2** for further details of the assessment.

Further there are no known European heritage features listed on the State or Local Heritage Register located within or adjacent to the proposed subject site.

2.4.5.1. Rabbit Proof Fence

Although not formally listed on the State or Local Heritage Register, the Rabbit Proof Fence has been identified for future assessment and potential inclusion on the Site Register by the Heritage Council of WA (reference 'RHP 2005'). Note there is no timing information in relation to this assessment process and no certainty as to whether it would be listed as part of this process.

Given this context however, preliminary heritage advice has been sought from SLR Consulting. The advice concludes that the KRWF will have a negligible to nil impact on all heritage listed items in the vicinity of the subject site.

Specifically, the advice confirms that the above context has no legislative protective effect under the *Heritage Act 2018*. As the proposed KRWF works are setback over 100m from the eastern boundary where the curtilage overlays on the adjacent lots, it is further noted that nil/negligible impact on the Rabbit Proof Fence is anticipated in the event the listing was gazetted in the future.

Notwithstanding the above, SynergyRED will ensure through the construction management plan, that no construction machinery and equipment will be within 10 metres of the fence.

3. PROPOSED DEVELOPMENT

SynergyRED propose to develop the subject site for the purpose of a wind farm – referred to as the King Rocks Wind Farm (**KRWF**). This section provides an overview of the proposal in terms of the proposed wind turbines and associated infrastructure, site access and construction details.

3.1. OVERVIEW OF PROPOSAL

3.1.1. Indicative Wind Farm Envelope and Layout

Figure 6 below, depicts the proposed wind farm envelope, including the indicative layout of turbines and associated infrastructure. Approval for a ‘wind farm envelope’ is being sought to enable flexibility for the final turbine and infrastructure location and design to be confirmed through the detailed design process.

The final layout will be informed by a comprehensive tender process where a turbine contractor/manufacturer will be selected by SynergyRED. The contractor will confirm the wind farm specifications (make, model etc.) as well as the layout based on more detailed technical studies to ensure compliance with all relevant international and national standards, guidelines and requirements.

While the specific design is yet to be finalised, the indicative layout shown at **Figure 6** has been informed by environmental advice and has been utilised to inform all relevant technical reporting and assessments accompanying this development application. The indicative layout shown is the maximum potential project requirement for turbines to ensure all technical assessments capture a ‘worst case scenario’ and the relative impacts of this. This approach, which is typical for wind farm development applications within Western Australia, will then enable any ‘lesser’ outcome to be acceptable ‘as-of-right’ given the level of impact would be lower.

Understanding the potential environmental impacts formed an important part of determining the indicative layout and location of the wind turbines. As a result of this, the indicative layout is considered the most optimal from an energy generation perspective as well as considering the outcomes of all technical studies, particularly environmental impacts. The layout has been utilised to demonstrate that a realistic turbine layout can comply with required environmental outcomes of all relevant frameworks and guidelines.

On this basis, the indicative KRWF layout and specifications assume:

- Up to 30 wind turbines (total capacity 150MW across the site). The indicative locations have been carefully selected to maximise energy production based on wind direction and minimise impacts on the surrounding environment, with a particular focus placed on ensuring nearby residents (closest being the Northern Landowner’s residence) are located at least 1.8km from the nearest turbine.
- The final design of the proposed wind farm will be dependent upon a number of factors including market conditions, cost of construction, availability of wind turbine infrastructure and the capacity of the existing 132kV power lines.
- A maximum turbine design comprising:
 - Blade length up to 90m (180m diameter)
 - Tower/hub height up to 150m
 - Turbine tip height up to 240m
- The provision of required infrastructure as shown at **Figure 6**, including access roads, transmission lines, substation facilities, wind monitoring towers (meteorological masts), communication towers, a potential energy storage system and staff maintenance offices.

A photo simulation of the KRWF from King Rocks Road (the Northern Landowner’s residence) is shown at **Figure 7**.

Figure 6 – Indicative Wind Farm Envelope and Layout

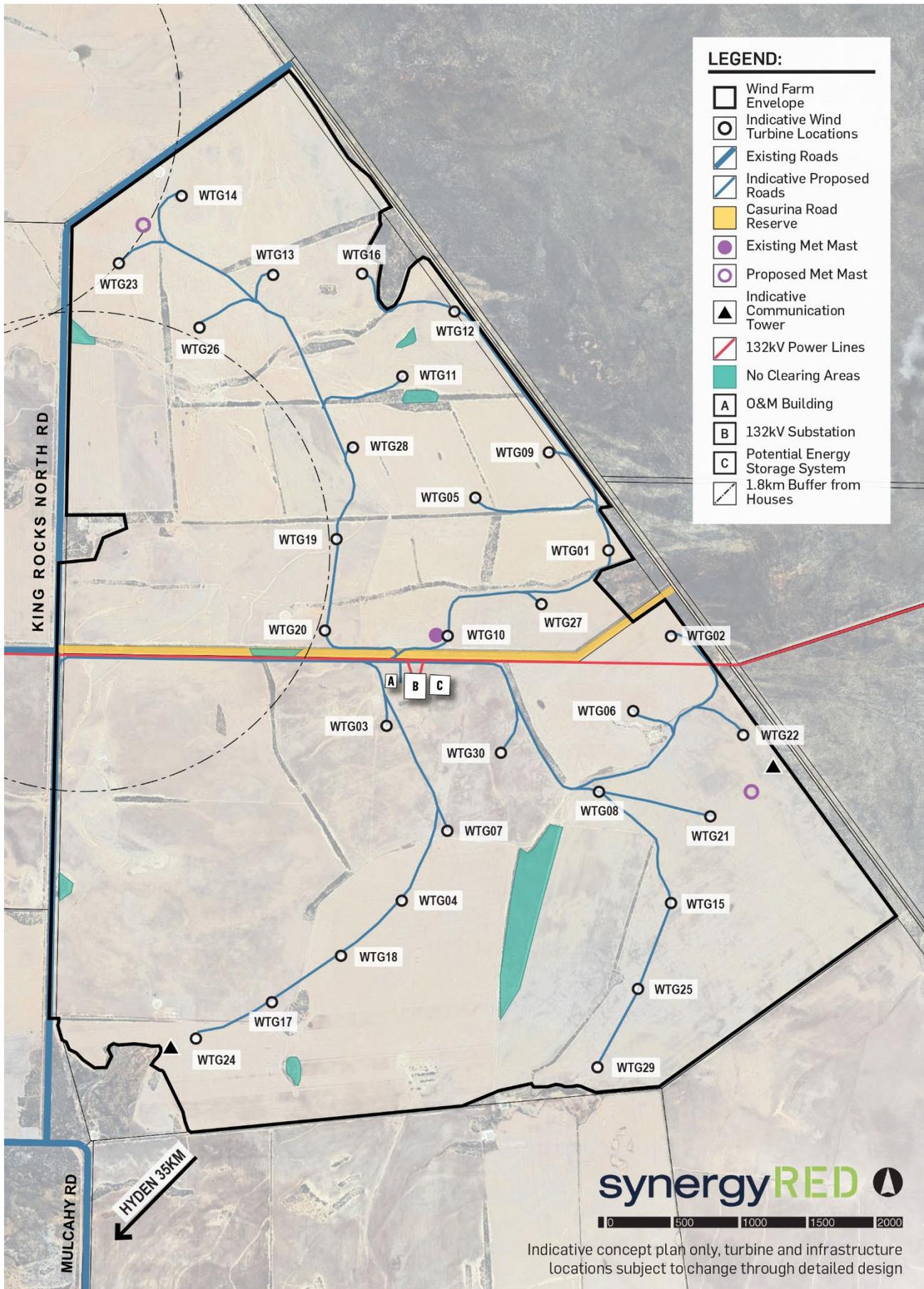


Figure 7 – Simulation of KRWF from the Hughes Property (Lot 2640)



(Simulation based on maximum proposed wind turbine specifications)

3.2. PROJECT DESCRIPTION

3.2.1. Turbine Infrastructure

As described above, the exact specification and make of the wind turbines will be determined throughout the detailed design process following development approval. However, the proposed wind farm has been designed to accommodate up to 30 turbines to the general specifications illustrated at **Figure 8**, to ensure that assessments on any potential impacts can be adequately considered.

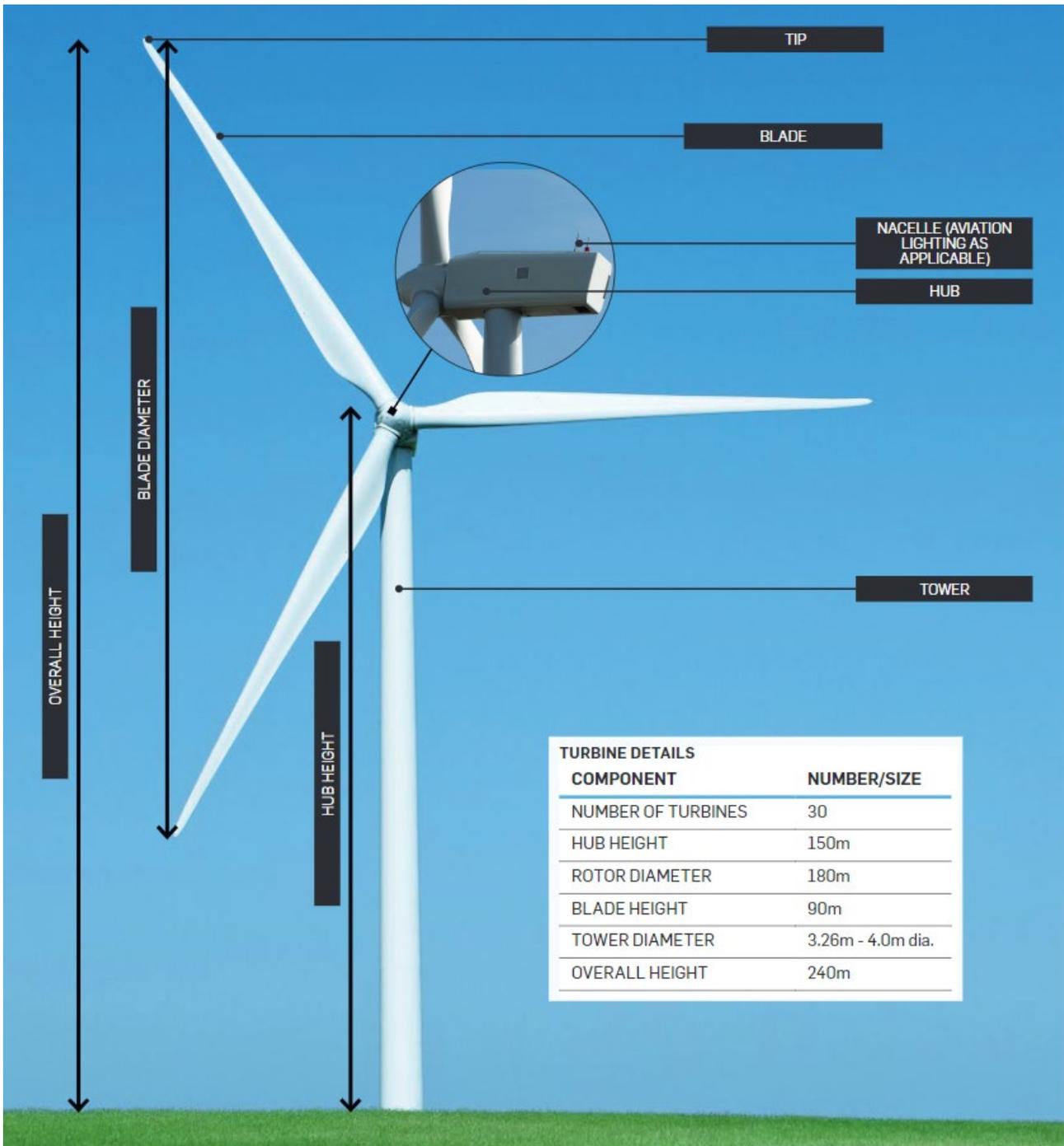
The power output of the fully operational wind farm is anticipated to be capable of generating up to 150MW at peak, however this will largely be dependent on wind speeds, weather conditions and grid capacity. Turbine technology is continuously advancing, with the proposed turbines being capable of automatically stopping, starting and altering output dependent upon weather conditions and grid capacity.

Each turbine will have a transformer located internally or externally near to the tower. Further, power and communication cables will be installed underground between the turbines and connect to the proposed substation, as well as high voltage 132kV overhead powerlines from the substation to the existing Western Power 132kV Transmission Line. The proposed turbines are expected to be connected together in a daisy-chain arrangement via underground power cables with approximately 6 turbines per group.

The final specification of the turbines will be selected after a detailed tender process, and will be broadly based on, but not limited to, the following criteria:

- Maximum power and energy output based on wind resource distribution occurring at subject site.
- Suitability of the turbine to operate for the design life of the wind farm.
- Availability of the turbine components and estimated delivery time to site.
- Turbine capable of providing optimum financial outcome over the design life.
- Track record of turbine manufacturer and current industry presence in Australia.

Figure 8 – Turbine Specifications



The output, number, size and type of turbine is to be confirmed at the detail design phase of the project. The project will remain compliant with all necessary guidelines, frameworks and criteria, however, flexibility in specifications allows for any improvements in turbine design between planning approval and construction to be considered.

3.2.2. Turbine Foundations

Turbine foundations vary in size dependent upon the imposed loading, ground conditions, construction methodology and drainage requirements of the subject site. It is anticipated that each turbine will require approximately 600m³ of buried reinforced concrete foundation. This will be confirmed through the detailed design phase as turbine manufacturers have individual foundation requirements that must be adhered to (taking into account geotechnical conditions and the turbine model).

It is anticipated that any surplus or excavated material will be utilised to rehabilitate surrounding areas or elsewhere on site for access roads.

Figure 9 – Example Wind Farm Turbine Foundation Construction



(Image provided by SynergyRED taken at Warradarge Wind Farm – proposed King Rocks wind farm turbine foundations will be in accordance with manufacturers requirements and could differ from the image)

3.2.3. Wind Monitoring and Communication Towers

Indicative locations of the two proposed wind monitoring towers (meteorological masts or 'met masts') have been displayed on the site plan provided at **Figure 6**. These locations have been selected to establish the measurement of unimpeded wind from the prevailing wind directions. The two met masts are expected to be permanent, powered and contain measurement instruments.

The met masts are required to be a certain distance from nearby turbines and their locations will be confirmed at the detailed design phase to ensure that accurate measurements can be obtained throughout the life of the project in accordance with international standards. At a height of up to 150m, it is anticipated that the met masts will cause no issue from an aviation or visual impact perspective, as they are up to 90m shorter than the proposed turbines tip-height.

To enable the proposed wind farm to communicate with Western Power operations remotely, up to two microwave communication towers are proposed on site to ensure adequate communications connection from the site. The two communication towers are proposed to be up to 100m in height and are displayed on the indicative site plan provided at **Figure 6**.

3.2.4. Operations and Maintenance Building

A permanent Operations and Maintenance building (O&M building) is proposed in the centre of the subject site in close proximity to the substation. The proposed O&M building is likely to include an office, warehouse, kitchen/staff room, amenities and carparking. An indicative image of the O&M building is displayed in **Figure 10** below.

Figure 10 – Indicative O&M Building



(Image provided by SynergyRED taken at Warradarge Wind Farm – proposed KRWF O&M building will be in accordance with manufacturers requirements and could differ from the image)

As the subject site does not currently have access to the sewerage network, it is expected that once operational the proposed O&M building will utilise an onsite septic system, which will be installed to comply with relevant Australian standards (following development approval and confirmed at building permit stage for the O&M building).

3.2.5. Substation Infrastructure

A permanent 132kV substation is proposed in the centre of the subject site in close proximity to the O&M Building and existing Western power overhead transmission lines. The substation is required to connect KRWF to the South-West Interconnected System via the 132kV transmission line between Bounty and Kondinin. It will include equipment for protection, SCADA, metering, transformers and communications to send live data and signals to the O&M team, Western Power and AEMO. An indicative image of the Substation is displayed in **Figure 11** below.

Figure 11 – Indicative Substation



(Image provided by SynergyRED taken at Warradarge Wind Farm – proposed KRWF Substation will be in accordance with manufacturers requirements and could differ from the image)

3.2.6. Site Access

A single main site access point is proposed from King Rocks Road North (likely in the vicinity of Casuarina Road) to achieve safe access and minimise community disruption during the construction stage, as well as reducing the extent of local roads required for delivery of turbine components.

Depending on the final delivery route chosen to the site (for construction), the current gated access opposite Casuarina Road could be utilised, or the King Rocks Road North from Lovering Road route. In both scenarios, minor works would be required to be undertaken at the intersections to facilitate the movement of large vehicles. This would typically involve widening of the road surface area, filling of drains and the removal of limited vegetation.

The Traffic Impact Assessment prepared by Stantec (at **Appendix I**) assessed these two options both from a swept path and sight line assessment perspective, outlining the specific works required to facilitate large truck movements. Further investigations will be undertaken through detailed design based on the preferred scenario and size of turbine blade deliveries.

3.2.7. Internal Access Roads

The proposed layout of the on-site access roads has been designed to utilise the existing topography of the land and efficiently utilise the land to ensure that there is little disturbance to the existing agricultural activities on site once the wind farm is fully operational.

Access tracks to each of the wind turbine locations will generally be across open paddocks and along the ridgelines that the turbines are located on. The internal site access roads will be private roads and therefore will generate no impact to the general public.

It is proposed that there will be approximately 30km of gravel capped roads required, with the following design criteria and mitigation measures applied to the access road layout to mitigate potential impacts:

- Access road widths will typically be approximately 5-6m wide, with some portions proposed to be wider to accommodate turning circles for cranes, trucks and other construction/delivery vehicle requirements.
- Turning areas and passing bays will be constructed where necessary.
- Roads are not proposed to be sealed and will be constructed from locally sourced aggregate/gravel.
- Drainage channels will be located on either side of the road as necessary.

3.2.8. Wind Farm Maintenance

The wind farm owner will be responsible (either directly or via a contractor) for the ongoing maintenance and operation of the turbines, access roads, O&M building, substation and all other associated infrastructure from the end of construction throughout operations.

It is anticipated that the wind turbine manufacturer (or a suitably qualified contractor) will undertake routine inspections of the wind turbines, substation, O&M building and all other electrical infrastructure, with maintenance completed as required. It is anticipated that once the turbine manufacturer is selected, a routine maintenance schedule will be developed in accordance with the manufacturer's guidelines.

Further, it is expected that ongoing maintenance of the access tracks and the electrical network will be required to provide safe access to each turbine and associated infrastructure.

The wind farm will work with Western Power to determine operational boundaries and division of maintenance responsibilities at the substation connection point along with all other associated infrastructure once operational (agreement on ownership to be confirmed through detailed design and construction).

3.2.9. Workforce and Accommodation

The project is expected to require a workforce of up to 150 personnel at peak construction periods, assuming that the KRWF will be constructed over an 18–24-month period. The ability to construct the project in stages will result in a lower peak workforce, however it is currently anticipated that a workforce of approximately 150 people will be required for up to 14 months of the construction period. It is anticipated that workers throughout the construction period will be accommodated in local accommodation (hotel/motel) in

surrounding towns and localities, with no construction camp or temporary onsite accommodation currently proposed as part of the project.

Once operational, it is anticipated that approximately 5-full time operations staff who reside locally will be required throughout the life of the project, working typical office hours Monday to Saturday. Full time employees are expected to be suitably skilled in wind farm maintenance activities and will be trained appropriately by the lead O&M contractor.

Project operations which will require on-site personnel include:

- Maintenance of wind turbines and associated infrastructure
- Safety management
- Environmental management
- Liaison with landowners.

Operations which will likely be managed by offsite personnel include:

- Australian Energy Market Operator (AEMO) coordination
- Turbine performance monitoring and licensing compliances
- Wind farm reporting
- Remote resetting and controlling.

3.2.10. Decommissioning and Rehabilitation or Repowering

Once the operational life of the project comes to an end, the wind farm can be repowered by replacing the wind turbines, or wind turbine components to extend the life of the project. This would require lease agreement extensions with landowners.

If repowering the wind farm is not viable, the owner will decommission and rehabilitate the project site to enable it to resume a complete agricultural land use operation. This would involve the dismantling and removal of all turbines and above ground infrastructure from the subject site. Turbine foundations will be removed to a suitable depth and all other below ground infrastructure and gravel roads will likely be removed unless otherwise agreed upon with landowners. All other decommissioning and rehabilitation work (with the exception of Western Power infrastructure) will be the responsibility of the wind farm owner.

3.2.11. Utilities

Sewerage on site will be managed by a septic system and be removed by a certified contractor, or an in-treated ground septic system with will be installed. The wind farm office and workshop will be fed by power from the wind farm when available or the grid, with a local back-up generator for emergency back-up supply. Potable water will either be delivered to site through a suitable supplier or an on-site rainwater treatment system.

3.2.12. Design Certification

All proposed infrastructure and assets will be certified, constructed and installed to relevant Australian or International standards and legislation. All components will be capable of withstanding climatic, aerodynamic and electrical induced loads during the operational design life in accordance with applicable standards.

3.3. PROJECT STAGING

It is anticipated that the construction phase of the project could be staged as follows:

- Completed in its entirety during one continuous construction period that spans across approximately 18 to 24 months.
- Phased to construct the wind farm progressively in two or more construction phases across 24 months or longer.

- Phased to construct the wind farm progressively in two or more construction phases across a longer period of time, with completed stages becoming operational and the balance of the project completed at a later date.

Should the project be required to be staggered and constructed over two or more stages across a longer period of time (points two and three above), SynergyRED will liaise with the Shire on this programme throughout the detailed design phase of the project.

In terms of overall project life, it is envisaged the operations phase will be approximately 30-35+ years, with the site either repowered or decommissioned following that.

3.4. CONSTRUCTION PROCESS AND IMPACTS

3.4.1. Construction Process

During the construction phase the main contractor will develop and act in accordance with Good Wind Industry Practice by developing and enacting the following Management Plans:

- Water Management Plan
- Environmental Management Plan
- Health and Safety Management Plan
- Traffic Management Plan
- Fire and Emergency Management Plan

There will be certain enabling works required following development approval, prior to the commencement of construction including:

- Comprehensive site and geotechnical investigations to confirm the establishment of roads, and the siting of the turbines and all associated infrastructure
- Obtaining necessary building permit approvals
- Establishing a source of water.
- Completion of offsite roadworks and upgrades.

It is anticipated that the following works will occur throughout the construction period of the project:

- Construction site establishment (temporary site facilities, lay down areas, equipment and materials)
- Necessary earthworks, gravel cap paving and drainage for access roads and wind turbine hardstand
- Excavation for turbine and infrastructure foundations
- Construction of turbine foundations with reinforced concrete
- Installation and/or upgrade of fencing and access gates
- Installation of dams, including turkeys nests
- Installation of a concrete batching plant
- Installation of electrical substation(s) and switchyards
- Installation of transmission poles or towers and connecting power lines
- Installation of operations and maintenance building(s) and workshop(s)
- Installation of wind monitoring masts up to 150 metres tall
- Installation of communications towers up to 100 metres tall
- Installation of all electrical and communications equipment including overhead lines and underground cables to substation.
- Delivery and installation of all wind turbine transformers, towers, hubs and blades

- Commissioning and reliability testing of turbines and all associated infrastructure

Progressive rehabilitation and restoration of the project area where possible to facilitate a simultaneous land use operation.

3.4.2. Anticipated Construction Period

The estimated construction period of the wind farm will be determined throughout the detailed design phase of the project and confirmed via an agreement between SynergyRED and the selected Engineering Procurement and Construction contractor. This will be formalised in a Construction Management Plan (CMP).

The construction period will be subject to change, due to a range of factors such as weather conditions, infrastructure product availability and construction speeds. Throughout the construction period of the project, it is envisaged that works could potentially occur up to 6 days of the week for up to 11 hours per day from Monday to Saturday, and generally no work on a Sunday.

It is important to note that it is critical for working hours to remain flexible, as factors such as weather conditions and delivery of materials can have a large impact on timing of installation. Further there may be unforeseen out of hours work required such as concrete pours that cannot stop/start and blade/nacelle lifts that must be undertaken under safe wind conditions.

In such instances that construction hours differ from those that are outlined in the CMP, there will be appropriate mitigation measures to ensure that out of hours work is managed and conducted in accordance with all relevant protocols highlighted within the CMP.

3.4.3. Environmental Management Controls

Similar to the process that SynergyRED has utilised for recent wind farm projects such as the Warradarge wind farm, an Engineering Procurement and Construction contractor will be selected to develop a Construction Environmental Management Plan (CEMP) to ensure that any potential environmental impacts throughout the construction phase of the project are well managed.

The CEMP will ensure that critical construction related activities that are completed throughout the project are managed and strategies are implemented to protect and manage flora and fauna, waste, air quality, water quality, noise and cultural heritage. Further, the CEMP will further detail a construction programme, techniques and mitigation measures to ensure that that construction impacts are minimised.

3.4.4. Equipment and Machinery

Construction works are anticipated to include excavation, rock hammering, drilling, bulldozing, crushing, screening and concrete batching. It is expected that noise will be generated by these works, as well as the addition of excavators, bulldozers, mobile cranes and heavy vehicles. Generally, it is expected that the following typical equipment will be used to complete:

- **Site mobilisation** – road loaders, graders, trucks, small cranes and generators
- **Access roads and hardstands** – road loaders, bulldozers, excavators, graders, scrapers, rollers, dump trucks, semi-trailers, tractors, water carts, hydroseed trucks.
- **Wind turbines** – excavators, concrete trucks, rock breakers, concrete trucks, flat-bed trucks, crawler heavy lift cranes (small, medium and large), generators, elevated work platforms.
- **Electrical infrastructure works** – trenchers, backhoes, excavators, grader, tractors, laying machines, terrain cranes.
- **Concrete batching plants**

Wherever possible, noise emissions from construction plants, machines or equipment will be reduced and operated in accordance with the construction noise requirements stipulated within the WA Noise Regulations. Other equipment or machinery may be required dependent upon construction techniques and final turbine specifications.

3.4.5. Construction Water Supply

Water supply is a critical component of the construction period of the project, and will be essentially in completing construction activities such as:

- Bulk earthworks
- Dust suppression
- Material conditioning
- Concrete batching
- Drinking water for construction workforce
- Ablution facilities for construction workforce

Water sourcing will be carefully considered throughout the detailed design phase and a water sourcing strategy will be developed to ensure that adjacent landowners and stakeholders do not experience water-related issues throughout the construction period of the project. Wherever possible, potable water will be obtained from the local government reticulated water network, or otherwise trucked to the site. Concrete production will require a medium quality water source, which is proposed to be trucked to site, with low quality water used for earthworks and dust suppression to be investigated further.

Once the water sourcing strategy has been finalised, any approval requirements from the Department of Water and Environmental Regulation, Water Corporation and the Shire of Kondinin will be confirmed prior to the commencement of construction.

3.4.6. Construction Transport Route

The wind turbine components are anticipated to be transported to the site from the Cockburn Port, which is well connected to a road network that has spare capacity and can accommodate over dimensional vehicles.

The exact end of transport route requires refinement at the entrance to the site, being that it can either be via the direct route from Casuarina Road into the site, or from the King Rocks Road North approach. The key consideration in this final access point will be the resultant impact on vegetation clearing to function as the final access into the site.

Closer to the time of construction once details of the components of the project and the size of the actual vehicles to be used have been determined, a detailed separate OSOM Haulage Route Assessment would need to be prepared.

At this preliminary stage however, the route from Cockburn Port to the site should be achievable. This route is expected to include Cockburn Road, Rockingham Road, Thomas Road, Tonkin Highway, Armadale Road, Albany Highway, Brookton Highway, Brookton- Corrigin Road, Corrigin-Kondinin Road, Kondinin-Hyden Road and Hyden-Lake King Road. These are all primary distributors controlled by Main Roads WA.

Access routes for light, heavy and OSOM vehicles in proximity of the wind farm site are expected to be via the following routes:

- Left turn from Hyden-Lake King Road
- Lovering Road
- Williamson Road
- Casuarina Road
- Into the site via a driveway opposite Casuarina Road at the intersection of King Rocks Road North

Or:

- Lovering Road
- King Rocks Road North
- Right turn into the site via a driveway opposite Casuarina Road at the intersection of King Rocks Road North

Figure 12 – Example Wind Farm Turbine Blade Delivery



(Image provided by SynergyRED taken at Warradarge Wind Farm – proposed King Rocks wind farm turbine specifications will be dependent upon manufacturers requirements and could differ from this image)

3.5. COMMUNITY INFORMATION AND SAFETY

While there is no intent to facilitate and encourage public access to the KRWF site, SynergyRED acknowledges the potential community interest in wind farm developments in general.

SynergyRED will liaise with the Shire through the development application process to determine opportunities for community information regarding the KRWF.

Further, appropriate fencing/signage will be installed at appropriate locations surrounding the wind farm to notify the public of any risk.

4. TECHNICAL REPORTS

A number of technical assessments and reports have been undertaken to inform the indicative wind farm layout and to assess the proposals level of compliance against the relevant legislative framework. These reports are summarised below and appended to the development application.

4.1. ENVIRONMENTAL REVIEW DOCUMENT AND FLORA AND FAUNA ASSESSMENT

Prepared by: 360 Environmental at Appendix C and Appendix D

An Environmental Review Document (ERD) has been prepared and will be submitted to the Environmental Protection Authority (EPA) for consideration under Part IV of the *Environmental Protection Act 1986*. This assessment includes a flora and fauna survey to assess key biological values to support the ERD process and approvals application (undertaken from 3-7 November 2021). A summary of findings from the survey is provided below:

- Flora and Vegetation
 - The survey identified 70 conservation significant species including 6 threatened taxa occurring within 25km of the survey area. Two species were assessed as having a high likelihood of occurrence, 27 species as having a medium likelihood and 46 species a low likelihood.
 - No threatened flora species pursuant to the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* and/or gazetted as Threatened/Declared Rare Flora pursuant to the *Biodiversity and Conservation Act 2016* were recorded during the survey.
 - No priority taxa as listed by DBCA were recorded.
 - Ten introduced species were recorded (none weeds of national significance or declared pests).
 - Remnant vegetation ranged from Very Good to Degraded, with the majority considered to be in good condition. Evidence of disturbance included grazing, rubbish, livestock and weeds with a majority of the survey area cleared.
- Fauna
 - Desktop assessment identified 18 conservation significant terrestrial vertebrate fauna species potentially occurring in the area, comprising twelve birds, five mammals and one reptile.
 - Five fauna habitats were identified and mapped within the Survey Area, of which the Mallee woodland represents the most value to conservation significant fauna and overall fauna assemblages.
 - Eleven trees met the criteria for Carnaby's Cockatoo potential breeding trees in accordance with the EPBC Act referral guidelines, however none currently contain hollows and are therefore not currently suitable for black cockatoo breeding.
 - The survey did not identify any evidence that the Carnaby's Cockatoo (*Calyptorhynchus latirostris*), Malleefowl (*Leipoa ocellata*), Chuditch (*Dasyurus geoffroii fortis*) and Red-tailed Phascogale (*Phascogale calura*) occurred within the survey area.
 - One conservation significant taxon was recorded by an autonomous recording unit (bat detector) during the field survey, the Central Long-eared Bat (*Nyctophilus major tor*), listed as Priority 3 by the Department of Biodiversity, Conservation and Attractions.
 - Four introduced mammals were recorded.
 - Observations of birds flying at sufficient heights to interact with the moving blades of wind turbines were infrequent during the field survey. Three raptors, which are considered to have a higher risk of colliding with wind turbines than other birds, were recorded during the field survey. Two bats were recorded which typically forage above the canopy and are therefore considered to be most at risk of collision with wind turbines.

Based on this survey, the ERD states that the 'wind farm envelope' is identified as having low habitat value. It has been selected (and indicative layout designed) to exclude development and avoid impacts with vegetation of Very Good condition. Additionally, all turbines will be located at least 100 metres from areas of remnant vegetation, ensuring that no blades will sweep over vegetation and associated fauna habitat

The level of clearing associated with the KRWF is low, with clearing of less than 4ha of vegetation proposed. All temporary construction areas will be located within existing cleared areas.

The total clearing accounts for approximately 0.13% of the development envelope, with all areas of Very Good quality vegetation to be avoided. No flora of conservation significance will be impacted. The resulting clearing impacts will be minor in scale and nature as per the findings from the most recent biological survey.

The final design of the KRWF will consider the direct vegetation impacted and condition of the area. The goal is to generate minimal impact to the terrestrial fauna in the development footprint. Clearing of vegetation for access roads and buried electrical cabling have been selected based on this objective. In particular, areas of vegetation that include potential hollows for Carnaby's Cockatoos and Red-tailed Phascogales will not be cleared.

4.2. ABORIGINAL HERITAGE ASSESSMENT

Prepared by: AHA Logic at Appendix E

A desktop assessment of the proposed subject site has been undertaken to confirm the known Aboriginal cultural values of the site and make recommendations on the next steps on the Aboriginal heritage due diligence process. The assessment considered the results of searches of the Aboriginal Heritage Inquiry System (AHIS), the Register of Aboriginal Sites (Register) and National Native Title Tribunal (NNTT) databases.

The desktop assessment confirmed that there are no recorded Aboriginal heritage sites or places of cultural heritage significance within 9km of the subject site. In accordance with the recommendations of the assessment however, SynergyRED will be entering into a Noongar Standard Heritage Agreement with the Ballardong people for the project area via the South West Land and Sea Council (SWALSC). Further to this, an activity notice will be submitted to confirm whether an Aboriginal heritage survey is required to identify any unrecorded Aboriginal sites in the project area before commencement of any construction works.

4.3. EUROPEAN HERITAGE ADVICE

Prepared by: SLR Consulting at Appendix F

Although not formally listed on the State or Local Heritage Register, the Rabbit Proof Fence has been identified for potential inclusion on the Site Register by the Heritage Council of WA (reference 'RHP 2005'). Given this context, preliminary heritage advice has been sought by SLR Consulting. The advice concludes that the KRWF will have a negligible to nil impact on all heritage listed items in the vicinity of the subject site. Further details are provided below:

- The Great Western Woodlands (to the east of the site) is not listed on the Australian National Heritage List of the Department of Agriculture, Water and Environment, despite the inclusion of a heritage overlay. As the proposed KRWF works are setback over 100m from the Eastern Boundary where the overlay curtilage overlays on the adjacent Lots, it is further assessed that nil/negligible impact on the overlay curtilage area would be anticipated in the event the listing was added to the Heritage List
- There are no World or Commonwealth listed areas within 200km of site, nor any other listed National Heritage Overlays.
- There are no listed State Heritage sites within the vicinity of the site.
- The Rabbit Proof Fence (Place Number 5253 - Rabbit Proof Fence No 1 - Pt Hedland to Ravensthorpe) is not gazetted as per *Heritage Act 2018* requirements, therefore the overlay has no legislative protective effect under the Act. As the proposed KRWF works are setback over 100m from the eastern boundary where the curtilage overlays on the adjacent lots, it is further noted that nil/negligible impact on the Rabbit Proof Fence is anticipated in the event the listing was gazetted in the future.

The heritage advice recommended when construction commences, to ensure through the construction management plan, that no construction machinery and equipment will be within 10 metres of the fence.

4.4. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Prepared by: Urbis at Appendix G

A Landscape and Visual Impact Assessment (VIA) has been prepared to identify locations from where the proposed wind farm may be visible, assess the potential impacts of from the identified locations and proposed solutions that may assist with mitigating any identified impacts upon those identified viewing locations. The assessment has been undertaken to assess compliance with the Western Australian Planning Commission Visual Landscape Planning Manual (DPI 2007) with reference to the following.

- Best practice guidelines for implementation of wind energy projects in Australia (Auswind 2006).
- WAPC – Position Statement on Renewable Energy Facilities.
- Kondinin Town Planning Scheme Number 1 (TPS1).

The assessment has concluded that 6 photo simulation locations will have a moderate visual impact and 2 locations will have a moderate/high impact. Of particular note are the moderate high impact locations which include Property 1 (Northern Landowner Residence) and King Rocks.

In all scenarios however, the assessment concludes that the social, environmental and economic benefits of the wind farm will outweigh visual impacts associated with selected vantage points. In order to ameliorate the impact of views to the wind however, the assessment recommends key initiatives to assist in mitigating the visual impact of the proposal. These include:

- Minimising the colour contrast in the landscape to allow new structure to blend into the existing setting,
- Recognising the role of topography and vegetation patterns in the landscape to hide proposed development components,
- Minimising the loss of existing screen vegetation and changes to existing patterns of vegetation, and
- Providing new screening vegetation in close proximity to the viewer at specific locations to development which can blend into the landscape.

4.5. NOISE IMPACT ASSESSMENT

Prepared by: GHD at Appendix H

A Noise Impact Assessment has been prepared to conduct background noise monitoring, noise modelling and complete an impact assessment in accordance with applicable regulatory requirements.

The assessment concludes that the proposal can achieve compliance with a more conservative interpretation of the South Australian Environment Protection Authority Wind Farm Environmental Noise Guidelines. However, it is concluded that the proposal only marginally complies at the Northern Landowner residence (sensitive receptor A) for hub height speeds of 9 m/s and 10 m/s. Therefore, it is expected that compliance measurements to be undertaken at sensitive receptor A following the commissioning of the project in accordance with the procedure outlined in SA Guidelines.

On this basis, prior to construction, SynergyRED will also conduct revised noise modelling for the final turbine layout, height and sound power levels, to ensure compliance at all existing sensitive receptors with the *Wind Farms Environmental Noise Guidelines*, EPA South Australia (2021).

4.6. TRAFFIC IMPACT STATEMENT

Prepared by: Stantec at Appendix I

A Traffic Impact Statement (TIS) has been prepared to examine the impact of the KRWF on the road network – both from a regional and local perspective. Overall, the TIS concludes the project can be supported from a traffic and transport perspective with key considerations associated with the transport of turbines and associated infrastructure to the site from the selected Port (Cockburn, Albany or Esperance). The TIS has been prepared on the basis of a single access point into the site on King Rocks Road North, likely in the vicinity of Casuarina Road.

The TIS concludes that the anticipated construction vehicle traffic generation is considered minor in comparison to daily traffic volumes along proposed haulage routes, State and local roads and will typically

be able to cater for the expected traffic flows nearer to the site. Further, the project is not expected to adversely impact the safety or function of the road network. Other key notable conclusions include:

- It is expected that peak construction vehicle activity will result in 80 vehicle movements (one-way-trips) on the local road route.
- It is anticipated that all scheduled and unscheduled maintenance during the operation period will generate up to 5 trips per day on the surrounding road network, with vehicles largely using light vehicles.
- Minor disruptions caused by the use of heavy vehicles is expected, however this will be managed through the use of appropriate management plans during construction.

4.7. ELECTROMAGNETIC INTERFERENCE ASSESSMENT

Prepared by: DNV at Appendix J

An independent assessment of the potential electromagnetic interference (EMI) impacts associated with the proposed KRWF was undertaken. The assessment utilised a turbine specification that is conservative, and the assessment will remain valid for turbines dimensions that have a rotor diameter of 180m or less, and a tip height of 240m or less. The EMI assessment investigated broadcast towers and transmission paths that surround the project in order to determine if electromagnetic interference would be experienced as a result of the proposal.

As part of the EMI assessment, key stakeholder consultation with key service providers such as Telstra, Western Power, Water Corporation, DFES, Bureau of Meteorology and Landgate was conducted to ensure that there is no significant electromagnetic interference as a result of the proposal. Throughout the consultation process it has been confirmed that impacts are considered unlikely for a majority of the key service providers, with consultation still ongoing with some key stakeholders.

A summary of key conclusions drawn from the assessment include:

- Impacts to a majority of radiocommunications services are either not expected or considered unlikely.
- There is low potential for impact to Telstra mobile phone signals and radio broadcasting in areas with poor or marginal signal coverage (such as the subject site). If interferences are experienced however, a range of mitigation options are available.
- Potential impacts to point-to-multipoint networks, emergency service communications and meteorological radar have been assessed by relevant service operators, and are either not expected or considered unlikely.

4.8. SHADOW FLICKER ASSESSMENT

Prepared by: DNV at Appendix K

An assessment of the expected annual shadow flicker durations in the vicinity of the KRWF was undertaken to evaluate the shadow flicker durations likely to occur as a result of the proposal. The shadow flicker duration likely to be experienced at each dwelling is predicted by turbine specification, and an estimation in the possible reduction in shadow flicker to turbine orientation and cloud cover. The assessment utilised a turbine specification that is conservative, and the assessment will remain valid for turbines dimensions that have a rotor diameter of 180m or less, and a tip height of 240m or less.

Overall, the assessment concludes:

- No dwellings are expected to experience shadow flicker of at least a moderate level of intensity or above.
- Since a non-reflective finish is generally applied to wind turbine blades, blade glint is not expected to be an issue.

4.9. AVIATION IMPACT ASSESSMENT

Prepared by: Aviation Projects at Appendix L

Aviation Projects were commissioned to conduct an Aviation Impact Assessment (AIA) to assess the potential impacts associated with the proposed wind farm and provides aviation safety advice in respect of relevant requirements of air safety regulations and procedures and informs and documents consultation with key aviation agencies.

From a planning perspective, findings of the assessment conclude that the proposed development satisfies the provisions of the Shire of Kondinin Planning Scheme regarding the Wave Rock air strip (ALA) and will not impact on the current and planned aerodrome operation.

More broadly in terms of compliance with the Airports Act 1996 and other relevant statutory legislation, the assessment concludes:

- The proposal will not impact the operation of any certified aerodrome.
- The Wave Rock aerodrome (uncertified however identified as a significant aerodrome in the Shire of Kondinin) will not be impacted by the proposal. Current and future aircraft operations to Wave Rock aerodrome are not anticipated to be adversely impacted.
- The proposal may infringe the lowest safe altitude (LSALT) of a low-level air route published on aeronautical charts/databases. This is anticipated to only be an administrative issue that will be resolved by Airservices Australia raising the LSALT as required to achieve minimum obstacle clearance.
- The proposal is likely to impact the established grid LSALT based on the tallest proposed WTG. Again, this is mostly administrative and will result in Airservices raising the established grid LSALT in the area (published on aeronautical charts/databases) and will mean aircraft flying at night or in cloud will need to fly 200 ft higher than currently at the new LSALT. (The LSALT is based on 1000 ft clearance above the tallest object in the specified area). This is unlikely to affect aircraft operations
- The LSALT impacts mentioned above are not uncommon for large-scale wind farm projects
- Preliminary aviation risk analysis supports nil obstacle lighting for the project

4.10. PLANNING COMPLIANCE REPORT

Prepared by: Urbis at Appendix M

A Planning Compliance report has been prepared by Urbis to assess the KRWF proposal against all relevant Federal, State, Regional and Local planning and other frameworks. Overall, the proposal achieves a high level of compliance and alignment with relevant frameworks. A summary of this compliance is provided below:

- At a Federal level, the proposal has considered all relevant framework throughout the design phase of the project and successfully aligns with the intent of key legislation such as the *Renewable Energy (Electricity) Act 2000* by providing a new renewable energy source for the locality and making a meaningful contribution towards achieving the Mandatory Renewable Energy Target Scheme which forms a critical component of the Act.
- The proposal demonstrates a high level of compliance and alignment with State planning strategies, policies and guidelines that are relevant in considering proposals for wind farm developments. The proposal has been designed in accordance with the recommendations and intent of all key State planning framework, particularly the WAPC's Position Statement on Renewable Energy Facilities.
- The proposal successfully addresses the objectives detailed in the applicable regional planning framework's vision for the Wheatbelt. The proposal delivers an effective piece of infrastructure that will provide a sustainable and renewable energy source for the South-West Interconnected System that is capable of providing up to 100,000 homes with electricity each year.
- With respect to local planning framework, the proposal directly aligns with the relevant overarching aims of the Shire of Kondinin Town Planning Scheme No.1 (TPS 1) and is consistent with the objectives of the Rural Zone.
- Approval of the wind farm is being sought as a 'use not listed'.

5. CONCLUSION

The proposed KRWF is an important renewable energy project which will contribute significantly to the State's renewable energy future. The site has been selected based on over a decade of investigations involving detailed wind modelling and due to the site characteristics being a relatively remote, flat site in proximity to existing infrastructure and limited sensitive surrounding land uses.

The proposal has been considered at a detailed level and this report demonstrates that it complies with all relevant technical and planning legislation and frameworks, as summarised below:

- The site was selected due to its proximity to Western Power's electricity transmission lines, strong overnight wind resource and access to predominantly cleared, freehold agricultural land which is well suited to a wind farm development.
- Best practice wind farm design has been utilised since the inception of the project, with the proposal seeking to provide the State with a wind farm that will utilise modern wind turbine technology to generate up to 150 megawatts of power for the South-West Interconnected System.
- From a planning perspective, the proposal demonstrates a high level of compliance and alignment with Federal, State, Regional, Local and other frameworks that are relevant in considering proposals for wind farm developments.
- All aspects of the proposal comply at a technical level, with the following detailed technical studies undertaken to understand the potential impact may have on the surrounding locality and what mitigation measures may be implemented where required:
 - Aviation impact assessment
 - Noise impact assessment
 - Environmental review document and flora and fauna survey
 - Landscape and visual impact assessment
 - Aboriginal Heritage study
 - European Heritage study
 - Traffic impact assessment
 - Electromagnetic interference and shadow flicker assessment

6. DISCLAIMER

This report is dated 1 August 2022 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of SyngeryRED (**Instructing Party**) for the purpose of Development Application (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A

**RECORD OF STAKEHOLDER
ENGAGEMENT**

Stakeholder	Engagement Dates	Format and Summary
Landowners	Northern and Southern landowners initially engaged in 2010 and periodically through to 2020. Since mid-2021 regular engagement with both landowners has been undertaken regarding wind monitoring, wind farm concept design planning, land lease discussions and site surveys and studies.	Periodically from 2010 – ongoing At least monthly since late 2021
Neighbours	Face to face and telephone discussions focussed on an introduction to the project and next steps. Initial concept plans have been discussed and shared to help improve understanding and address questions. Draft good neighbour agreements.	January 2022-ongoing
Local community	Community drop-in information session prior to development application submission Online community engagement tool launched enabling two-way communication for community to reach project team Project updates to registered community members and local service providers Community pop-ups Community investment program developed in collaboration with community and Shire	18/19 May Launched May 2022 July 2022 ongoing As required
Shire of Kondinin	Previous engagement regarding planning approval for the installation of meteorological mast Meetings and presentations related to planning approval and construction Survey sent to Councillors to seek feedback on presentation	2012 Regular meetings since November 2021 June 2022
Department of Water and Environmental Regulation	Pre-application meetings and discussions	March 2022, April 2022 and others as required.
Traditional Owners	Initial communications with the South-West Aboriginal Land and Sea Council (SWALSC) regarding entering into the Noongar Standard Heritage Agreement on behalf of the Ballardong People Site survey (pending advice from SWALSC)	April 2022 Later in 2022

Stakeholder	Date	Issues/Topics Raise	Applicant Response
Regulators/Government Departments			
Western Power	2013 - ongoing	Grid connection, Potential Electromagnetic Interference	Ongoing discussion and connection process, No electromagnetic interference expected.
AEMO	2022 - ongoing	Capacity credit market registration	Ongoing process
Airservices Australia	2022 – ongoing	Impacts of proposal on nearby aircraft operations.	No impact on any Airservices designed instrument procedures, CNS facilities or ATC operations at any airport.
Department of Defence	2022 – ongoing	Impacts of proposal on nearby aircraft operations.	Awaiting response.
Department of Fire and Emergency Services	2022 – ongoing	Impacts of proposal on nearby aircraft operations, Potential Electromagnetic Interference	No impact expected or concerns raised for both aviation and electromagnetic interference.
Water Corporation	2022 – ongoing	Potential Electromagnetic Interference	No electromagnetic interference expected as per technical report.
Regional Service Providers			
Telstra	2022 – ongoing	Potential Electromagnetic Interference	No electromagnetic interference expected. Consult with Telstra regarding the location of HV cables in relation to Telstra infrastructure during the design phase.
NBN Co	2022 – ongoing	Potential Electromagnetic Interference	No electromagnetic interference expected as per technical report.
Landgate	2022 – ongoing	Potential Electromagnetic Interference	No electromagnetic interference expected.

Stakeholder	Date	Issues/Topics Raise	Applicant Response
Geoscience Australia	2022 – ongoing	Potential Electromagnetic Interference	No electromagnetic interference expected as per technical report.
Bureau of Meteorology	2022 – ongoing	Potential Electromagnetic Interference	Notify BoM regarding any planned shutdowns and collaborate in the event of severe weather conditions.
St John Ambulance	2022 – ongoing	Potential Electromagnetic Interference	No electromagnetic interference expected as per technical report.
Royal Flying Doctor Service	2022 – ongoing	Impacts of proposal on nearby aircraft operations	Awaiting response.
Neighbours			
Northern neighbour	Periodically from 2010 to 2020. February and May 2022	Introduction, project overview, Q&A and next steps	Face to face meeting in mid 2022 with additional project details and draft good neighbour agreement
Western Neighbour	February and April 2022	Introduction, project overview, Q&A and next steps	Face to face meeting in mid 2022 with additional project details and draft good neighbour agreement
Southern Neighbour	February 2022	Introduction, project overview, Q&A and next steps	Set up online meeting mid 2022 to discuss next steps
South eastern neighbour	February 2022	Introduction, project overview, Q&A and next steps	Face to face meeting in mid 2022 with additional project details and draft good neighbour agreement
South western neighbour	February 2022	Introduction, project overview, Q&A and next steps	Face to face meeting in mid 2022 with additional project details and draft good neighbour agreement

APPENDIX B

CERTIFICATES OF TITLE & DEPOSITED PLANS

APPENDIX C

ENVIRONMENTAL REVIEW DOCUMENT

APPENDIX D

FLORA AND FAUNA ASSESSMENT

APPENDIX E

ABORIGINAL HERITAGE ASSESSMENT

APPENDIX F

EUROPEAN HERITAGE ASSESSMENT

APPENDIX G

**LANDSCAPE AND VISUAL IMPACT
ASSESSMENT**

APPENDIX H

NOISE IMPACT ASSESSMENT

APPENDIX I

TRAFFIC IMPACT ASSESSMENT

APPENDIX J

**ELECTROMAGNETIC INTERFERENCE
ASSESSMENT**

APPENDIX K

SHADOW FLICKER ASSESSMENT

APPENDIX L

AVIATION IMPACT ASSESSMENT

APPENDIX M

PLANNING COMPLIANCE REPORT