

REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Impact Assessment Unit (IAU) at the Department of Environment, Land, Water and Planning (DELWP) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once IAU is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
 - a brief description of potential changes or risks to environmental assets resulting from the project;
 - available information on the likelihood and significance of such changes;
 - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A USB copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 10MB as they will be published on the Department's website.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

**Minister for Planning
PO Box 500
EAST MELBOURNE VIC 8002**

Couriers

**Minister for Planning
Level 16, 8 Nicholson Street
EAST MELBOURNE VIC 3002**

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@delwp.vic.gov.au is required. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	Hexham Wind Farm Pty Ltd
Authorised person for proponent:	Jay Knight
Position:	National Development Manager
Postal address:	Wind Prospect Pty Ltd, Suite 10, 19-35 Gertrude Street, Fitzroy, Melbourne, Victoria, 3065
Email address:	jay.knight@windprospect.com.au
Phone number:	0407 339 766
Facsimile number:	NA
Person who prepared Referral:	Rory McManus
Position:	Development Manager
Organisation:	Wind Prospect Pty Ltd
Postal address:	Wind Prospect Pty Ltd, Suite 10, 19-35 Gertrude Street, Fitzroy, Melbourne, Victoria, 3065
Email address:	rory.mcmanus@windprospect.com.au
Phone number:	0412 958 829
Facsimile number:	NA
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	<p>Wind Prospect was established in Australia in 2000 and has achieved planning approval for 20 wind farms since that time. The Wind Prospect team regularly prepares referrals and permit applications for wind farm projects with the support of expert consultants in relevant fields.</p> <p>Consultants that have supported the project and provided input into this referral include:</p> <ul style="list-style-type: none"> • Nature Advisory – Flora and fauna assessment, including Brolga • Marshall Day Acoustics – Noise assessment • Landform Architects – Landscape and visual assessment • Archaeology At Tardis – Heritage assessment • WSP – Shadow flicker assessment • Umwelt – Advisory services

2. Project – brief outline

Project title: Hexham Wind Farm (the project)
Project location: (describe location with MGA coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)

The Hexham Wind Farm site (the site) in south-west Victoria is approximately 15 kilometres west of Mortlake, 4 kilometres to the south of Caramut and 15 kilometres north-east of Woolsthorpe. Hexham is the nearest settlement, approximately 3 kilometres to the north-east of the site. The site is bound by the Hamilton Highway to the north, Woolsthorpe-Hexham and Hexham-Ballengeich Roads to the east, Gordons Lane to the south and Warrnambool-Caramut Road to the west.

The site covers approximately 16,000 hectares of relatively flat private and public land located within the Moyne Shire local government area. Agriculture is the predominant land use in the project area consisting mostly of grazing (cattle and sheep) along with some cropping. Much of the area has been cleared of native vegetation with remnant vegetation largely restricted to roadside reserves. Mustons Creek is the predominant watercourse and is in the northern portion of the site and flows into the Hopkins Rover located east of the site.

The 500 kilovolt (kV) Moorabool-Heywood high voltage transmission powerline bisects the southern section of the site.

Refer to **Figure 1: Project location plan**, which shows the site location in a regional context.

Short project description (few sentences):

The proposed Hexham Wind Farm (the project) comprises up to 108 wind turbine generators (WTGs) and associated permanent and temporary infrastructure. This includes WTG hardstands, construction of new access tracks and upgrades to existing public and private roads and access tracks, onsite connection to the existing overhead 500 kV transmission powerline onsite via a new terminal station, installation of overhead powerlines and underground electrical cabling, a battery energy storage facility, meteorological masts, an operations and maintenance compound, and temporary infrastructure including construction compounds, WTG component laydown areas and concrete batching plant/s. All these works and infrastructure are proposed to be within the site, including all electrical infrastructure. Accessing the site during construction will require some sections of surrounding roads to be upgraded.

A temporary on-site quarry is currently under investigation as a means to minimise local traffic movements on local roads during construction. Ahead of suitable location(s) being identified, the assessment of traffic and transport for the project will assume all material will be sourced from existing commercial quarries. Provided a suitable on-site quarry location can be found, planning consent would be sought either as part of the planning permit application for the project or through a separate permit application. The project may be developed over one or more stages.

Refer to **Figure 2: Infrastructure layout** which shows the location of proposed infrastructure within the site.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

The project objective is to develop a viable source of renewable energy for export to the transmission network. This will support Victorian and national energy needs. The project aims to develop a sensitive design that minimises adverse effects to the environment and also create long lasting social and economic improvements in the local community through local employment and a Neighbour Benefit Sharing Program established for the project.

The project also aims to contribute to the following government targets and initiatives:

- Victoria's Renewable Energy Target (legislated within the *Renewable Energy (Jobs and Investment) Act 2017*) which establishes renewable energy generation targets of 40 per cent by 2025 and 50 per cent by 2030 (as a percentage of total energy generation supplied to the state).
- A long-term greenhouse gas emissions reduction target of net zero emissions by 2050, underpinned by the *Victorian Climate Change Act 2017*.
- The Australian Government's economy-wide target under the Paris Agreement to reduce greenhouse gas emissions by 26 to 28% below 2005 levels by 2030.
- The South West Renewable Energy Zone (REZ), as referred to in the Victorian Budget 2020/21 Jobs Plan, within which the project is proposed to be built. This zone is one of six in Victoria identified by the Victorian Government as having the highest potential for renewable energy development in the state.

A preliminary assessment indicates that the project would:

- generate approximately 2,400 gigawatt hours (GWh) per annum
- power approximately 530,000 households
- offset approximately 2.7 million tonnes of carbon dioxide emission annually.

Background/rationale of project (describe the context / basis for the proposal, e.g., for siting):

A significant transition is occurring both nationally and internationally from traditional forms of electricity generation that use fossil fuel resources to the use of renewable resources such as wind energy. This transition is occurring in response to a number of factors including the lower cost of electricity generated from wind energy, improved environmental outcomes, and in response to community expectations and government policy. The project would contribute to this transition in Australia.

The site was identified as a potential location for a wind farm in 2010 and landowner interest in hosting wind farm infrastructure was gauged over the next few years. The project was announced publicly in 2019 after the wind resource was assessed and preliminary environmental studies had been completed, confirming the suitability of the site for a large wind energy project.

The local area within and surrounding the project site has many characteristics that enable a wind farm to be constructed and operated in a way that is sensitive to the local community and the environment. Importantly, the project allows the land to continue to be used for farming.

The site itself is open, relatively flat agricultural land with a low population density compared to other parts of the state. As an area that has been cleared and farmed for many years native vegetation is largely restricted to road reserves and watercourses. It is expected that the risk of potential effects on ecological, landscape or heritage values can be managed appropriately. Avoidance of potential impact to specific areas of native vegetation or ecological habitat has already occurred with the establishment of WTG exclusion zones which are detailed below. Proposed infrastructure has been sited to avoid or otherwise minimise potential effects.

As proven by several years of wind monitoring, the area has a strong and consistent wind resource. An existing 500 kV transmission powerline extends through the southern part of the site from east to west, providing for a connection to the electricity network without the need for

overhead powerlines outside the site. The area also has very good vehicle access to and around the site.

WTG exclusion areas

WTG exclusion areas associated with the project have been established and are shown on **Figures 3A-E**. The exclusion areas are designed to protect ecological, social and cultural values from wind turbine construction works and operational impacts. The proposed WTGs are located outside of these exclusion areas.

- Figure 3A shows all the combined WTG exclusion areas identified for the project.
- Figure 3B shows the WTG exclusion areas established as Brolga buffers.
- Figure 3C shows the WTG exclusion areas applied to all watercourses, wetlands and drainage lines.
- Figure 3D shows all WTG exclusion areas applied to dwellings, roads and existing electrical infrastructure.
- Figure 3E shows all WTG exclusion areas applied to aquatic and terrestrial GDE's.

These exclusion buffers are discussed in more detail within the relevant sections of this referral.

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The following is a summary of the permanent and temporary project infrastructure required. Refer to **Figure 2: Infrastructure layout**, which shows the proposed location of infrastructure within the site.

Wind Turbine Generators (WTGs)

The project will consist of up to 108 WTGs with associated underground cabling and overhead powerlines to connect to the proposed onsite terminal station.

Each WTG will comprise a tower, nacelle, hub and blades with a maximum rotor diameter of 190 metres, maximum blade tip height of 250 metres and minimum blade ground clearance height of 40 metres. The towers will consist of either steel or concrete sections or a hybrid combination and will likely be installed using gravity foundations or rock anchor foundations (subject to sub-surface suitability). There will be an adjacent hardstand area of approximately 0.56 hectares. The underground cabling and associated trenching would be established within a seven-metre-wide disturbance area, with the cabling at a depth of about one metre.

For the purposes of this referral and the planning application, the indicative WTG is the Vestas V162-6 MW (megawatt). **Figure 4: Proposed WTG dimensions** is an illustrative drawing of the indicative WTG.

Access tracks

It is proposed to build approximately 93 kilometres of new access tracks and upgrade 28 kilometres of tracks within the site to provide for construction and maintenance access to each WTG. Tracks would be up to approximately six metres wide, inclusive of drainage where required, although the construction footprint would be around 12 metres wide. The arrangement of the tracks has been designed to minimise the removal of native vegetation as well as minimise the length of access track required. Access from public roads would occur from up to 12 access points, which are indicated on **Figure 2: Infrastructure layout**.

Turbine electrical connection and onsite grid connection

Each WTG would be connected by a combination of approximately 135 kilometres of underground cabling and up to 40 kilometres of overhead powerlines to a new onsite terminal station located next to the existing Moorabool to Heywood 500 kV transmission powerline. The project does not require any overhead powerlines external to the site and all project grid connection infrastructure would therefore be located within the site.

Wind monitoring masts

Five permanent lattice tower wind monitoring masts are planned, with the proposed locations shown on **Figure 2: Infrastructure layout**. Each mast would likely be installed at or close to WTG hub-height (170 metres maximum) to enable WTG performance testing to be undertaken.

Battery Energy System Storage (BESS)

The project is being designed to accommodate a BESS within the site. The nameplate rating for the BESS (i.e., number of megawatts and megawatt hours) would be determined at a later stage. The BESS would be located close to the on-site terminal station.

Temporary construction facilities

During construction, temporary infrastructure would include:

- construction compound with office facilities, associated parking and toilet facilities
- temporary laydown areas for wind turbines and electrical equipment
- concrete batching plants.

Ancillary components of the project (eg. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

Constructing the project will require several road intersection upgrades to facilitate the delivery of WTGs and other components. The over-dimensional haulage route for the project and location of these upgrades will be identified in a traffic impact assessment that will be submitted as part of the planning permit application for the project. Suitability of existing over-dimensional vehicle haulage routes previously developed by other neighbouring wind farms will be assessed. Refer to **Figure 5: Existing over dimensional transport routes**.

Subject to further investigation of the feasibility of an on-site quarry, construction materials may be sourced from the nearby Mt Shadwell Quarry, Mt Napier Quarry, Tarrone Quarry, Gilliear Sand and Limestone Quarry and/or Camperdown quarries. All quarries have good access to the site via major arterial roads. Refer to **Figure 6: Local quarries**.

Key construction activities:

Site preparation

- Creation of entrances from public roads to the site.
- Civil works as required at designated laydown areas and construction compound locations.
- Establish construction compounds and amenities.

Access tracks

- Civil works as required and topsoil removal along the alignment of the proposed access track network.
- Cutting and filling as required by topography.
- Sourcing of materials for the construction of access tracks.
- Installation of culverts for drainage or watercourse crossings as required.
- Establish access tracks – excavation, laying of bedding materials and track surface materials.

WTG hardstand areas

- Civil works as required and topsoil removal at hardstand locations adjacent to each WTG location each approximately 70 metres by 80 metres.
- Establish hard stand areas – excavation, laying of bedding materials and hardstand surface material.

WTG foundations

- Civil works and topsoil removal at WTG locations.
- Establish concrete batching plants.
- Excavation of WTG foundations.
- Installation of steel reinforcement.
- Pouring of concrete.
- Curing of concrete followed by backfilling to finished ground level.

Electrical works

- Civil works and preparation as required (including trenching) to accommodate underground cables.
- Laying of underground cables.
- Clearance and preparation as required to accommodate overhead powerline routes and installation of poles and/or towers and wires.
- Excavate and pour foundations including for any buildings and electrical balance of plant.
- Construction and fitting out of required buildings.
- Installation of electrical equipment and balance of plant.

Wind Turbine Generators (WTGs)

- Delivery of WTG components to the site with temporary storage at designated laydown areas as necessary.
- Installation of WTGs at each location, involving placement and securing of the tower sections, followed by the nacelle and rotor.
- Commissioning of all WTGs.

Grid connection

- Connection of the proposed onsite terminal station (located next to the existing Moorabool to Heywood Terminal Station 500 kV transmission powerline) to the National Electricity Market (NEM).

Site rehabilitation

Rehabilitation of temporary construction areas would be ongoing throughout construction. At the completion of construction of each WTG, the surrounding area would be rehabilitated. During the commissioning phase all drainage and landscaping works, contractor facilities, waste and surplus materials that are no longer necessary for the ongoing operation of the project would be removed and the areas rehabilitated. Post construction rehabilitation would be completed in accordance with environmental management framework commitments established within the planning application, project permit conditions and in consultation with landowners hosting project infrastructure.

Key operational activities:

The operational life of the project is anticipated to be 25 years. Operation, maintenance and monitoring of the project is likely to include the following activities:

- Environmental monitoring in accordance with the conditions of all statutory approvals and environmental management plans (e.g., noise monitoring, biosecurity and pest control, implementation of bird and avifauna monitoring plans, surface water management).
- Service and repair of WTGs.
- Maintenance of internal access tracks.

<ul style="list-style-type: none"> Maintenance of electrical reticulation system and buildings and plant, including control systems and BESS.
<p>Key decommissioning activities (if applicable):</p> <p>At the end of its operational life, the project will either be decommissioned or be repowered with new WTG technology (subject to future statutory approvals).</p> <p>Decommissioning activities would include the removal of all above ground infrastructure and restoration of all areas associated with the project. Where possible infrastructure would be recycled. Rehabilitation of access tracks would be completed in consultation with landholders and left in place where requested. The objective of decommissioning works would be to return the site to its pre-existing agricultural land use.</p> <p>Project decommissioning will comply with all relevant requirements prescribed under any planning approval or subsequent planning or licence.</p>
<p>Is the project an element or stage in a larger project?</p> <p><input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).</p>
<p>Is the project related to any other past, current or mooted proposals in the region?</p> <p><input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please identify related proposals.</p>
<p>What is the estimated capital expenditure for development of the project?</p> <p>\$1.3 billion</p>

4. Project alternatives

<p>Brief description of key alternatives considered to date (e.g., locational, scale or design alternatives. If relevant, attach A4/A3 plans):</p> <p>The location of the site was selected following an extensive project site selection process across the entire state of Victoria. The site was selected as a highly suitable location for further feasibility assessment primarily due to the wind resource, proximity to a point of connection to the electricity network, very good road access, low density of dwellings and relatively low risk of significant environmental effects.</p> <p>An iterative risk-based approach has been implemented from the outset of the project's development, incorporating both company and industry learnings and outcomes from constructed wind farm projects across western Victoria. As a result, the project's infrastructure design already responds to numerous environmental and planning requirements by implementing various measures, such as suitable buffers and exclusion areas around sensitive values (e.g., neighbouring homes, wetlands, etc). These measures have resulted in WTG exclusion areas being established for the project and shown on Figures 3A-E. The exclusion areas are designed to protect ecological, social and cultural values from physical works. The consideration and implementation of these exclusion areas has resulted in a reduced number of WTGs; 108 WTGs proposed in this referral compared to the 125 WTGs proposed when the project was publicly launched in March 2019.</p> <p>The project will also employ best-practice engineering construction techniques and put in place a range of other mitigation measures. Further evolution of the project proposal may occur prior to the lodgement of a planning permit application as the results from various planning and environmental studies are obtained.</p>
<p>Brief description of key alternatives to be further investigated (if known):</p> <p>The key alternatives relate to the final site design that will be subject of a planning permit application, the final choice of WTG model, and potential micro siting of WTGs and ancillary</p>

infrastructure. The choice of WTG will be determined by what is available on the market and following a detailed competitive commercial tendering process.

The following factors may yet further influence the final design of the project both prior to and following the lodgement of a planning permit application:

- Ongoing assessment of the potential effects to flora and fauna.
- Ongoing discussions with neighbouring landowners surrounding the project.
- Completion and assessment of the Cultural Heritage Management Plan.
- Detailed pre-construction (post planning approval) geotechnical studies.
- The conditions imposed on any planning permit.
- The detailed requirements of the Australian Energy Market Operator (AEMO) and Ausnet Services as the Transmission Network Service Provider regarding the connection works and the associated land requirements.
- Subject to planning approval and other approvals, the model of WTG selected for construction.
- The location (if any) of an on-site quarry within the site to supply construction materials.

These factors influencing the design are not anticipated to materially increase environmental or social effects with suitable buffers and exclusion areas, best-practice engineering construction techniques, and other mitigation measures in place.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

No exclusions are proposed.

6. Project implementation

Implementing organisation (ultimately responsible for project, i.e., not contractor):

Hexham Wind Farm Pty Ltd

Implementation timeframe:

Subject to the timing and outcome of statutory approvals processes, it is proposed to commence construction in 2024 and commissioning in 2026. The construction of the project will occur over an approximate 24-month period.

Proposed staging (if applicable):

The project may be developed over one or more stages, depending on market conditions.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

No Yes If no, please describe area for investigation.

If yes, please describe the preferred site in the next items (if practicable).

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

Figure 7: Aerial imagery and project infrastructure shows the site and surrounds. The site is roughly bounded by the Hamilton Highway to the north, Gordons Lane to the south, Warrnambool-Caramut Road to the west and the Woolsthorpe-Hexham and Hexham-Ballangeich Road to the east. An existing 500kV transmission powerline extends through the southern part of the site from east to west.

Figures 4 A-E: WTG exclusion area shows the location of features and constraints within the site that have been appropriately buffered to form the exclusion areas. **Figure 8: Ground level photographs** (and locations) provides photographs of typical features of the site.

The current land use within the site is farming. There are no non-agricultural land uses within the site.

The site contains basaltic soils derived from new volcanic flows with alluvium associated with watercourses. The site can be characterised as an open agricultural landscape which is largely cleared of trees except for screening vegetation along roadsides, fences or around dwellings. Vegetation across majority of the approximately 16,000 hectare site consists mostly of introduced exotic pasture or dryland crops, with several planted wind-breaks on the edge of paddocks, some of which included native species. Within private property, native vegetation comprised small patches of low diversity grassland, wetland and woodland species along the edges of farm tracks, in lower-lying areas in pasture, and along watercourses. Most (if not all) woody vegetation had been removed in these patches. Patches of native vegetation along roadsides included grassland and woodland, which lacked canopy species but did support some woody species (primarily wattles, including Black Wattle and Blackwood). The highest quality native vegetation was found along the wide road reserve of the Hexham-Ballangeich Road.

There are 35 DELWP mapped wetland areas within the site comprising a total area of 829 hectares (see **Figure 9: DELWP mapped wetlands**).

Apart from public roads, there are several unnamed government roads known as “paper roads” within the site and a small parcel of Crown land located near the centre of the site off the Hexham – Woolsthorpe Road.

There are 14 participating landowners within the site and 38 dwellings, as well as number of agricultural buildings supporting farming activity.

From a geoscience perspective, the site is primarily comprised of older basalt lava flows being predominantly lavas of Pliocene to early Pleistocene age (two to four million years ago).

Site topography is shown on **Figure 10: Surface elevation contours**.

Site area (if known): Approximately 16,000 hectares

Route length (for linear infrastructure) NA (km) **and width** NA (m)

Current land use and development: The predominant land use is livestock grazing and broad acre cropping which would be able to continue over most of the site during construction and operation of the project. The number and proximity of dwellings within and around the project are provided in **Table 1: Proximate dwellings** below and **Figure 11: Road network and dwellings** shows the dwelling locations

Table 1: Proximate dwellings

Number of involved landowner dwellings within the site	38
Number of non-involved neighbouring dwellings within 1.5 kilometres of a proposed WTG location	2
Number of non-involved neighbouring dwellings between 1.5 kilometres and 2 kilometres of a proposed WTG location	17
Number of non-involved neighbouring dwellings between 2 kilometres and 3 kilometres of a proposed WTG location	31
Number of non-involved neighbouring dwellings between 3 kilometres and 6 kilometres of a proposed WTG location	168
Total number of non-involved neighbouring dwellings within 6 kilometres of a proposed WTG location (includes Caramut, Hexham and Ellerslie)	218

Description of local setting (e.g., adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The pre-European settlement landscape that existed within this region has been greatly modified through human settlement, agricultural practices, and the clearance of native vegetation. There is a uniform spread of farmland across this landscape, interspersed with farmhouses and outbuildings and sparsely scattered townships with residential and commercial buildings, public roads, and other man-made infrastructure such as powerlines. The existing 500 kV Moorabool-Heywood transmission powerline runs through the southern section of the site.

The small rural townships of Caramut (47 dwellings), Hexham (22 dwellings) and Ellerslie (17 dwellings) are located approximately 4 kilometres, 3 kilometres and 3 kilometres from the site, respectively. The closest proposed WTG to a township is located approximately 4.1 kilometres south of Caramut.

There is a network of Regional Roads Victoria and local council roads within and around the site.

Figure 11: Road network and dwellings shows the site with the proposed project layout in the context of the local road network and surrounding neighbouring dwellings out to 6 kilometres.

Planning context (e.g., strategic planning, zoning & overlays, management plans):

The use and development of land within the site is controlled by the Moyne Planning Scheme.

The site land is entirely situated in the Farming Zone. There are Historical Heritage Overlays applied to a bridge over Burchett Creek (HO35 in **Figure 12: Planning Zones & Overlays**)

and Stone Mileposts (HO37 in **Figure 12**) within the site. These locations be avoided by designing infrastructure away from these places.

A Bushfire Management Overlay applies to a very small area in the south-east area of the site. WTGs are not proposed in these areas. All of the site is in a Designated Bushfire Prone Area. The zone and overlay controls are shown in **Figure 12: Planning Zones & Overlays**.

The Farming Zone triggers the need for a permit for the use and development of a wind energy facility. A permit is also required for the removal of native vegetation. Clause 52.32 Wind Energy Facility provides decision guidelines and requires consideration of the Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria (DELWP, July 2021). The Guidelines include some example permit conditions for wind energy facilities.

The relevant Clauses of the Moyne Planning Scheme's Planning Policy Framework include:

- Clause 12 Environment and Landscape Values, including consideration matters such as the protection of biodiversity, native vegetation management, and the protection of significant environments and landscapes.
- Clause 13 Environmental Risks and Amenity, which seeks to ensure that planning adopts best practice environmental management and risk management to avoid or minimise environmental degradation and hazards. The clause includes considerations for the management of natural hazards and climate change, erosion and landslip, noise abatement, and bushfire risk.
- Clause 14 Natural Resource Management, where planning is to assist in the conservation and wise use of natural resources including agricultural land, water, land, stone and minerals to support both environmental quality and sustainable development. Considerations include the protection of agricultural land, consideration of catchment planning and management, water conservation and water quality.
- Clause 18 Transport, including the considerations for integrated transport and car parking.
- Clause 19 Energy includes the consideration of renewable energy with the objective to promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.
- Clause 22.2 addresses the policies related to the environment in the Moyne Shire. There are policies relating to rare species, groundwater discharge, hilltop and ridgeline protection, flora and fauna, public land, and management of coastal landscapes.

All the relevant planning policy provisions will be addressed in a planning report which will be included with a planning application.

Local government area(s):

Moyne Shire Council

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity

(cf. general description of project site/study area under section 7):

The project is located within the Victorian Volcanic Plain bioregion and is predominately cleared with some areas of remnant vegetation or ecological habitats mainly located along public road reserves and waterways. Of low relief and intersected by intermittently flowing creeks and ephemeral and permanent wetlands, the largest nearby conservation areas are the Mortlake Common Flora Reserve to the west of Mortlake and the Cobra Killuc Wildlife Reserve, between Hexham and Woorndoo. Both conservation areas are located more than 7.5 kilometres from the site.

The Western District Lakes Ramsar site includes several wetlands that are primarily located within the Lake Corangamite Basin. The most westerly component of this Ramsar site (Lake Bookar) is located within the Mount Emu Creek catchment (Hopkins River Basin), approximately 40 kilometres east of the site. Given there is no hydrological connectivity between the site and Lake Bookar, no effects on Ramsar sites are expected.

Agricultural land practices have largely resulted in removal of most ecological habitat elements within the site. As a result, remaining ecological habitat types generally lack structural diversity and provide few opportunities for native fauna. Higher quality habitat for fauna species is often found within remnant roadside vegetation, remaining wetlands, and waterways.

The key environmental assets and sensitivities with the site and surrounds include:

- The historic and cultural heritage assets within the site that have potential to interact with the infrastructure footprint. The desktop assessment identified 112 registered Aboriginal places in the project area and two historic places.
- Native vegetation within the site.
- Fauna habitat, including mapped DELWP wetlands, remnant native vegetation, and adjacent areas of uncultivated land that could support fauna such as the Striped Legless Lizard and Growling Grass Frog (suitable habitat has been identified and presence is assumed).
- There are five wetlands within the site recorded as being used by Brolga for breeding.
- Listed migratory water birds may use the wetlands on the site in small numbers.
- Listed microbat species may use suitable habitat within the site (extensive surveys have been undertaken across spring 2018 and autumn 2019 and 2020). The site does not contain any microbat roost locations.
- Grey-headed Flying Fox may use limited food sources (e.g. Sugar Gums, orchards) within the wind farm site when these are available. A temporary camp of this species is assumed to be within 2km of the wind farm site
- Major and minor waterways intermittent streams and drainage lines (buffered by 100 metres and 30 metres, respectively).
- The hydrology and hydrogeology of the landscape.

9. Land availability and control

<p>Is the proposal on, or partly on, Crown land? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please provide details.</p> <p>Most of the site is on freehold land. Some parts of the project (site access) will be located on, over or under Crown land (open / public road reserves and un-used Government (paper) roads).</p>
<p>Current land tenure (provide plan, if practicable): Private freehold land held under various ownerships.</p>
<p>Intended land tenure (tenure over or access to project land): The proponent has entered into legally binding agreements with the owners of all land within the site, which provide for access and long-term lease arrangements that will extend for the operational life of the wind farm.</p>
<p>Other interests in affected land (e.g., easements, native title claims): Ausnet Services has an easement on the land containing the existing 500 kV Moorabool - Heywood transmission powerline. At the inception of the Cultural Heritage Management Plan there was no Registered Aboriginal Party (RAP). Eastern Maar Aboriginal Corporation has subsequently been appointed the RAP for the area in which the site is located.</p>

10. Required approvals

<p>State and Commonwealth approvals required for project components (if known):</p> <p>The proposed wind farm and any overhead powerline infrastructure require planning permits from the Minister for Planning pursuant to the <i>Planning and Environment Act 1987</i>.</p> <p>Approval of a Cultural Heritage Management Plan (CHMP) pursuant to the <i>Aboriginal Heritage Act 2006</i>.</p> <p>The proposal is likely to be referred under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) for a decision as to whether it is a 'controlled action'.</p> <p>Additional works permits and approvals for the development may also be required under the following acts of legislation:</p> <ul style="list-style-type: none"> • <i>Flora and Fauna Guarantee Act 1988</i> (FFG Act) for removal of any protected flora on public land. • <i>Water Act 1989</i> for any works within 20 metres of a designated waterway. • <i>Road Management Act 2004</i> for any works associated with new access to public roads. <p>The requirements of other acts, including approvals, which may be applicable to the project include, but are not limited to the following:</p> <ul style="list-style-type: none"> • <i>Civil Aviation Act 1988</i> • <i>Electrical Industry Act 2000</i> • <i>Electrical Safety Act 1988</i> • <i>Environmental Protection Act 2017</i> • <i>Heritage Act 2017</i>.

If establishment of an onsite quarry is pursued, then a work authority will be required. To obtain a work authority, a work plan must be prepared for the proposed quarry under section 77G of the *Mineral Resources (Sustainable Development) Act 1990* which includes a rehabilitation plan and a community consultation plan. This work plan requires statutory endorsement by Earth Resources Regulation (ERR), Victoria's regulator of quarrying activities, in consultation with relevant agencies before any quarrying can commence (e.g., the EPA, Moyne Shire Council, First Peoples – State Relations, and catchment and water authorities).

Have any applications for approval been lodged?

No Yes If yes, please provide details.

An EPBC referral will be lodged with the Commonwealth Minister for the Environment.

Approval agency consultation (agencies with whom the proposal has been discussed):

- DELWP Planning
- DELWP Impact Assessment Unit
- First Peoples – State Relations.

Other agencies consulted:

- Moyne Shire Council
- Regional Roads Victoria
- Airservices Australia
- Civil Aviation Safety Authority (CASA)
- DELWP Environment
- Glenelg Hopkins Catchment Management Authority
- Southern Rural Water
- Country Fire Authority
- Ausnet Services.
- Eastern Marr Aboriginal Corporation
- Gunditj Mirring Traditional Owners Aboriginal Corporation.
- Australian Energy Market Operator
- Commonwealth Department of Agriculture, Water and Environment

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

Overview

The project's design has been informed by identifying and assessing environmental and social values and risks. It is anticipated that the project will be able to avoid or mitigate potential significant adverse effects on the environment. The main anticipated and potential effects from the project are described below.

Environmental assessments completed to date and included as part of this referral are:

- Preliminary Landscape and Visual Impact Assessment (Landform Architects, 2022) **(Attachment A, part 1 and part 2)**
- Preliminary Noise Assessment (Marshall Day Acoustics, 2021) **(Attachment B)**
- Summary of Aboriginal and Historic Heritage Matters at Hexham Wind Farm (Tardis Archaeology, 2022) **(Attachment C)**
- Flora and Fauna Assessment (Nature Advisory, 2022) **(Attachment D)**
- Brolga Assessment (Nature Advisory, 2022) **(Attachment E)**.

Native vegetation and threatened flora and fauna

Flora and fauna surveys to inform the environmental effects of the project have been undertaken since 2010 and to February 2022.

Native Vegetation and Flora

Vegetation and flora surveys undertaken within potential impact areas across the site found a total of 63.5 hectares of native vegetation from twelve Ecological Vegetation Classes (EVCs).

The current footprint will result in the removal of 4.977 Hectares of native vegetation from patches and four scattered trees. The Ecological Vegetation Class (EVC) and effects are listed in **Table 2** of Section 12.

Three EPBC Act listed ecological communities were recorded on site with the following potential project effects:

- Loss of 1.591 hectares of Natural Temperate Grassland of the Victorian Volcanic Plains, for which effects are likely to constitute significant impact under the EPBC Act and require offsetting (see Section 12).
- Loss of 0.662 hectares of Seasonal Herbaceous Wetland of the Lower Temperate Plains.

During the targeted flora surveys only the FFG Act listed Purple Blown-grass (*Lachnagrostis punicea* subsp. *filifolia*), was recorded and may be impacted by the current proposed footprint. No other listed FFG Act or EPBC Act listed flora species were recorded in the survey area and are subsequently considered unlikely to occur within the project footprint.

Protected FFG Act flora taxa were identified on public land at entrance points to the site. Should removal of any be required for the project a Protected Flora Permit would be sought from DELWP.

The project will seek to avoid effects to the native vegetation and listed flora species through further micro siting of impacting infrastructure.

The native vegetation and targeted flora survey areas are shown in **Figure 2** of the detailed Flora and Fauna Assessment **(Attachment D)**. This figure also illustrates where the EVC's, ecological communities and flora species are impacted by the proposed project footprint.

Fauna

Site surveys found fauna habitats across the study area which range from low to moderate quality. These included modified grassland, woodland and scattered trees, planted vegetation, rivers, creeks and drainage lines, swamps, marshes and artificial waterbodies.

Following a review of online databases for EPBC Act and FFG Act listed species occurring in the region (up to 10km from the site boundary) twenty-two listed species under listed the EPBC Act and/or FFG Act had been recorded or had suitable habitat modelled.

Based on the outcome of targeted surveys to confirm the presence of these species and species habitat within the region there is potential for the project to result in effects to the following threatened fauna species:

- Brolga (FFG Act: endangered)
- Growling Grass Frog (EPBC Act and FFG Act: vulnerable)
- Southern Bent-wing Bat (EPBC Act and FFG Act: critically endangered)
- Yellow-bellied Sheathtail Bat (FFG Act: vulnerable)
- Striped Legless Lizard (EPBC Act: vulnerable, FFG Act: endangered)
- Tussock Skink (FFG Act: endangered)
- Latham Snipe (Migratory – EPBC Act)
- Grey-Headed Flying Fox (EPBC Act and FFG Act: endangered)

Details about the presence of, and effects to, native fauna species is provided in Section 12 of this referral. Details on all listed species and likelihood of occurrence are provided in the Flora and Fauna Assessment (**Table 7, Attachment D**).

Wetlands and watercourses

All wetlands and major and minor watercourses (e.g., Mustons Creek) have been buffered by 100 metres and all other drainage lines and other tributaries have been buffered by 30 metres. Positioning WTG and associated project infrastructure outside these exclusion areas, combined with best-practice standard sediment and erosion control and engineering techniques during construction will ensure that any fauna and flora that depend on these habitats would not be significantly impacted.

Hydrogeology

All potential aquatic and terrestrial groundwater dependent ecosystems (GDEs) as mapped by the Bureau of Meteorology have been buffered by a distance of 100 metres and 25 metres, respectively, and will form part of the project's WTG exclusion zone. (see **Figure 3E**). The potential occurrence of GDE's within the site will be investigated further for the purposes of a planning permit application.

Geoheritage

The potential impact of the project on geoheritage significance is expected to be minor as the site is like much of the Newer Volcanic landscape of western Victoria. The initial volcanic landscape has been reshaped by deep weathering and stream incision and is now a gently undulating plain. There are no pronounced volcanic landscape features.

To further confirm this, a detailed and targeted geoheritage assessment will be undertaken. Areas of geoheritage significance will be avoided and subsequently added to the exclusion areas.

Landscape and visual

While the wider regional landscape could be considered to display characteristics which are highly valued and have a high degree of visual amenity, the local site landscape is highly modified (predominantly agricultural in nature including dairy production, livestock and cropping).

Views to the surrounding landscape from within townships are mostly filtered or screened by existing vegetation and buildings. Given the distance and intervening vegetation between towns and the project, the effect is expected to be low. Views of the project from major and minor roads will often be obscured by roadside and other vegetation. Volcanic cones of Mount Rouse, Mount Noorat and Tower Hill will be at a significant distance from the project and will occupy a small part of the panoramic view.

Site visits indicate most dwellings within 3 to 6 kilometres of the project will be screened by existing vegetation. This includes dwellings in Ellerslie, Caramut and Hexham. The greatest potential for visual effects to occur is from neighbouring, non-participating residential properties within 1 to 3 kilometres of a turbine. This would be the focus of the main LVIA for the planning permit application.

The number and proximity of dwellings within and around the project are provided in Section 7, **Table 1: Proximate dwellings**.

Noise

As required under the 'Policy and planning guidelines for development of wind energy facilities in Victoria' (July 2021) and Environment Protection Regulations 2021, the project will submit a pre-construction (predictive) noise assessment report demonstrating that the proposal can comply with the New Zealand Standard NZS6808:2010, Acoustics – Wind Farm Noise as part of the planning permit application. This report will also be accompanied by a report prepared by an EPA accredited environmental auditor.

Construction activity

Given the short-term nature of wind farm construction activities (up to 24 months) it is unlikely that the construction related noise from the project will have a significant long-term impact on the amenity of a substantial number of local residents. Also, due to the large area over which the project would be built, construction activity (and related noise) would occur for shorter periods at specific locations. Exceptions to this would include the terminal station site, construction compounds, concrete batching plants and (if included) the on-site quarry.

A detailed assessment of construction noise would be provided within a Construction Noise and Vibration Management Plan (CNVMP) prepared under the project's construction environmental management framework.

Operational activity

During the operational phase, the proponent commits to demonstratable and ongoing compliance with the Victorian Policy and Planning documents and Environment Protection Regulations that specify New Zealand Standard NZS6808:2010, Acoustics – Wind Farm Noise as the compliance measure. In this way the project would not result in significant effects to the acoustic amenity of any neighbours. In addition, the project will be designed so that the predicted noise levels will not exceed 35 dB or background noise levels plus 5 dB for all non-stakeholder dwellings existing at the time the project was publicly announced in March 2019. This is a more rigorous noise level commitment than is required in the New Zealand Standard NZS6808:2010. In this way the project can be assumed to comply with the noise limits at all wind speeds.

Based on preliminary noise modelling (see **Attachment B**) compliance with the New Zealand Standard NZS6808:2010, Acoustics – Wind Farm Noise can be demonstrated. Compliance with the additional 35 dB commitment stated above can also be achieved.

Further, there is no possibility of cumulative noise effects given there is no overlap of the 30 dB noise contour between the project and any other known operational or approved wind farm proximate to the project. Such an overlap might otherwise indicate the potential for a cumulative impact.

Shadow flicker

The project design complies with the applicable limit in the 'Policy and planning guidelines for development of wind energy facilities in Victoria' (July 2021) of a maximum of 30 hours per

year. An independent assessment and report confirming compliance will accompany a planning permit application.

Traffic and transport

Given the short-term nature of wind farm construction traffic and transport requirements, the project will pose no long-term effect on the amenity of a substantial number of nearby residents due to changes in traffic conditions.

Externally sourced materials required for construction would primarily access the site via the Warrnambool-Caramut Road, Hexham-Woolsthorpe Road and/or Hamilton Hwy (between the townships of Hexham and Caramut). These roads include a mixture of Department of Transport B-class and C-class roads along with local government roads.

With the exception of some road/hardstand construction material and some WTG components (which may be delivered directly to the relevant worksite) all external construction material deliveries will be to the main construction site compound in the first instance. Material deliveries would then proceed to the various areas across the site via the internal access track network.

Construction materials that are not sourced on-site will be sourced from quarries in the local region. Cement and other key construction materials will likely be sourced from Warrnambool or Hamilton.

The Port of Geelong or Port of Portland would both be suitable for transporting the WTG and balance of plant components. On that basis the most suitable over-dimensional vehicle haulage route will be identified between the selected Port and the site based on the largest expected WTG component (likely to be the turbine blade). Suitability of existing over-dimensional vehicle haulage routes previously developed by other neighbouring wind farms will also be assessed to minimise potential additional effects.

Historic heritage

Background research of the Heritage Victoria Inventory and Register, the Australian Heritage Database, the National Trust of Victoria Register and the Moyne Shire Heritage Overlay indicates that there are two historic places on the Heritage Register within the site:

- H1856 (Bridge over Burchett Creek)
- H1700 (Stone Mileposts) near corner of Warrnambool-Caramut Road and Keilors Road.

A survey for historic heritage and Aboriginal cultural heritage was conducted concurrently between 24 June and 19 July 2019 based on an older infrastructure footprint. No new historic heritage was identified nor areas of moderate or above historic archaeological potential.

Field surveys of the revised infrastructure area will be undertaken in 2022 and a stand-alone historic heritage assessment will be prepared including a detailed risk assessment on the development to ensure no historic places are harmed by the project.

Aboriginal heritage

Preparation of an Aboriginal Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006* commenced in 2019. Investigations include a desktop assessment in March 2019 and standard assessment field surveys completed in July 2019. The desktop assessment identified 112 registered Aboriginal places in the project area on the Victorian Aboriginal Register (VAHR) including mounds, artefact scatters and a soil deposit. No further tangible evidence was found in the field surveys, but waterways and stony rises were identified as areas of Aboriginal cultural heritage sensitivity.

At CHMP inception and during initial investigation there was no Registered Aboriginal Party (RAP) with responsibility for the project area and First Peoples - State Relations) advised the relevant Traditional Owner Groups were the Eastern Maar Aboriginal Corporation (EMAC) and Gungitj Mirring Traditional Owner Aboriginal Corporation. These RAPs participated in the initial consultation and field surveys.

The Eastern Maar Aboriginal Corporation (EMAC) has subsequently been appointed RAP for the project area (including the project site). Consultation with First Peoples - State Relations and EMAC will guide development of the CHMP. Consultation will include assessment

methodology, participation in fieldwork including targeted sub-surface testing of areas considered to have potential for Aboriginal heritage places, as well as the identification, recording and significance assessment of any intangible Aboriginal cultural heritage.

A summary of Aboriginal and historic heritage matters at Hexham Wind Farm is attached (Tardis Archaeology) (**Attachment C**).

Given the relatively flexible nature of siting project infrastructure, it is expected that effects to any new identified Aboriginal cultural heritage sites, places or areas of sensitivity will be completely avoided by adjusting the location of WTGs, tracks, cabling and associated infrastructure.

Social

The design and siting of the project will not affect residential access to community facilities and services. Early consultation and engagement with the community and stakeholders has been a priority. Through this process a Neighbour Benefit Sharing Program has been developed with input from the local community and has since been publicly announced (refer to Section 15).

The project site is within commuting distance of a skilled workforce residing in Hamilton and Warrnambool, and is also proximate to Geelong, and is therefore likely to draw labour requirements from these regional centres and surrounds.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

NYD No Yes If yes, answer the following questions and attach details.

What investigation of native vegetation in the project area has been done? (briefly describe)

Nature Advisory undertook native vegetation investigations at the site in accordance with the Victorian Guidelines for the removal, destruction and lopping of native vegetation. The assessment at the site and proximate areas is based on surveys of historical, as well as the current proposed footprint. The assessments found vegetation consisting of 257 habitat zones from twelve Ecological Vegetation Classes (EVCs) totalling 63.5 hectares. This area included 14.46 hectares of DELWP mapped wetlands. The native vegetation investigations were undertaken in November 2018 and November 2021. The EVC's identified in the investigation area and conservation status are listed in Table 2.

Table 2: Ecological Vegetation Classes (EVCs) and DELWP mapped wetlands

EVC and conservation status	Area (ha) within investigation area	Area (Ha) impacted by proposed footprint
Creekline Grassy Woodland (EVC 68) - endangered	0.281	0.006
Floodplain Riparian Woodland (EVC 56) - endangered	0.098	
Heavier-soils Plains Grassland (EVC 32_61) - endangered	6.080	0.927
Plains Grassy Wetland (EVC 125) - endangered	14.616	2.93
Plains Grassy Woodland (EVC 55_61) - endangered	24.828	0.596
Higher Rainfall Plains Grassy Woodland (EVC 55_63) - endangered	0.309	0.001
Brackish Wetland (EVC 656) - endangered	0.579	0.179
Riparian Woodland (EVC 641) - endangered	0.862	0.028
Aquatic Herbland (EVC 653) - endangered	0.244	0.051
Creekline Tussock Grassland (EVC 654) - endangered	0.347	0.045
Plains Sedgy Wetland (EVC 647) - endangered	0.645	0.190
Tall Marsh (EVC 821) – least concern	0.178	0.018
Mapped Wetlands	14.456	
Total	63.525	4.977

The proposed footprint will result in the removal of 4.977 hectares of native vegetation EVC's as listed in Table 2. Four of twenty-nine scattered trees identified in the investigation area would be removed as a result of the proposed project footprint (three large and one small).

Three EPBC Act listed ecological communities were also recorded during targeted surveys: Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEWVVP); Natural Temperate Grassland of the Victorian Volcanic Plains (NTGVVP); and Seasonal Herbaceous Wetland of the Temperate Lowland Plain (SHWLTP). The proposed footprint would result in the removal of 1.59 hectares of the NTGVVP and 0.66 hectares of SHWLTP.

The native vegetation and targeted flora survey areas are shown in **Figure 2** of the detailed Flora and Fauna Assessment (**Attachment D**). This figure also illustrates where the EVC's and ecological communities are impacted by the proposed project footprint.

What is the maximum area of native vegetation that may need to be cleared?

NYD Estimated area: 4.977 (hectares) and 4 scattered trees

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

N/A approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

NYD Preliminary/detailed assessment completed. If assessed, please list.

As detailed above in this section, twelve EVC's were mapped within an investigation area and have the potential to be affected.

Have potential vegetation offsets been identified as yet?

NYD Yes If yes, please briefly describe.

Preliminary vegetation offsets have been calculated in the Flora and Fauna Assessment prepared by Nature Advisory (**Attachment D**). Currently, only general habitat units are required as offsets as well as three large trees. Once a final layout design has been approved, native vegetation offsets will be finalised and sourced. Potential sources include:

- Trust for Nature
- First Party offset site with the agreement of a participating landholder
- Third Party offset through an accredited native vegetation offset broker
- Offset Broker (e.g. Vegetation Link)

Other information/comments? (e.g., accuracy of information)

According to the Victorian Bioregions – Mapped at 1:100,000 (version 3.0 – May 2004) spatial layer, the site occurs within the Victorian Volcanic Plain bioregion.

The areas for removal of native vegetation have been significantly reduced to respond to the native vegetation framework and the objectives to avoid and minimise. Extensive design work has been undertaken to achieve this outcome. This includes strategic positioning of access tracks, underground cables, hardstands and WTG infrastructure.

NYD = not yet determined

Flora and fauna**What investigations of flora and fauna in the project area have been done?**

(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

Flora

VBA records and the EPBC Protected Matters Search tool indicated that within the search region there were previous records or potentially suitable habitat for twenty-three species listed under the FFG Act and eighteen species listed under the EPBC Act including fifteen listed under both Acts. The likelihood of occurrence of the listed species under the FFG Act and EPBC Act is addressed in Flora and Fauna Assessment (**Table 5, Attachment D**). The analysis in the assessment indicated that the following ten listed flora species were considered likely to occur or have potential to occur:

- Adamson's Blown-grass (*Lachnagrostis adamsonii*), EPBC Act: endangered, FFG Act: endangered
- Basalt Sun-orchid (*Thelymitra gregaria*), FFG Act: protected
- Clover Glycine (*Glycine latrobeana*), EPBC Act: vulnerable, FFG Act: vulnerable
- Curly Sedge (*Carex tasmanica*), FFG Act: endangered
- Cut-leaf Burr-daisy (*Calotis anthemoides*), FFG Act: protected
- Hairy Tails (*Ptilotus erubescens*), FFG Act: critically endangered
- Purple Blown-grass (*Lachnagrostis punicea* subsp. *filifolia*), FFG Act: endangered
- Small Milkwort (*Comesperma polygaloides*), FFG Act: critically endangered

- Trailing Hop-bush (*Dodonaea procumbens*), EPBC Act: vulnerable
- White Sunray (*Leucochrysum albicans* subsp. *tricolor* EPBC Act: endangered, FFG Act: endangered).

A targeted survey for nine of the above-listed flora species (with the exception of Trailing Hop-bush) was undertaken between 28th and 30th November 2018. A targeted survey for Trailing Hop-bush was undertaken on the 10th and 11th January 2019. Surveys of additional areas which included the current proposed footprint area were undertaken from 22nd to 25th November 2021. During these surveys, areas identified to support suitable habitat for these species were inspected thoroughly along transects spaced five metres apart. This transect spacing was chosen based on the lifeform of the targeted species and the visibility within areas of suitable habitat.

Fauna

Following a review of online databases for EPBC Act and FFG Act listed species occurring in the region (up to 10 kilometres from the site boundary) twenty-two species listed under the EPBC Act and/or FFG Act had been recorded or had suitable habitat modelled.

The listed fauna species from the search area and likelihood of occurrence is listed in the Flora and Fauna Assessment (**Table 7, Attachment D**). Several project related fauna species surveys and species habitat surveys have been undertaken at the site and in the region and these are listed below.

Bird utilisation surveys

Bird utilisation surveys were undertaken across the study area using a fixed-point bird count method to characterise the use of the study area by the region's avifauna. Habitat assessments and roaming surveys were also undertaken across the study area. These surveys were undertaken on 28th November – 2nd December 2011, 20th – 22nd February 2012, 29th October -2nd November 2018 and 29th October – 2nd November 2018.

Migratory birds survey

Wetlands in the study area and surrounding areas were visited during spring and summer, and wetlands were assessed for suitable foraging habitat for migratory shorebirds in accordance with the EPBC Act survey guidelines for migratory species. Surveys were undertaken on 18th December – 20th December 2018, 9th January – 11th January 2019, 30th and 31st January 2019, 26th February – 28th February 2019 and 27th February – 29th February 2019.

Bat survey

Bat surveys were undertaken using ultrasonic bat detectors deployed remotely and recording the calls of bats that passed by them. Surveys were undertaken across the site and immediately adjacent areas in a range of habitat types representative of the area. The aim was to determine the location and levels of activity of the threatened bat species, such as the Southern Bent-wing Bat, listed as Critically Endangered under the EPBC Act and FFG Act and the Yellow-bellied Sheath-tail Bat, listed as vulnerable in Victoria under the FFG Act. Surveys were undertaken on 21st October – 23rd November 2010, 10th February – 31st March 2011, 25th October – 18th December 2018, 5th February – 25th April 2019 and 18th February – 1st May 2020. Investigations included a roost habitat assessment for the Southern Bent-wing Bat and assessment of Grey-headed Flying-Fox habitat. A targeted Grey-headed Flying Fox survey was undertaken from 14th to 16th February 2022.

Growling Grass Frog habitat

A survey to map suitable habitat for the Growling Grass Frog was undertaken across the site, checking all wetlands and waterways. Habitat mapping was used to inform the layout of the wind farm to ensure suitable habitats were avoided wherever possible. Habitat assessments were undertaken on 21st November – 24th November 2011 and 13th November to 28th November 2018.

Fish survey

Native freshwater fish surveys were undertaken using fyke nets, dip netting, and collapsible bait traps. No electrofishing was used due to high water salinity at all survey sites. The aquatic survey was undertaken during 21st November to 24th November 2011.

Golden Sun Moth habitat surveys

Golden Sun Moth habitat surveys were undertaken on 16th and 19th December 2011 and 6th January 2012.

Brolga

Historical Brolga field surveys were completed by Ecology and Heritage Partners between 2009 and 2013. These surveys are summarised in Nature Advisory, Brolga Assessment (**Attachment E**).

Nature Advisory undertook the more recent Brolga investigations at the site and followed the methodology prescribed in *the Interim Guidelines for the Assessment, Avoidance, Mitigation and Offsetting of Potential Wind Farm Impacts on the Victorian Brolga Population (2012)*.

To provide information on the likelihood of Brolga using any area in the search region as a flocking site a Brolga flocking survey was undertaken in the Radius of Investigation (RoI) by Nature Advisory observers over a two-to-four-day period monthly from May to June 2018, January to June 2019, and January to June 2020. The survey focused on areas that had records from databases of more than two Brolga within the wider area and at permanent wetlands that held water throughout the year.

The Brolga breeding season assessments were conducted during July to December 2018, 2019, and 2020. Wetland quality was assessed within the RoI for suitability as breeding habitat using ground-based and aerial surveys. Brolga breeding locations were recorded. If breeding was recorded at a wetland extended observations were made to determine if the Brolga had a nest or chick. After two years of monitoring Brolga breeding, it was noticed that many of the DELWP mapped wetlands were inaccurate in terms of size, shape and presence of water. Hydrology investigations were undertaken in 2021 by Water Technology to develop a surface water model to accurately define the location and extent of wetlands that may provide functional Brolga habitat. Further information on the Brolga investigations is provided in the Brolga Assessment (**Attachment E**).

Further information on all other species investigations are provided in the Flora and Fauna Assessment (**Attachment D**).

Have any threatened or migratory species or listed communities been recorded from the local area?

NYD No Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

Flora

Ten listed flora species as detailed earlier in this section were considered likely or have the potential to occur in the area.

During the targeted surveys only the Purple Blown-grass (*Lachnagrostis punicea subsp. filifolia*), listed endangered under the FFG Act, was recorded and may be impacted by the current proposed footprint. All other listed flora species are now considered unlikely to occur within the proposed development footprint area.

Ecological Vegetation Classes

Eleven ecological vegetation classes listed as endangered in the Victorian Volcanic Plains bioregion were recorded during surveys and are detailed in Table 2 of this referral.

Ecological communities

Three EPBC Act listed ecological communities were also recorded during targeted surveys; Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEWVVP); Natural Temperate Grassland of the Victorian Volcanic Plains (NTGVVP); and Seasonal Herbaceous Wetland of the Temperate Lowland Plain (SHWTLP).

Fauna

Twenty-two listed species under the EPBC Act and/or FFG Act had been recorded or had suitable habitat modelled based on database searches. Several project-related targeted fauna and fauna habitat surveys have been undertaken in the region and results on presence of listed species are provided below.

Birds including water birds

During bird utilisation surveys the only threatened species observed was the Brolga (discussed further below). Three EPBC Act listed migratory shorebird species were detected within the site during targeted surveys. A small group of seven to eight Sharp-tailed Sandpiper were observed foraging at the edge of a large lake within the site. A pair of Double-band Plover were also sighted on the central section of this lake. Two Latham's Snipe were observed at Mustons Creek hiding within vegetation. None of these species were recorded in numbers that would be above the threshold significance levels (DoEE 2017). Further information is provided in **Attachment D, Section 8**.

Bats

The Southern Bent-wing Bat (SBB) (EPBC Act Critically endangered, FFG Act Critically endangered and Yellow-bellied Sheathtail Bat (YBST) (FFG Act Vulnerable) were recorded during the bat surveys. Further details are provided in **Attachment D, Section 9**.

Out of tens of thousands of recorded bat calls 168 were attributable to the SBB with 76 calls recorded in Spring 2010 and 72 calls in Summer/Autumn 2019. The majority of attributable SBB calls were from treed and wetlands habitat along Muston's Creek. The SBB was not recorded at two survey locations at height, approximately 40 metres above ground during the surveys. It cannot be determined whether SBB calls detected during the survey season represent different bats or a single bat as these calls were recorded utilising Anabat detectors.

Out of the tens of thousands of recorded calls 610 are attributed to the YBST. Most attributed calls (561) calls were recorded in 2011 surveys. The YBST was also recorded flying at a height of 45 metres in 2011 but no calls were recorded at height during the 2018 and 2019 surveys. It cannot be determined whether SBB calls detected during the survey season represent different bats or a single bat as these calls were recorded utilising Anabat detectors.

Grey-headed Flying Fox have been recorded in small numbers (5-10 individuals) during targeted surveys in February 2022 adjacent to the site.

Growling Grass Frog (GGF)

The GGF was heard calling during the habitat assessment within sections of Muston's Creek. Further information is provided in **Attachment D, Section 10**.

Stripped Legless Lizard and Tussock Skink

Based on the identification of small areas of suitable habitat within road reserves, presence within the site has been assumed for Stripped Legless Lizard and Tussock Skink.

Brolga

There were no Brolga flocking activities observed in the Rol during the flocking season surveys. The site is approximately 20 kilometres from the nearest known flocking site.

A total of twenty-three wetlands were identified within the RoI as providing Brolga breeding habitat. In the survey period 2018 to 2020 three wetlands within the site were used by Brolga for breeding. Two additional wetlands within the site contain historical breeding records and were assessed as continuing to provide future breeding habitat. An additional eighteen wetlands outside the site but within the RoI will continue to provide future breeding habitat.

Eight breeding Brolga pairs were identified during surveys within the RoI in 2019. This was a favourable year due to high rainfall (wetland availability) and therefore eight is considered the maximum number that would occur in the ROI in any given year. Full details on the Brolga Assessment are provided in **Attachment E**.

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (eg. loss or fragmentation of habitats) Please describe briefly.

The construction and operation of the project may have the following effects on flora and fauna species:

- A loss or fragmentation of native vegetation and ecological communities.
- The loss and fragmentation of populations of threatened flora.
- The loss and fragmentation of threatened fauna habitats.
- Potential disturbance or collision risk from WTGs and activity during the construction, operation and decommissioning of the project.

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

NYD No Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

Potentially affected species are listed below and discussed further in **Attachment D**.

Flora species

The Purple Blown-grass (*Lachnagrostis punicea subsp. filifolia*), listed endangered under the FFG Act, was recorded and may be impacted by the current proposed footprint. The project will seek to avoid the species through micro-siting impacting infrastructure.

Ecological Vegetation Classes

The proposed footprint would result in the removal of 4.959 hectares of ecological vegetation classes listed as endangered in the Victorian Volcanic Plains bioregion. The removal is detailed in Table 2 of this referral. The project will seek to further reduce effects on these vegetation classes through micro-siting infrastructure to avoid these areas where possible.

Ecological communities

The proposed footprint would result in the removal of 1.59 hectares of the NTGVVP and 0.66 hectares of SHWLTP. The project will seek to further reduce effects on these communities through micro-siting impacting infrastructure to avoid these areas.

Fauna Species

Listed fauna species potentially affected are:

- Brolga (FFG Act endangered) - May be susceptible to effects from loss of habitat, habitat changes as well as disturbance, and WTG collision risk during construction and operation. Turbine free buffer zones have been developed to protect wetlands used for breeding and night-roosting, non-wetland areas around breeding wetlands used for foraging, and movement corridors between breeding wetlands to other functional wetlands. These zones are shown in **Figure 3B WTG exclusion Brolga buffer** and the methodology used to determine the buffers is detailed in **Attachment E**.

- Growling Grass Frog (GGF) (EPBC Act and FFG Act: vulnerable) – Possible effects on the species may arise from loss of aquatic habitat or changes to habitat as well as disturbance or mortality during construction. Effects to these known sites will be avoided and any creek crossings will be designed to avoid any effects to potential habitat thus ensuring minimal if any impact on the species population.
 - Southern Bent-wing Bat (SBB) (EPBC Act and FFG Act: critically endangered) – It is unlikely the species will be impacted by habitat loss or change or disturbance however, there have been mortalities recorded with operating WTGs in Victoria so there is a risk of collision. It is unlikely that significant effects will occur since the species are unlikely to fly at RSA height and collide with WTGs. The proposed minimum blade tip height of 40 metres is considered to be higher than at operating wind farms in western Victoria which have blades closer to the ground. WTGs will be positioned away from remnant and planted treed vegetation based on studies from other wind farms in the region which showed activity levels of bats dropped considerably at 120 metres from treed areas. No significant impact to the species population is expected.
 - Grey-Headed Flying-fox (EPBC Act and FFG Act: endangered) – Effects may arise from removal of foraging habitat or collision risk should temporary camps occur in the region. As there are limited food resources at the site to attract the species it is considered unlikely that the species would visit the site regularly. Further investigations are underway to survey for nearby temporary camps and presence of this species close to the site.
 - Yellow-bellied Sheathtail Bat (FFG Act: vulnerable) – Any removal of hollow bearing trees may affect the species and collision risk with operating WTG is a risk for the species. The proposed minimum blade tip height of 40 metres is considered to be higher than at operating wind farms in western Victoria which have blades closer to the ground. WTGs will be positioned away from remnant and planted treed vegetation based on studies from other wind farms in the region which showed activity levels of bats dropped considerably at 120 metres from treed areas. No significant impact to the species population is expected.
 - Striped Legless Lizard (vulnerable – EPBC Act: vulnerable, FFG Act: endangered) and Tussock Skink (FFG Act endangered) – Effects to the species could occur through the removal of suitable habitat within access point road reserves. The project will seek to avoid effects to plains grassland areas of road reserves and no significant impact to the species population is expected.
 - Black Falcon (FFG Act: critically endangered) – The species is an uncommon visitor to southwest Victoria however foraging behaviour of this species puts them at risk of collision with operating WTG's. Collisions would be expected to be highly infrequent and no significant impact to the species population is expected.
 - Common Greenshank (Migratory – EPBC Act); Curlew Sandpiper (Critically endangered, Migratory – EPBC Act); Double-banded Plover (migratory – EPBC Act); Latham's Snipe (Migratory – EPBC Act); Red-necked Stint (Migratory – EPBC Act); Sharp-tailed Sandpiper (Migratory – EPBC Act); White-throated Needletail (Vulnerable, Migratory-(EPBC Act) - Most wetlands within site were assessed as ephemeral and too densely vegetated to provide habitat for these shorebird species and significant effects to the species populations are not expected.
- The Latham Snipe is an exception and prefers dense vegetation. The number of Latham Snipe recorded failed to reach the significant levels defined as 1% of the population and it is therefore considered unlikely the project would impact significantly on this species.
- Australasian Shoveler (FFG Act Vulnerable); Blue-billed Duck (FFG Act vulnerable), Freckled Duck (FFG Act endangered); Hardhead (FFG Act vulnerable); Musk Duck (FFG Act vulnerable) - Effects to these species above may arise from changes and loss or

changes to wetland habitat and collision risk with operating WTG's. It is not expected the project would significantly impact on these species.

Is mitigation of potential effects on indigenous flora and fauna proposed?

NYD No Yes If yes, please briefly describe.

A risk-based design approach is being utilised to mitigate potential effects on indigenous flora and fauna. Mitigation measures related to specific species will continue to be developed in consultation with DELWP Environment as listed in **Table 3** below.

Table 3: Flora and fauna mitigation measures

Species	Mitigation measures
Fish species (Dwarf Galaxias and Yarra Pygmy Perch and Australian Grayling)	<ul style="list-style-type: none"> • Fish species were not recorded during surveys however buffers of 100 metres have been applied to all DELWP mapped wetlands, major and minor waterways and intermittent streams. Drainage lines have been buffered by 30m. • For infrastructure such as access tracks or electrical reticulation that cross the waterways engineering practices will be implemented to minimise effects. Bridges and culverts will be designed to allow flow beneath the roads along their natural flow paths and construction methods will be dependent on the conditions at each crossing location. All crossings would conform with Responsible Authority guidelines. Sediment fencing will be installed during construction to protect riparian zones if works are undertaken within 30 metres of waterways.
Brolga	<p>Implementation of Brolga breeding home range buffers zones which considers; confirmed or valid historical breeding wetlands used for breeding and night roosting; non-wetland areas around breeding wetlands used for foraging, functional wetlands used for foraging and/or alternate night roosting within two kilometres of breeding wetlands and movement corridors between breeding wetlands to other functional wetlands.</p> <p>This Brolga buffer zones include a 400 metre buffer around the brolga breeding wetland and other functional wetlands within 2 kilometres of the breeding wetland. In addition to the 400 metre buffer, non-wetland areas and movement corridors between these breeding wetlands and the other functional wetlands have been included in the buffer to create a larger buffer zone. This enables Brolga to forage and move between multiple wetlands. Finally, an additional 300 metre disturbance buffer plus a 95 metre buffer to account for the maximum WTG blade length has been added to the buffer zone.</p> <p>The Brolga breeding home range buffers were developed based on the method adopted at three approved wind farm projects in southwest Victoria and updated to reflect research published by Dr Inka Veltheim (Veltheim et al 2019). The buffer zones implemented at the site and methodology used to determine these are detailed in Attachment E.</p>
Stripped Legless Lizard and Tussock Skink	<ul style="list-style-type: none"> • Avoid areas (except for site access locations and waterway crossings) known to support remnant native vegetation. For site access locations and waterway

	<p>crossings (where applicable) engineering practices such as directional drilling will be implemented to minimise effects.</p> <ul style="list-style-type: none"> • Avoiding all areas of high-quality native vegetation and listed individual flora species. • Commitment to clearing less than 10 hectares of native vegetation, including scattered trees. • Buffering of all Aquatic and Terrestrial Groundwater Dependant Ecosystems (GDEs) by 100 metres and 25 metres, respectively. • Implement works exclusion areas to protect areas of ecological value. • Ensure construction stockpiles, machinery, roads, and other infrastructure are placed away from areas supporting native vegetation and trees.
<p>Growling Grass Frog</p> <p>Migratory birds (Sharp-tailed Sandpiper, Double-branded Plover and Latham's Snipe) Australasian Shoveler, Blue-billed Duck, Freckled Duck, Hardhead, Musk Duck</p>	<ul style="list-style-type: none"> • Buffering surveyed identified habitat by 100 metres. • Avoid disturbance of banks, channels and vegetation in nearby areas (within 30 metres of centre line of streams or within 30 metres from the edge of wetlands) identified as potential habitat. • Where essential access tracks cross identified or potential habitat disturbance of banks, channels and nearby vegetation will be minimised and if feasible restored or enhanced to pre-construction condition. • Install sediment fencing during construction to protect riparian zones if works are to be undertaken within 30 metres of creek crossings.
<p>Southern Bent-wing Bat and Yellow-bellied Sheathail Bat, Grey Headed flying Fox</p>	<ul style="list-style-type: none"> • Commitment that the Rotor Swept Area height above ground level will be no less than 40 metres. • The project will position WTGs away from remnant and planted treed vegetation based on studies from other wind farms in the region which showed activity levels of bats dropped considerably at 120 metres from treed areas.
<p>Vegetation including, ecological communities EVCs and flora</p>	<ul style="list-style-type: none"> • Avoid areas (except for site access locations and waterway crossings) known to support remnant native vegetation and ecological communities. • For site access locations and waterway crossings, bridges and culverts will be designed to allow flow beneath the roads along their natural flow paths. The watercourse crossings construction method will be dependent on the site conditions of the crossing location. All waterway crossings and culvert and bridge designs would conform to relevant local Council, Glenelg Hopkins Catchment Management Authority and DELWP. • Avoiding all areas of high-quality native vegetation and listed flora species. • Commitment to clearing less than 10 hectares of native vegetation, including scattered trees. • Buffering of all Aquatic and Terrestrial Groundwater Dependant Ecosystems (GDEs).

	<ul style="list-style-type: none"> • Implement works exclusion areas to protect areas of ecological value. • Ensure construction stockpiles, machinery, roads, and other infrastructure are placed away from areas supporting native vegetation and trees. • Tree Retention Zones (TRZs) would be implemented to prevent indirect losses of native vegetation during construction activities (DSE 2011).
<p>Targeted management plans, developed within the broader Construction Environmental Management Plan (CEMP) would also be adopted to mitigate potential effects on indigenous flora and fauna. This will ensure compliance with all impact minimisation measures specified as planning permit conditions including the preparation of a Bat and Avifauna Management Plan and Brolga Compensation Plan to the satisfaction of the responsible authority prior to the commencement of construction.</p>	
<p>Other information/comments? (eg. accuracy of information)</p>	

13. Water environments

<p>Will the project require significant volumes of fresh water (e.g. > 1 GI/yr)? <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, indicate approximate volume and likely source.</p> <p>During construction water will be required for dust suppression, road construction and concrete production. The volume of water is anticipated to be significantly less than one gigalitre per year over an approximately two-year construction period.</p>
<p>Will the project discharge wastewater or runoff to water environments? <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, specify types of discharges and which environments.</p> <p>Construction of the internal access track network and hardstands has the potential to increase the runoff rate from the affected areas relative to those areas in their current state. However, the track network will be formed by crushed rock so will not be impervious and in the context of the approximately 16,000 hectare site the additional run-off created by the access tracks and hardstand areas will be negligible.</p> <p>Notwithstanding, to prevent any localised issues on the site a detailed Drainage Management Plan would be prepared prior to construction starting on site. It is expected that such a plan would be a requirement of planning permit approval and drafted after that date in consultation with the Glenelg-Hopkins Catchment Management Authority (CMA). The plan would utilise standard mitigation measures like rock chutes, straw bale barriers, sediment basins and establishing/re-establishing ground cover.</p> <p>All construction, operational and decommissioning facilities will retain wastewater for appropriate waste disposal off-site, or use on-site, subject to meeting quality standards and relevant approvals.</p> <p>An overarching Construction Environmental Management Plan (CEMP) would be prepared in accordance with the EPA publications 480 'Environmental Guidelines for Major Construction Sites', 275 'Construction Techniques for Sediment Pollution Control' and other relevant guidance.</p>
<p>Are any waterways, wetlands, estuaries or marine environments likely to be affected? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify which water environments, answer the following questions and attach any relevant details.</p> <p>Water environments will be buffered by 100 metres (30 metres for drainage lines) and will be part of a works exclusion area. The only exception being where track and cable crossings of waterways are required. Such crossings have been minimised and where crossings do occur,</p>

risks of impact are mitigated (through measures described in section 12 of this referral) such that the project is not expected to significantly impact any water environments.

Are any of these water environments likely to support threatened or migratory species?

NYD No Yes If yes, specify which water environments.

Species that could be present in the water environments are described above in Section 12 of this referral.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

NYD No Yes If yes, please specify.

Could the project affect streamflow's?

NYD No Yes If yes, briefly describe implications for streamflow's.

If project infrastructure (e.g., new internal tracks) are built without adequate drainage there is potential for the project to affect steam flows. The project would be designed with adequate drainage to avoid stream flow effects, supported by a detailed Drainage Management Plan that would be prepared prior to construction starting on site.

Could regional groundwater resources be affected by the project?

NYD No Yes If yes, describe in what way.

Excavations across the site will be shallow and temporary.

Could environmental values (beneficial uses) of water environments be affected?

NYD No Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Could aquatic, estuarine or marine ecosystems be affected by the project?

NYD No Yes If yes, describe in what way.

Aquatic species surveys and the project's potential effects on threatened species and habitat including proposed mitigation measures are discussed in section 12 of this referral.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

NYD No Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

Aquatic species surveys and the projects potential effects on threatened species and habitat including proposed mitigation measures are discussed in section 12 of this referral.

Is mitigation of potential effects on water environments proposed?

NYD No Yes If yes, please briefly describe.

Buffers of 100 metres have been applied to all DELWP mapped wetlands, major and minor waterways and intermittent streams. Drainage lines have been buffered by 30 metres. Infrastructure and works would be excluded from these buffer zones except where access track and cable crossings are required. Construction across waterways would be designed and implemented in accordance with guidance from the Glenelg-Hopkins Catchment Management Authority such that it is not expected that any works would affect stream flows or water quality.

All Bureau of Meteorology mapped aquatic and terrestrial Groundwater Dependent Ecosystems (GDEs) have been avoided in the project design.

A Drainage Management Plan would be prepared and carefully implemented in order to suitably manage and prevent runoff from entering water environments. Access tracks and hardstands will include appropriate drainage structures to ensure run-off is controlled.

The site is located within a groundwater management area. A licence from Southern Rural Water is required to take and use groundwater and to undertake works on waterways. Further assessments will be required prior to construction to determine the suitability of groundwater to meet construction water requirements.

The risk of pollution of local water environments would be managed through the preparation and implementation of a sediment, erosion and water quality management plan in consultation

with the Glenelg-Hopkins CMA and Victorian Environment Protection Authority (EPA). Key elements of this plan would include:

- Sediment and erosion control measures including the implementation of appropriate drainage structures to control flow and manage the water run-off.
- Water quality monitoring requirements or inspection of erosion and sediment controls as deemed appropriate.
- Classification and management of any wastewater from the site in accordance with EPA requirements.
- Spill and pollution control measures.

Other information/comments? (eg. accuracy of information)

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

No Yes If yes, please attach.

A Preliminary Landscape Visual Impact Assessment (LVIA) has been prepared and is included as **Attachment A, part 1 and part 2**. This includes 23 viewpoints selected to provide a representative view from publicly accessible areas within the study area, most are within 10-15 kilometres of the site.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**
 NYD No Yes If yes, provide plan showing footprint relative to overlay.
- **Identified as of regional or State significance in a reputable study of landscape values?**
 NYD No Yes If yes, please specify.
- **Within or adjoining land reserved under the *National Parks Act 1975*?**
 NYD No Yes If yes, please specify.
- **Within or adjoining other public land used for conservation or recreational purposes?**
 NYD No Yes If yes, please specify.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?

NYD No Yes If yes, please briefly describe.

While the wider landscape could be considered to display characteristics which are highly valued and have a degree of visual amenity, the site landscape is highly modified for agriculture including dairy production, livestock and cropping. In the context of the approximately 16,000 hectare site, required earthworks and the clearing of 4.977 hectares of native vegetation and 4 scattered trees is not likely to effect landscape values.

Is there a potential for effects on landscape values of regional or State importance?

NYD No Yes

The Preliminary Visual Impact Assessment is provided in **Attachment A, part 1 and part 2**.

The project is not located within an Environmental Significance Overlay, Vegetation Protection Overlay or Significant Landscape. There are also no National Parks, State Forests or Scenic Routes located within the study area (the area from which a proposed WTG could be recognisable within a view).

Several significant landscape vantage points are however located within the study area including Tower Hill (28 kilometres from nearest WTG), Mount Rouse (22.6 kilometres from nearest WTG) and Mount Noorat (26.8 kilometres from nearest WTG). As they are situated towards the outer extend of the study area where WTG visibility would be in a small portion of the panoramic view and would not be dominant, effects have been assessed as negligible to nil.

It is anticipated that the project would also:

- have a negligible-nil impact on townships given the distance and intervening vegetation and built form
- result in low-moderate effects on views from major roads as fully or partially screened by roadside and/or field boundary tree planting
- result in low-moderate effects on views from local roads as existing vegetation in the road reserves and along property lines would help to filter views.

The assessment of cumulative effects when other operating or approved wind farms within the study area are considered concluded effects to be low with moderate effects assessed from the Hamilton Highway.

Is mitigation of potential landscape effects proposed?

NYD No Yes If yes, please briefly describe.

The project team has and will continue to engage with neighbours surrounding the site to understand any concerns regarding landscape effects and consider these in the design. A number of WTGs have already been repositioned to respond to such concerns since the first layout was developed. The project will offer visual screening opportunities for all neighbouring dwellings out to approximately 6 kilometres from constructed WTGs.

Mitigation measures during the operational period may include:

- maintenance and repair of planted (or installed) visual screening and constructed elements
- replacement of damaged or missing visual screening constructed elements
- maintenance (and replacement as necessary) of tree planting within the site to maintain visual filtering and screening of external views where appropriate.

Visual screening will be provided for the project's terminal station.

Other information/comments? (e.g., accuracy of information)

See **Attachment A** for full details of the preliminary landscape and visual impact assessment for the project

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?

NYD No Yes If yes, please briefly describe.

The project site is generally flat to gently undulating, therefore minimising any potential for land stability effects and this would be confirmed via a geoheritage assessment. The potential for actual or potential acid sulphate soils is considered to be low based on what has been observed at other wind farm project sites on the Western Volcanic Plain. This would be confirmed via a surface water and hydrogeology assessment.

Are there geotechnical hazards that may either affect the project or be affected by it?

NYD No Yes If yes, please briefly describe.

No geotechnical hazards are apparent at the project site, nor have they been reported by project stakeholders, however their presence would be confirmed via a geoheritage assessment.

Other information/comments? (eg. Accuracy of information)

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

NYD No Yes If yes, provide estimate of traffic volume(s) if practicable.

The project is expected to generate noticeably (albeit short term) increased volumes of traffic (compared to existing) during the expected two-year construction phase, but negligible increased traffic volumes once operational. The volume of traffic generated during the construction phase would be influenced by whether there is an on-site quarry or material is sourced off site from nearby quarries. Investigations into an on-site quarry are underway to determine whether suitable locations, volumes and quality of material could be available within the site.

A traffic and transport assessment will be prepared to inform a planning permit application. This assessment will quantify the potential effects on local and state-owned roads and recommend appropriate transport options and mitigation/management strategies in consultation with Regional Roads Victoria and Moyne Shire Council. This assessment would inform a detailed Traffic Management Plan, incorporating a road dilapidation survey prepared prior to the start of construction.

The Port of Geelong or Port of Portland are both expected to be suitable for the shipping of WTG and terminal station components. A key input to the selection of the most suitable port would be an assessment of over-dimensional (OD) vehicle haulage routes from the port to the site in the context of the largest expected components (e.g., turbine blades and tower components). Suitability of existing over-dimensional vehicle haulage routes previously developed by other neighbouring wind farms will be assessed.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

NYD No Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

Amenity effects are anticipated during construction; however, these will be reduced by maximising the distance between proposed infrastructure and dwellings, as far as reasonably practicable. All non-participating landowner dwellings will be at least one kilometre from the nearest WTG, but most will be more than two kilometres from the nearest WTG. Access gates, internal tracks and cables, internal electrical cabling and other infrastructure will be positioned to minimise disruption and amenity effects (during construction and operation).

Potential effects on residents during the construction phase (such as dust, noise, traffic or visual effects) would be managed and minimised through the implementation of a Construction Environmental Management Plan (CEMP), prepared to the satisfaction of the Responsible Authority prior to construction.

During the operational phase, there is the potential for effects on the amenity of some residents. These effects are the subject of specialist impact assessments, and in particular, an assessment of potential noise and visual effects.

Potential visual effects have been assessed as part of a Landscape and Visual Impact Assessment (LVIA) provided in **Attachment A, part 1 and part 2** and is discussed in Section 11 of this document.

Potential noise effects have been assessed and the assessment report is provided in **Attachment B** and discussed in Section 11 of this document.

Potential effects of shadow flicker on residents will be managed through compliance with the applicable limit of a maximum of 30 hours per year. An assessment report will accompany a planning permit application.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

NYD No Yes If yes, briefly describe the hazards and possible implications.

Works will typically occur at least several hundred metres from occupied dwellings and places of work (where people remain in one place for periods of time). This would avoid potential exposure to health or safety hazards. Notwithstanding, impact assessments will be prepared covering air quality, water (including groundwater), and noise.

A project CEMP would include mitigation measures to further avoid or minimise risks and impacts associated with these emissions to the environment, as well as chemical hazards. A Traffic Management Plan would be prepared to the satisfaction of the Responsible Authorities and properly implemented to minimise the risk of emissions associated with equipment, materials and people transport.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

NYD No Yes If yes, briefly describe potential effects.

The project is located within a rural farming zone and area of low population density. The closest township with community facilities are Caramut, Hexham and Eilerslie located at least three kilometres from the site. The design and siting of the project will not affect residential access to community facilities and services.

WTGs have been located to be at least 1.5 kilometres from non-stakeholder dwellings (applies to all dwellings that existed when the project was publicly announced in March 2019) and other infrastructure and works are designed to be at least several hundred metres from these dwellings.

A workforce accommodation strategy would be developed to minimise the risk of displacement of local residents during construction and decommissioning of the project. The strategy would be consistent with the Great South Coast Regional Growth Plan

Any effects on traffic volumes would be short term during construction and a Traffic Management Plan will be prepared to the satisfaction of the Responsible Authority prior to construction.

Are non-residential land use activities likely to be displaced as a result of the project?

NYD No Yes If yes, briefly describe the likely effects.

Wind energy facilities are considered a very compatible land use when located within the Farming Zone. Typically, agricultural operations will lose on average around 1-3% of land due to displacement from the infrastructure footprint. The remaining land can continue to be subject to agricultural operations during both the construction and operation phase of the wind farm as proposed for this project.

Wind farm infrastructure often provides increased benefits to agricultural operations. The wind farm access tracks provide all weather access to the property and livestock will often be seen sheltering in shaded areas created by the WTG towers and blades (when stationary). Hardstands often provide stable, dry and accessible areas for farmers to temporarily locate equipment such as machinery or field bins during seasonal agricultural activities. The income from wind farm lease payments also provide a drought proof income that can stabilise farming businesses.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

NYD No Yes If yes, briefly describe the potential effects.

The project is not expected to result in changes in non-residential land use as less than 3% of the approximately 16,000 hectare site is lost to agricultural operations and the remaining land can continue to be subject to agricultural operations during the construction, operational and decommissioning phases of the project. New and upgraded existing farm tracks often provide for better access around properties for agricultural operations and (when necessary) for firefighting. This change is also not expected to cause adverse effects on local residents/communities, social groups or industries since there will be little direct physical interaction between these people or groups and the project, especially once operational.

Is mitigation of potential social effects proposed?

NYD No Yes If yes, please briefly describe.

Construction phase

One of the main potential effects on the community from the project relates to increased traffic volumes and maintaining (or upgrading) the condition of local roads. A traffic and transport assessment will identify and propose mitigation measures for potential effects, which will be included (and expanded upon) in a Traffic Management Plan.

Neighbouring dwelling owners within six kilometres of the project will receive a one-off construction payment to compensate for any inconvenience on local roads that cannot be avoided.

A range of community engagement activities are proposed to continue during construction, such as information sessions, community engagement committee meetings, newsletters and open days. These will be included within a community engagement strategy and plan.

Operation phase

Visual effects will be mitigated (in part) by providing free vegetation screening to neighbouring dwelling owners that have views of the wind farm from their homes and immediate surrounds. Vegetation screening of the proposed terminal station will also mitigate visual effects.

Mitigation of noise effects during the project operation is managed via a commitment to ensure the highest predicted noise levels for all non-stakeholder dwellings will not exceed 35 dB or background plus 5dB. This commitment applies to all dwellings that existed when the project was publicly announced in March 2019.

A Construction Noise and Vibration Management Plan (CNVMP) would be prepared under the project's construction environmental management framework prior to construction commencing and during the design stage when details such as scheduling, the types of equipment to be used, processes, locations and duration of activities are known. The CNVMP would identify potential noise effects during construction and measures to mitigate or avoid these effects and would comply with the Victorian EPA requirements.

Social impact assessment

The proponent is committed to engaging closely with the communities local to the project. Details of both planned and completed engagement activities are provided in the consultation section of this document. A Social Impact Assessment will be prepared which will identify and address potential social effects during construction, operation and decommissioning of the project as well as any issues raised or identified during the engagement activities. Best practice construction techniques will be implemented that are compliant with relevant guidelines (e.g. working hours, dust control, traffic management).

Neighbour benefit sharing program

A generous Neighbour Benefit Sharing Program would be implemented that would operate for the lifetime of the project. This would include:

- A *Neighbour Benefit Payment* providing annual payments to the owners of eligible dwellings and/or operating retail premises of up to \$30,000 per annum
- An Energy Cost Offset Plan designed to help the occupants of neighbouring dwellings and operating retail premises with the cost of electricity, with an annual value of up to \$2,000.
- A *Community Co-investment Program*. Subject to sufficient interest from the local community, this would provide an opportunity for community members and organisations to invest in the operational project and participate in the financial benefits.
- An annual *Community Benefit Fund* involving grant-based funding of up to \$1,000 per constructed WTG, to be used for community initiatives and administered by a community committee.

Further details of the Neighbour Benefit Sharing Program including eligibility are provided in **Attachment F: Neighbour benefit sharing program**.

Ongoing stakeholder engagement, and in particular, ongoing engagement with local residents will occur throughout the project's life.

Other information/comments? (e.g., accuracy of information)

NA

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

- No If no, list any organisations that it is proposed to consult.
 Yes If yes, list the organisations so far consulted.

The following organisations were consulted during commencement of the Cultural Heritage Management Plan (CHMP):

- First Peoples - State Relations (FPSR)
- Traditional Owner Groups Gunditj Mirring Traditional Owners Corporation (GMTOC) and Eastern Maar Aboriginal Corporation (EMAC).

EMAC has subsequently been approved the Registered Aboriginal Party for the project area. Consultation with EMAC and FPSR will continue during the preparation of the CHMP.

What investigations of cultural heritage in the project area have been done?

(attach details of method and results of any surveys for the project & describe their accuracy)

Preparation of an Aboriginal Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006* commenced in 2019. Investigations include a desktop assessment in March 2019 and standard assessment field surveys completed in July 2019. This was based on an older (albeit similar) infrastructure footprint than the infrastructure footprint proposed in this referral. The site area remains the same. The methodology for assessments complied with the standards in the Aboriginal Heritage Regulations 2018, relevant Guidelines, approved forms and practice notes (refer to **Attachment C**).

Is any Aboriginal cultural heritage known from the project area?

- NYD No Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

The desktop assessment identified 112 registered Aboriginal places on the Victorian Aboriginal Heritage Register (VAHR) in the project site. These included mounds, artefacts scatters and a soil deposit. The standard assessment conducted within the site, based on an older infrastructure footprint did not locate any tangible evidence of Aboriginal places. The standard assessment did identify registered Aboriginal places, waterways and stony rises as areas of Aboriginal cultural heritage sensitivity. Historical references may also have intangible Aboriginal cultural heritage sensitivity to Indigenous organisations. Aboriginal cultural heritage sensitivities are shown in **Figure 13: Aboriginal Cultural Heritage Sensitivities**.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

- NYD No Yes If yes, please list.

There are two historic places on the Heritage Register:

- H1856 (Bridge Over Burchett Creek)
- H1700 (Stone Mileposts)

Is mitigation of potential cultural heritage effects proposed?

- NYD No Yes If yes, please briefly describe.

Aboriginal heritage values are often associated with waterways and a 100-metre infrastructure exclusion zone of waterways has been proactively implemented ahead of further detailed Aboriginal heritage surveys.

All Aboriginal places in the project area will be managed in compliance with the conditions in the approved CHMP. These conditions will be formulated after consultation with FPSR and EMAC. Under Section 61 matters, consideration will be given to avoid, minimise or manage harm to Aboriginal places.

All historic heritage in the project area will be managed in compliance with the recommendations in the historic heritage assessment. These recommendations will be formulated after consultation with Heritage Victoria. Consideration will be given to avoid, minimise or manage harm to historic places. Effects to the two historic places identified on the Heritage Register will be avoided by designing infrastructure away from these places.

Other information/comments? (e.g., accuracy of information)

As per legislative requirements the CHMP will identify the Aboriginal cultural heritage values in the site area and assess the potential impact of the wind farm development on these values to ensure they are managed appropriately. Given the relatively small and versatile infrastructure footprint, combined with the strategy for avoidance, it is expected that harm can be avoided or mitigated to Aboriginal cultural heritage. The existing CHMP process also provides for contingency plan frameworks to enable swift, targeted response and management of any Aboriginal cultural heritage that is discovered during construction activity.

16. Energy, wastes & greenhouse gas emissions

<p>What are the main sources of energy that the project facility would consume/generate?</p> <p><input checked="" type="checkbox"/> Electricity network. If possible, estimate power requirement/output ...</p> <p>The project would generate approximately 2,400 gigawatt hours (GWh) per annum</p> <p><input type="checkbox"/> Natural gas network. If possible, estimate gas requirement/output</p> <p><input type="checkbox"/> Generated on-site. If possible, estimate power capacity/output ...</p> <p><input type="checkbox"/> Other. Please describe.</p> <p>Please add any relevant additional information.</p>
<p>What are the main forms of waste that would be generated by the project facility?</p> <p><input checked="" type="checkbox"/> Wastewater. Describe briefly.</p> <p><input type="checkbox"/> Solid chemical wastes. Describe briefly.</p> <p><input checked="" type="checkbox"/> Excavated material. Describe briefly.</p> <p><input type="checkbox"/> Other. Describe briefly.</p> <p>Please provide relevant further information, including proposed management of wastes.</p> <p>The project would generate spoil from excavated WTG foundations which would be temporarily stored on site. The majority of spoil would be re-used for fill and in the construction of access tracks.</p> <p>If any material needs to be removed from the site, it would be transported to a licensed landfill facility. General refuse would be removed from the site.</p> <p>Wastewater generated at the site would be managed in accordance with the Construction Environmental Management Plan. Groundwater seepage into foundations, including WTG foundations, would be disposed of locally or via a registered recipient, depending on the quality and EPA requirements. Local groundwater in this farming area is not expected to be contaminated.</p> <p>A Construction Environmental Management Plan would be prepared to the satisfaction of the Responsible Authority prior to the commencement of construction to address the specifics of waste management.</p>
<p>What level of greenhouse gas emissions is expected to result directly from operation of the project facility?</p> <p><input checked="" type="checkbox"/> Less than 50,000 tonnes of CO₂ equivalent per annum</p> <p><input type="checkbox"/> Between 50,000 and 100,000 tonnes of CO₂ equivalent per annum</p> <p><input type="checkbox"/> Between 100,000 and 200,000 tonnes of CO₂ equivalent per annum</p> <p><input type="checkbox"/> More than 200,000 tonnes of CO₂ equivalent per annum</p> <p>Please add any relevant additional information, including any identified mitigation options.</p> <p>The project would not generate any greenhouse gas emissions and in fact would offset such emissions from fossil fuel generation sources. Non-material levels of CO₂ emissions would occur during the temporary construction process as well as during the operation of the project through the use of vehicles, plant and equipment.</p> <p>Over a 25-year operating life, the project would generate, on average, more than 2,400 GWh per year resulting in a net avoidance of approximately 2.7 million tonnes of CO₂ by offsetting generation from fossil fuel sources.</p>

17. Other environmental issues

<p>Are there any other environmental issues arising from the proposed project?</p> <p><input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, briefly describe.</p> <p>There is the potential for the project to impact aviation and cause electromagnetic interference to local communication systems. Neither are expected to result in effects that cannot be</p>

mitigated. Both of these aspects will be assessed by qualified consultants and reports prepared to support the planning permit application.

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

Siting: Please describe briefly

The project's proximity to the existing 500 kV Moorabool to Heywood transmission powerline provides an on-site point of connection to the electricity network. This avoids the requirement for lengthy external overhead powerlines to connect the project to the electricity network.

The project is located in an area with a very low population (and therefore, dwelling) density and involves a significant number of landowners willing and able to host project infrastructure, whilst continuing agricultural practices. The site is mostly comprised of cleared land for grazing and cropping and the access to, and around, the site can be achieved without significant disruption to local residents.

Design: Please describe briefly

Potential effects of the project are being assessed by specialist experts and their findings inform the design process to avoid and minimise effects. Examples of how the project design has been influenced by the results of these assessments, or will be by future assessments, is provided below:

- Implementation of Brolga breeding home range buffer zones which considers; confirmed or valid historical breeding wetlands used for breeding and night roosting; non-wetland areas around breeding wetlands used for foraging, functional wetlands used for foraging and/or alternate night roosting within two kilometres of breeding wetlands and movement corridors between breeding wetlands to other functional wetlands. The buffers were developed based on the method adopted at three approved wind farm projects in southwest Victoria and updated to reflect research published by Dr Inka Veltheim (Veltheim et al 2019).
- Buffering of all DELWP mapped wetlands, major and minor waterways and intermittent streams by 100 metres. All drainage lines have been buffered by a distance of 30 metres.
- Buffering of all Aquatic and Terrestrial Groundwater Dependant Ecosystems (GDEs) by a distance of 100 metres and 25 metres, respectively.
- Avoiding all areas of high-quality native vegetation and listed flora species.
- Removing less than 10 hectares of native vegetation, including scattered trees.
- Locating no WTGs within 1.5 kilometres of any neighbouring (non-participating) residential dwelling. This commitment applies to all dwellings that existed when the project was publicly announced in March 2019.
- Avoiding locating any infrastructure on public road reserves except for the 12 proposed site access points.
- Locating all overhead powerlines and the terminal station within the site.
- Undertaking targeted geoheritage studies in 2022 and avoiding all areas of geoheritage sensitivity.
- Developing a workforce accommodation strategy to minimise the risk of displacement of local residents during construction and decommissioning of the project. The strategy would be consistent with the Great South Coast Regional Growth Plan.
- Establishing a works exclusion area to protect areas of ecological or cultural heritage value.

- Committing to utilise engineering/construction practices such as directional drilling, above ground water crossings for underground cables, oversized access track bridges to appropriately avoid heritage constraints and maintain overland flow paths.

Environmental management: Please describe briefly.

Prior to commencement of construction, a Construction Environmental Management Plan would be prepared which would detail measures to manage environmental effects during the construction of the project. There will be ongoing environmental monitoring and management during the operational phase in accordance with planning permit conditions and statutory requirements.

Post construction noise monitoring will be undertaken in accordance with EPA requirements.

Other: Please describe briefly

Add any relevant additional information.

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

NYD No Yes If yes, briefly describe.

The following activities in the vicinity of the project could have potential to contribute to cumulative effects (**Table 4: Cumulative effects**).

Table 4: Cumulative effects

Cumulative matter	Potential for occurrence
Noise	<p>The Preliminary Noise Assessment (Attachment B) has considered potential cumulative noise.</p> <p>The assessment considered nine other wind farm projects (operational, approved or in the planning process) in the broader surrounding area. An assessment of the predicted noise level of these wind farms has demonstrated that the Hexham Wind Farm would not alter the compliance outcomes of neighbouring wind farm projects. Conversely, the noise of neighbouring wind farm projects would not alter the compliance outcomes for the Hexham Wind Farm. Accordingly, cumulative wind farm noise considerations are not applicable to the Hexham Wind Farm.</p>
Landscape and Visual	<p>The Preliminary Land and Visual Impact Assessment (Attachment A, part 1 and part 2) has considered the potential for cumulative visual effects to be generated by the project.</p> <p>The report states that the greatest potential for cumulative visual effects to occur is where one or more approved or operating wind farm overlaps is within the 28.6 kilometre study area for the Hexham project.</p> <p>Cumulative visual effects can occur through either:</p> <p>a) sequential and simultaneous views to WTGs from publicly accessible viewpoints from the surrounding road network, or</p>

	<p>b) simultaneous views of multiple wind farms from private viewing locations.</p> <p>The assessment has rated cumulative effects from the road network to range from low to moderate. It also states that effects to residential dwellings would depend partly on visibility of one or more wind farm developments from the dwelling and the proximity of that dwelling with regards to distance and therefore visual scale. Proposed screening for the project will also influence potential cumulative views from nearby dwellings.</p> <p>Effects from neighbouring dwellings will be considered further in the detailed Land and Visual Impact Assessment.</p>
Traffic and transport	<p>There is potential that other projects could start construction at a similar time. These project boundaries are at least six kilometres from the site but may interact on a day-to-day basis. A Traffic Management Plan would be developed for the project prior to construction and approved by the responsible authority. This would address potential cumulative effects from any other projects under construction.</p>
Ecology	<p>The potential cumulative effects on flora and fauna including Brolga will be considered in the final assessments provided as part of the planning permit application.</p>
Social and economic	<p>The project will add to the wind farms already operating and due to be constructed in the Moyne Shire and this part of south-west Victoria. Strategies, plans and initiatives would be implemented to maximise the positive social and economic benefits, while avoiding and minimising adverse effects. This includes managing the construction and operational effects relating to noise, air quality, and visual amenity, but also includes high levels of engagement, implementing an effective accommodation strategy and sharing the financial benefits with community members. The project will extend the benefits of the growing renewable energy to a new part of the region and provide Moyne Shire Council with a significant rates income.</p>
Cultural Heritage	<p>Potential cumulative effects can be effectively managed via the existing robust frameworks that underline the CHMP process.</p>

20. Investigation program

Study program

<p>Have any environmental studies not referred to above been conducted for the project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please list here and attach if relevant.</p>
<p>Has a program for future environmental studies been developed? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, briefly describe.</p> <p>Further assessments, as detailed below, have commenced and are ongoing with the timing, scope and survey effort being developed as part of ongoing consultation with relevant referral agencies and other relevant stakeholders. These further assessments, surveys and studies</p>

are scheduled to build on pre-existing surveys and data to provide current multi-season datasets:

- Commenced:
 - Noise Assessment
 - Landscape and Visual Impact Assessment
 - Traffic and Transport Assessment
 - Aviation Impact Assessment
 - Social Impact Assessment
 - Hydrogeology Assessment
 - Historic Heritage Assessment
 - Cultural Heritage Assessment
 - Geo-heritage Assessment
 - Shadow Flicker Assessment
 - Flora and Fauna Assessment including Broilga
 - A Cultural Heritage Management Plan
- Planned:
 - Quarry Investigation
 - Electromagnetic Interference Assessment
 - Landscape and Visual Impact Assessment Peer Review
 - Noise Assessment Peer Review

Consultation program

Has a consultation program conducted to date for the project?

No Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

A comprehensive stakeholder consultation program is being implemented for the project. The stakeholder database currently includes over 360 stakeholders. A summary of key stakeholder groups and organisations are summarised below:

- **Business** entities including businesses with interests in the local area around the project including local aviation operators.
- **Communication** entities including the owners of communications masts and operators of communications links in the local area around the project.
- **Government** agencies including the Moyne Shire Council; adjoining Shires; DELWP; Regional Roads Victoria; Country Fire Authorities; Department of Jobs, Precincts and Regions; Heritage Victoria; First People - State Relations; Environment Protection Authority; Sustainability Victoria; Royal Australian Air Force; Southern Rural Water; Civil Aviation Authority; Glenelg Hopkins Management Authority; Air Services Australia; State Emergency Services; Parks Victoria; Department of Agriculture, Water and Environment (Commonwealth); Australian Energy Market Operator; as well as relevant local State and federal members of parliament.
- **Heritage** groups including the applicant Registered Aboriginal Parties and other groups related to non-Aboriginal heritage.

- **Local residents** including all landowners involved in the project, neighbouring landowners and all landowners and local residents within 6 kilometres of the project.
- **Special Interest Groups** such as Rotary Clubs, Lions Clubs, local schools, Landcare groups, committees, associations, environment and friendships groups and recreational aviation clubs.

Table 5 presents a tabular summary of all engagement activities that occurred with respect to all neighbouring dwellings within 6 kilometres of proposed WTG locations (218 in total).

Table 5: Engagement opportunities

Engagement Method	Number.			
	0-2km	2-3km	3-6km	Total
Round one door knock – no one home, information left.	12	9	97	118
Round one door knock – someone home, discussion occurred.	5	22	66	93
Round two door knock – no one home, information left.	-	1	66	67
Round two door knock – someone home, discussion occurred.	-	1	31	32
Attended information sessions	5	16	24	45
Face-to-face meeting	14	13	18	45
Completed public opinion survey	3	6	45	54
10km mailout	17	31	169	217
Flora and Fauna interview	3	10	7	20
Total engagement	59	109	523	691

Further details surrounding the specific engagement activities are summarised below:

- **Website:** A website has been established to provide easy access to information about the Project including the ability to provide feedback ('Have Your Say') and to contact Hexham Wind Farm for further engagement. The project website can be found at www.hexhamwindfarm.com.au and includes the newsletters, Neighbour Benefit Sharing Program, public opinion survey, and frequently asked questions (FAQ) flyer. The website will continue to be updated as the project develops.
- **Project media release:** media releases are used to communicate project updates through local digital and print media outlets. Media releases were distributed to select local media outlets for the public launch in 2019. Further releases are expected to be issued in coordination with project development workstreams.
- **Mailout – community:** Mailouts are used to communicate with owners of land within 10 kilometres of the project to introduce the project and provide regular updates and may include letters, newsletter and other project information. This is facilitated through the Moyne Shire Council and ensures that absentee owners of land are sent all information as well as local residents. Distribution of an initial information pack (containing a newsletter, Benefit Sharing Proposal flyer and public opinion survey) occurred in May 2019. Three project newsletters have been issued to date as well as a FAQ leaflet and details on the Neighbour Benefit Sharing Program. Further mailouts to the local community will continue to occur in coordination with other project development workstreams.
- **Electronic Mailout – other stakeholders:** Letters introducing the proposed project were sent to the Responsible Authority, referral agencies (including DELWP, Moyne Shire, Glenelg Hopkins Catchment Management Authority, Southern Rural Water, Country Fire Authority and Regional Roads Victoria), local state and federal politicians, the National Infrastructure Commissioner, Moyne Shire Councillors, Aviation Operators (including recreational, agricultural/business and emergency services), Transmission and Distribution Network Service Providers, Communication Service Operators and Naturalist

/ Landcare Groups. These letters were accompanied by copies of the project newsletter, Benefit Sharing Proposal flyer, public opinion survey. Further mailouts to these and other stakeholders will occur in coordination with project development workstreams.

- **Door knock:** Door knocking of local residents is undertaken to inform local residents of the project, share information and establish communication channels with local residents. The project team knocked on the doors of all dwellings located within approximately 6 kilometres of a proposed WTG location during March 2019 (round one) and then again during August 2019 (round two). If residents were not home, a 'sorry we missed you' pack was left behind which included a newsletter, Benefit Sharing Proposal flyer, public opinion survey and contact details for further information. Each door knock was followed up by further face to face meetings and phone calls as required over the following weeks.
- **Information sessions:** Information sessions are held to share information with the local community. Two community information sessions were held at the Caramut Hall from 12pm to 8pm on the 9th May 2019 and the Ellerslie Hall from 9am to 3pm on the 10th of May 2019. 110 people attended these events across the two days. Community drop in sessions have also been held at these venues same venues in 2019 and 2020 It is expected that further information sessions would be held in coordination with other project development workstreams at venues local to the project which will include detailed information. Relevant technical experts may also attend depending on the content of feedback received ahead of the information sessions.
- **Murra Warra Wind Farm Tour:** The community were invited to attend a facilitated site visit of an operational wind farm in November 2019 to experience at firsthand the visual effects and noise of wind turbines at different distance locations. A total of 19 people attended.
- **Meetings, phone calls, letters and email communication:** Meetings, phone calls, letters and email communication are used to follow up other stakeholder engagement activity and to respond to all feedback. Project staff including a locally based Community Engagement Officer are available at short notice to mobilise for meetings while on site and at short notice.
- **Public opinion surveys:** Public opinion surveys were provided to all neighbouring landowners within 10 kilometres of the project via a combination of door knocking activities, information sessions, mailouts and face-to-face meetings. At the time of writing 121 public opinion survey responses had been received. The results are summarised below:
 - 76 (62.8%) responses were supportive of the project.
 - 20 (16.5%) responses indicated that after viewing the information provided, they either, were neutral, were undecided or required further information regarding the project.
 - 25 (20.7%) responses were against the project.
- **Newsletters:** Newsletters are prepared and distributed to provide project updates as the project progresses. These newsletters are distributed to the owners of land and residents within 10 kilometres of the project (facilitated by the Moyne Shire Council) as well as other stakeholders as appropriate. Copies of all newsletters and other material are posted on the project website. All newsletters include contact details for further information as well as the project website details. Newsletters will continue to be distributed periodically throughout the period of project development. To date three newsletters have been distributed.
- **Community Engagement Committee:** The Moyne Shire established a Community Engagement Committee (CEC) for the project in June 2019. The CEC is intended to provide for an effective flow of information on the project between the Moyne Shire, the local community and the proponent and to provide a forum to address any issues or concerns as they arise. The CEC comprises three Moyne Shire Councillors, six members of the local community and two staff members of the proponent. Eight meetings have been held to date and are expected to continue on a quarterly basis. These are conducted formally with a Chair, an agenda and with meeting minutes recorded.

The implementation of the stakeholder consultation plan to date has provided the project team with a very good understanding of potential issues and concerns associated with the project, all which have been or will be fed into the project design that will be the subject of a planning permit application. Residents that have expressed concerns regarding the project are mostly focused in the east and south-east area of the project. A summary of the key concerns and how they have been or will be addressed is provided below.

Table 6: Community concerns

Issue of concern	Description	Response
Cumulative effects	Cumulative effects associated with other existing operational or proposed wind farms in the local area is potentially the issue of greatest concern and has been raised in relation to noise, visual effects and the potential impact of increased WTG numbers on aerial fire-fighting capabilities.	<p>A risk-based assessment of potential cumulative effects is an integral part of the scope for the noise assessment, the landscape and visual impact assessment and the aviation assessment. Local residents will be engaged further as part of the completion of these assessments.</p> <p>As a pro-active measure, the separation distances between dwellings and proposed WTG locations have been increased beyond that required for compliance with the planning scheme and the CFA Guidelines.</p>
Noise	Some local residents are concerned about wind farm noise.	The preliminary noise assessment has determined that there will be no cumulative noise effects and that the project would be compliant with the applicable standard. The proponent will continue to engage with local residents to assist them understand the expected noise and work with them to manage any ongoing concerns. In addition, the project commits to ensuring that the highest predicted noise levels for all non-stakeholder receivers (at dwellings as of March 2019) will not exceed 35 dB or background plus 5dB.
Visual and landscape effects	Some local residents have raised the concern that with the addition of the project and other approved wind farm projects in the local area, there will be too many WTGs visible in the local area and that this effect could change the character of the area making it more of an industrial landscape rather than an agricultural landscape.	<p>The Landscape and Visual Impact Assessment (LVIA) will specifically assess potential cumulative effects associated with other relevant wind farms. As a proactive measure, a 4 kilometre WTG exclusion buffer of the Caramut Township Zone and 3 kilometre WTG exclusion buffers of both the Hexham and Eilerslie Township Zones have been implemented as these areas are where a large proportion of the dwellings (86 out of 218) are located within 6 kilometres of the site.</p> <p>The Preliminary LVIA has assessed the visual impact from townships as</p>

		<p>low as views are predominantly filtered or screened by existing vegetation and buildings and impact would be low.</p> <p>Photomontages from residential and public viewpoints would also be prepared to inform the LVIA and assist with further engagement of local residents. The project is also exploring the possibilities of using virtual reality technology to communicate the visual nature of the WTGs.</p>
Property values	Some local residents are concerned that the project will de-value their properties and that their properties 'are their super', that is, the sale of their property will fund their retirement.	Many local residents have been receptive to receipt of the available independent research assessing the potential impact of wind farms on agricultural property value and to discussing the Neighbour Benefit Sharing Program that may directly assist in addressing this concern.
Aviation	Some local residents are concerned about the potential impact of the project on agricultural aviation and aerial fire-fighting.	<p>An aviation expert has been engaged to assess potential effects which will involve identifying local airstrips, engagement with local aerial agricultural operators assessing potential effects and considering how any effects can be addressed and/or mitigated.</p> <p>All WTGs will be separated by at least 300 metres, thereby ensuring aerial fire-fighting can continue.</p>
Overhead powerlines	Some local residents are concerned about the potential impact of external overhead powerline. Concerns seem to be focused on visual effects, risk of electrical faults causing bushfires and traffic safety.	An assessment has been completed to determine the feasibility of an on-site grid connection. Based on the results the project will be proposing an on-site grid connection and will not be proposing any external overhead powerlines.
Other issues raised	Other concerns raised include construction noise; disruption during construction; damage to roads; impact on TV reception; effects on avifauna; effects to health; increased fire risk and that the project is divisive in the local community.	All these issues will be incorporated into the scope of assessment undertaken by expert third parties and engagement with the relevant local residents will be ongoing in an effort to address these issues.
<p>The project team has sought to engage meaningfully with the relevant local residents on all these issues with considerable success across the majority of neighbouring residents that have raised concerns. Experts have been engaged to assess these issues and the project team will continue to engage with local residents to address concerns where possible.</p>		
<p>Has a program for future consultation been developed? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, briefly describe. The stakeholder consultation activities outlined above will continue and the Consultation plan will be reviewed and assessed for further engagement opportunities as the project develops.</p>		

Authorised person for proponent:I, JAY KNIGHT.....(full name),NATIONAL DEVELOPMENT MANAGER.....(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.Signature 

Date 15/03/22

Person who prepared this referral:I, ROBY McMANUS.....(full name),DEVELOPMENT MANAGER.....(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.Signature 

Date 15/03/22