

Planning and Environment Act 1987

Panel Report

Corangamite Planning Scheme, Application to Amend Planning Permit 2009/2820 and Golden Plains Planning Scheme, Application to Amend Planning Permit 2009/2821

Berrybank Wind Farm

19 December 2017

Planning and Environment Act 1987

Panel Report pursuant to section 153, 155 and 97E of the Act

Corangamite Planning Scheme, Application to Amend Planning Permit 2009/2820

Golden Plains Planning Scheme, Application to Amend Planning Permit 2009/2821

Berrybank Wind Farm

19 December 2017



Brett Davis, Chair



Ian Harris, Member



Phil West, Member

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List of Abbreviations

Abbreviation	Meaning
BAM	Bat and Avifauna Management
BLA	Brett Lane and Associates
CASA	Civil Aviation Safety Authority
CFA	Country Fire Authority
dB	Decibel
DEDJTR	Department of Economic Development, Jobs, Trade and Resources
DELWP	Department of Environment, Land, Water and Planning
DELWP Env	DELWP Environment Portfolio
EMI	Electromagnetic Interference
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESO	Environmental Significance Overlay
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
FZ	Farming Zone
GSCRGP	Great South Coast Regional Growth Plan
MDA	Marshall Day Acoustics
NIRV	Noise from Industry in Regional Victoria
Noise Standard	<i>NZS 6808:2000 Acoustics – Wind farm noise</i>
OD	Over dimensional vehicles
PAR	Planning Assessment Report
RSA	Rotor Sweep Area
SBWB	Southern Bent wing Bat
SLO	Significant Landscape Overlay
SPPF	State Planning Policy Framework
SWVLAS	South West Victoria Landscape Assessment Study 2012
the Act	<i>Planning and Environment Act 1987</i>
TIA	Traffic Impact Assessment
WEF	Wind Energy Facility

Overview

Amendment summary

The proposal	Corangamite Planning Scheme, Application to Amend Planning Permit 2009/2820 Golden Plains Planning Scheme, Application to Amend Planning Permit 2009/2821
Common name	Berrybank Wind Farm
Brief description	The Minister for Planning is considering an application to amend the planning permits for the Berrybank Wind Farm. The permits were issued by the Minister for Planning in 2010 under Division 6 of the <i>Planning and Environment Act 1987</i> .
Subject site	The Berrybank Wind Farm site is located within the Corangamite and Golden Plains Shires, at Berrybank, midway between Cressy and Lismore in western Victoria. It straddles the Hamilton Highway with the majority of the turbines on the north side. Approximately half the wind farm site is in the Corangamite Shire and half in the Golden Plains Shire.
Permit applicant	United Power Generation Pty Ltd (the Proponent)
Responsible authority	Minister for Planning represented by Department of Environment, Land, Water and Planning (DELWP)
Exhibition	Public notice of the Application took place between 14 August and 11 September 2017.
Submissions	Number of Submissions: 11 Opposed: nine ¹

Panel process

The Panel	Brett Davis (Chair), Ian Harris and Phil West were appointed as the Panel on 18 September 2017.
Directions Hearing	Killara Centre, Camperdown, 23 October 2017
Panel Hearing	Killara Centre, Camperdown, 14-17 November 2017
Site inspections	Accompanied, 14 November 2017
Appearances	Refer to Appendix B.
Date of this Report	19 December 2017

¹ Corangamite Shire did not make a submission to the exhibited applications, however made a submission at the Hearing (document 8) as one of two affected municipalities. VicRoads did not make a submission to the exhibited applications but was invited to make by the Panel to discuss matters relating to traffic and planning permit issues (document 19).

Executive summary

(i) Summary

Corangamite Planning Permit 2009/2820 and Golden Plains Planning Permit 2009/2821 were issued by the Minister for Planning in 2010 allowing for the use and development of the land for a wind farm at Berrybank.

The planning permits included conditions relating to turbine numbers, overall maximum turbine height, blade length and tower height. The applications seek to amend the existing planning permits under Section 97I of the *Planning and Environment Act 1987*.

The proponent has applied to amend the permits to increase the blade tip heights and other consequential changes detailed in Table 1 below. The conditions on both permits are generally the same, except that permit number 2009/2821 requires a noise assessment and shadow flicker assessment to be undertaken in relation to an adjoining property.

Table 1 Specifications proposed in the amendment and which DELWP has based its assessment on (source: DELWP Environment submission, p3).

	Original	Proposed
Number of turbines	99 (95)	79
Maximum tip height	131 metres	180 metres
Blade length	49 metres	Not regulated
Potential maximum rotor diameter	101 metres	130 metres
Minimum ground clearance	Not regulated (29.5 metres)	40 metres
Rotor Swept Area (individual)	8,012 m ²	13,273 m ²
RSA (total)	793,188 m ² (761,140 m ²)	1,048,567 m ²
* The bracketed figures reflect the details based on the endorsed plans		

Eleven submissions were received in response to the applications. Agency submissions generally did not object to the permit amendments, subject to permit conditions or modifications. Having reviewed the application and submissions, the Panel considers that the key issues relate to:

- landscape and visual amenity
- blade flicker
- traffic and impacts on roads
- birds and avifauna
- noise
- aviation
- micro-siting.

The Panel notes that the Applications are for amendments to existing permits, not new applications. The scope of submissions, including from the Proponent, is confined to the

changes from the existing approved project rather than undertaking a ‘first principles’ review. This was clearly communicated to parties.

The Panel approached the assessment of the Applications within the framework of the *Planning and Environment Act 1987*, including the Corangamite and Golden Plains Planning Schemes, and called up instruments including the *Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria* (January 2016) and the New Zealand wind farm noise standard NZS6808:2010 which applies in Victoria.

Having reviewed these and other issues, the Panel concludes:

- that the amendment applications are strongly supported by policy
- the project will contribute to meeting Victoria’s renewable energy commitments and targets
- with regard to traffic, noise, visual amenity, birds and avi-fauna, the incremental impact associated with the amended proposal is not significant
- it is undesirable to impose a requirement for Ministerial approval in respect of minor changes to proposals and the micro-siting conditions proposed are appropriate
- the planning permit conditions, as amended are appropriate.

(ii) Recommendations

Based on the reasons set out in this Report, the Panel recommends that the proposed amendments to Golden Plains Planning Scheme Planning Permit 2009/2820 and Corangamite Planning Scheme Permit 2009/2821 be approved as exhibited, subject to amended conditions as set out in the Panel preferred versions in Appendices D and E of this report.

1 Introduction

1.1 The planning permits

Corangamite planning permit 2009/2820 and Golden Plains planning permit 2009/2821 were issued by the Minister for Planning in August 2010 allowing for the use and development of the land for a wind farm.

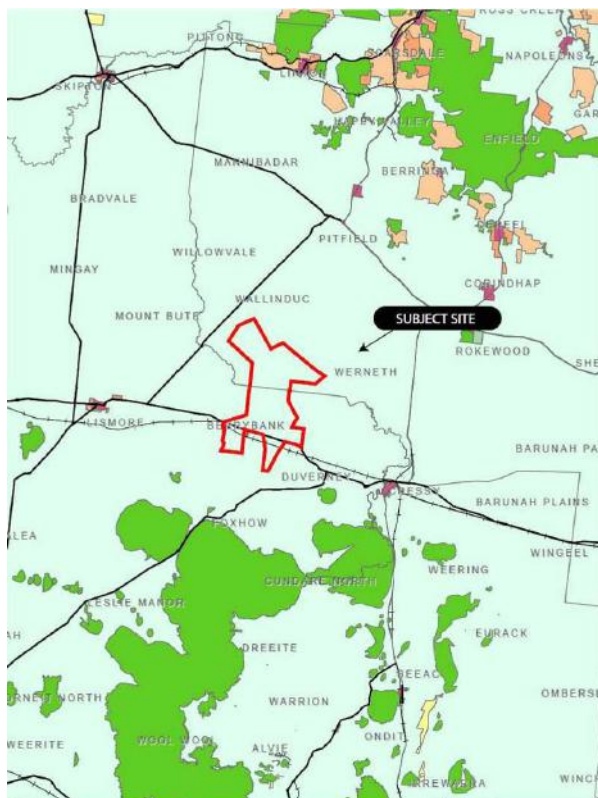
The planning permits include conditions relating to turbine numbers, overall maximum blade tip height tower height. Permit 2009/2820 (Golden Plains) allows for up to 49 turbines. The planning permit conditions included a restriction of a 131 metre tip height and a maximum 80 metre tower height. Permit 2009/2821 (Corangamite) allows for up to 50 turbines to a 131-metre tip height and a maximum 80 metre tower height.

This report deals with a request to amend the two planning permits.

The Berrybank Wind Farm site is located within the Corangamite and Golden Plains Shires, approximately 15 kilometres east of Lismore, 50 kilometres southwest of Ballarat and 70 kilometres west of Geelong. Approximately half the wind farm site is in the Corangamite Shire and half in the Golden Plains Shire.

The terrain of the site is generally flat and the site and surrounds are mostly open with some areas of trees and wind breaks. The location of the windfarm is shown in figure 1. The wind farm comprises an area of approximately 5034 hectares across 12 different land holdings.

Figure 1 Site Plan showing the location of Berrybank Wind Farm²



² Source: Berrybank Traffic Management Plan (TMP) March 2017 pg.9

1.2 The current planning permits

The Berrybank Wind Farm (WEF) is covered by both the Golden Plains and Corangamite Planning Schemes across two separate planning permits. This is shown in Figure 2.

Figure 2 Zoning map of Berrybank wind farm (extract from application material)



In August 2010, the Minister issued the planning permit allowing for the use and development of the land for a wind farm.

Table 2 **Chronology of the Application**

Date	Event
9 January 2008	Original planning application 2009/2820 (Corangamite) and 2009/2821 (Golden Plains) lodged with the Minister for Planning for the development and use of the wind farm and removal of native vegetation. Planning permit application P09/134A lodged with Golden Plains Shire Council for removal of native vegetation associated with construction of an electricity transmission line.
8 October – 19 November 2009	Public notice given and 32 submissions were received in relation to applications 2009/2820 and 2009/2821, these submissions were referred to a planning panel. No notice was given for application P09/134A.
7 November 2009	Minister for Planning called in the Applications 2009/2820 and 2009/2821 in accordance with Section 97C of <i>Planning and Environment Act 1987</i> (the Act).
26 November 2009	Panel appointed to consider applications 2009/2820 and 2009/2821.
16 December 2009	Minister for Planning calls in application P09/134A to be combined with panel proceeding for applications 2009/2820 and 2009/2821.
February 2010	Public Hearings were held.
May 2010	The Panel handed down its report. The Panel recommended approval of applications 2009/2820, 2009/2821 and P09/134A, subject to conditions.
24 August 2010	The permits were issued by the Minister for Planning
9 August 2013	The Proponent lodged a development plan package endorsed under Condition 1 of permits 2009/2820 and 2009/2821 showing a maximum of 95 turbines.
August 2013	Works commenced on permits 2009/2820 and 2009/2821. Permit P09/134A Golden Plains permit for removal of native vegetation expired.
April 2017	The Proponent lodged its amendment Applications. Applications forwarded to DELWP Environment Portfolio for comment on bat and avifauna impacts, and for comment on native vegetation removal. Further information requested under section 54(1) of the Act and provided by the applicant.
22 June 2017	Applicant directed to give notice of both applications for 28 days, under section 53(1) of the Act.

Date	Event
14 August - 11 September 2017	Public notice of the Applications
18 September 2017	Brett Davis (Chair), Ian Harris and Phil West appointed as Panel.
23 October 2017	Directions Hearing Killara Centre, Camperdown
14 – 17 November 2017	Panel Hearing

1.3 The Application

What is sought

The Proponent seeks amendments to planning permits 2009/2820 and 2009/2821 to increase the turbine height and reduce the number of turbines for newer and more efficient turbines compared to the current permit. The Application seeks to amend the existing permits under Section 97I of the Act to:

- *Amend the preamble of both permits to reflect the reduction in the maximum number of wind turbines (to) ... :*
 - *Allow for an increase in the overall height of the wind turbines from 131 to 180 meters to the tip of the rotor blade when vertical.*
 - *Reduce the maximum number of turbines from 49 to 41 for planning permit 20092820 and from 50 to 38 for permit 20092821, resulting in a reduced total maximum from 99 to 79 turbines.*
 - *Remove the restriction on tower height and restrict the lowest point of the rotor blade tip to 40 metres above ground level.*
- *Amend condition 5 of both permits to increase the distance from three to four kilometres from the nearest turbines within which a program of voluntary landscape mitigation works will be made available to owners of dwellings.*
- *Delete condition 7 of both permits to remove the requirement for written consent of the Minister for Planning for aviation obstacle lighting.*
- *Amend condition 8 of both permits to reflect new obstacle lighting requirements associated with the revised turbine heights.*
- *Amend condition 13(f)(v) of both permits to reflect the current New Zealand Noise Standard 6808:2010.*
- *Amend condition 22 of permit 20092820 and condition 23 of permit 20092821 to allow shadow flicker to exceed 30 hours per annum at any dwelling if the relevant landowner has entered into an agreement with the wind energy facility operator.*
- *Amend endorsed plans and reports under both permits to reflect the above changes and to also incorporate other revisions, including:*
 - *Removal of an additional 0.0197 hectares (197 square metres) of native vegetation under the low-risk pathway under permit 20092821.*

- *Amended turbine layout and specifications, reduced number of turbines, micro-siting, removal of nacelle signage and updated traffic impacts from the revised layout.*³

1.4 Summary of issues raised in submissions

The main objections identified in submissions are:

- **Views and visual amenity** – The turbines would disrupt views and impact visual amenity from nearby properties and for the landscape generally.
- **Noise** – There will be a general increase of noise from the increased size of the turbine model creating unreasonable noise impacts on nearby dwellings.
- **Shadow flicker** – Unreasonable shadow flicker will be imposed on nearby properties due to the increased height and size of the turbines.
- **Health impacts** – Health impacts would result from the increased size of the turbines, which would result from the increased noise, shadow flicker, electromagnetic interference and visual impact.
- **Fire safety** – fire risk posed by turbines and electricity
- **Telecommunication impacts** – Electromagnetic interference with radio, internet, television and phones are significant.
- **Permit conditions and enforcement provisions under the permit** – potential exists for negative impacts from micro-siting without Ministerial oversight and a lack of enforcement of permit conditions and ensuring compliance, including conditions around noise and shadow flicker.
- **Impacts on flora and fauna** – impacts on avifauna, growling grass frog and potential impacts on habitat.
- **Property devaluation** – impacts on house and farm values.

The Panel considered all written submissions made in response to the exhibition of the Application; as well as further submissions, evidence and other material presented to it during the Hearing, and observations from site visits.

The Application is for amendments to existing permits, not new applications. The scope of submissions, including from the Proponent, is confined to the changes from the existing approved project rather than undertaking a ‘first principles’ review.

The Panel approached the assessment of the Application within the framework of the *Planning and Environment Act 1987* including the Corangamite and Golden Plains Planning Scheme and called up instruments including the *Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria* (January 2016) *WEF Guidelines* and the New Zealand wind farm noise standard NZS6808:2010 (the Noise Standard) which applies in Victoria.

The Panel has reviewed a large volume of material. The Panel has had to be selective in referring to the more relevant or determinative material in the report. All submissions and materials have been considered by the Panel in reaching its conclusions, regardless of whether they are specifically mentioned in the report.

³ DELWP submission (Document 6) pg.4

This report deals with the issues under the following headings:

- Planning context
- Landscape and visual impact
- Flora and fauna
- Traffic
- Noise
- Shadow flicker
- Other issues
 - Electromagnetic interference
 - Planning permit(s) assessment.

2 Planning context

DELWP Planning provided a response to the Strategic Assessment Guidelines as part of the Explanatory Report.

The Panel has reviewed DELWP's response and the policy context of the Amendment, and has made a brief appraisal of the relevant zone and overlay controls and other relevant planning strategies.

2.1 Policy framework

The Proponent noted in its submission that the provisions of the State Planning Policy Framework (SPPF) relevant to this type of assessment have been well document in recent Panel reports.

(i) State Planning Policy Framework

The Proponent submitted that the Application is supported by the following clauses in the SPPF.

Clause 19.01 (Renewable energy) – this clause seeks to *“promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met”*. Relevant strategies include:

- *Facilitate renewable energy development in appropriate locations.*
- ...
- *In considering proposals for renewable energy, consideration should be given to the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.*⁴

The clause notes that economically viable wind farms require locations that have 'consistently strong winds' throughout the year. It also states that planning must consider the *WEF Guidelines* where relevant.

Table 3 SPPF Assessment

SPPF Clause	Objective/Strategies
Clause 10.01 Purpose	Outlines the purpose, goal, application and decision making framework for planning in Victoria.
Clause 10.04 Integrated decision making	Planning authorities and responsible authorities should endeavour to integrate the range of policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations.

⁴ Proponent submission (document 11) p7.

SPPF Clause	Objective/Strategies
Clause 11 Settlement	To prevent environmental problems caused by siting incompatible land use close together.
Clause 11.02 Supply of urban land	To maintain access to productive natural resources and an adequate supply of well-located land for energy generation, infrastructure and industry.
Clause 11.04 Settlement	To protect natural assets and better plan our water, energy and waste management systems to create a sustainable city. Protect and restore natural habitats in urban and non-urban areas. Improve noise and air quality to improve human and environmental health. Protect significant water and sewerage assets. Reduce energy consumption and transition to clean energy.
Clause 11.05-3 Rural productivity	To manage land use change and development in rural areas to promote agriculture and rural production.
Clause 11.07 Regional Victoria	To develop regions and settlements which have a strong identity, are prosperous and are environmentally sustainable. Ensure the capacity of major infrastructure (including energy generation and distribution systems) is not affected adversely by urban development in adjacent areas.
Clause 11.11 Great South Coast	Planning must consider the Great South Coast Regional Growth Plan. Support and facilitate the development of energy facilities in appropriate locations where they take advantage of existing infrastructure and provide benefits to the regional community. The cumulative impacts of alternative energy development should be planned for and managed. Access to key construction materials resources, including onsite quarrying should be facilitated.
Clause 12 Environmental and Landscape Values	Planning should help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habitats, species and genetic diversity) and conserve areas with identified environmental and landscape values. Planning should protect sites and features of nature conservation, biodiversity, geological or landscape value.
Clause 12.01 Biodiversity	To assist the protection and conservation of Victoria's biodiversity, including important habitat for Victoria's flora and fauna and other strategically valuable biodiversity sites.
Clause 12.04-2 Landscapes	To protect landscapes and significant open spaces that contribute to character, identity and sustainable environments.

SPPF Clause	Objective/Strategies
Clause 13 - Environmental risks	Planning should adopt a best practice environmental management and risk management approach which aims to avoid or minimise environmental degradation and hazards. Planning should identify and manage the potential for the environment, and environmental changes, to impact upon the economic, environmental or social well-being of society.
Clause 13.04-1 Noise abatement	To assist the control of noise effects on sensitive land uses. Ensure that development is not prejudiced and community amenity is not reduced by noise emissions, using a range of building design, urban design and land use separation techniques as appropriate to the land use functions and character of the area. Planning must consider as relevant: - State Environment Protection Policy (Control of Music Noise from Public Premises) No. N-2. - State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (in metropolitan Melbourne). - Interim Guidelines for Control of Noise from Industry in Country Victoria (Environment Protection Authority, 1989). - A Guide to the Reduction of Traffic Noise (VicRoads 2003).
Clause 14 Natural resource management	Planning is to assist in the conservation and wise use of natural resources including energy, water, land, stone and minerals to support both environmental quality and sustainable development.
Clause 14.01-2 Sustainable agricultural land use	To encourage sustainable agricultural land use. Ensure agricultural and productive rural land use activities are managed to maintain the long-term sustainable use and management of existing natural resources.
Clause 15.03-2 Aboriginal cultural heritage	To ensure the protection and conservation of places of Aboriginal cultural heritage significance. Ensure that permit approvals align with recommendations of a <i>Cultural Heritage Management Plan</i> approved under the <i>Aboriginal Heritage Act 2006</i>.
Clause 17 Economic development	Planning is to provide for a strong and innovative economy, where all sectors of the economy are critical to economic prosperity. Planning is to contribute to the economic well-being of communities and the State as a whole by supporting and fostering economic growth and development by providing land, facilitating decisions, and resolving land use conflicts, so that each district may build on its strengths and achieve its economic potential.

SPPF Clause	Objective/Strategies
Clause 18 Transport	Planning should ensure an integrated and sustainable transport system that provides access to social and economic opportunities, facilitates economic prosperity, contributes to environmental sustainability, coordinates reliable movements of people and goods, and is safe. Locate and design new transport routes and adjoining land uses to minimise disruption of residential communities and their amenity. Ensure transport practices, including design, construction and management, reduce environmental impacts. Consider all modes of travel, including walking, cycling, public transport, taxis and private vehicles (passenger and freight) in providing for access to new developments.
Clause 19.01 Renewable energy	To promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met. Facilitate renewable energy development in appropriate locations. Protect energy infrastructure against competing and incompatible uses. Develop appropriate infrastructure to meet community demand for energy services and setting aside suitable land for future energy infrastructure. In considering proposals for renewable energy, consideration should be given to the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment. In planning for wind energy facilities, recognise that economically viable wind energy facilities are dependent on locations with consistently strong winds over the year Planning must consider as relevant: - Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria (Department of Environment, Land, Water and Planning, January 2016).

(ii) Local Planning Policy Framework

The proponent stated that a comprehensive assessment of the permit applications pursuant to the applicable LPPFs is contained in the Planning Assessment Report (PAR).

Tables 4 and 5 provide the assessment against the LPPF in relation to Golden Plains and Corangamite Shires respectively.

Table 4 LPPF Assessment – Golden Plains Shire⁵

LPPF Clause	Objectives/strategies/policy
Clause 21.02 Vision and Strategic Framework	States the following in relation to the Shire's vision: - Provides an economically, environmentally and socially sustainable future for its citizens - Respects the environment, cultural significance and heritage - Supports the orderly and proper planning of land use and development based on strategic considerations - Recognises a prosperous agricultural industry supporting sustainable practices. The Golden Plains Shire Land Use Strategy Plan identifies the following relevant strategies: - Sustainable management and protection of natural resources of soil, water, flora, fauna, and eco-systems - Facilitating productive agricultural, forestry and mining activities and protecting rural areas - Supporting sustainable economic development - Efficient and environmentally sensitive provision of essential infrastructure.
Clause 21.04 Environment and natural resources	The environment is the most important factor influencing the economy, lifestyle and recreational choices in the Shire. Key challenges facing the shire include: - The degraded nature and condition of the environment - Balancing vegetation conservation against protecting people from wildfire - Supporting the sustainable management of land and water resources - The need to minimise and manage the effects of flooding.
Clause 21.05-2 Agriculture	Agriculture is a significant land use in the Shire and maintaining farm size is an important consideration in planning. The Shire's climate, availability of water, and fragmentation of land for rural residential development are key limitations for agricultural diversity.
Clause 21.06-1 Heritage	Protect, maintain and enhance heritage areas by encouraging developments that contribute to and retain natural and cultural heritage.
Clause 21.06-3 Transport	Seeks to ensure the transport network supports economic opportunities.

⁵ Refer Planning Assessment Report, chapter 6.2.

Table 5 LPPF Assessment – Corangamite Shire⁶

LPPF Clause	Objectives/strategies/policy
Clause 21.03 Key influences	States that the Shire's economy is based on agricultural production, processing and agricultural product, growing tourism and recreation industry and oil and gas resource development. The future development of the shire will depend on this and planning decisions should take this into account. Environmental issues are increasingly playing a role in the management of rural holdings.
Clause 21.04 Vision and Strategic Framework Plan	Relevant to the Shire's vision is sustainable management and protection of natural resources, rural resources including agriculture, protection of natural and cultural heritage, sustainable economic development including local employment, and efficient and environmentally sensitive infrastructure.
Clause 21.06 Environment	Policy objectives include - To encourage the restoration of degraded land - To protect water quality - To protect significant natural environments - To develop and implement sensible fire management solutions - To apply principles of ecologically sustainable development - To identify landscapes of high scenic value - To retain open and rural character of views and outlooks.
Clause 22.02 Environment	Includes objectives and strategies relevant to catchment and land protection, erosion and biodiversity. States that environmental issues are increasingly playing a role in the management of rural holdings. The shire relies heavily on its agricultural base which is the main financial base of the shire.
Clause 21.03 (Agriculture)	Highlights the importance of the agriculture industry to the Shire. Seeks to promote ecologically sustainable and diverse agricultural industries and prevent land use conflicts between agricultural uses and sensitive uses.
Clause 22.04 Particular Use and Development	Includes objectives and strategies relevant to Highway Development, Townscape and Heritage.

(iii) Other planning strategies or policies used in formulating the Applications**The Wind Energy Facility Guidelines**

The *WEF Guidelines* aim to provide advice for responsible authorities, proponents and the community regarding the decision-making framework that relates to wind farm proposals. The intention is to provide a framework for a 'consistent and balanced approach' to the

⁶ Refer Planning Assessment Report, chapter 6.2

assessment of wind energy projects in Victoria, and set consistent operational performance standards.

The *WEF Guidelines* have been a reference document in all planning schemes (including the Moyne Planning Scheme) rather than an incorporated document since March 2011.

The current version of the *WEF Guidelines* (most recently amended in January 2016) are largely unchanged from the version applicable in 2010, with the exception of structural changes and the inclusion of additional detail. Notable changes include those to 'Flora and fauna impacts assessment' and a more detailed discussion of the noise requirements under the NZS6808:2010.

Victoria's Renewable Energy Roadmap

In August 2015, Victoria's Renewable Energy Roadmap – *Delivering jobs and a clean energy future*, was released. The Roadmap includes the following statements:

- *Climate change is one of the most critical issues facing our state;*
- *Victoria is committed to sustainable development and to decreasing Victoria's reliance on non-renewable sources of energy;*
- *The Victorian government believes targets are critical for ensuring growth in renewable energy generation. Therefore, as part of the Action Plan, Victoria will establish two targets for renewable energy generation in this state ...*
- *... Growing the share of renewable energy in Victoria is a key part of the government's strategy to create jobs, particularly in rural and regional Victoria and with a focus on addressing the reduction in employment occurring in areas such as automotive manufacturing.*

(iv) Regional Growth Plans

The proponent noted that at the time of the previous Panel hearing, wind energy facilities were not specifically addressed in the local provisions of either planning scheme. Since then, the *Great South Coast Regional Growth Plan* (GSCRGP) (which includes the Golden Plains Shire) has been prepared and is a reference document providing strategic guidance. The GSCRGP states:

The region is... a hub for alternative energy production with established geothermal, natural gas and wind energy projects either in operation or with planning approvals.⁷

The GSCRGP specifies a number of 'land use policies, strategies and actions' that relate to renewable energy production.

It notes that the region has *"an abundance of energy assets, including natural gas and renewable energy resources for wind, geothermal and marine energy technologies – building on these opportunities could make the region Australia's alternative energy capital"*.

⁷ Proponent submission p8.

The proponent noted that the Central Highlands Growth Plan contains similar directives. It states:

*The region has excellent wind resources and is home to a number of existing and proposed wind farms including a large facility at Waubra. Approvals have been granted for a number of wind farms across the region. The continued growth of the renewable energy sector over the next 30 years presents opportunities for the region, which has some of the best wind resources on Victoria.*⁸

(v) Victoria's Renewable Energy Auction Scheme

In June 2016, the Victorian government committed to Victorian renewable energy generation targets of 25 per cent by 2020 and 40 per cent by 2025. This involves the government auctioning up to 5,400 megawatts of additional capacity over the life of the scheme (based on current generation and demand forecasts).

(vi) Victoria's Regional Statement

In November 2015 'Victoria's Regional Statement – your voice, your region, your state', was released. The statement comments on regional jobs, renewable energy and protecting the quality of life for regions. It states that Victoria is taking the lead on climate change action and becoming a low-carbon economy; this will deliver major benefits and jobs opportunities for regional Victoria.

2.2 Planning scheme provisions

(i) Zones

The Berrybank wind farm is located within the Farming Zone (FZ) of the Golden Plains Planning Scheme and the Farming Zone – Schedule 1 (FZ1) of the Corangamite Planning Scheme.

(ii) Overlays

Within Golden Plains Shire, the Vegetation Protection Overlay Schedule 2 (VPO2) is in place along roadsides on Urchs Road and the Wilgul-Werneth Road. Within the Corangamite Shire, the Vegetation Protection Overlay (VPO2) is in place along roadsides on the Hamilton Highway, Berrybank-Werneth Road, Berrybank-Wallinduc Road through and adjacent to the site.

The Road Zone Category 1 (RDZ1) exists on the site in the form of the Hamilton Highway, and abuts land in the Township Zone (as it concerns Berrybank).

The roadside areas of the Berrybank-Wallinduc Road, Hamilton Highway, and Berrybank-Werneth Road, where located in the Corangamite Shire Council, are subject to the Vegetation Overlay, Schedule 2.

The statutory controls relevant to the applications are listed in Table 6.

⁸ Proponent submission (document 11) p9.

Table 6 Permit triggers

Zone and overlay	Permit/Application Requirement(s)/Decision guidelines
Clause 35.07 Farming Zone	A permit is required to use the land for a wind energy facility (Clause 35.07-1) and must meet the requirements of Clause 52.32. A permit is required to construct a building or carry out works associated with a Wind energy facility (Section 2 use under Clause 35.07-4). The relevant purposes of the Farming Zone are: - To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies. - To provide for the use of land for agriculture. - To encourage the retention of productive agricultural land. - To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture. - To encourage the retention of employment and population to support rural communities. - To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision. Decision guidelines relevant to this application include matters relating to general issues, agricultural issues and impacts from non-agricultural issues, environmental issues and design and siting issues.

(iii) Particular provisions**Clause 52.17 – Native Vegetation**

The purpose of Clause 52.17 is *“To ensure permitted clearing of native vegetation results in no net loss in the contribution made by the native vegetation to Victoria’s biodiversity”*. Pursuant to Clause 52.17-2, a planning permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

Clause 52.29 – Land adjacent to a Road Zone Category 1

A permit is not required under this clause. DELWP noted in its submission that no alterations to the existing access to the Road Zone are proposed, and that VicRoads was not consulted during the application process.

Clause 52.32 – Wind Energy Facility

The purpose of this clause is *‘to facilitate the establishment and expansion of wind energy facilities in appropriate locations, with minimal impact on the amenity of the area’*. The decision guidelines include:

- *The effect of the proposal on the surrounding area in terms of noise, blade glint, shadow flicker and electromagnetic interference.*
- *The impact of the development on significant views including visual corridors and sight lines.*

- *The impact of the facility on the natural environment and natural systems.*
- *The impact of the facility on cultural heritage.*
- *The impact of the facility on aircraft safety.*
- *The [WEF Guidelines].*
- *The New Zealand Standard NZS6808:2010, Acoustics – Wind farm noise [updated from the 1998 standard applicable at the time the current planning permit was granted].*

Under clause 52.32-2, a permit is required to use and develop land or a wind energy facility.

A new Clause 52.32-3 requires the written consent of all owners and dwellings located within 1 kilometres of a proposed turbine. However, this clause does not apply to the Application to amend a permit under Section 97I because it does not propose to increase the number of turbines, and it does not seek to locate a turbine within 1 kilometres of a dwelling.

(iv) General provisions

Clause 61 – Administration and enforcement of the Planning Scheme

The Minister for Planning is the responsible authority for applications for wind energy facilities.

Clause 65 – Decision Guidelines

The following decision guidelines apply to the application:

- The matters set out in Section 60 of the Act.
- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The purpose of the zone, overlay or other provision.
- Any matter required to be considered in the zone, overlay or other provision.
- The orderly planning of the area.
- The effect on the amenity of the area.
- The proximity of the land to any public land.
- Factors likely to cause or contribute to land degradation, salinity or reduce water quality.
- Whether the proposed development is designed to maintain or improve the quality of stormwater within and exiting the site.
- The extent and character of native vegetation and the likelihood of its destruction.
- Whether native vegetation is to be or can be protected, planted or allowed to regenerate.
- The degree of flood, erosion or fire hazard associated with the location of the land and the use, development or management of the land so as to minimise any such hazard.

Clause 66 – Referral and notice provisions

There were no statutory referral authorities. DELWP Planning advised that as a non-statutory referral, advice was sought from DELWP Environment Portfolio (DELWP Env).

Submissions were received from the CFA, and VicRoads. They offered no objection to the proposal. Where relevant, their responses are discussed throughout the report.

2.3 Conclusion

The Panel concludes that the applications to amend the planning permits are supported by, and implement, the relevant sections of the State and Local Planning Policy Framework, and are consistent with the relevant Ministerial Directions and Practice Notes. The applications to amend the permits are strategically justified, and should proceed subject to addressing the more specific issues raised in submissions as discussed in the following chapters.

3 Landscape and visual impact

3.1 Issues

The key landscape and visual impact issues arising from the Applications for the amended permits relate to:

- The impact of the proposed changes on the landscape
- The visual impacts of the higher turbines on affected residential properties and other sites
- The possible visual impacts that could arise from the proposed micro siting provisions.

3.2 Evidence and submissions

A number of nearby residents expressed concern with the visual impacts caused by the increased height of the proposed turbines, the possible limitations of the screen planting and the possible visual impacts that could arise from any micro siting changes involving the location of the turbines or other features. Mr and Ms McGuire (submission 3), Mr and Ms Hocking (submission 5), Mr and Ms Cooper (submission 7) and Ms Skillen (submission 11) raised one or more of these issues.

Mr Furlong (submission 8) also expressed concern with the impact of the higher turbines on the views from his property, that the photomontages did not accurately show the visual impacts and that the micro siting changes proposed in the permits would be unacceptable.

Mr Farrell of Bowman and Knox (solicitors) presented at the Hearing on behalf of Mr D Baxter, Mr GH Baxter and Ms EE Baxter who own land south and east of the site (submission 9 and 10). Mr Farrell submitted that the proposal would increase the prominence of the turbines, create a visual blight, adversely impact the amenity and character of the area and that any micro siting changes without Ministerial consent would be unacceptable. In order to substantiate the Baxter's position, Mr Farrell presented information on the concept of amenity and the analogy that height of each turbine:

Would be like one statue of liberty standing on the shoulders of another statue of liberty, swinging her arms around and around.

Mr Farrell said that enclosure of the Baxter's dwelling by additional screen planting would be unacceptable as the Baxter's enjoyed living in an open landscape and enjoyed the northern sun. Mr Farrell submitted that screen planting near the Baxter's house would be of limited value since they worked for the greater part of the day on their farm property away from the house. He requested that the proposed 10 turbines located near their property remain as approved (i.e. not allowed to be increased in height) and if this was not possible, then the closest five turbines not allowed to be increased in height.

Mr Chessell on behalf of the Proponent submitted that the impetus to change the model of turbines and configuration of the WEF stemmed from advances in turbine design and technology that had occurred since the time of the original assessment. Mr Chessell stated that contemporary technology would allow greater output from fewer turbines.

Mr Chessell submitted that, in relation to the impact on the landscape, the Panel that considered the original permits had concluded that:

the overall landscape of the project area, whilst of local significance to local residents, is not recognised in planning policy at the regional or State level.

On this basis, the Panel considers the landscape significance is not, in its own right, an impediment to the issue on a wind farm permit.

Mr Chessell said that while the Proponent recognised that the *South West Victoria Landscape Assessment Study – Landscape Character on South West Victoria* (DPCD and Planisphere, June 2013) (SWVLAS) had been prepared after the granting of the initial permits for WEFs on the site, this study did not identify the site as being within a landscape of either state or regional significance, or being in close proximity to a viewing location of either state or regional significance.

Mr Chessell submitted that the net change to the landscape arising from the Application would be negligible and the proposal would have a comparable level of impact to that of the approved facility.

Mr Chessell called Mr Hayden Burge of ERM to provide expert evidence in landscape and visual amenity. It was his evidence that:

The view shed, that is the extent of the area in which the turbine might have some visual impact, would be increased from about 15 kilometres to about 20 kilometres.

Mr Burge gave evidence that the areas that would be visually affected, (i.e. from which the turbines would be highly visible) would be increased from 1.5 - 3 kilometres to 3 - 4 kilometres from the nearest turbine. He advised that in order to address this change, the amended permits should offer landscape screening for mitigating visual impacts for any affected dwellings located within four kilometres of a turbine.

Photomontages

Mr Burge submitted a number of photomontages to the Panel to assist the comparative analysis between the turbines as approved for the site compared with the turbines that would be permitted if the Application was granted for the higher turbines. He presented photomontages of the site from the viewpoints as follows:

- BB01 – Lower Darlington Road, south of the site,
- BB02 – Urchs Road, adjacent to the north eastern boundary of the site,
- BB03 – Roberts Road and Willowvale Road intersection, northwest of the site,
- BB04 – Collins Lane and Hamilton Highway intersection, west of the site.

Mr Burge stated that analysis of the photomontages showed that *“significant changes to the landscape would occur as a result of the presence of the turbines that had already been approved for each site, rather than from their proposed increased height.”*

Mr Burge submitted aerial and panoramic photographs taken near the residences of the Coopers, Baxter’s and Mr Furlong. These photographs showed that there were already established trees in many of these areas which would provide some mitigation of the views of the turbines from these properties. In particular, the photographs taken near the Baxter’s

residence showed substantial tree plantings on the northern and western sides of their dwelling. In response to a question from the Panel, Mr Burge stated that this existing vegetation could provide screening which seemed to be at odds with the statement by Mr Farrell that the Baxter's did not wish to be enclosed by screen plantings.

Mitigation measures

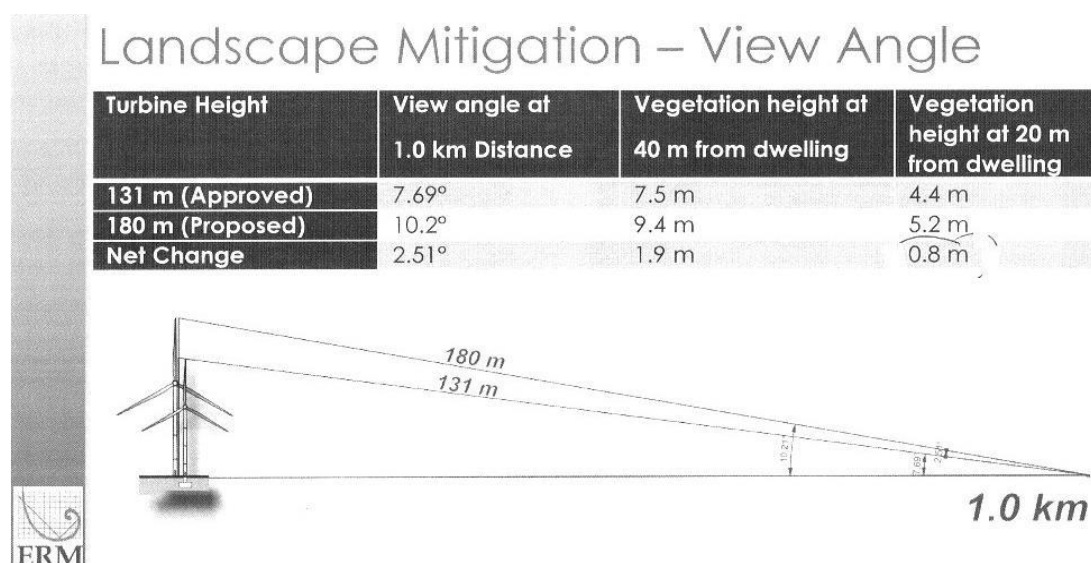
In relation to mitigation measures, Mr Burge gave evidence that:

For the approved turbines (height 131 metres) any screen planting located 20 metres in the line of sight from a residence one kilometre distant from a turbine would need to be 4.4 metres high to be effective.

Whereas for a proposed turbine (height 180 metres) the screen planting located 20 metres in the line of sight from a residence one kilometres distant from a turbine would need to be 5.2 metres high to be effective, a difference of 0.8 metres. In either case any screen planting closer to the residence would not need to be as high (see figure 3).

In response to questioning from Mr Chessell, Mr Burge stated that any micro-siting of the turbines of up to 100 metres as proposed in the Applications (but no closer than 1 kilometres from any non-stakeholder dwelling) would have limited visual impact and any changes could be effectively screened. In response to questioning from Mr Furlong, Mr Burge stated the species selected for screen planting would be chosen in consultation with residents.

Figure 3 Landscape Mitigation – View Angle (from H Burge Panel Presentation)



In relation to night aviation lighting, Mr Burge gave evidence that the proposed lighting on 35 turbines with low intensity, steady red lights would be less intrusive than the original proposal for lighting on 52 turbines with simultaneously flashing medium intensity red lights. Mr Burge stated that the proposed shielding specifications together with the proposed landscape mitigation would ameliorate the impact on nearby dwellings.

The Panel members inspected the WEF site during the accompanied site inspection on 14 November 2017. Sites visited included all four view point locations, as well as Boundary

Road West near the Baxter's' property and the Berrybank township area near Mr Furlong's property.

3.3 Discussion

The Panel that considered the original permits for the WEF site found that the overall landscape of the project area, while maybe of significance to local residents, was not recognised in planning policy at either regional or State level, and therefore was not an impediment to the issue on a WEF permit.

The Panel notes that the SWVLAS, prepared since the original permits were issued, did not identify the site as being within a landscape of either state or regional significance. The Panel agrees with Mr Chessell that the net change to the landscape arising from the Applications would be not be significant compared with that resulting from the approved facility.

The Panel accepts Mr Burge's evidence that the distance from which the turbines may have some visual impact would increase from about 15 kilometres to about 20 kilometres. It is the Panel's view that the areas that would be most visually affected by the Application, that is where the turbines would be highly visible, would be would increase from 1.5 – 3 kilometres to 3 - 4 kilometres.

The Panel accepts that the screen planting that would be available to all affected residents within this area could mitigate this increased visual impact albeit that it may take some years before the planting would be high enough to provide effective screening.

The Panel appreciates the concerns with the visual impacts arising from the higher turbines that were expressed by residents. However, the key issue for the Panel relates to the significance on the visual impact resulting from the increase in height of the turbines from the already approved height of 131 metres to 180 metres.

After careful consideration of all the evidence submitted, inspection of the site and seeing all the photomontages and views at the four view point sites on the ground, the Panel concludes that the visual impact would primarily arise from the presence of the turbines that are already approved. The Panel considers that the additional visual impact caused by the additional height of the higher turbines would not be of such an extent that would cause the Panel to recommend rejection of the Applications.

The Panel appreciates the concerns expressed by residents with the time it may take for screen plants to grow and therefore that it may be some years before the screen planting provides effective mitigation. However, the Panel accepts Mr Burge's evidence that the difference in height of the plantings needed to mitigate 131 metres (approved) turbines as against 180 metres turbine (as proposed) at residences one kilometres from the nearest turbine is not of significance (0.8 metre difference for screen planting located 20 metres from residences - or less for plantings closer to residences).

The Panel finds while there may be some basis for the residents' concerns in this matter, the additional height of the proposed turbines would not significantly change the situation. The Panel also accepts that as the screen planting proposals would be developed in consultation with residents, the plants selected for each site would be appropriate. The Panel accepts Mr

Burges evidence that any micro siting of the turbines of up to 100 metres would have limited visual impact and any change could be screened.

In relation to the Baxter's property, the Panel considers that the major visual impact would be caused by introduction of the turbines into the landscape which have already been approved. The Panel accepts Mr Burge's evidence that there is already considerable existing vegetation around the Baxter's residence impinging on the views of the surrounding area and the Panel is not convinced that extra screen planting if required, would cause significant additional adverse impacts. The Panel does not consider that there are sufficient grounds to reject the proposal to increase the height of five or ten turbines in this area.

The Panel notes the limitations of the Baxter's submissions as they, nor any other submitter, called evidence on the landscape and visual amenity impacts.

In relation to night aviation lighting, the Panel accepts Mr Burges evidence that the proposed lighting of 35 turbines with low intensity, steady red lights would be less intrusive than the original proposal. The Panel concludes that any impact on nearby residences could be mitigated by shielding provided on the lights and landscape planting undertaken near the residences.

3.4 Conclusions

The Panel concludes:

- The changes proposed by the Application would not cause such additional adverse impacts on the landscape that would warrant refusal of the Application.
- The visual impacts resulting from the Application could be mitigated at affected residences located within four kilometres from any turbine by the proposed landscaping measures.
- The proposed amended conditions relating to both permits are appropriate to address all the matters relating the landscape and visual impacts.

4 Flora and fauna

4.1 Issues

The key flora and fauna issues arising from the applications relate to:

- The removal of native vegetation
- The impact on birds, especially Brolga
- The impact on bats
- The impact on Growling Grass Frog.

4.2 Evidence and submissions

The Proponent submitted that the Panel had the benefit of the analyses undertaken by Brett Lane and Associates (BLA) undertaken over 8 years including:

- The Flora, Fauna and Targeted Brolga Assessment for the original permit applications in 2009
- The endorsed Flora and Fauna Management Plan dated August 2013
- The Biological Impact Assessment undertaken for the amended applications (May 2017).

Five of the 11 submissions from residents living in the area and the submissions from the Golden Plains Shire Council and the Corangamite Shire Council raised issues relating to fauna and flora.

The Department of Environment, Land, Water and Planning Environment Portfolio (DELWP Env) submitted that although they were not a referral authority, it had interests relating to possible removal of native vegetation, potential impacts on threatened species and communities, including those listed under the *Flora and Fauna Guarantee Act 1988* (FFG Act) and the preparation of a suitable Bat and Avifauna Management (BAM) Plan.

(i) Native vegetation

Mr Chessell called Mr Brett Lane of Brett Lane and Associates (BLA) to provide expert evidence in flora and fauna. It was the evidence of Mr Lane that a number of surveys had been undertaken in 2015 and 2016 to assess the potential impact on native vegetation of the proposed layout. His evidence was that the assessment of these surveys had shown that the development as proposed would not affect any areas of native vegetation except for five areas located on road reserves.

He further stated that the impact on four of these five sites could be avoided by making minor changes to the proposed alignments of the site access roads, which the Proponent had agreed to implement. He said that at the one site located on the Berrybank-Werneth Road where the impact on native vegetation could not be avoided, an estimated 197 square metre of native vegetation would need to be removed. Mr Lane gave evidence that:

in addition to this area, some further native vegetation might need to be removed to enable access by large over dimension (OD) vehicles transporting the turbines. This would only become known when the details of the turbines and transporting vehicles had been finalised.

Any such additional areas would be small and could be considered when the development plan and the Flora and Fauna Management Plan were finalised and presented to the Responsible Authority for endorsement.

Mr Lane considered that the total extent of native vegetation that would need to be removed would not be of conservation consequence and the requirements of the State vegetation clearance controls would readily be achieved through the provision of suitable offsets.

Both Ms Maw on behalf of the Golden Plains Shire Council and Mr Hayes of the Corangamite Shire Council expressed concern at the Hearing that the proposed larger OD vehicles might impact on native vegetation, particularly on road reserves along construction transport routes.

Ms Tesselaar of DELWP Env agreed that the current proposal would require the removal of 197 square metre of native vegetation located on the Berrybank-Werneth Road reserve. Ms Tesselaar also stated that the removal of any additional areas of native vegetation arising from any adjustments to the proposed layout, for example to accommodate larger OD vehicles, could be addressed under the proposed Native Vegetation Management Plan conditions.

Ms Tesselaar stated that the total area of native vegetation to be removed would be small and fell within the low risk-based pathway procedure. She said that the trigger for native vegetation removal relating to Crown land was not applicable and DELWP Env did not have a referral role in relation to either Planning Scheme. DELWP Env had no objection to the proposed removal of native vegetation providing that suitable offsets were obtained prior to clearing commencing.

In contrast to the information provided in the Planning Assessment Report, Mr Lane in his evidence stated that an FFG Act permit would be required to take protected flora from the Berrybank-Werneth Road public land reserve which Ms Tesselaar confirmed.

The Planning Permit Assessment report indicated that the area of vegetation proposed to be removed was *Natural Temperate Grassland of the Victorian Volcanic Plains* vegetation which was listed as a threatened community under the *Environment Protection and Biological Conservation Act 1999* (Commonwealth) (EPBC Act). As such, the Assessment report stated that this matter had been referred to the federal Department of Environment and Energy, which had advised that this removal would unlikely be of significant impact.

(ii) Birds and bats

Mr Lane's evidence was that an assessment of the impact on birds and bats arising from the modified design (i.e. the raising the minimum level of the RSAs, (Rotor Swept Area) the increased area of the RSAs and the reduction of the number of turbines) had been undertaken. He said that all the larger turbines would be installed at the same locations as those approved in the current permits although some might need to be micro-sited in accordance with the micro-siting provisions in the proposed permits. The proposed changes in turbine specifications are set out in Table 7.

Table 7 Proposed changes to turbine specifications ⁹

Turbine specification	Currently permitted turbines	Proposed turbines
Maximum RSA height (tip height) (metre)	131	180
Minimum RSA height (above ground) (metre)	29.5	40
Rotor diameter (metre)	101	130
Total RSA per turbine (sq metre)	8,012	13,273
Total RSA all turbines (sq metre)	761,140	1,048,567
Number of turbines	95 endorsed	79

Table 8: Changes in rotor swept area at various heights of the different turbines ¹⁰

Height (metre)	range	Area of 101 metre diameter. turbine (sq metre)	Area of 130 metre diameter turbine (sq metre)	Change in total RSA (sq metre)	Change in total RSA per cent
0-10					
10-20					
20-30	5			-5	
30-40	437			-437	-100 per cent
40-50	724	469		-254	-35 per cent
50-60	875	826		-49	-6 per cent
60-70	963	1,022		60	6 per cent
70-80	1,003	1,151		148	15 per cent
80-90	1,003	1,235		232	23 per cent
90-100	963	1,283		321	33 per cent
100-119	1,599	2,582		983	62 per cent
120-139	441	2,387		1,945	441 per cent
140-160		1,848		1,848	100 per cent
160+		469		469	100 per cent
Total	8,012	13,273		5,261	66 per cent

Mr Lane stated that, based on the original bird utilisation surveys, none of the species of birds known to regularly flying over the site were rare or threatened, and the site was

⁹ Source: BLA Evidence Statement and DELWP (Env) submission

¹⁰ Source: BLA Evidence Statement

dominated by common and widespread farmland birds. He said that the bird species most commonly observed flying at RSA height were Australian Magpie, Australasian Pipit, House Sparrow, Yellow-rumped Thornbill, Willie Wagtail and Common Starling. He stated that as the RSA was to be reduced at all levels below 60 metre above ground (see Table 8) and that 98 per cent of the birds were recorded flying below this level, the risk to these birds would be reduced by the proposal.

Mr Lane stated that the increase in the RSA above 80 metres would have an increased impact on the 0.2 per cent of the bird species that were recorded as flying above this height, and these species included raptors (specifically the Wedge-tailed Eagle) and the White-throated Needletail. He also said that the decrease in the number of turbines from 95 to 79 would to some extent offset the impact on these species. He said none of the affected species were listed as threatened although the White-throated Needletail was listed as a migratory species under the EPBC Act. Lane stated that the impact of the proposal on these species was not of concern at a population level.

Mr Lane stated that Greg Richards and Associates Pty Ltd, in association with BLA, had studied the bats at the site although bat calls were not monitored at height at this site. Mr Lane stated that monitoring at other sites in south eastern Australia had indicated that most bat calls were recorded from ground level up to 25 metres while 25 per cent of that number were recorded between 25 and 50 metres and 15 per cent of this number were recorded at 50 metres.

It was Mr Lane's evidence that raising the lower level of the RSA from 29.5 metre to 40 metre would:

most likely reduce the risk of fatal collision of low flying bats with the turbines.

However he noted that the increased area of the RSA at higher levels could increase the number of high flying bats colliding with the turbines. Mr Lane said that based on the studies, it was considered that 9 common and secure species were likely to use the site and any impact on these species would not lead to a significant decline in any of their populations.

Mr Lane stated that the threatened high flying Southern Bent wing Bat species which occurred across south western Victoria was unlikely to regularly visit the site as it was too far from the usual range of this species (as confirmed on a map showing its distribution tabled by Mr Lane – document 13).

Ms Tesselaar said that overall DELWP did not anticipate that the proposed Applications would materially increase the risk to any species of concern. Ms Tesselaar indicated that DELWP had reviewed the existing permits and would suggest some changes to the conditions of the proposed permits during the Hearing process.

Several local residents raised concerns that the proposal would adversely impact birds. Mr and Ms McGuire (submission 3) were concerned with the impact that the larger turbines would have on wildlife including eagles. Mr and Ms Hocking (submission 5) were concerned that the presence of Brolga and Wedge-tailed Eagles on the site had not been adequately considered.

Mr Furlong (submission 8) was concerned that exposed grain at the Grain Corp grain depot would attract many birds to feed in the area as well as vermin. These vermin would then attract predators such as eagles which could be at risk of being struck by the nearby turbines. Mr Hayes of the Corangamite Shire Council in his submission expressed concern in relation to the cumulative impacts that the number of proposed WEFs in the area could have on flora and fauna.

(iii) Aviation lights

Mr Lane's evidence was that a high level aviation night lights might attract moths and other insects which could attract foraging birds or bats which might then be struck by turbine blades. He stated that overseas studies had shown that lights that flashed for the shortest possible period were preferable to discourage foraging by songbirds but as such birds did not occur in Australia, these studies were of limited use. Mr Lane stated that he was not aware of any studies that linked bat mortalities to turbine lighting. Mr Lane's opinion was that given the low level of bird and bat utilisation of site, the steady, low-intensity red lights proposed by CASA for 35 of the proposed turbines would not cause a risk to any species of threatened birds or bats.

(iv) Brolga

In evidence, Mr Lane stated that an updated assessment of Brolga distribution in 2017 had indicated that there had been no major changes in their distribution within 10 kilometres of the site since the earlier assessment undertaken in 2010. Mr Lane stated that this earlier assessment had indicated that as the site was comparatively elevated with a limited number of natural wetlands, the level of Brolga activity on the site was expected to be lower than for other regions of the species' range.

It was Mr Lane's evidence that there were two records of Brolga in the area including of a breeding pair located about 6.6 kilometres east of the site. Mr Lane stated that although Brolgas might occasionally visit the site, these birds flew more frequently below 30 metres above the ground than at higher levels (as illustrated in a table presented to the Panel – document 12). The fewer turbines and the proposed higher minimum level of the RSA, (40 metres above ground level instead of 29.5 metres) would therefore reduce the overall risk to Brolga.

The Panel requested at the Directions Hearing that fauna issues should be clarified arising from the *Interim Guidelines for the Assessment, Avoidance, Mitigation and Offsetting of Potential Wind Farm Impact on the Victorian Brolga Population 2011, (2012)* (Brolga Guidelines) and its cumulative impact assessment as relevant (to) the site and its surrounds, Mr Lane confirmed that the approved Bat and Avifauna Management (BAM) plans for the original permits had taken these guidelines into account.

Mr Lane indicated that the BAM plans included requirements to consult with the local community in relation to Brolga activity and to monitor monthly for Brolga presence within three kilometres of the site during the breeding season (July to December) and within five kilometres of the site during the flocking season (January to June). He said that these distances were based on the default breeding and flocking site buffer distances outlined in the guidelines.

Ms Tesselaar submitted that with Brolga, although there was more confidence in its assessment and risk modelling, DELWP's approach was to ensure that each project had a zero net impact so that there was no resultant cumulative impact.

Ms Tesselaar also indicated that DELWP Env was concerned that Mr Lane in his EWS referred to unpublished data which was not available for review by the Panel including that Brolga fly more frequently below 30 metre height. Ms Tesselaar stated:

We caution against these types of general but unsubstantiated statements, which might be mistaken for fact, particularly if they are repeated often enough.

In response to Ms Tesselaar's comments on this matter, Mr Lane advised the Panel that the data regarding Brolga flight patterns had been systematically collected by trained observers over a considerable period of time from various locations and that this data constituted the best credible evidence before the Panel concerning the flight habits of these birds.

(v) Growling Grass Frog

Mr and Ms Cooper (submission 7), Mr and Ms McGuire (submissions 4 and 6) and Mr Furlong (submission 8 and presentation) raised concerns in relation to Growling Grass Frog (GGF). Mr Furlong submitted that the GGF not only were present in the Gnarkeet Chain of Ponds, but also in tributary water courses and nearby dams which could be affected by the proposal. He submitted that the GGF were located in at least on dam on the site and in a dam close to his property. However, during his presentation to the Panel, Mr Furlong stated that he was unable to distinguish between GGF and other species of more common frogs.

In response, Mr Lane stated that the GGF had been recorded in and around the Gnarkeet Chain of Ponds to the west of the site, but none had been recorded on or in close proximity to the site. He said while the area identified by Mr Furlong would be suitable for common frog species, it was not likely to be suitable for the GGF. Mr Lane said that this was because these areas were limited in extent, lacked suitable fringing and floating vegetation and were not linked to nearby areas where the GGF had been recorded. Mr Lane stated:

As the GGF moved less than 100 metres from its preferred habitat, it would be unlikely that any significant number of GGF would inhabit or move across the site.

Ms Tesselaar stated that the GGF, which is listed as threatened under the FFG Act and listed as vulnerable under the EPBC Act, had been recorded along the Gnarkeet Chain of Ponds and DELWP Env considered that GGF may exist and/or move across the site.

4.3 Discussion

(i) Native vegetation

As both the Proponent and DELWP Env agreed on the assessment of native vegetation and that 197 square metres would need to be removed from the Berrybank-Werneth Road reserve, the Panel accepts this outcome.

The Panel finds that this area is small and that appropriate offsets could be found under the relevant guidelines. In response to the concerns expressed by the Councils, the Panel also agrees with Mr Lane and DELWP Env that the offsetting of any additional areas of native vegetation could be addressed when the proposed Native Vegetation Management Plan is finalised.

(ii) Birds and bats

The Panel accepts Mr Lane's evidence that all the birds recorded using the site appear to be common species adapted to farmland settings and the potential for increased collision risk from the larger RSAs would mainly affect common farmland bird species. The Panel accepts that the reduction in the number of turbines from 95 to 79 together with the raising the lower level of the RSA from 29.5 metre to 40 metre would mitigate against any increase in these birds being affected by the turbines.

The Panel accepts Mr Lane's evidence that the substantial increase proposed in the RSA above the 60 metre level would most likely impact on higher flying species including raptors such as Wedge-tailed Eagle, and the migratory White-throated Needletail neither of which are threatened species.

The Panel concurs with Mr Lane's evidence that the increased RSA above the 60 metre level may have an impact on high flying bats, but the species expected to visit this site are not listed as of conservation significance.

The Panel accepts Mr Lane's evidence that the high flying threatened species Southern Bent wing Bat which occurs across south western Victoria is unlikely to regularly visit the site given the distance of the site from the usual range of this species. The Panel accepts Mr Lane's evidence that any impact on bats from this project would not significantly affect the overall population of bat species.

The Panel is concerned with DELWP Env's evidence that it has difficulty in determining the cumulative impact of multiple WEFs on many species of birds and bats. The Panel would urge DELWP to work with its various windfarm proponents to measure the cumulative impact that the construction of the turbines with very large and high RSAs, which are now proposed on many WEFs in south western Victoria, may in time have on high flying species such as Wedge-tailed Eagles.

(iii) Aviation lighting

The Panel accepts Mr Lane's evidence that the steady, low-intensity red lights proposed by CASA for 35 of the proposed turbines would not cause a risk to any species of threatened birds or bats. The Panel notes that some form of lighting is essential for safety reasons.

(iv) Brolga

The Panel accepts the evidence of both DELWP Env and Mr Lane that Brolga are the most likely bird species of conservation significance that could potentially visit the site. The Panel notes Mr Lane's evidence that the nearest recent record of Brolga breeding was 6.6 kilometres to the east of the site and there were no observations of Brolga on the site recorded during recent surveys.

The Panel notes Mr Lane's evidence that the risk to Brolga would not be increased by the proposed increase in the RSAs of the turbines, as there would be fewer turbines and the lower level of the RSAs would be raised from 29.5 metres to 40 metres, bearing in mind his evidence which indicates that Brolgas generally fly below 30 metres above ground level.

The Panel accepts Mr Lane's evidence that the proposed BAM plans for the existing permits take the Brolga Guidelines into account, including the requirements to monitor Brolga presence during the breeding and flocking season in line with the default distances outlined in the Guidelines. The Panel supports the carrying forward of these conditions as well as those requiring consultation with the local community in relation to Brolga occurrences, into the proposed BAM plans for the Application.

(v) Growling Grass Frog

The Panel understands that Mr Furlong may be aware of many frogs in the dams near his property and possibly on the site, but as Mr Furlong stated at the Hearing he was unable to identify GGF, the frogs he has seen or heard in these dams may not be GGF, but common frog species.

The Panel notes that while Mr Lane and Ms Tesselaar agreed that the GGF had been recorded in the Gnarkeet Chain of Ponds, they disagreed on whether GGF would be likely to exist on and/or move across the site.

The Panel concludes that although the GGF may not have been recorded on the site, the Panel cannot rule out the possibility that GGF may occur on or visit the site. The Panel considers that management measures should be implemented if GGF is detected during construction. The Panel therefore supports the wording accepted by the Proponent and DELWP Env under condition 12 (g) of the permits, that requires a Terrestrial fauna management plan to be developed that includes:

- *(i) training of construction staff in the recognition of any threatened terrestrial fauna species likely to be detected during construction, and*
- *(ii) the development of a protocol, in consultation with DELWP Environment Portfolio, that outlines actions to be taken if such threatened species are detected during construction.*

4.4 Conclusions

The Panel concludes:

- The area of native vegetation proposed for removal is relatively small and can be effectively offset.
- The risk to threatened species of birds and bats including Brolga, from the development of the proposed WEF is low.
- Further work is needed on the assessment of cumulative impacts of WEFs on key species of avifauna including Wedge-tailed Eagle.
- Amended planning permit conditions (contained in Appendix D and E of this report) are appropriate to address all matters relating to flora and fauna.

5 Traffic

5.1 Issues

The following issues were raised in submissions:

- The implementation of comprehensive Traffic Management Plans
- The potential damage to the local road network
- The impacts of the over dimensional vehicles on VicRoads arterial roads and local roads, and road and intersection upgrades
- The need for a mechanism for input and approval by VicRoads, Corangamite Shire and Golden Plains Shire councils.

5.2 Evidence and submissions

Traffic Impact Assessments (TIAs) were compiled as part of the approval of the existing planning permits. Each calls up the requirements for Traffic Management Plans (TMP) to be prepared.

In the Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria (January 2016), the design response for the development of a wind farm requires:

An assessment of the traffic impacts of the proposal during construction and delivery of materials and the impacts on the road pavements.

Golden Plains Shire Council (GPSC) expressed concerns with the impact on its road infrastructure during both the construction and operation phases of the Berrybank windfarm project. They explained that the Council required an appropriate methodology be utilised to accurately document the existing condition of potentially impacted roads prior to the commencement of construction of the wind farm. GPSC required a methodology to address the process by which rectification works would occur.

Corangamite Shire Council (GSC) requested that the matters raised at the previous panel hearing be given due consideration in the current assessment process. These matters included:

The Panel recommended that prior to the development of the traffic management plan the applicant prepare an updated set of calculation of traffic movements, in particular heavy vehicle movements. These should be submitted for review to the Corangamite Shire, Golden Plains and VicRoads.

GSC considered:

That it is essential that the technical assessments prepared for traffic management in local road infrastructure submitted to support the Berrybank amendment application are accurate and that the conditions of any amendment permit remain strong and functional.

As given in the draft permit an existing condition road survey is required that will determine the condition and standard the roads are to be rehabilitated to. Council requests that the permit requires the proponent give sufficient notice to council for the condition survey to cater for changing seasonal conditions of roads.

GSC requested that the road condition survey be undertaken with roads in their “*standard*” condition and Council be notified by the proponent when the road survey is to be undertaken so that a coordinated approach to the survey can be made.

Mr Furlong queried the truck traffic volumes presented in the evidence, and argued the truck traffic “*is already intense and the volumes in the evidence may be understated.*”

He raised another issue that truck movements into and out of the Grain Corporation facility opposite his dwelling on Foxhow-Berrybank Road was very heavy for several months of the year and may impact the movement of the wind farm construction vehicles. He recalled the weekend of the Port Fairy Folk Festival that resulted in substantial traffic using the Hamilton Highway and the Foxhow-Berrybank Road, estimating as many as “*4,000 cars a day*”. Mr Furlong requested a meeting with VicRoads, Grain Corporation and the local council to discuss traffic management in the area.

At the Hearing, Mr McGuire was concerned about the turning movement requirements for the turbine blades and tower components. Given the accident history in the vicinity of the Hamilton Highway and Foxhow-Berrybank Road intersection, Mr McGuire was concerned about the reaction of VicRoads and other authorities to the requirements of OD vehicles and how they will interact with other road uses in the vicinity of the wind farm site.

Mr Baxter (submission 9), raised concern about the size of the turbine components and the interaction of the OD vehicles and other road users.

Mr Chessell submitted that the TMP prepared by AECOM provided a comprehensive understanding of the existing road network conditions. It included an estimate of the potential impacts on the road network during construction and operation of the WEF. He called Mr Simon Davies of GTA to give traffic evidence. Mr Davies gave evidence that detailed changes in the anticipated traffic generated by the wind farm construction due to the proposed changes WEF (Table 9).

Table 9 Comparison of Peak Monthly Traffic Volumes (one-way)

Vehicle class	2013 TMP (veh/month)	2017 TMP (veh/month)	Difference (veh/month)	Difference per cent
Over dimensional	103	67	-36	-35
Heavy vehicles	1589	518	-1071	-67
Light Vehicles	7267	2134	-5133	-71
Total	8959	2719	-6240	-70

Mr Davies stated that the significant reduction between the estimated peak monthly traffic volumes is mainly due to:

... the different assumptions concerning the duration of the construction timetable and the intensity of the construction activity that would occur during the most intense month of construction (which is the period is used for the purposes of assessing the traffic impact). More specifically, it is understood that the construction activities will be distributed more evenly across the construction timetable than had previously been assumed ...

Mr Davies adopted the 2013 traffic volumes as the upper limit with a potential peak monthly traffic volume range between the 2013 and 2017 traffic volume estimates. He relied on the TMP with regard to OD vehicles.

(i) Over dimensional construction vehicles

The TMP set outs that construction vehicles will commence their journey at the Port of Geelong and follow the defined B-Double route through the Geelong Central Business District whereby vehicles will follow Church Street in a westerly direction and continue until its intersection with McCurdy Street (C118) where they will turn left. It notes:

These vehicles will follow the C118 route which follows McCurdy Street in a southerly direction until its intersection with Hyland Street where they will turn right and continue in a south-westerly direction.

The southern terminus of Hyland Street is at its intersection with Hamilton Highway where construction vehicles will turn right and continue in a westerly direction along the Hamilton Highway until they reach the site at Berrybank.

Figure 4 Construction Vehicle Route – Geelong to site¹¹



Mr Davies submitted that whilst the transportation of the turbine components from a suitable port to the wind farm site has not been finalised at this stage, the approved TMP would specify the OD routes that can be used to transport the turbine components.

The increased length of the OD vehicles required to carry the turbine components to the wind farm site will require an increase to the clear zone provided at the following intersections within the vicinity of the wind farm:

- Hamilton Highway/Berrybank-Foxhow Road/Berrybank-Wallinduc Road

¹¹ AECOM TMP March 2017 pg.11

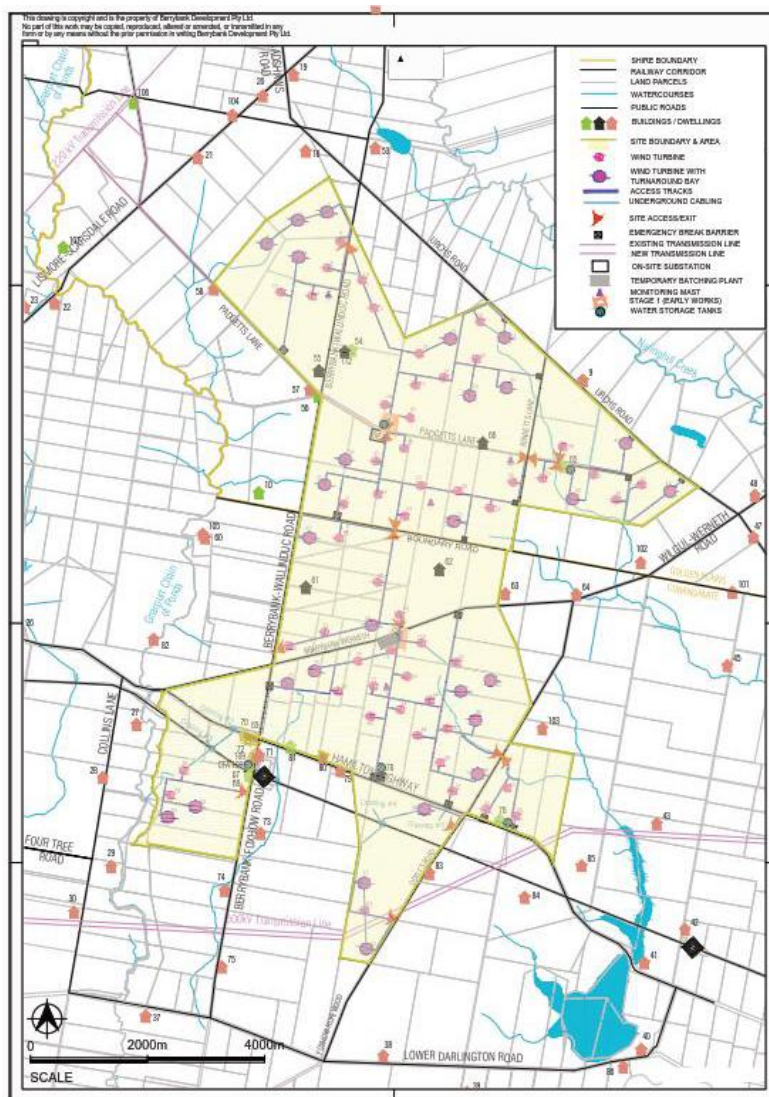
- Hamilton Highway/Doyles Road
- Berrybank-Wallinduc Road/Main Site Access road
- Berrybank-Foxhow Road/Southwest Access road
- Doyles Road/Turbine 42 Access road
- Doyles Road/Southeast Access road
- Berrybank-Wallinduc Road/ Berrybank-Werneth Road.

The WEF site access points are shown in Figure 5.

The vegetation clearance requirements are discussed in section 4 of this report. The proponent submitted that the adopted TMP will further address the conditions for the OD movements at these intersections.

Mr Davies gave evidence that both permits have been amended to accommodate the increase in the size of the proposed wind turbine components and the resultant changes in traffic conditions. Overall, he concluded there are no major differences in the previously endorsed TMP and the proposed TMP.

Figure 5 Site access and vehicle crossovers for 79 turbine layout



Mr Davies provided a comparison of anticipated OD vehicles traffic volumes (Table 10).

Table 10 Comparison of Anticipated Over Dimensional Vehicle Traffic Volumes

Development	No. of Turbines	Tower sections per turbine	Blade/nacelle deliveries per tower	Peak one-way vehicle movements		
				Tower sections	Blade/nacelle	Total
Approved development	95	4	4	380	380	760
Amended development	79	5	4	395	316	711

Mr Davies considered the impact that the proposed changes would have on the number of heavy vehicles. It was his evidence that:

The amendment required sixteen fewer tower foundations, which expected to decrease some heavy vehicle volumes. However, larger turbines will require larger foundations, which is expected to increase some heavy vehicle volumes.

He estimated a 4 to 8 per cent increase in heavy vehicle deliveries associated with the proposed windfarm changes compared to the current endorsed traffic management plan. In actual terms, this equates to 3-5 additional heavy vehicle deliveries per day spread across the five delivery access points.

Mr Davies concluded that:

The amended application is not expected to result in any additional light vehicle movements compared to the approved permit and associated endorsed TMP.

He noted that the amended 2017 TMP utilised the same access routes as those outlined in the endorsed 2013 TMP. The 2017 TMP included the addition of a sixth vehicle access point via the Berrybank – Wallinduc Road, which is understood to be used for non-OD vehicles.

Mr Davies noted that the changes to the intersection splays to accommodate the larger OD vehicles to service the site were appropriate. He concluded that the requirement for the applicant to upgrade roads and intersections, undertake a program of regular inspections and undertake a program of rehabilitation at the conclusion of the works, had not changed between the 2013 TMP and the 2017 TMP.

(ii) VicRoads

The Panel requested VicRoads provide its views on the proposal. VicRoads submitted that:

Once construction methods and transportation routes are determined, the applicant must enter into a legally binding agreement with VicRoads that clearly specifies an agreed framework for determining the wind farm developer's obligations and commitments for addressing all associated transportation and traffic relate to the impacts.

VicRoads submitted that they wanted to give WEF developers the “*opportunity to determine their road management regime approach versus highly prescriptive conditions.*” It was VicRoads view that rather than prescribing conditions in planning permits they were looking to prescribe a single condition identifying the intention for the proponent to enter into an agreement for impact mitigation. VicRoads submitted that OD routes determined in 2009 may no longer be applicable.

The proponent argued that the existing planning permit conditions (9-12) catered for this request and submitted that the TMP would be developed in conjunction with VicRoads and both Councils and this would address VicRoads concerns.

5.3 Discussion

The Panel accepts the evidence that proposed changes to the WEF’s would not have a significant impact upon road maintenance and traffic volumes. The Panel agrees it would be reasonable that the 2017 TMPs be updated prior to the commencement of site works to reflect final decisions on haulage routes and quarried material sourcing. This is standard practice and should address some of the broader concerns echoed by VicRoads and Councils on the adequacy of the TMP and what it captures.

The Panel notes that finalising an appropriate route for the transportation of the quarry materials can only be determined once a quarry or quarries have been selected.

Consistent with the endorsed TMP, the TMP recommends that separate traffic management plans be prepared for each route from the wind farm access sites and the selected quarries. These sub-TMP’s would form part of the overarching TMP.

With regard to additional traffic and the Graincorp site, the Panel notes that this is a substantial agricultural facility and this can operate intensely at times. Such a facility, it is assumed, would have to operate within established environmental standards as appropriate. The Panel would anticipate any final TMP would take into account peak periods of events and existing industry requirements.

The Panel has an appreciation for the challenges faced by VicRoads when assessing WEF proposals and potential impacts on their road network. It notes VicRoads will have an opportunity to craft their broader approach for permit condition with fresh applications for new WEFs.

The Panel finds that the proposed TMP gives VicRoads opportunity to have their concerns addressed and that the response to these concerns become part of the wind farm permit conditions. There is no need, with approvals in place and permitted conditions to seek a further legally binding agreement.

5.4 Conclusions

The Panel concludes:

- The TMP for the WEF site will need to be updated by the proponent prior to the commencement of site works to the satisfaction of VicRoads and Councils, and be approved by the Minister for Planning
- The proposed amendments would have no significant traffic impact beyond what has previously been assessed and approved.

- A “legally binding agreement” as requested by VicRoads may not be practical and that the TMP should address VicRoads’ concerns.

6 Noise

6.1 Issues

The following issues were raised in submissions:

- Updated noise assessments to the current noise standard NZS6808:2010
- The impact of turbine noise on stakeholder and non-stakeholder residences
- Impacts of low frequency turbine noise and the accuracy of the turbine noise modelling
- Construction noise and the noise monitoring program.

6.2 Evidence and submissions

The Proponent's noise assessment submission explained that the Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria (WEF) provides guidance for the management of turbine noise from wind farm developments. The Panel notes that the Guidelines state:

A wind energy facility should comply with the noise limits recommended for dwellings and other noise sensitive locations in the New Zealand Standard NZS 6808:2010 Acoustics – Wind Farm Noise (the Standard).

The Standard specifies a general 40 decibel limit for wind farm sound levels, or the sound should not exceed the background sound level by more than five decibels, whichever is the greater.

Under section 5.3 of the Standard, a 'high amenity noise limit' of 35 decibels applies in special circumstances. All wind farm applications must be assessed using section 5.3 of the Standard to determine whether a high amenity noise limit is justified for specific locations, following procedures outlined in clause C5.3.1 of the Standard. Guidance can be found on this issue in the VCAT determination for the Cherry Tree Wind Farm.

Mr Chessell explained that for the proposed Berrybank wind farm the noise limits determined in the NZS 6808:2010 Acoustics – Wind Farm Noise standard apply:

As a guide to the limits of acceptability at a noise sensitive location, at any wind speed wind farm sound levels should not exceed the background sound level by more than 5 dB $L_{A90(10min)}$, or a level of 40 dB $L_{A90(10 min)}$, whichever is the greater¹².

Mr Christophe Delaire of Marshall Day Acoustics (MDA) was called to give evidence. It was Mr Delaire's evidence with regard to noise sensitive locations that:

The definition given in NZS 6808:2010 of noise sensitive locations specifically excludes dwellings within the wind farm site boundary. For these properties, it is current practise to use the recommendations outlined in the final report by The European

¹² Marshall Day Acoustics, Berrybank Wind Farm NZS 6808:2010 Noise Assessment, Rp001 R01 2014363ML, 13 March 2016

Working Group on Noise from Wind Turbines (ETSU-R-97) which allows for an increased base noise limit of 45 dB L_{A90} in lieu of 40 dB L_{A90} minimum noise limit.

Mr Delaire explained that the 2016 noise impact assessment was undertaken at 63 dwellings in the project area, and the modelled noise levels “were reported at 37 dwellings where the predicted noise levels were greater than 35 dB L_{A90}.” He concluded:

- *Compliance with the lowest noise limit of 40 dB L_{A90(10min)} is achieved at all wind speeds at all identified dwellings for 1 of the candidate turbine (Senvion)*
- *The noise limit is marginally exceeding at three noise sensitive locations by 0.2 dB for the Vestas turbine*
- *The noise limit is marginally exceeding at three noise sensitive locations by 0.9 dB for the GE turbine*
- *Compliance with the 45 dB L_{A90(10min)} noise limit is achieved at all stakeholder dwellings for all candidate turbine models.*

Mr Furlong (submission 8) submitted concerns on the extent of turbine noise and infrasound impacts in the vicinity of his residence. Mr Delaire’s evidence was that for the turbine types being considered, “the noise limits will be met at Mr Furlongs dwelling.” In his expert witness statement, Mr Delaire referred to section 5.5.1 of the New Zealand standard, which stated:

...although wind turbines may produce some sound at (ultrasound and infrasound) frequencies considered to be outside the normal range of human hearing these components will be well below the threshold of human perception.

Mrs McGuire (submission 6) in her submission was concerned about increased noise and subsequent health issues associated with the location of wind turbines to the north and south west of their dwelling. Mr Delaire’s evidence was that the potential noise impacts at the McGuire residence will be less than 40 dB L_{A90(10min)}. He referred to Panel to section 5.3.1 of NZS 6808:2010 which states:

The wind farm noise limit of 40 dB LA90 (10min) in section 5.2 is appropriate for the protection of sleep, health and amenity of residents at most noise sensitive locations.

Mr and Mrs Cooper (Submission 7) expressed concern due to the prevailing winds they would be continually impacted by noise from the WEF. Mr Delaire’s evidence was that the turbine noise levels at the Cooper’s dwelling will be less than the 40 dB L_{A90} noise limit.

The Hockings, Baxter’s, Testa, McGuinness and Ms Skillen in their submissions (2,4,9,10) expressed concerned that acceptable noise levels will be replaced with unacceptable noise levels, determined entirely by negotiations between the proponent and the individual landholders. In the Baxter’s submission, it was stated that negotiated individual noise limits are:

... inherently problematic and is likely to create uncertainty and enforcement difficulties. This is especially so if the consent is later withdrawn or subsequent owners seek to revoke the consent of a consenting predecessor on title.

Moreover the Objectors assert that any disregard for the considered, settled and applicable standards, whether by consent or otherwise will have a significant adverse effect on the overall amenity of the local environment.

Submitters' Testa and McGuiness (Submission 4) believed that the appropriate separation distance from turbines should be at least 2 kilometres.

Mr Delaire gave evidence that the modelled noise levels at non-stakeholder dwellings were at or below the proposed noise limit of 40 dB $L_{A90(10min)}$. The permit conditions would allow negotiations between stakeholders and the proponent to exceed this noise limit; it was proposed by Mr Delaire that turbine noise at stakeholder dwellings should not exceed 45 dB $L_{A90(10min)}$. He concluded that the modelled turbine noise levels at stakeholder dwelling did not exceed 45 dB $L_{A90(10min)}$.

Mr and Mrs Hocking (Submission 2) expressed concerns about the ability of the local Shires to adequately determining compliance with the noise limit requirements for the wind farm. The Proponent noted that section 19 of the existing and amended permit conditions detailed the noise compliance assessment requirements and that noise compliance testing must be undertaken within four months of the commissioning of the last turbine.

Several submissions were concerned regarding the micro-siting of turbines without the need for further ministerial consent. It was their belief that turbines could be located closer to property boundaries, which would increase the likelihood of noise emissions becoming non-compliant for non-stakeholder dwellings. The evidence presented by the Proponent indicated that the turbine noise levels would be compliant with the prescribed noise limits and that micro-sited turbines will still be required to achieve the noise limits.

6.3 Discussion and conclusion

The Panel notes that the Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria (January 2016) provides accepted guidance as to the management of turbine noise from WEF. The New Zealand Standard referenced in the Guidelines specifies a 40 dB $L_{A90(10min)}$ limit for wind farm noise levels, or the noise should not exceed the background noise level by more than 5 dB $L_{A90(10min)}$, whichever is the greater.

The Panel notes that the results of noise commissioning measurements must also be made available to the public and that the noise compliance assessment requirements are detailed and extensive, consistent with other approved WEF. The Panel concludes that the mechanisms enshrined in the permits should provide the necessary protections for on-going noise monitoring.

Micro-siting is discussed at section 7.5 of this report.

The Panel concludes:

- Compliance with the 45 dB $L_{A90(10min)}$ noise limit is achieved at all stakeholder dwellings for all candidate turbine models
- Compliance with the 40 dB $L_{A90(10min)}$ noise limit is achieved at all non-stakeholder dwellings for only one of the candidate turbine models
- There is no significant change to the predicted noise levels from the proposed Amendment to the existing permit. Given that the actual turbines ultimately

selected would be subject to compliance testing assessment described in the Permit, the Panel is satisfied that the NZ Standard can be complied with.

6.4 Amenity

6.4.1 Evidence and submissions

The Baxter submission raised issues regarding the definition of amenity and its application to WEF.

Mr Delaire gave evidence that:

Under section 5.3 of the Standard, a 'high amenity noise limit' of 35 decibels applies in special circumstances. All wind farm applications must be assessed using section 5.3 of the Standard to determine whether a high amenity noise limit is justified for specific locations, following procedures outlined in clause C5.3.1 of the Standard. Guidance can be found on this issue in the VCAT determination for the Cherry Tree Wind Farm.

Mr Delaire reproduced paragraph 109 of the Cherry Tree Wind Farm VCAT Decision in his witness statement:

Accordingly the Tribunal concludes that the subject land and its locality is not capable of designation as a high amenity area because it does not possess the necessary characteristics of such an area as specified in the NZ standard.

Mr Chessell submitted that in no other case has land in proximity to a Victorian WEF been characterised as a high amenity area, consistent with clause 5.3 of the standard.

6.4.2 Discussion and conclusion

The Panel accepts the submission made by the Proponent that the New Zealand Standard and the WEF Guidelines reference to the VCAT Cherry Tree Wind Farm decision have been considered in the application for the approval of the Berrybank Wind Farm.

The Panel concludes that the dwellings within the township of Berrybank warrant protection in accordance with the general noise limit at clause 5.2 of the Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria. To apply a more stringent noise limit in this case is unnecessary and could compromise the substantial strategic support for the WEF and its operation.

The Panel concludes:

- From the evidence provided to it, the Panel is of the opinion that the Berrybank wind farm is not in an area where the 'high amenity noise limit' would apply.
- There is nothing substantive in the amended proposal that affects the Panel's further consideration of Berrybank as a "High Amenity Area."

6.5 Construction noise

6.5.1 Evidence and submissions

Several submissions raised concerns that the proposed applicant would have a detrimental effect upon noise during the construction stage. Mr Furlong submitted that construction

noise should be limited to certain periods in order to minimise both construction vehicle traffic and associated noise.

Mr Delaire gave evidence that reference to the Interim Guidelines for the Control of Noise from Industry in Country Victoria, N3/89, should be removed from the permit conditions and substituted by the Environment Protection Authority Noise Control Guidelines, Publication 1254, October 2008 (2008 EPA Guidelines).

Mr Delaire recommended:

A determination of the noise limits to be applied during construction using the methodology prescribed in the EPA Publication 1254 Noise Control Guidelines dated 2008.

It was Mr Delaire's evidence that issues concerning construction would be managed through the Environmental Management Plan (EMP).

6.5.2 Discussion and conclusion

Whilst construction noise is transient in nature and is for a relatively short period of time, it is accepted that construction noise is disruptive and potentially highly annoying to impacted residents.

The Panel notes that construction noise is specifically excluded from the Environment Protection Authority (EPA) guidelines "*Noise from industry in regional Victoria, Recommended maximum noise levels from commerce, industry and trade premises in regional Victoria*", Publication 1411, October 2011.

The 2008 EPA Guidelines detail the requirements for construction and demolition sites, in particular industrial and commercial premises; the wind farm construction activity would be included in the guidelines construction category. They specify noise limits and the hours of application for these limits and also specify noise measurement techniques and measurement procedures.

The Panel concludes that reference to the EPA *Noise Control Guidelines*, Publication 1254, be included in the construction management requirements in the updated planning permit for the Berrybank wind farm. These are shown in the Panel's recommended planning permits contained at Appendix D and E of this report.

7 Shadow flicker

7.1 Issues

The following issues relating to shadow flicker related to:

- impact of shadow flicker on stakeholder and non-stakeholder residences
- exceedance of the permitted number of days of shadow flicker
- shadow flicker modelling accuracy
- accuracy of the shadow flicker modelling diagram
- effect of shadow flicker on crops.

7.2 Evidence and submissions

The Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria (January 2016) state:

The shadow flicker experienced immediately surrounding the area of a dwelling (garden fenced area) must not exceed 30 hours per year as a result of the operation of the wind energy facility. Further considerations are provided in the draft National Wind Farm Development Guidelines (July 2010).

The Guidelines also note that:

“... the operator of the wind energy facility can enter into an agreement with a landowner which the landowner acknowledges and accepts that shadow flicker may exceed 30 hours per annum at the landowner’s dwelling. Evidence of the agreement must be provided to the satisfaction of the responsible authority.”

The Draft National Wind Farm Development Guidelines (July 2010) (Draft National Guidelines) provide shadow flicker exposure recommended limits and an extensive methodology to assess and mitigate the impacts of shadow flicker. The draft national guidelines recommend exposure limits are in Table 11.

Table 11 Recommended Exposure Limits

Impact	Measure	Assessment Procedure	Acceptable Level
Annoyance	Hours/year (hr/yr)	Modelled	30 hr/yr modelled
		Measured	10 hr/yr actual

The Draft National Guidelines specify the relationship between modelled and measured shadow flicker exposure:

Calculation of shadow flicker in an ideal model (with the assumptions specified here) will provide a conservative estimate of the actual shadow flicker. In most circumstances where a dwelling experiences a “Modelled” level of shadow flicker less than 30 hours per year, no further investigation is required. However, if this level is exceeded in the modelled scenario, mitigation measures may be introduced and the “actual” or “measured” levels of shadow flicker will need to be determined. The modelled approach includes a number

of assumptions and, as such, the modelled exposure limit is set higher to account for these conservatisms. The assumptions used in the modelling approach should produce an outcome equivalent to 10 hours per year actual exposure.

It was the evidence of Dr Trenton Gilbert on behalf of the Proponent that the relationship between the modelled and measured (or actual) shadow flicker included variables such as:

- *Zone of influence of shadows (up to 265 x maximum blade length)*
- *Minimum angle to the sun*
- *Shape of the sun*
- *Time and duration of modelling*
- *Orientation of the rotor and tower*
- *Offset between rotor and tower*
- *Modelling period (10 minutes or less)*
- *Effects of topography*
- *Receptor height*
- *Receptor location*
- *Mapping resolution (grid size).*

Consequently, because of the sensitivity of the modelling results, Mr Gilbert's evidence was that the compliance with the exposure limits must be within 50 metres of the centre of a residence.

Dr Gilbert noted that of the 24 dwellings where some shadow flicker will be experienced at locations within 50 metres of a dwelling, *"2 are predicted to experience theoretical shadow flicker duration in excess of the recommended limit of 30 hr/yr, however, these dwellings are stakeholders"*.

Mr Gilbert's evidence concluded:

- *The Victorian guidelines shadow flicker guidelines of 30hr/yr apply to the Berrybank Wind Farm,*
- *Modelling of shadow flicker was carried out assuming houses had either one or two stories with window heights of either 2 m or 6 m respectively. The relevant shadow flicker duration at a dwelling was taken as the maximum duration occurring within 50 m of the dwelling,*
- *The results indicate that, of the total number of dwellings identified by UFWA, it is predicted that at 24 dwellings some shadow flicker will be experienced at locations within 50 m of the dwelling,*
- *Two of the 24 dwellings are predicted to experience theoretical shadow flicker duration in excess of the recommended limit of 30 hr/yr, however, these dwellings belong to stakeholders,*
- *When considering the predicted actual shadow flicker duration, which takes into account the reduction in shadow flicker due to turbine orientation and cloud cover, no dwellings are expected to experience shadow flicker durations in excess of the recommended actual/measured limit of 10 hr/yr within 50 m of the dwelling location. The predicted actual shadow flicker*

does not take into account any reduction due to low wind speed, vegetation or other shielding effects around each dwelling.

It is noted from the assessment that blade glint is not generally a problem for modern wind turbines as non-reflective coatings are used on the surfaces of the turbine blades.

Mr and Mrs Hocking, in their submission raised concerns about *“shadow flicker at particular times of the year may cause sustained blacked out areas which will prevent seed germination and result in subsequent loss of income from grain growing”*.

Dr Gilbert responded to this concern that: depending upon the location of the crop the potential shading due to turbine tower and blades is between 5 to 11 hours annually. Also because of the diffuse nature of the blade shadow in the open (compared to inside a dwelling), the extent of the blade shadow flicker will be minimal.

Dr Gilbert responded to the concerns raised by the submitters. In Dr Gilbert’s statement it was noted that there are no requirements under the Victorian guidelines or the draft National guidelines to assess shadow flicker durations at locations other than in the vicinity of dwellings, although it is noted that the Victorian guidelines recommend assessing shadow flicker durations within the *“garden fenced area”* in the vicinity of a dwelling.

Mr Furlong submitted he was concerned that the shadow flicker zone location in the initial assessment report was further away than that indicated in the current assessment report. Dr Gilbert tabled a diagram (document 16) showing the shadow flicker in the vicinity of Mr Furlong’s dwelling (Figure 6).

Figure 6 shows the shadow map for several turbines in the vicinity of Foxhow-Berrybank Road and Hamilton Highway intersection. Figure 7 shows the shadow map for the turbines in the vicinity of Mr Furlong’s dwelling. Whilst the diagrams are not highly resolved it is apparent that the predicted annual shadow flicker hours in the immediate vicinity of Mr Furlong’s dwelling will be less than the Victorian guideline limit of 30 hr/yr.

Mr Furlong expressed concerns about using meteorological data from Ararat, Ballarat and Colac to provide an estimate of the cloud cover in Berrybank. Dr Gilbert gave evidence that *“the cloud cover maps available from the BoM suggest that these stations are reasonably representative of cloud cover in the Berrybank region throughout most of the year.”*

Dr Gilbert asserted that because of the conservative nature of the modelling used to determine the shadow flicker duration, small regional changes in cloud cover would not have a significant effect on the annual shadow flicker duration.

Mr and Mrs McGuire (Submission 3) submitted additional shadow flicker at their dwelling due to the proposed changes in turbine heights. Mr Gilbert explained that the shadow flicker model indicated that the McGuire dwelling would be outside the shadow flicker impact zone for the proposed wind farm.

Mr and Mrs Cooper (Submission 7) expressed concerns about health impacts of shadow flicker from wind turbines. Dr Gilbert’s response was that shadow flicker caused by wind turbines is generally not considered to have an impact on human health.

Dr Gilbert gave evidence that:

Peer reviewed research conducted by the National Health and Medical Research Council indicates that there is no scientific evidence linking shadow flicker with adverse health effects. The annual shadow flicker limits recommended in the draft national guidelines are designed to prevent the risk of annoyance and potential stress caused by both short-term continuous exposure to shadow flicker and long-term intermittent exposure.

The Baxter's (Submission 9) raised issues about the permit condition allowing shadow flicker levels to exceed the prescribed limits with the consent of the relevant landowner(s). The Baxter's argued that the previous Panel based its permit conditions on:

- *The effect of shadow flicker on safety in the workplace of neighbouring farming properties,*
- *Road safety issues with shadow flicker on the Hamilton Highway, and*
- *Health concerns arising from shadow flicker.*

The Baxter's submitted that the permit conditions should not be less than previously required and that an increased shadow flicker exposure stakeholders should not be accepted. Dr Gilbert's assessment indicated that the modelled shadow flicker limit of 30 hr/yr was achieved at all non-stakeholder dwellings and that 2 stakeholder dwellings were exposed to a modelled duration of greater than 30 hr/yr.

Dr Gilbert's evidence was that:

No dwellings in the development area were expected to experience actual shadow flicker duration in excess of the recommended limit of 10 hours per year within 50 metres of their dwelling. This included the 2 stakeholder dwellings where the modelled shadow flicker period is greater than 30 hours per year.

The submission by Ms Skillen (Submission 10) expressed concern that the shadow flicker from the larger turbines would affect her family and animals.

Figure 6 Shadow Flicker Map in the vicinity of the Foxhow-Berrybank Road and Hamilton Highway intersection (Document #16)

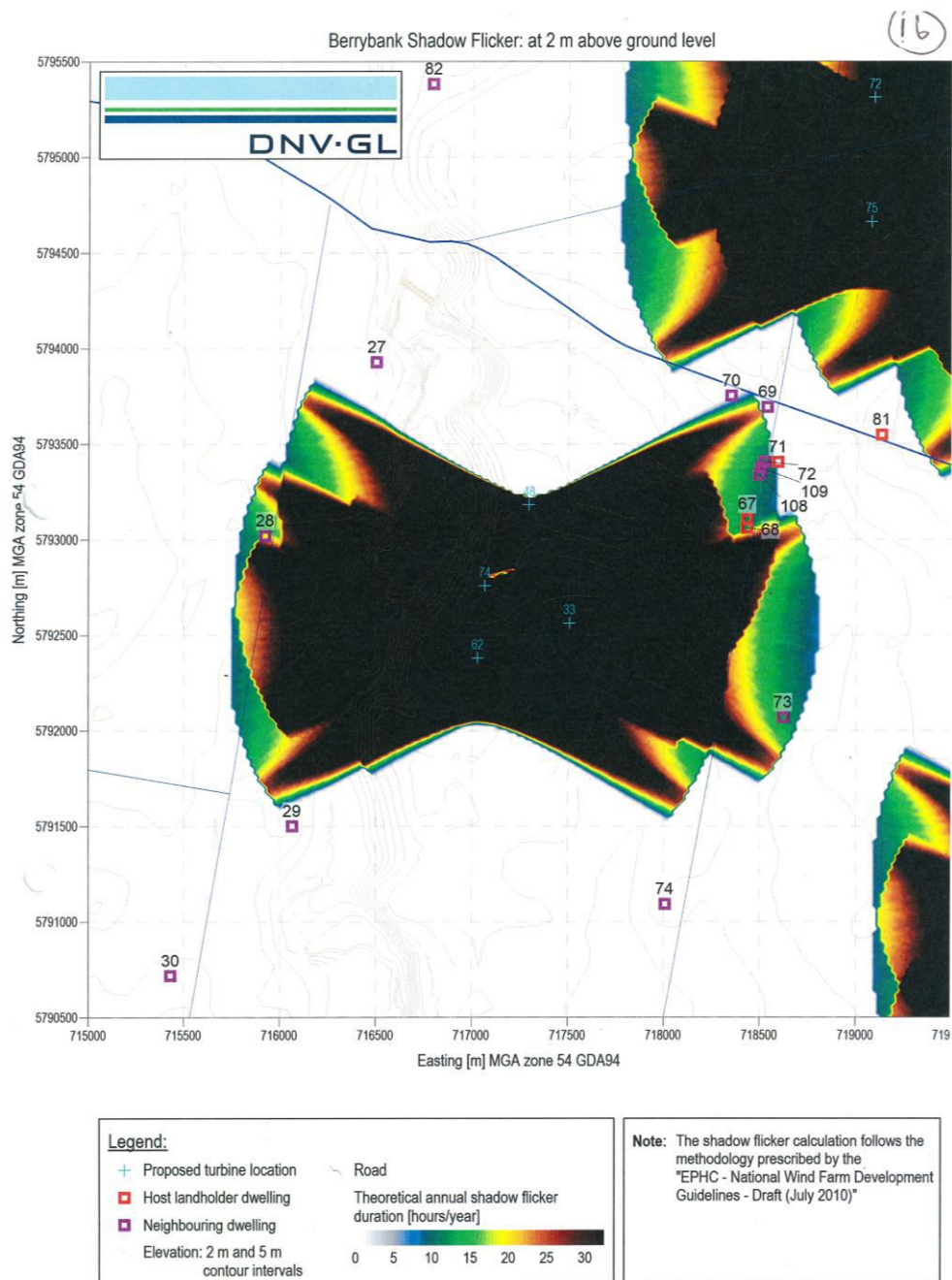
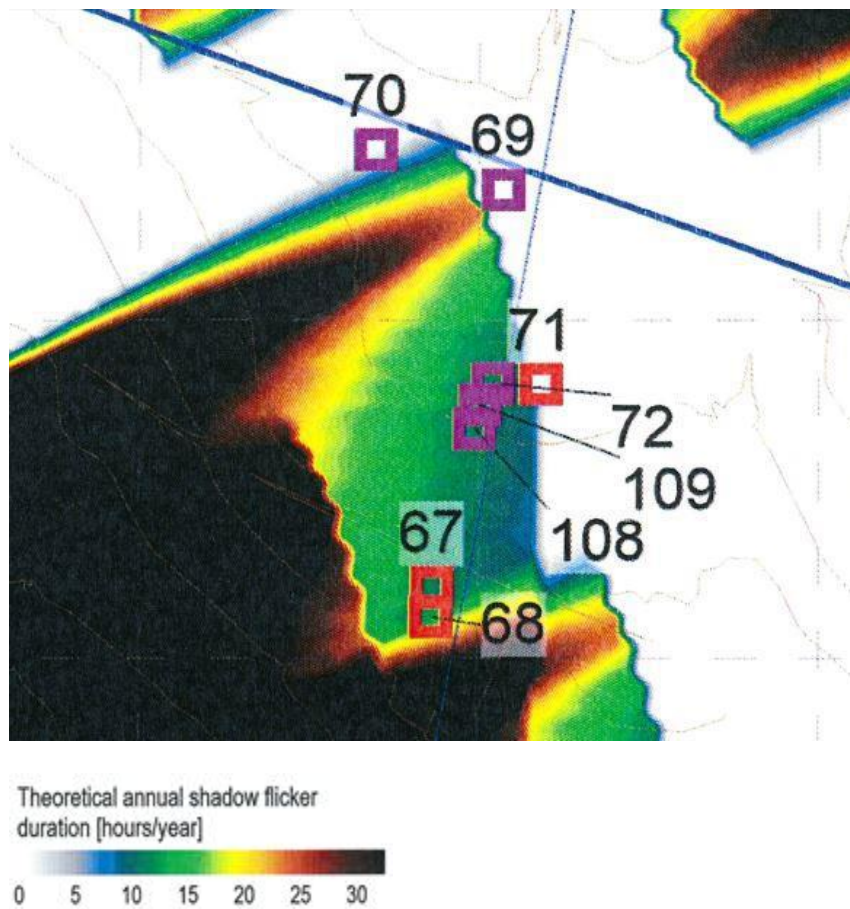


Figure 7 Shadow Flicker Map in the vicinity of the residences in Foxhow-Berrybank Road

In both Figures 6 and 7, Dr Gilbert explained that the *“theoretical annual shadow flicker duration is the equivalent to the modelled number of hours.”*

7.3 Discussion

Many issues raised by submitters on shadow flicker were not relevant to this Application because a permit has already been issued. In some cases, these issues are dealt with by existing permit conditions or are not matters that are typically considered in planning applications.

The Proponent submitted that peer reviewed research conducted by the National Health and Medical Research Council indicates that there is no scientific evidence linking shadow flicker with adverse health effects. This has been tested by several previous Panels.

The Panel notes that Guidelines for the Development of Wind Energy Facilities in Victoria (January 2016) require that the shadow flicker experienced immediately surrounding the area of a dwelling (garden fenced area) must not exceed 30 hours per year as a result of the operation of the wind energy facility.

With regard to Ms Skillen's submission, the Panel notes that the health effects of shadow flicker and the impacts on farm animals have been discussed above. Furthermore, it would appear that Ms Skillen's dwelling would be outside the shadow flicker impact zone.¹³

7.4 Conclusion

The Panel concludes:

- No dwellings (stakeholder and non-stakeholder) are expected to experience shadow flicker durations in excess of the recommended actual limit of 10 hr/yr within 50 m of the dwelling location.

¹³ Shadow Flicker and Blade Glint Assessment, DNV.GL, 23 December 2016, Figure 4.

8 Other issues

8.1 Electromagnetic interference

(i) Issues

Several submitters raised the following concerns about the impact of the WEF on health issues, television, mobile and radio reception at dwellings and the process to be adopted by the Proponent to resolve these issues.

(ii) Evidence and submissions

Mr Chessell explained that *the Draft National Wind Farm Development Guidelines (July 2010)* provides advice and methodologies to identify likely affected parties, assess EMI impacts, consult with affected parties and develop mitigation steps to address the likely EMI impacts.¹⁴

Dr Gilbert's evidence was that for the major EMI impacts to existing communication systems, his assessment report concluded:

- *That two fixed point-to-point microwave links (CFA and Powercor) may be interfered with and mitigation measures may need to be applied should interference be encountered following construction of the wind farm;*
- *Central Highlands Water operates point-to-multipoint microwave links in the vicinity of the wind farm; further investigations regarding this link should be undertaken;*

Dr Gilbert explained that citizen band radio could be interfered with by EMI from the wind farm; the signal will improve if the user moves a short distance and that mobile phones were generally not susceptible to interference from wind turbines. It was his evidence that the mobile phone coverage in the wind farm area was generally good. This was contrary to the submissions of Mr Furlong and Mr and Mrs McGuire (6,8).

Dr Gilbert did concede there were some areas where the coverage may be marginal and therefore mobile signals may be susceptible to interference from the wind farm. If EMI is encountered, mitigation options are available, such as installation of an external antenna or moving a short distance until the signal improves.

- *Wireless internet is available to the area, and the supplier has indicated that they do not have any concerns regarding interference as a result of the wind farm;*
- *It is unlikely that the proposed wind farm will have an impact on AM radio. FM radio signals may be susceptible to interference from objects such as wind turbines, resulting in distortion of the signal; installation of an antenna will mitigate the problem. Digital radio is not currently available to the wind farm project area; and*
- *Television interference near wind turbines is limited to 5 km or less and is a function of the visibility of the wind turbines, and the transmitter from the*

¹⁴ Berrybank Wind Farm EMI Assessment, DNV.GL, 15 April 2016

receptor. Interference is also possible in some areas where there is low signal strength. Should interference be encountered and is attributed to the wind farm, mitigation options are available such as adjustment or replacement of the antenna.

Mr Hocking, Mr and Mrs Cooper and Mr Furlong (submissions 2,7,8) in their submissions expressed concerns about the health impacts of additional exposure to EMI associated with the operation of the wind farm and the new transmission lines. Dr Gilbert's expert witness statement addressed this issue; Dr Gilbert explained in evidence that the EMI levels associated with the proposed wind farm were expected to be *"well within the limits recommended by the International Commission on Non-Ionizing Radiation Protection."*

The same submitters expressed concerns about more interference with mobile phone, internet and television reception.

(iii) Discussion

Significant concerns were raised by the objectors about interference with mobile phone coverage, television reception and access to the wireless internet. However the Panel considers that Dr Gilbert addressed these concerns in his expert witness statement.

The Panel considers that there may be some residual concerns about these issues once the WEF is operating. The Panel is of the opinion that the Proponent should engage with the local community to identify and quantify the extent of these concerns. The Proponent should establish the extent of the issues prior to the commencement of works to determine if the existing problem is significant without the wind farm. The planning permit conditions would seem to provide for this.

For example, there appears to an issue with mobile phone coverage in the vicinity of Berrybank. Whilst mobile phone transmission this is outside the Proponent's activities would be useful for the Proponent to determine the 'base' phone coverage prior to operation of the wind farm.

Similarly, the Panel notes that Planning Permit requires the Proponent to determine the existing television, internet and radio reception at all relevant stakeholders within the vicinity of the wind farm, to establish the base conditions.

The Panel considers that there are existing communication networks that the Proponent needs to be aware of. For example, the CFA point-to-point facility in the northern section of the wind farm may be interfered with by turbines in this area. Whilst these links may have been established after the granting of the planning permit, it is the Panels opinion that the Proponent has an obligation to avoid interfering with these communication systems. It is noted that the Proponent has the capability of refining the position of a turbine to minimise the interference, in consultation with the impacted parties.

(iv) Conclusion

The Panel has no reason to doubt the genuine concerns expressed. It notes the existing permits in place for the wind farm at this location. With regard to health issues, it notes the findings of previous Panels, and as no evidence on this matter was provided, it refers to

several other Panels where assessment have been tested and adopts the view that WEFs do not have adverse health impacts.¹⁵

The Panel concludes:

- the existing Permit conditions (that would remain unaltered) are appropriate to ensure that any television and radio interference is mitigated
- there is no direct evidence to support health impacts associated with EMI and WEF.

8.2 Planning Permit(s) Assessment

(i) Issues

At the conclusion of the Hearing, a *“without prejudice”* permit conditions workshop was held with agencies, the Proponent and Council. Parties then provided a consolidated set of comments to PPV by email on 24 November 2017. (Document 20). Appendices D and E of this report are the tracked changes version of those planning permits.

Several submissions queried the micro-siting conditions proposed and there was discussion between DELWP Env and the proponent regarding the timing for when an Environmental Management Plan (EMP) must be prepared (outlined in Condition 13 of each permit).

Other than this, the issues were confined to updating of permit conditions and refinements based on consistency and ease of interpretation.

(ii) Submissions

Micro-siting

Micro siting of wind turbines without the requirement to refer the change in location to the Minister for Planning was seen by several submitters as a major concern. As part of the planning permit, a key change proposed was micro-siting 52 turbines within 100 metres of the original approved location. The amended permit condition defines micro-siting as:

- *An alteration to the siting of a turbine by not more than 100 metres; and*
- *Any consequential changes to access tracks, internal power cable routes and other related infrastructure.*

Mr Farrell, for the Baxter family (Submission 9) argued that the requirement for Ministerial consent for micro-siting is to ensure that *“any relocation of the wind turbines and any associated access tracks and reticulation lines will not give rise to an adverse change to the assessed landscape, vegetation, cultural heritage, visual amenity, shadow flicker, noise, fire risk or aviation impacts caused by the Subject Site”*.

Mr Farrell submitted that if the micro-siting secondary consent was allowed, then the layer of checks and balances protecting future infringements would be removed and the risk of adverse change would increase to an *“unacceptable level”*.

¹⁵ See Dundonnell Wind Farm Panel Report (2016) pg. 86-89, Stockyard Hill Wind Farm Panel Report (2010) pg. 38-40, Mortlake South Panel Report (2017) pg.4. Lal Lal Wind Farm (2017) pg.55

The Proponent submitted that an appropriate balance must be struck between allowing flexibility in the siting of turbines generally in accordance with the endorsed plans and in providing adequate certainty to nearby residents in respect of additional impacts.

Timing of the EMP

Currently, the condition exhibited requires the EMP be reviewed every 5 years to reflect operational experience and changes to environmental management Standards. DELWP Env submitted that post-construction monitoring and management tends to be set at 2 years, so reviewing the EMP every 5 years did not appear to make sense.

Mr Chessell submitted that for consistency with other permits, the 5 year requirement was appropriate. This view was supported by DELWP Planning.

(iii) Discussion

The Panel understands the concerns about micro-siting and the risk of adverse impacts. It notes that secondary consents are a common part of most planning permits, and sees no difference in applying the micro-siting provisions as proposed. The Panel concludes that micro-siting of wind turbines could lead to a turbine being located closer to a dwelling, but not less than 1 kilometres from a dwelling. However, the wind farm noise levels must not exceed the noise limits regardless of any requirement for the micro siting of wind turbines.

This is because the proposed permit condition provides clear parameters as to what is applicable, as discussed earlier. An additional safeguard exists in that the wind farm developer must obtain written advice from appropriately qualified experts to confirm that any modification will not result in “*material adverse change*” when compared to the endorsed plans.

With regard to timing of an EMP review, the Panel concludes that every 5 years is appropriate, consistent with other recently issued permits for WEFs in the region.

The without prejudice discussion revealed very few points of difference or objection between the agencies on the exhibited permits. The final version, with post-exhibition changes shown as tracked changes, is contained at Appendix D and E of this report.

(iv) Conclusions

The Panel concludes:

- The micro-siting conditions are acceptable as there must be a degree of flexibility in the citing of turbines to ensure that permissions are not so cumbersome as to implement or administer
- Reviewing the EMP every 5 years is appropriate, consistent with other recently issued permits for WEFs in the region
- The amended permit conditions and content should be approved as contained in Appendix D and E of this report.

8.3 Recommendation

Based on the reasons set out in this Report, the Panel recommends that the proposed amendments to Golden Plains Planning Scheme Planning Permit 2009/2820 and Corangamite Planning Scheme Permit 2009/2821 be approved as exhibited, subject to amended conditions as set out in the Panel preferred versions in Appendices D and E of this report.

Appendix A Submitters to the Amendment

No.	Submitter
1	Peter Hamilton
2	Phillip Hocking
3	Isle McGuire
4	John McGuinness and Loretta Testa
5	David and Angela Hocking
6	Paul McGuire
7	Malcom and Jane Cooper
8	Peter Furlong
9	Daryl Baxter and Mr G and Mrs E Baxter
10	Bianca Skillen
11	Golden Plains Shire Council

Appendix B Parties to the Panel Hearing

Submitter	Represented by
Minister for Planning (responsible authority)	Tim Doolan of Department of Environment Land Water and Planning (DELWP) (Planning portfolio)
Golden Plains Shire Council	Tim Waller and Fiona Maw
Corangamite Shire Council	Greg Hayes
DELWP Barwon South West Region (Environment portfolio)	Geoff Brooks and Claire Tesselaar
Peter Furlong	
Paul and Ilse McGuire	
Daryl John and Geoffrey Holloway Baxter, Brendon James and Gregory Farrell	Bowman and Knox Lawyers
Berrybank Development Pty Ltd	Barnaby Chessell, of Counsel instructed by Herbert Smith Freehills and calling expert evidence from the following: - Hayden Burge (ERM) on landscape architecture - Brett Lane (Brett Lane and Associates) on flora and fauna - Trenton Gilbert (DNV GL) on electromagnetic interference and shadow flicker - Christophe Delaire (Marshall Day Acoustics) on acoustics - Simon Davies (GTA Consultants) on traffic - Keith Tonkin (Aviation Projects) on aviation
VicRoads	Peter Gstrein

Appendix C Document list

No.	Date	Description	Tabled by
1	2/11/17	Site inspection itinerary	Claire Somerville
2	9/11/17	Draft planning permit – Golden Plains 2009/2820A	Tim Doolan
3	14/11/17	Comparison of Endorsed (2013) and Proposed Site Layout (Figure 2 ERM)	Barnaby Chessell
4	14/11/17	Key Plan and Permit Documents Folder	Barnaby Chessell
5	14/11/17	Planning and Policy Document Folder	Barnaby Chessell
6	14/11/17	Applications to amend planning permits 2009/2820 (Golden Plains) and 2009/2821 (Corangamite) Submission by Department of Environment, Land, Water and Planning (Planning Portfolio) on behalf of the Minister for Planning	Tim Doolan
7	14/11/17	Application to Amend Planning Permit No. 2009/2820 Submission of Golden Plains Shire Council	Fiona Maw
8	14/11/17	Application to Amend Planning Permit No. 2009/2821 Submission by Corangamite Shire Council	Greg Hayes
9	14/11/17	Applications to amend planning permits 2009/2820 (Golden Plains) and 2009/2821 (Corangamite) Submission by Department of Environment, Land, Water and Planning (Environment Portfolio) on behalf of the Minister for Planning	Clair Tesselaar
10	15/11/17	Photos provided of locations near Hamilton Highway and Foxhow-Berrybank Road	Peter Furlong
11	15/11/17	Berrybank Wind Farm Panel Inquiry; Part 1 – Submissions of Berrybank Development Pty Ltd	Barnaby Chessell
12	15/11/17	Figure of Flight Paths of Brolgas from breeding sites; Brett Lane and Associates	Brett Lane
13	15/11/17	Distribution in Victoria of the Southern Bent wing Bat; Source: Commonwealth of Australia Species Profile and Threats Database	Brett Lane
14	15/11/17	Berrybank Wind Farm Landscaping and Visual Assessment presentation by Hayden Burge, ERM	Hayden Burge
15	16/11/17	Berrybank Wind Farm Indicative Access Road Entrances	Simon Davies
16	16/11/17	Berrybank Wind Farm Shadow Flicker Figure of Turbines 33, 48, 62 and 74	Trenton Gilbert
17	16/11/17	Berrybank Wind Farm Noise Assessment presentation by Christophe Delaire, Marshall Day Acoustics	Christophe Delaire

No.	Date	Description	Tabled by
18	16/11/17	Berrybank Wind Farm Panel Inquiry; Part 2 – Submissions of Berrybank Development Pty Ltd	Barnaby Chessell
19	16/11/17	VicRoads Berrybank Wind Farm Planning Permit Referral response	Peter Gstrein
20	24/11/17	Amended Permit Conditions	Claire Somerville

Appendix D Panel Recommended Permit – Corangamite

PLANNING PERMIT

Address of the Land:

The permit is based the post-exhibition permit submitted on 24 November 2017 (Document 20) The Panel accepted the majority of the track changes listed in that document and this Permit reflects the final recommendations of the Panel

Permit No: 20092821 – [A](#)

Corangamite Planning Scheme:

Responsible Authority for Administration and Enforcement of this Permit: Corangamite Shire Council

Land generally described as:

In Berrybank bounded by the Boundary Road, to the north, Doyles Road, Hamilton Highway and Foxhow-Rokewood Road to the east, Berrybank-Wallinduc Road to the west and running down this road and Foxhow-Rokewood Road to the south. In addition the land straddles the Hamilton Highway from east to west for about 5 kilometres.

[The title details for this land is:](#)

[Lots 4 and 5 \(part\) TP838279P VOL 08444 FOL 662](#)

[Lots 1, 2, 3, 4 and 5 \(part\) TP399098 VOL 05670 FOL 941](#)

[Lot 1 \(part\) TP011191R VOL 10447 FOL 189](#)

[Lots 1, 2, 3, 4, 5, 6,7 and 8 TP330312B VOL 08429 FOL 646](#)

[Lot 2 TP011191R VOL 09053 FOL 302](#)

[Lot 1 TP420584P VOL 03975 FOL 998](#)

[Lot 1 TP346103W VOL 03391 FOL 030](#)

[Lot 2 \(part\) PS120266 VOL 09194 FOL 073](#)

[Lot 1 \(part\) TP227484V VOL 09028 FOL 333](#)

[Lot 7 PS005482 VOL 03564 FOL 609](#)

[Allot. 85 Parish of Poliah North VOL 10598 FOL 957](#)

[Allot. 84 Parish of Pariah North VOL 10684 FOL 210](#)

[Lots 1, 2 and 3 TP212714P VOL 10396 FOL 914](#)

[Lots 1, 2, 3, 4, 5 and 6 TP394080K VOL 03391 FOL 029](#)

[Lot 9 TP887199K VOL 10204 FOL 515](#)

[Lots 1, 2, 3, 4, 5, 6, 7 and 8 TP887199K VOL 10204 FOL 514](#)

[Lots 19, 20, 23, 24 PS005146 VOL 05909 FOL 796](#)

[Lot 18 PS005146 VOL 07937 FOL 189](#)

[Lot 17 PS005146 VOL 08892 FOL 361](#)

[Lot 1 and 2 \(part\) TP449416A VOL 07684 FOL 101](#)

[Lots 1 \(part\) 2 and 3 TP298605K VOL 05283 FOL 562](#)

[Lot 1 \(part\) TP754901Q VOL 08727 FOL 669](#)

[Lot 2 PS317744H VOL 10106 FOL 147](#)

[Lot 28 PS005146 VOL 05943 FOL 428](#)

[Lots 1, 2, 3, 4, 5, 6, 7, 8 and 9 TP365996T VOL 04958 FOL 483](#)

[Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 TP391950W VOL 06178 FOL 538](#)

[Lots 1, 2, 3, 4, 5, 6, 7 and 8 TP170662L VOL 09345 FOL 178](#)

[Crown Allot 12 Parish of Poliah North](#)

[Allot. 7,8 Sec. 1 TOWNSHIP OF BERRYBANK VOLUME 04532 FOLIO 280](#)

[Allot. 9,10,11,12,13,14 Sec. 1 TOWNSHIP OF BERRYBANK VOLUME 04545 FOLIO 845](#)

[Allot. 15 Sec. 1 TOWNSHIP OF BERRYBANK VOLUME 08242 FOLIO 347](#)

[Lot 1 and 2 TP404611 VOLUME 04532 FOLIO 279](#)

[Allot. 1 Sec. 1 TOWNSHIP OF BERRYBANK VOLUME 08141 FOLIO 232](#)

[Lot 1 TP243880 VOLUME 08073 FOLIO 608](#)

[Lot 1 TP744645 VOLUME 09474 FOLIO 567](#)

[Lot 1 TP422280 VOLUME 10836 FOLIO 427](#)

[VicTrack Owned Land](#)

[Lot 1 and 2 TP 589700 VOLUME 03676 FOLIO 177](#)

[Lot 1 TP558906 VOLUME 03735 FOLIO 936](#)

[Lot 1, 2, 3, 4 on TP444671 VOLUME 03724 FOLIO 651](#)

[Lot 5,6,9 TP 422157 VOLUME 03838 FOLIO 429](#)

[Road Reserve Description](#)

[Berrybank Road access track described as land adjacent](#)

[to Lot 5 on TP170662 and Lot 8 on TP170662](#)

[Berrybank-Werneth Road access track described as land adjacent to Lot 8 on TP365996 and Lot 4 on TP887199](#)

[Berrybank-Werneth Road native vegetation removal described as land adjacent to Lot 8 on TP365996 and Lot 28 on LP5146](#)

[Foxhow-Rokewood Road access track described as land adjacent to Lot 3 TP212714 and Lot 17 LP5146](#)

[Hamilton Highway described as land adjacent to Lot 7 LP5482, Lot 17 LP5146 and Lot 18 LP5146](#)

[Hamilton Highway described as land adjacent to Lot 1 on TP346103 and Allot. 12 \(Pt\) PARISH OF POLIAH NORTH](#)

~~[Berrybank Wallinduc Road described as land adjacent to Lot 2 TP394080 and Lot 1 TP346103 Lots 4 and 5 \(part\) TP838279P Vol 06305 Fol 873](#)~~

~~[Lots 1, 2, 3, 4 and 5 \(part\) TP399098 Vol 04412 Fol 209](#)~~

~~[Lot 1 \(part\) TP011191R Vol 09363 Fol 528](#)~~

~~[Lots 1, 2, 3, 4, 5 and 8 TP330312B Vol 05670 Fol 942](#)~~

~~[Lots 6 and 7 \(part\) TP330312B Vol 05670 Fol 942](#)~~

~~[Lot 2 TP011191R Vol 09053 Fol 302](#)~~

~~[Lot 1 TP420584P Vol 03975 Fol 997](#)~~

~~[Lot 1 TP346103W Vol 02959 Fol 638](#)~~

~~[Lot 2 \(part\) PS120266 Vol 09007 Fol 399](#)~~

~~[Lot 1 \(part\) TP227484V Vol 03818 Fol 564](#)~~

~~[Lot 7 PS005482 Vol 03420 Fol 916](#)~~

~~[Allot. 85 Parish of Pariah North Vol 06407 Fol 255](#)~~

~~[Allot. 84 Parish of Pariah North Vol 06346 Fol 032](#)~~

~~[Lots 1, 2 and 3 TP212714P Vol 09013 Fol 033](#)~~

~~[Lots 1, 2, 3, 4, 5 and 6 TP394080K Vol 02959 Fol 638](#)~~

~~[Lot 9 TP887199K Vol 10204 Fol 515](#)~~

~~[Lots 1, 2, 3, 4, 5, 6, 7 and 8 TP887199K Vol 10204 Fol 514](#)~~

~~[Lots 19, 20, 23, 24 PS005146 Vol 05733 Fol 494](#)~~

~~[Lot 18 PS005146 Vol 05395 Fol 804](#)~~

~~Lot 17 PS005146 Vol 07489 Fol 021~~

~~Lot 1 TP449416A Vol 05395 Fol 804~~

~~Lot 2 (part) TP449416A Vol 05395 Fol 804~~

~~Lots 1 (part) 2 and 3 TP298605K Vol 05283 Fol 562~~

~~Lot 1 (part) TP754901Q Vol 05395 Fol 804~~

~~Lot 2 PS317744H Vol 06242 Fol 307~~

~~Lot 28 PS005146 Vol 03386 Fol 024~~

~~Lots 1, 2, 3, 4, 5, 6, 7, 8 and 9 TP365996T Vol 03391 Fol 032~~

~~Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 TP391950W Vol 04951 Fol 151~~

Lots 1, 2, 3, 4, 5, 6, 7 and 8 TP170662L Vol 09345 Fol 177

The Permit allows:

Use and development of land for a Wind Energy Facility ~~(comprising up to 50 generators)~~, including anemometers ~~(wind monitoring masts)~~, business identification signage including access roads, sub-station, water storage tanks and removal of native vegetation subject to conditions.

THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT:

DEVELOPMENT PLANS

1. Before the development starts, development plans must be prepared to the satisfaction of the Minister for Planning. When approved, the plans will be endorsed by the Minister for Planning and will then form part of this permit. The plans must be drawn to scale with dimensions ~~and three (3) copies must be provided.~~

The plans must:

- a) show the location, setbacks to property boundaries, layout and dimensions of all on-site buildings and works including all wind turbines, access tracks, underground cables, temporary concrete batching plant, the sub-station, the switchyard, landscaping, any designated car parking areas, and ancillary works, such as construction compounds, fire fighting infrastructure and water tanks, as well as off-site road works;
- b) show global positioning system coordinates using WGS84 datum for each turbine;
- c) show details of the model and capacity of the wind turbines to be installed;
- d) show dimensions, elevations, materials and finishes of the wind turbines and other buildings and works;

- e) show the location, size, type and intensity of any aviation lighting, including any directional screening;
- f) show any directional signage and any required safety signage;
- g) show business identification signage including dimensions, details, colours and graphics;
- h) include any staging of development; and
- i) be must be generally in accordance with the application plan (Access and Infrastructure reference 308298-PD AL-1 Revision 5), but modified to show:
 - i. no turbines are located closer than 1000 metres from any non stakeholder dwelling existing prior to the issue date of this permit;
 - ii. the deletion of turbine number 50;
 - iii. changes to track layouts as a result of fire planning.

Note: For the purpose of this condition, a non-stakeholder means the land holder of an abutting property without a contract for the installation of the permitted wind turbines on that person's property. ~~The use and development as shown on the endorsed plans must not be altered or modified without the written consent of the Minister for Planning; except that the micro-siting of wind turbines and consequential micro-siting of associated tracks and reticulation lines as defined below, does not require consent and will be viewed generally in accordance with the endorsed plans.~~

~~Note: For the purpose of this condition, micro-siting of wind turbines:~~

~~is where the siting of a wind turbine is altered by not more than 100 metres but is not relocated closer to a nearby boundary of a non-stakeholder property than shown on the endorsed plans;~~

~~includes any consequential changes to access tracks and electricity reticulation lines; and~~

~~is only allowed where: the Minister for Planning is satisfied that the relocation of the turbine(s) and associated access track(s) and reticulation lines(s) will not give rise to an adverse change to assessed landscape, vegetation, cultural heritage, visual amenity, shadow flicker, noise, fire risk or aviation impacts when compared to the site shown on the endorsed plans.~~

~~To this end any request for confirmation of the Minister's satisfaction must be accompanied by supporting material addressing the above matters as relevant~~

~~the developer of the wind energy facility has written advice from appropriately qualified experts that the alteration or modification will not result in a material adverse change in landscape, flora and fauna, cultural heritage, visual amenity, shadow flicker, noise, fire risk or aviation impacts compared to the endorsed plans;~~

~~the turbine is not relocated so that it is within 1 km of a dwelling that existed on [insert date] unless evidence has been provided to the satisfaction of the responsible authority that the owner of the dwelling has consented in writing to the location of the turbine;~~

~~the turbine is not relocated so that it results in the removal of any additional remnant native vegetation, unless that removal has been authorised by a planning permit; and~~

~~no turbine base is located within:~~

~~100 metres from a Road Zone Category 1 or land in a Public Acquisition Overlay to be acquired for a road;~~

~~40 metres from a Road Zone Category 2;~~

~~20 metres from any other road;~~

~~5 metres from the site boundary;~~

~~50 metres from a waterway, wetlands or designated flood plain; or~~

~~within an exclusion zone of any licensed communications link.~~

~~Any micro-siting of turbines in accordance with this condition will be regarded as being in accordance with the endorsed plans, and no consent under condition 2 will be required to reflect the micro-siting of turbines in compliance with this condition.~~

~~For the purpose of this condition, micro-siting of turbines means an alteration to the siting of a turbine by not more than 100 metres.~~

~~For the purposes of this condition, micro-siting of turbines includes any consequential changes to access tracks and electricity reticulation lines and the measurement of any distance between a dwelling and a turbine must be from the centre of the tower of the turbine (at ground level) to the closest point of the dwelling.~~

~~Copies of the written advice referred to in this condition must be provided to the Minister for Planning.'~~

2. The use and development must be generally in accordance with the endorsed plans. The endorsed plans must not be altered or modified without the written consent of the Minister for Planning.

Micro-siting of wind turbines will be considered as generally in accordance with the endorsed plans, provided that:

- a) the developer of the wind energy facility has written advice from appropriately qualified experts that the alteration or modification will not result in material adverse change in landscape, vegetation, fauna, cultural heritage, visual, shadow or noise impacts compared to the endorsed plans;
- b) No turbine located more than a kilometre from a dwelling is moved to within 1 km of a dwelling that existed on the date the application was lodged and which was not the subject of written consent of the owner as at that date, unless evidence has been provided to the satisfaction of the Minister for Planning that the owner of the dwelling has consented in writing to the location of the turbine;
- c) The micro-siting does not result in the removal of native vegetation, unless that removal has been authorised by a planning permit.

The measurement of any distance between a dwelling and a turbine must be from the centre of the turbine tower at ground level to the closest point of the dwelling.

For the purpose of this condition, 'micro-siting of turbines' means:

- i. an alteration to the siting of a turbine by not more than 100 metres; and
- ii. any consequential changes to access tracks, internal power cable routes and other related infrastructure.

Plans and global positioning system coordinates of the relocated turbines and copies of the advice referred to in condition 2a) must be provided to the Minister for Planning.

SPECIFICATIONS

3. Except with the consent of the Minister for Planning, the wind energy facility must meet the following requirements:

- a) the wind energy facility must comprise no more than ~~50~~ 38 wind turbines;
- b) the overall maximum height of the wind turbines (to the tip of the rotor blade when vertical) must not exceed ~~131~~ 180 metres above natural ground level;
- c) wind turbines must be mounted on a tubular tower ~~with a height of no greater than 80 metres~~
- d) each wind turbine is to have not more than three rotor blades, and the lowest point of a sweep of the rotor blade tip must not be less than 40 metres above ground level at the turbine base.
- e) the transformer associated with each wind generator must be located beside each tower and pad mounted, or be enclosed within the tower structure;
- f) the wind turbine towers, nacelles and rotor blades must be of a colour or have such markings that minimise ground level impact to the satisfaction of the Minister for Planning;
- g) the colours and finishes of all other buildings and ancillary equipment must be such as to minimise the impact of the development on landscape to the satisfaction of the Minister for Planning;
- h) access tracks within the site are to be sited and designed to minimise impacts on overland flows, soil erosion, the landscape value of the site, environmentally sensitive areas and, where appropriate, the farming activities on the land to the satisfaction of the Minister for Planning;
- i) new on-site electricity reticulation lines associated with the wind energy facility must be placed under the ground;
- j) non-site fire fighting infrastructure must be provided in accordance with Condition 12.e);

- k) strategic fire breaks must be provided within the wind energy facility boundaries free of raised bed cropping to the satisfaction of the Minister for Planning on advice from the Country Fire Authority (CFA); and
- l) where possible any new above ground power lines associated with the wind energy facility be oriented parallel to the prevailing wind direction.

LANDSCAPE/VISUAL AMENITY

4. Before the development starts, an on-site landscape plan must be prepared to the satisfaction of the Minister for Planning. When approved, the plan will be endorsed and will then form part of this permit. The plan must include:

- a) landscaping to screen the substation, switchyard and associated buildings other than the turbines;
- b) details of plant species proposed to be used in the landscaping, including height and spread at maturity;
- c) a timetable for implementation of all landscaping works;
- d) a maintenance and monitoring program; and
- e) surfacing of access tracks in a manner which does not unduly contrast with the landscape;
- f) Fencing or appropriate methods by which the landscaping on-site will be protected from agricultural uses and vermin;-

~~The landscaping as shown on the endorsed on-site landscaping plan must be completed to the satisfaction of the Minister for Planning in accordance with the implementation timetable.~~
The on-site landscaping as shown on the endorsed landscaping plan must be maintained to the satisfaction of the Minister for Planning, including that any dead, diseased or damaged plants are to be replaced.

~~Within six (6) months of the date of endorsement of the development plan under Condition 1: Before any turbine is commissioned:~~

~~a program of voluntary landscape mitigation works to the satisfaction of the Minister for Planning must be made available to the owners of dwellings within 3-4 kilometres of the nearest turbine and to the owners of dwellings 26, 38, 43, 75, 79 and 82 as identified on the Access and Infrastructure plan reference 308298_PD AL-01 Revision 5.~~

~~if a program of voluntary landscape mitigation works is accepted by one or more owners under Condition 5(a), as part of that program, an off-site landscaping plan must be prepared in consultation with the landowners specified in Condition 5(a) to the satisfaction of the Minister for Planning. When approved the plan will be endorsed and will then form part of this permit.~~

~~The plan must provide details of planting or other treatments that will be used to reduce the visual impact of the wind turbines at the dwellings of the participating landowners.~~

~~The off-site landscape plan must include:~~

~~details of the plant species to be used, including the height and spread of plants at maturity and their suitability in terms of;~~

~~appropriateness for local conditions (may include indigenous and exotic species);~~

~~fire safety (low combustibility); and~~

~~impact on native vegetation (weed propensity, overshadowing of remnants on roadsides).~~

~~use of a mix of tubestock and advanced planting with good survival potential to provide immediate and long term screening;~~

~~reinforcement planting for existing senescent vegetation;~~

~~maintenance of landscaping for at least three years; and~~

~~a timetable for implementation of the landscaping works.~~

~~The landscaping as shown on the endorsed off-site landscape plan required must be completed to the satisfaction of the Minister for Planning within 12 months of the completion of the development or any relevant stage of it, at the cost of the operator under this permit and thereafter maintained to the satisfaction of the Corangamite Shire Council.~~

5. Before the erection of turbine towers, an Off-site Landscaping Program must be submitted to the Minister for Planning for endorsement. Once endorsed, the program will form part of this permit.

The Off-site Landscaping Program must:

- a) Provide for off-site landscaping or other treatments to reduce the visual impact of the turbines from any dwelling within 4 kilometres of any turbine.
- b) Include a methodology for determining:
 - i. the type of landscaping treatments to be proposed;
 - ii. a timetable for establishing and maintaining the landscaping for at least two years.
- c) Include a process for making offers to affected landowners to:
 - i. undertake landscaping on the landowner's land, or
 - ii. make a cash contribution in lieu of landscaping that is sufficient to cover the cost of the landowner establishing and maintaining the landscaping for a period of at least two years.
- d) Include a process for recording:
 - i. offers that have been made to landowners;
 - ii. whether or not the offers are accepted;
 - iii. when and how offers are actioned following acceptance.

The endorsed Off-site Landscaping Program must be implemented to the satisfaction of the Minister for Planning. The endorsed Off-site Landscaping Program must not be altered or modified without the written consent of the Minister for Planning.

An initial progress report regarding the implementation of the endorsed Off-site Landscaping Program must be provided to the Minister for Planning within one year of the date of the endorsement of the plans. A further report must be provided upon the completion of the endorsed Off-site Landscaping Program.

LIGHTING INCLUDING AVIATION OBSTACLE LIGHTING

6. Except in the case of an emergency or any operational call-out, no external lighting of infrastructure associated with the wind energy facility, other than low-level, low-intensity security lighting and aviation lighting in accordance with Condition 7 below, may be installed or operated without the further written consent of the Minister for Planning.

~~Aviation obstacle lighting must not be installed unless the written consent of the Minister for Planning has been obtained.~~

~~If consent to install aviation obstacle lighting is obtained it must be installed under the following conditions:~~

~~The aviation lighting must be installed such that it is activated only:~~

~~If a night, when an aircraft is in the immediate vicinity of the wind energy facility; and~~

~~During low visibility daytime conditions such as the existence of smoke and fog;~~

~~for each lit turbine, the lighting must consist of a pair of lights mounted above the nacelle so that one is visible from an aircraft approaching from any direction;~~

~~each light must be a red medium intensity, flashing light as defined by Civil Aviation Safety Authority (CASA). Each light must be shielded so as to restrict the vertical spread of light to not more than 3 degrees and light spread below the horizontal to not more than 1.0 degree;~~

~~all lights must flash in unison;~~

~~the duration of the light flash must be the minimum period recommended by CASA and the duration of the period between the flashes must be the maximum period recommended by CASA;~~

~~before the wind farm is commissioned, a lighting maintenance plan must be prepared to the satisfaction of the Minister for Planning.~~

~~Obstacle lighting for aviation safety must meet the following requirements, to the satisfaction of the Minister for Planning:~~

~~The number of lit turbines are kept to the minimum required, and generally in accordance with the Obstacle Lighting Design V0.3 151019 included in the 'Berrybank Wind Farm Aeronautical Impact Assessment' (Ref. 100402-02 V1.0 dated 22 February 2016) prepared by Aviation Projects. The lighting design herein is subject to confirmation of the final turbine layout as any changes to the layout could potentially affect which turbines should be lit in accordance with the 900 metres interval consideration such that the wind farm is not declared a hazard aviation.~~

~~The turbines referred to in 8a) are to be lit with two steady red low intensity lighting at night as per Section 9.4 of the CASA Manual of Standards Part 139.~~

~~The impact minimisation features allowed that should be installed including, but not limited to:~~

~~Treatment of the rear of the blade to avoid reflection of aviation lights; and~~

~~Shielding of the lights on the top and bottom such that the maximum intensity of light is limited to a beam of 3 degrees, with only 0.5 degrees of this beam width below the horizon.~~

~~The frequency range of the LED light emitted should fall within the range of wavelengths 655 to 930 nanometres to comply with requirements from Department of Defence to enable the lighting to be visible to persons using night vision devices.~~

7. Obstacle lighting for aviation safety must meet the following requirements, to the satisfaction of the Minister for Planning:

- a) The number of lit turbines are kept to the minimum required, and generally in accordance with the Obstacle Lighting Design V0.3 151019 included in the 'Berrybank Wind Farm Aeronautical Impact Assessment' (Ref. 100402-02 V1.0 dated 22 February 2016) prepared by Aviation Projects. The lighting design herein is subject to confirmation of the final turbine layout as any changes to the layout could potentially affect which turbines should be lit in accordance with the 900 metres interval consideration.~~such that the wind farm is not declared a hazard aviation.~~
- b) The turbines referred to in condition 7.a) are to be lit with two steady red low intensity lighting at night as per Section 9.4 of the CASA Manual of Standards Part 139.
- c) The impact minimisation features allowed that should be installed including, but not limited to:
 - i. Treatment of the rear of the blade to avoid reflection of aviation lights; and
 - ii. Shielding of the lights on the top and bottom such that the maximum intensity of light is limited to a beam of 3 degrees, with only 0.5 degrees of this beam width below the horizon.
- d) The frequency range of the LED light emitted should fall within the range of wavelengths 655 to 930 nanometres to comply with requirements from Department of Defence to enable the lighting to be visible to persons using night vision devices.

The requirements of this condition may be altered or modified with the written consent of the Minister for Planning.

AVIATION SAFETY CLEARANCES

8. Within 14 days of approval, copies of the endorsed development plans must be provided to CASA, the Department of Defence (RAAF Aeronautical Information Service), Airservices Australia, any aerodrome operator within 15 km, the Aerial Agriculture Association of Australia and to any organisation responsible for providing air ambulance

services in the area, to enable details of the wind energy facility to be shown on aeronautical charts of the area. Any subsequent changes to turbine location or height on the endorsed plans must be provided to Airservices Australia to enable the changes to be shown on aeronautical charts of the area.

TRAFFIC MANAGEMENT

9. Prior to the development of a traffic management plan an accurate reassessment of vehicle numbers for over dimensional, heavy duty and light vehicles must be undertaken in consultation with Corangamite Shire Council and VicRoads, to the satisfaction of the Minister for Planning.
10. Once heavy haulage transportation routes are known, ~~Before the development starts~~ a traffic management plan must be prepared in consultation with Corangamite Shire Council and VicRoads to the satisfaction of the Minister for Planning. When approved, the plan will be endorsed and will then form part of this permit. The plan must include:
 - a) separate components for construction and operation of the wind energy facility;
 - b) an existing conditions survey of public roads in consultation with Corangamite Shire Council and VicRoads that may be used for access and designated construction transport vehicle routes in the vicinity of the wind energy facility, including details of the suitability, design, condition and construction standard of the roads;
 - c) the designation of appropriate construction and transport vehicle routes to the wind energy facility site;
 - d) the designation of operating hours and speed limits for trucks on routes accessing the site so as to avoid school bus routes and school bus times where relevant, and to provide for resident safety;
 - e) the identification and timetabling of any required pre-construction works;
 - f) the identification of any areas of indigenous roadside vegetation that may require removal or pruning, the pruning practices to be followed and the planning permit requirements for removal of native vegetation;
 - g) the designation of all vehicle access points to the wind energy facility from surrounding roads. The location and detailed design of the connection between the internal access tracks and the public roads must ensure safe sight distances, turning movements, and avoid potential through traffic conflicts;
 - h) recommendations on the need for road and intersection upgrades to accommodate any additional traffic or site access requirements, whether temporary or on-going and the timing of when these upgrades are to be undertaken. This is to include engineering plans demonstrating how truck movements can be accommodated on sealed roadways and turned where possible without encroaching onto the incorrect side of the road for the Hamilton Highway and Berrybank-Wallinduc Road intersection. The plan must include details of any required road construction works;

- i) measures to be used to manage traffic impacts associated with the ongoing operation of the wind energy facility on the traffic volumes and flows on surrounding roads;
 - j) a program of regular inspections to be carried out during the construction period to identify maintenance works necessary as a result of construction traffic to the satisfaction of Corangamite Shire Council and VicRoads (as relevant);
 - k) a program to rehabilitate roads to the condition identified by the surveys required above by Condition 10.b) above in consultation with Corangamite Shire Council and VicRoads (as relevant); and
 - l) if required by Corangamite Shire Council, the payment of a security deposit or bond for a maintenance period of 12 months in respect of works covered by the Traffic Management Plan. Such security deposit or bond is to be applied to roadwork not completed under the Traffic Management Plan or to be released at the end of that period.
11. The traffic management and road upgrade and maintenance works associated with the wind energy facility must be carried out in accordance with the traffic management plan to the satisfaction of the Minister for Planning on advice from Corangamite Shire Council and VicRoads (as relevant) and the cost of any works including maintenance are to be at the expense of the permit holder.

ENVIRONMENTAL MANAGEMENT PLAN

12. Before the development starts, an environmental management plan must be prepared to the satisfaction of the Minister for Planning, in consultation with [DELWP Environment Portfolio](#)~~the Department of Sustainability and Environment~~, Corangamite Shire Council, Country Fire Authority and other agencies as specified in this condition or as further directed by the Minister for Planning. The environmental management plan may be prepared in sections or stages. When approved, the plan will be endorsed by the Minister for Planning and will then form part of this permit.

The environmental management plan must include the following:

- a) A construction and work site management plan which must include:
 - i. procedures for access, noise control, dust emissions, spills and leaks from the handling of fuels and other hazardous materials and pollution management. Such construction and work site procedures are to be in accordance with EPA requirements;
 - ii. procedures for identifying and reporting the presence of Aboriginal artefacts, [in consultation with Aboriginal Victoria](#);
 - iii. the identification of all potential contaminants stored on site;
 - iv. the identification of all construction and operational processes that could potentially lead to water contamination;

- v. the identification of appropriate storage, construction and operational methods to control any identified contamination risks;
 - vi. the identification of waste re-use, recycling and disposal procedures;
 - vii. appropriate sanitary facilities for construction and maintenance staff in accordance with the EPA Publication 891.1 *Septic Tanks Code of Practice*;
 - viii. a timetable, where practicable for the construction of turbine bases, access tracks and power cabling during warmer months to minimise impacts on ephemeral wetlands, local fauna and sediment mobilisation;
 - ix. procedures to ensure that construction vehicles and equipment use designated tracks and works areas to avoid impacts on native vegetation;
 - x. Procedures to protect native fauna from open trenches and holes at night time and after excavation ~~the covering of trenches and holes at night time and to fill trenches as soon as practical after excavation, to protect native fauna~~; and
 - xi. the removal of works, buildings and staging area on completion of construction of the project.
- b) A **sediment, erosion and water quality management plan**. This plan must be prepared in consultation with the Corangamite Catchment Management Authority, EPA and other authorities as may be directed by the Minister for Planning. The plan must include:
- i. procedures to ensure that silt from batters, cut-off drains, table drains and road works is retained on the site during and after construction and replaced as soon as possible. To this end:
 - all land disturbances must be confined to a minimum practical working area;
 - soil to be removed must be stockpiled and separate soil horizons must be retained in separate stockpiles and not mixed and replaced as soon as possible in sequence; and
 - stockpiles must be located away from drainage lines;
 - ii. criteria for the siting of any temporary concrete batching plant associated with the development of the wind energy facility and the procedure for its removal and reinstatement of the site once its use finishes. The establishment and operation of any such temporary concrete batching plant must be designed and operated in accordance with the Environment Protection Authority Publication 628 *Environmental Guidelines for the Concrete Batching Industry*;

- iii. the installation of geo-textile silt fences (with sedimentation basins where appropriate) on all drainage lines from the site which are likely to receive run-off from disturbed areas;
 - iv. procedures to suppress dust from construction-related activities. Appropriate measures may include water spraying of roads and stockpiles, stabilising surfaces, temporary screening and/or wind fences, modifying construction activities during periods of heightened winds and revegetating exposed areas as soon as practicable;
 - v. procedures to ensure that steep batters are treated in accordance with Environmental Protection Authority Publication 275 *Construction Techniques for Sediment Pollution Control*;
 - vi. procedures for waste water discharge management;
 - vii. a process for overland flow management to prevent the concentration and diversion of waters onto steep or erosion prone slopes;
 - viii. pollution management measures for stored and stockpiled materials including waste materials, litter, contaminated run-off and any other potential source of pollution to ground or surface waters;
 - ix. incorporation of pollution control measures outlined in EPA Publication 480 *Environmental Guidelines for Major Construction Sites*;
 - x. siting of concrete batching plant and any on-site wastewater and disposal and disposal treatment fields at least 100 metres from any watercourse;
 - xi. appropriate capacity and an agreed program for annual inspection and regular maintenance of any on-site wastewater management system constructed to service staff, contractors or visitors; and
 - xii. a program of inspection and remediation of localised erosion within a specified response time.
- c) A **blasting plan**. This plan is only required if blasting is proposed to be undertaken at the site as part of the construction of the wind energy facility. The plan must include the following:
- i. name and qualification of the person responsible for blasting;
 - ii. a description of the location of where the explosives will be used, and the location of every licensed bore on any property with an adjoining boundary within 1km of the location of the blasting;
 - iii. a requirement for the identification and assessment of any potentially sensitive site within 1 km of the location of the blasting, including the procedure for pre-blast and post-blast qualitative measurement or monitoring at such site;
 - iv. the procedure for site clearance and post blast reoccupation;

- v. the procedure for the storage and handling of explosives;
 - vi. a requirement that blasting only occur after at least 48 hours prior notification in writing of the intention to undertake blasting has been given to the occupants of the properties which are located in whole or in part within 1km of the location of the proposed blasting; and
 - vii. a requirement that blasting only be undertaken between the hours of 8am and 4pm.
- d) **A hydrocarbon and hazardous substances plan.** The plan must include:
- i. procedures for any on-site, permanent post-construction storage of fuels, lubricants or waste oil to be in bunded areas; and
 - ii. contingency measures to ensure that any chemical or oil spills are contained on-site and cleaned up in accordance with Environment Protection Authority requirements.
- e) A ~~bushfire~~~~wildfire~~ **prevention and emergency response plan** prepared to the satisfaction of the Minister for Planning in consultation with the Country Fire Authority, ~~the Department of Sustainability and Environment~~DELWP Environment Portfolio and Corangamite Shire Council. This plan must include and consider:
- i. the provision of strategic fire suppression and access areas through the wind ~~energy facility~~~~farm~~ clear of raised bed cropping.
 - ii. constructed roads should be a minimum of (4) four metres trafficable width with a four metre (4m) vertical clearance for the width of the formed road;
 - iii. roads should be constructed to a standard so that they are accessible in all weather conditions and capable of accommodating a vehicle of 15 tonnes for the trafficable road width.
 - iv. the average grade of should be no more than 1 in 7 (14.4%) (8.1°) with a maximum of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres;
 - v. dips in the road should have no more than a 1 in 8 (12.5%) (7.1 °) entry and exit angle;
 - vi. water access points shall be located in safe easily identifiable areas, accessible in all weather conditions.
 - vii. water access points should be designed, constructed and maintained for a load limit of at least 15 tonnes.
 - viii. a turning point with a minimum radius of 10 metres is required for fire appliances at all water access points;
 - ix. Fire brigade appliances should be able to park within four (4) metres of the water supply outlet on a hard standing area.

- x. bulk static water storages (22,500 Litre) should be provided adjacent to main access tracks for fire fighting. Locations should be determined in consultation with CFA Fire safety officers and with operational staff;
- xi. all tanks should be manufactured with at least one (preferably two) 64mm, 3 thread/25mm x 60 mm nominal bore British Standard Pipe (BSP) round male coupling 50 mm from their base. Outlets should be a minimum of two (2) metres apart;
- xii. water access points are to be marked by appropriate signage as per CFA's *Guidelines for Identification of Street Hydrants for Fire Fighting Purposes*;
- xiii. grass should be no more than 100mm in height and leaf litter no more than 10mm deep for a distance of (30) thirty metres around constructed buildings and viewing platforms;
- xiv. a fuel reduced area of (4) four metres should be maintained around the perimeter of electricity compounds and sub station type facilities;
- xv. there should be no long grass or deep leaf litter in areas where plant and heavy equipment will be working;
- xvi. all plant and heavy equipment should carry at least one 9 Litre Water Stored pressure fire extinguisher with a minimum rating of 3A;
- xvii. internal fire protection systems, where appropriate, to assist with fire suppression;
- xviii. lighting protection devices, where appropriate, installed ~~on each wind farm~~ at the wind energy facility;
- xix. dedicated monitoring systems within each wind turbine that detect temperature increases in turbines and shuts them down when the threshold temperature is reached;
- xx. construction of the wind energy facility ~~farm~~ outside the fire season where possible;
- xxi. a program of training of volunteer and paid CFA personnel in fire suppression in and around the wind energy facility.

Note: For the purpose of this condition, consultation with the CFA must include CFA at headquarters level, the CFA Regional Office and local volunteer brigades on and surrounding the wind energy facility.

- f) A native vegetation management plan to be prepared in consultation with DELWP Environment portfolio. This plan must include:
 - i. a report by a suitably qualified person after the completion of a target spring survey of native vegetation in the vicinity of access points where a Vegetation Protection Overlay exists. The report should set out the findings of the targeted spring survey and, if vegetation listed under the Flora and Fauna Guarantee Act 1988 or the Environment

- Protection and Biodiversity Conservation Act 1999 is identified, set out how impacts on that vegetation is to be avoided or minimised;
- ii. a consolidated summary of native vegetation losses and required offsets, consistent with the Victorian native vegetation regulations (as incorporated in the planning scheme);
- iii. securing of offsets prior to native vegetation removal commencing;
- iv. explanation of how vegetation removal has been minimised by project design;
- v. protocols for compliance with relevant Victorian native vegetation regulations if native vegetation disturbance and removal cannot be avoided for the operation or decommissioning stages of the project;
- vi. a protocol for the protection of native vegetation on the wind energy facility site during the construction phase; and
- vii. procedures for the rehabilitation of construction zones with appropriate species that reflect pre-works vegetation composition.

~~A native vegetation management plan to be prepared in consultation with the Department of Sustainability and Environment. This plan must include:~~

~~A report by a suitably qualified person after the completion of a target spring survey of native vegetation in the vicinity of access points where a Vegetation Protection Overlay exists. The report should set out the findings of the targeted spring survey and, if vegetation listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999 is identified, set out how impacts on that vegetation is to be avoided or minimised;~~

~~requirements for consultation with the Department of Sustainability and Environment the Corangamite Shire Council in the preparation of any offset plan;~~

~~identification of offsets prior to native vegetation removal;~~

~~explanation of how vegetation removal has been minimised by project design;~~

~~a detailed and thorough description of how the native vegetation management framework's three step approach has been applied meets the requirements of the Biodiversity Assessment Guidelines (DEPI 2013);~~

~~protocols so that net gains will be undertaken if native vegetation disturbance and removal cannot be avoided for the construction, operation and decommissioning stages of the project; and~~

~~a protocol for the protection of native vegetation on the wind farm site during the construction phase; procedures for the rehabilitation of construction zones with appropriate pasture species.~~

g) A terrestrial fauna management plan that includes:

- i. training of construction staff in the recognition of any threatened terrestrial fauna species likely to be detected during construction; and

~~the the Striped Legless Lizard and the Fat-tailed Dunnart;~~

development of a protocol, in consultation with ~~the~~ [DELWP Environment Portfolio](#) ~~Department of Sustainability and Environment~~, that outlines actions to be taken if ~~such threatened species Striped Legless Lizard and the Fat-tailed Dunnart are~~ [are](#) detected during construction. ~~;~~ ~~and~~

development of a salvage protocol for the Striped Legless Lizard and the Fat-tailed Dunnart in consultation with ~~the Department of Sustainability and Environment.~~

- h) **A pest animal management plan** to be prepared in consultation with ~~the Department of Sustainability and Environment and the Department of Primary Industries~~ [DEDJTR](#) to the satisfaction of the Minister for Planning. This plan must include:
 - i. procedures for the control of pest animals, particularly by avoiding opportunities for the sheltering of pests; and
 - ii. follow-up pest animal control for all areas disturbed by the wind energy facility construction works for a period of two years following the completion of the wind energy facility.
- i) **A pest plant management plan** to be prepared in consultation with ~~the Department of Sustainability and Environment and the Department of Primary Industries~~ [DEDJTR](#) to the [satisfaction of the](#) Minister for Planning. This plan must include:
 - i. procedures to prevent the spread of weeds and pathogens from earth moving equipment and associated machinery including the cleaning of all plant and equipment before transport to the site and the use of road making material comprising clean fill that is free of weeds and weed seed;
 - ii. revegetation of disturbed areas; and
 - iii. a protocol to ensure follow-up weed control is undertaken on all areas disturbed through construction of the wind energy facility for a minimum period of 2 years following completion of the works.
- j) **A training program** for construction workers and permanent employees or contractors at the wind energy facility site including a site induction program relating to the range of issues addressed by the Environmental Management Plan.
- k) **A program for reporting** including a register of environmental incidents, non-conformances, complaints, corrective actions and advice on to whom the reports should be made.

~~A complaints management plan designed in accordance with Australian Standard Customer satisfaction – Guidelines for complaints handling in organizations (ISO 1002:2006) having regard to the guidance provided in The why and how of complaints handling HB 299-2006.~~

~~The complaints management plan will include procedures for:~~

~~readily accessible information on how complaints can be made free of cost to complainants;~~
~~immediate acknowledgement of complaints and regular and comprehensive feedback to complainants on actions proposed, their implementation and success or otherwise;~~
~~closure of complaints by agreement with complainants;~~
~~establishment and maintenance of a complaint register for the recording of receipt and acknowledgement of complaints, actions taken, success or otherwise of actions and complaint closure and for the register to be available to the public during normal working hours;~~
~~reporting of the contents of the complaint register to the responsible authority as required, and~~
~~regular, at least annual, auditing of the implementation of the complaints management plan with audit results being reported to the responsible authority.~~

A timetable for implementation of all programs and works identified in a plan referred to in Conditions 12.a) to 12.k) above.

13. The Environmental Management Plan must be reviewed and if necessary amended, in relation to matters pertaining to the continued operation of the wind energy facility, in consultation with Corangamite~~Golden Plains~~ Shire Council and where relevant DELWP Environment Portfolio to the satisfaction of the Minister for Planning every five (5) years to reflect operational experience and changes in environmental management standards and techniques and must be submitted to the Minister for Planning for re-endorsement.
14. The use and development must be carried out in accordance with the endorsed Environmental Management Plan to the satisfaction of the Minister for Planning.

BATS AND AVIFAUNA

15. Prior to commissioning of the first turbine~~Before the development starts,~~ a Bat and Avifauna Management Plan (BAM Plan) must be prepared in consultation with ~~the Department of Sustainability and Environment~~DELWP Environment Portfolio to the satisfaction of the Minister for Planning. When approved the plan will be endorsed and will then form part of the permit. The use must thereafter accord with the endorsed plan to the satisfaction of the Minister for Planning.

The BAM Plan must include:

- a) a statement of the objectives and overall strategy for detecting, managing and mitigating any significant bird and bat mortality~~strike~~ arising from the wind energy facility operations;
- b) a monitoring program of at least 2 years duration, either commencing upon the commissioning of the last turbine of the first stage of the approved development and use (if any) or alternatively such other time of commencement as is to the satisfaction of the Minister for Planning.

The monitoring program must include surveys during breeding and migratory seasons, and must aim to ascertain:

- a) the species, number, age and sex (if possible) and date of any bird or bat mortality arising from the operation of the wind energy facility~~strike~~;
- b) the number and species of birds and bats struck at lit versus unlit turbines;
- c) any seasonal and yearly variation in the number of bird and bat mortalities~~strikes~~;

~~whether further detailed investigations of any potential impacts on birds and bats are warranted.~~

~~Any such required further detailed investigations are to be undertaken in consultation with the Department of Sustainability and Environment and to the satisfaction of the Minister for Planning;~~

- d) ~~procedures for the reporting of any~~ detected threatened bird or threatened bat mortalities to DELWP Environment Portfolio within 7 days of becoming aware of any mortality, identifying where possible whether the mortality was by a lit or unlit turbine~~bird and bat strikes to the Department of Sustainability and Environment within 7 days of becoming aware of any strike identifying where possible whether the strike was by a lit or unlit turbine;~~
- e) seasonal information on the efficacy of searches for carcasses of birds and bats; and, ~~where practicable,~~ seasonal information on the rate of removal of carcasses by scavengers, so that correction factors can be determined to enable calculations of the total number of mortalities;

~~procedures for the regular removal of carcasses likely to attract raptors to areas near turbines;~~

- f) procedures for periodic reporting, within agreed timeframes, of the findings of the monitoring to the Minister for Planning, DELWP Environment Portfolio~~Department of Sustainability and Environment~~ and the local community;
- g) recommendations in relation to a mortality rate for specified species which would trigger the requirement for responsive mitigation or offset measures to be undertaken by the operator of the wind energy facility to the satisfaction of the Minister for Planning; and
- h) implementation measures developed in consultation with ~~the Department of Sustainability and Environment~~ DELWP Environment Portfolio that may be enacted to the satisfaction of the Minister for Planning to mitigate or offset any impacts detected during monitoring including turbine operation management and on-site or off-site habitat enhancement (including management or improvement of habitat or breeding sites).
- i) In relation to Brolga the plan must also include:
 - i. a thorough assessment ~~prepared~~ developed in consultation with ~~the Department of Sustainability and Environment~~ DELWP Environment Portfolio of the two Brolga sites and their significance to the wind

energy facility~~farm~~ layout with reference to the Interim Guidelines for Assessment, Avoidance, Mitigation and Offsetting of Potential Wind Farm Impacts on the Victorian Brolga Population 2011 (DSE 2012). Guidelines for Assessment of Potential Wind farm Impacts on Brolga (DSE 2009). The first site is approximately 1km east of the project near Wilgul – Werneth Road and between Urchs Road and Boundary Road~~W~~ whilst the second site is at the intersection of the Hamilton Highway and Foxhow – Rokewood Road. The assessment must include the results of fieldwork~~Fieldwork is to be~~ undertaken during flocking and/or breeding season as agreed with ~~the Department of Sustainability and Environment~~DELWP Environment Portfolio;

- ii. implementation of measures to increase power line visibility of any new lines constructed as part of the project through marking to mitigate bird collisions to the satisfaction of the Minister for Planning;
- iii. prior to development commencing consult with the Lismore Land Protection Group other local community members and DELWP Environment Portfolio~~the Department of Sustainability and Environment~~ to determine if there are any further known Brolga sites within 5 km of the proposed wind energy facility;
- iv. if further sites are found these must be reported to ~~the Department of Sustainability and Environment~~DELWP Environment Portfolio; and
- v. based on the above, if additional Brolga sites are found within 5 kilometres of the site, develop a mitigation program in consultation with of ~~the Department of Sustainability and Environment~~DELWP Environment Portfolio and to the satisfaction of the Minister for Planning.

Note: Consultation with the Lismore Land Protection Group and local community members is encouraged to be undertaken to inform the plan of any further known Brolga sites within 5 km of the proposed wind energy facility.

16. Following the completion of the monitoring program of at least 2 years duration as specified in condition 15.b), a report must be prepared by the operator of the wind energy facility setting out the findings of the program to the satisfaction of the Minister for Planning. If, after consideration of this report, the Minister for Planning directs that further investigation of potential or actual impacts on birds and bats is to be undertaken, the extent and details of the further investigation must be ~~to the satisfaction of the Department of Sustainability and Environment and the investigation must be carried out to the satisfaction of the Minister for Planning~~prepared in consultation with DELWP Environment Portfolio and to the satisfaction of the Minister for Planning, and the investigation must be carried out to the satisfaction of the Minister for Planning.

NOISE STANDARD

17. Except as provided below in this condition, the operation of the wind energy facility must comply with New Zealand Standard 6808: ~~1998~~ 2010 ~~The 'Acoustics -- Wind farm noise Assessment and Measurement of Sound from Wind Turbine Generators'~~ at any dwelling existing on land in the vicinity of the proposed wind energy facility as at the date of the issue of this permit, to the satisfaction of the Minister for Planning. The limits specified under this condition do not apply if an agreement has been entered into with the relevant landowner waiving the limits. Evidence of the agreement must be provided to the satisfaction of the Minister for Planning upon request, and be in a form that applies to the land for the life of the wind energy facility. ~~In determining compliance with the standard, the following requirements apply:~~

~~The sound level from the wind energy facility within 20 metres of any dwelling must not exceed a level of 40dBA (L95 or where the relation between background noise levels and wind speed has been determined by the method specified in Condition 20 of this permit, the background noise level by more than 5dBA or a level of 40dBA L95, whichever is the greater; compliance must be separately assessed for all time and night time. For the purpose of this requirement, night time is defined as 10.00pm to 7.00am; and~~

~~if the noise has a special audible characteristic the measured sound level must have a penalty of 5dBA applied.~~

~~Any dwelling on or off the subject land may be exempt from this condition. This exemption will be given effect through an agreement with the landowner that must apply to any occupant of the dwelling and must be registered on title. Such dwellings will be known as 'host dwellings'.~~

PREDICTIVE NOISE ASSESSMENT

18. When a final turbine type is selected the noise assessment must be repeated, other than background noise monitoring. The results of this must demonstrate compliance with the noise limits described in Condition 17 ~~without operation in noise management mode~~ and be submitted to and approved by the Minister for Planning.

NOISE COMPLIANCE ASSESSMENT

19. Before the development starts a noise compliance testing plan must be prepared by a suitably qualified acoustics expert to the satisfaction of the Minister for Planning.

When approved, the noise compliance testing plan will be endorsed ~~by~~ by the Minister for Planning and will then form part of this permit.

The use must be carried out in accordance with the noise compliance testing plan to the satisfaction of the ~~responsible authority~~ Minister for Planning.

The noise compliance testing plan must include:

- a) ~~a~~ determination of the noise limits to be applied during construction using the methodology prescribed in the EPA Noise Control Guidelines - publication 1254 released October 2008 ~~Interim Guidelines for the Control of Noise from Industry in Country Victoria, N3/89;~~

- b) a program of compliance testing to be implemented during the construction of the wind energy facility that:
 - vi. Is designed by a suitably qualified acoustic expert, and
 - vii. Utilises the methodology prescribed in *State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No N-1*, to demonstrate compliance with the limits determined in (a) above;
- c) a procedure for a near field compliance test of the first turbine commissioned at the wind energy facility; and
- d) a procedure for a final compliance test of the wind energy facility after the commissioning of the last turbine, such testing to:
 - i. consider compliance of the operational wind energy facility as a whole with the noise limits set under condition 17;
 - ii. be carried out according to the method described in NZS6808:2010 'Acoustics – Wind farm noise' or a method, designed by a suitably qualified acoustics expert, over a period no less than four (4) weeks; and
- (i) be undertaken within 4 months of the date on which the last turbine is commissioned.

The final compliance testing report provided to the Minister for Planning must include a summary of the results in terms that are aimed at a lay person, and must be accompanied by a report by an environmental auditor appointed under the Environment Protection Act 1970, containing the auditor's opinion on the methodology of the compliance testing.

If the proponent considers that a suitable auditor cannot be engaged, the proponent may seek the written consent of the Minister for Planning to obtain an independent peer review of the results of the noise compliance testing instead.

Compliance test results must be publicly available.

~~a response protocol for confirmed breaches including, but not limited to:~~

~~determination of the meteorological circumstances at the time of the breach and the operational status of the turbine(s) at that time;~~

~~noise optimisation of the relevant wind turbine(s) under the same meteorological circumstances as occurred at the time of the breach;~~

~~in the event of a further breach the selective shut down of the relevant wind turbine(s) or turbines in the same meteorological circumstances;~~

~~where under the same meteorological conditions subsequent confirmed noise breaches occur, the decommissioning of the relevant turbine(s);~~

~~register of complaints, responses and rectifications which may be inspected by the Minister for Planning and the Corangamite Shire Council; and~~

~~provision for review of the complaints, any necessary improvements and an evaluation process 12 months after commencement of the operation of the wind energy facility.~~

20. A detailed noise assessment be carried out in consultation with the owners of Lot 2 TP1324239C, Crown Allotment 16-21 Poliah South to determine an appropriate dwelling location.

COMPLAINT INVESTIGATION AND RESPONSE PLAN

21. Before the development starts, the permit holder must prepare a Complaint Investigation and Response plan to the satisfaction of the Minister for Planning. When approved, the plan will be endorsed by the Minister for Planning and will then form part of this permit. The Complaint Investigation and Response Plan will be designed to respond to all aspects of the wind energy facility including (but not limited to): operation noise, construction noise, construction impacts, traffic, quarry impacts, shadow flicker.
22. The endorsed complaints investigation and response plan must be publicly available on the wind energy facility operator's website.
23. The plan must be prepared in accordance with Australian/New Zealand Standard AS/NZS 10002:2014 – Guidelines for complaint management in organisations and shall include:
- a) a process of investigation to resolve a complaint
 - b) a requirement that all complaints will be recorded in an incidents register
 - c) how contact details will be communicated to the public
 - d) a toll free telephone number and email contact for complaints and queries
 - e) details of the appropriate council contact telephone number and email address (where available)
 - f) a table outlining complaint information for each complaint received, including:
 - (i) the complainant's name
 - (ii) any applicable property reference number if connected to a noise background testing location
 - (iii) the complainant's address
 - (iv) a receipt number for each complaint which is to be communicated to the complainant
 - (v) the time, prevailing conditions and description of the complainant's concerns including the potential incidence of special audible characteristics (for a noise complaint)
 - (vi) the processes of investigation to resolve the complaint.

24. A report including a reference map of complaint locations, and outlining complaints, investigation and remediation actions is to be provided on an annual basis to the satisfaction of the Minister for Planning.

BLADE SHADOW FLICKER

25. Shadow flicker from the wind energy facility must not exceed 30 hours per annum at the surroundings of any dwelling (garden fenced area) existing prior to the issue date of this permit.

~~This condition does not apply to any dwelling on land on which part of the wind energy facility is erected. (This exemption will be given effect through an agreement with the landowner that will apply to any occupant of the dwelling).~~ if the operator of the wind energy facility has entered into an agreement with a landowner under which the landowner acknowledges and accepts that shadow flicker may exceed 30 hours per annum at the landowner's dwelling.

Evidence of the agreement must be provided to the satisfaction of the Minister for Planning. ~~(This exemption will be given effect through an agreement with the landowner that will apply to any occupant of the dwelling).~~

26. A detailed shadow flicker assessment must be carried out in consultation with the owners of Lot 2 TP1324239C Crown Allotment 16-21 Poliah South to determine an appropriate dwelling location.

TELEVISION AND RADIO RECEPTION AND INTERFERENCE

27. A pre-construction survey must be carried out to the satisfaction of the Minister for Planning to determine television and radio reception strength at selected locations within 5kms of any wind turbine including non-stakeholder dwellings. The location of such monitoring is to be determined to the satisfaction of the Minister for Planning by an independent television and radio monitoring specialist appointed by the operator under this permit.

Note: For the purpose of this condition, a non-stakeholder means the land holder of an abutting property without a contract in respect of the installation of associated wind turbines on that person's property.

28. If, following commencement of the operation of the wind energy facility, a complaint is received regarding the wind energy facility having an adverse effect on television or radio reception at the site of any dwelling in the area which existed at the date of the pre-construction survey, a post-construction survey must be carried out at the dwelling.
29. If the post-construction survey establishes any increase in interference to reception as a result of the wind energy facility operations, the wind energy facility operator must undertake measures to mitigate the interference and return the affected reception to pre-construction quality at the cost of the wind energy facility operator and to the satisfaction of the Minister for Planning.

SECURITY

30. All site and wind turbine access points and electrical equipment must be locked when not in use and made inaccessible to the general public to the satisfaction of the responsible authority. Public safety warning signs must be located on all towers and all spare parts and other equipment and materials associated with the wind energy facility must be located in screened, locked storage areas that are inaccessible to the public to the satisfaction of the responsible authority.

PRELIMINARY INVESTIGATIVE WORKS

31. For the purposes of this permit, the carrying out of preliminary investigative works, including geotechnical investigations, for the purposes of gathering data or making other assessments necessary or desirable in order to prepare the development plan or other plans specified in this permit, is not considered to be commencement of the development.

DECOMMISSIONING

32. The wind energy facility operator must, no later than 2 months after any or all wind turbines have permanently ceased to generate electricity, notify the Minister for Planning in writing of the cessation of the use. Within a further ~~12~~¹⁸ months of this date, the owner of the wind energy facility ~~operator, or in the absence of the operator, the owner of the land on which the relevant turbine(s) is/are located,~~ must undertake the following to the satisfaction of the Minister for Planning within such timeframe as may be specified by the Minister:

- a) remove all above ground non-operational equipment;
- b) remove and clean up any residual spills or contamination;
- c) rehabilitate all storage, construction, access tracks and other areas affected by the project closure or decommissioning, if not otherwise useful to the on-going management of the land associated with the use, development and decommissioning of the wind energy facility;
- d) submit a decommissioning traffic management plan to the Minister for Planning and, when approved by the Minister for Planning, implement that plan; and
- e) submit a post-decommissioning revegetation management plan, including a timetable of works to the Minister for Planning and, when approved by the Minister for Planning, implement that plan.

STAGING

33. The use and development authorised by this permit may be completed in stages as shown on the endorsed development plan(s) to the satisfaction of the Minister for Planning, and any corresponding obligation arising under this permit (including compliance with plans or other requirements including noise monitoring, but not including the preparation and approval of the development plan under Condition 1 may be similarly completed in stages or parts.

EXPIRY

34. This permit will expire if one of the following circumstances applies:

- a) the development is not started within 3 years of the date of this permit;
- b) the development is not completed within 6 years of the date of this permit;
- c) the use has not commenced within two years of the completion of the development.

The Minister for Planning may extend the periods referred to if a request is made in writing before the permit expires, or within ~~three~~12 months afterwards.

PERMIT NOTES

35. This permit should be read in conjunction with ~~Golden Plains~~ Planning Permit No 20092820 which applies to the Berrybank wind energy facility within the Golden Plains Shire municipality.

Date Issued:

Signature for the Minister

THIS PERMIT HAS BEEN AMENDED AS FOLLOWS:

Date of amendment

Brief description of amendment

1 September 2016

Pursuant to Section 69 of the Planning and Environment Act 1987 this permit was extended so that the permit will expire if the development has not been completed by 24 August 2020.

Appendix E Panel Recommended Permit – Golden Plains

PLANNING PERMIT

Address of the Land:

The permit is based the post-exhibition permit submitted on 24 November 2017 (Document 20) The Panel accepted the majority of the track changes listed in that document and this Permit reflects the final recommendations of the Panel

Permit No: 20092820 - [A](#)

Golden Plains Planning Scheme:

Responsible Authority for Administration and Enforcement of this Permit: Golden Plains Shire Council

Land generally described as:

In Berrybank bounded by the Boundary Road, Bennets Road to the south and south east, Urches Road and Berrybank-Wallinduc Road to the north, Padgetts Lane and Berrybank-Wallinduc Road to the west, and then joining in to Boundary Road to the south.

The title details for this land is:

[Allot. 26A, 26B, 27A, 27B Parish of Naringhil South VOLUME 06242 FOLIO 306](#)

[Allot. 41A, 41B, 42A, 42B Parish of Naringhil South VOLUME 08727 FOLIO 668](#)

[Allot. 23C Parish of Naringhil South VOLUME 08386 FOLIO 958](#)

[Allot. 47C Parish of Naringhil South VOLUME 08499 FOLIO 819](#)

[Allot. 76C Parish of Naringhil South VOLUME 08499 FOLIO 820](#)

[Land in CP154273 VOLUME 09494 FOLIO 342](#)

[Lot 1 PS145474 VOLUME 09555 FOLIO 232](#)

[Lot 1 PS145475 VOLUME 09555 FOLIO 234](#)

[Lot 1 TP192022B VOLUME 09338 FOLIO 458](#)

[Lot 1 TP822385E VOLUME 09505 FOLIO 771](#)

[Lot 2 PS145474 VOLUME 10087 FOLIO 490](#)

[Lot 2 PS145475 VOLUME 10087 FOLIO 491](#)

[Lot 2 PS708458E VOLUME 11471 FOLIO 578](#)

[Lot 20 PS005519 VOLUME 03985 FOLIO 951](#)

[Lot 21 PS005519 VOLUME 11346 FOLIO 426](#)

[Lot 22 PS005519 VOLUME 03554 FOLIO 644](#)

[Lot 23 PS005520 VOLUME 08344 FOLIO 753](#)

[Lots 24 and 25 PS005520 VOLUME 03726 FOLIO 076](#)

[Lot 26 PS005520 VOLUME 10635 FOLIO 991](#)

[Lot 32 PS005520 VOLUME 10861 FOLIO 956](#)

[Lot 1 PS708458E Vol 08067 Fol 780 Cancelled](#)

[Lot 1 on PS 723420V VOLUME 11853 FOLIO 461](#)

[Lot 2 on PS 723420V VOLUME 11853 FOLIO 462](#)

[Road Reserve Description](#)

[Berrybank-Wallinduc Road access track described as land adjacent to Lot 22 LP5519 and Allot. 47C PARISH OF NARINGHIL SOUTH](#)

~~Berrybank-Wallinduc Road transmission line described as land adjacent to Allotment 76C Parish of Naringhil South and Lot 2 on PS723420~~

[Lismore-Scarsdale Road transmission line described as land adjacent to Lot 14 on LP5519 and Lot 2 on LP112823](#)

[Bennetts Road access track described as land north west of Lot 1 TP822385, north east of Lot 1 TP192022, south west of Lot 24 LP5520 and south east of Allot. 23C PARISH OF NARINGHIL SOUTH](#)

[Berrybank Road access track described as land adjacent to Allotments 42A and 42B Parish of Naringhil South](#)

~~Lot 2 PS145474 Vol 09555 Fol 233~~

~~Lot 1 PS145474 Vol 07797 Fol 199~~

~~Lot 2 PS145475 Vol 09555 Fol 235~~

~~Lot 1 PS145475 Vol 07797 Fol 199~~

~~Allot. 41A, 41B, 42A, 42B Parish of Naringhil South Vol 05841 Fol 154~~

~~Allot. 26A, 26B, 27A, 27B Parish of Naringhil South Vol 05841 Fol 154~~

~~Lot 32 PS005520 Vol 08079 Fol 314~~

~~Lot 1 TP192022B Vol 03726 Fol 077~~

~~Lot 1 TP822385E Vol 09366 Fol 892~~

~~Land in CP154273 Vol 09482 Fol 582~~

~~Lot 26 PS005520 Vol 03623 Fol 549~~

~~Lots 24 and 25 PS005520 Vol 03160 Fol 993~~

~~Lot 23 PS005520 Vol 03726 Fol 069~~

~~Allot. 23C Parish of Naringhil South~~

~~Lot 2 PS708458E Vol 08067 Fol 780~~

Lot 1 PS708458E Vol 08067 Fol 780

~~Allot. 47C Parish of Naringhil South Vol 08386 Fol 216~~

~~Allot. 76C Parish of Naringhil South Vol 08386 Fol 216~~

~~Lot 22 PS005519 Vol 03160 Fol 993~~

~~Lot 20 PS005519 Vol 03843 Fol 578~~

Lot 21 PS005519 Vol 03554 Fol 644

The Permit allows: Use and development of land for a Wind Energy Facility ~~(comprising up to 49 generators)~~, including anemometers ~~(wind monitoring masts)~~, business identification signage, access roads, sub-station, water storage tanks and removal of native vegetation subject to conditions.

THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT:

DEVELOPMENT PLANS

1. Before the development starts, development plans must be prepared to the satisfaction of the Minister for Planning. When approved, the plans will be endorsed by the Minister for Planning and will then form part of this permit. The plans must be drawn to scale with dimensions ~~and three (3) copies must be provided.~~

The plans must:

- a) show the location, setbacks to property boundaries, layout and dimensions of all on-site buildings and works including all wind turbines, access tracks, underground cables, temporary concrete batching plant, the sub-station, the switchyard, landscaping, any designated car parking areas, and ancillary works, such as construction compounds, fire fighting infrastructure and water tanks, as well as off-site road works;
- b) show global positioning system coordinates using WGS84 datum for each turbine;
- c) show details of the model and capacity of the wind turbines to be installed;
- d) show dimensions, elevations, materials and finishes of the wind turbines and other buildings and works;
- e) show the location, size, type and intensity of any aviation lighting, including any directional screening;
- f) show any directional signage and any required safety signage;

- g) show business identification signage including dimensions, details, colours and graphics;
- h) include any staging of development; and
- i) be generally in accordance with the application plan (Access and Infrastructure reference 308298-PD AL-1 Revision 5) but modified to show:
 - i. No turbines are located closer than 1000 metres from any non stakeholder dwelling existing prior to the issue date of this permit.
 - ii. Changes to track layouts as a result of fire planning.

Note: For the purpose of this condition, a non-stakeholder means the land holder of an abutting property without a contract for the installation of the permitted wind turbines on that person's property.

~~2. The use and development as shown on the endorsed plans must not be altered or modified without the written consent of the Minister for Planning, except that the micro-siting of wind turbines and consequential micro-siting of associated tracks and reticulation lines as defined below, does not require consent and will be viewed generally in accordance with the endorsed plans.~~

~~3. Note: For the purpose of this condition, micro-siting of wind turbines:~~

~~4. is where the siting of a wind turbine is altered by not more than 100 metres but is not relocated closer to a nearby boundary of a non-stakeholder property than shown on the endorsed plans;~~

~~5. includes any consequential changes to access tracks and electricity reticulation lines; and~~

~~6. is only allowed where: the Minister for Planning is satisfied that the relocation of the turbine(s) and associated access track(s) and reticulation lines(s) will not give rise to an adverse change to assessed landscape, vegetation, cultural heritage, visual amenity, shadow flicker, noise, fire risk or aviation impacts when compared to the site shown on the endorsed plans.~~

~~7. To this end any request for confirmation of the Minister's satisfaction must be accompanied by supporting material addressing the above matters as relevant.~~

~~8. the developer of the wind energy facility has written advice from appropriately qualified experts that the alteration or modification will not result in a material adverse change in landscape, flora and fauna, cultural heritage, visual amenity, shadow flicker, noise, fire risk or aviation impacts compared to the endorsed plans;~~

~~9. the turbine is not relocated so that it is within 1 km of a dwelling that existed on [insert date] unless evidence has been provided to the satisfaction of the responsible authority that the owner of the dwelling has consented in writing to the location of the turbine;~~

~~10. the turbine is not relocated so that it results in the removal of any additional remnant native vegetation, unless that removal has been authorised by a planning permit; and~~

~~11. no turbine base is located within:~~

- ~~12. 100 metres from a Road Zone Category 1 or land in a Public Acquisition Overlay to be acquired for a road;~~
- ~~13. 40 metres from a Road Zone Category 2;~~
- ~~14. 20 metres from any other road;~~
- ~~15. 5 metres from the site boundary;~~
- ~~16. 50 metres from a waterway, wetlands or designated flood plain; or~~
- ~~17. within an exclusion zone of any licensed communications link.~~
- ~~18. Any micro-siting of turbines in accordance with this condition will be regarded as being in accordance with the endorsed plans, and no consent under condition 2 will be required to reflect the micro-siting of turbines in compliance with this condition.~~
- ~~19. For the purpose of this condition, micro-siting of turbines means an alteration to the siting of a turbine by not more than 100 metres.~~
- ~~20. For the purposes of this condition, micro-siting of turbines includes any consequential changes to access tracks and electricity reticulation lines and the measurement of any distance between a dwelling and a turbine must be from the centre of the tower of the turbine (at ground level) to the closest point of the dwelling.~~
- ~~21. Copies of the written advice referred to in this condition must be provided to the Minister for Planning.'~~

- 2. The use and development must be generally in accordance with the endorsed plans. The endorsed plans must not be altered or modified without the written consent of the Minister for Planning.

Micro-siting of wind turbines will be considered as generally in accordance with the endorsed plans, provided that:

- a) the developer of the wind energy facility has written advice from appropriately qualified experts that the alteration or modification will not result in material adverse change in landscape, vegetation, fauna, cultural heritage, visual, shadow or noise impacts compared to the endorsed plans;
- b) No turbine located more than a kilometres from a dwelling is moved to within 1 km of a dwelling that existed on the date the application was lodged and which was not the subject of written consent of the owner as at that date, unless evidence has been provided to the satisfaction of the Minister for Planning that the owner of the dwelling has consented in writing to the location of the turbine;
- c) The micro-siting does not result in the removal of native vegetation, unless that removal has been authorised by a planning permit.

The measurement of any distance between a dwelling and a turbine must be from the centre of the turbine tower at ground level to the closest point of the dwelling.

For the purpose of this condition, 'micro-siting of turbines' means:

- a) an alteration to the siting of a turbine by not more than 100 metres; and
- b) any consequential changes to access tracks, internal power cable routes and other related infrastructure.

Plans and global positioning system coordinates of the relocated turbines and copies of the advice referred to in condition 2a) must be provided to the Minister for Planning.

SPECIFICATIONS

3. Except with the consent of the Minister for Planning, the wind energy facility must meet the following requirements:

- a) the wind energy facility must comprise no more than ~~49~~ 41 wind turbines;
- b) the overall maximum height of the wind turbines (to the tip of the rotor blade when vertical) must not exceed ~~131~~ 180 metres above natural ground level;
- c) wind turbines must be mounted on a tubular tower
- d) each wind turbine is to have not more than three rotor blades, ~~with each blade having a length of no greater than 49 metres and the lowest point of a sweep of the rotor blade tip must not be less than 40 metres above ground level at the turbine base;~~
- e) the transformer associated with each wind generator must be located beside each tower and pad mounted, or be enclosed within the tower structure;
- f) the wind turbine towers, nacelles and rotor blades must be of a colour or have such markings that minimise ground level impact to the satisfaction of the Minister for Planning;
- g) the colours and finishes of all other buildings and ancillary equipment must be such as to minimise the impact of the development on landscape to the satisfaction of the Minister for Planning;
- h) access tracks within the site are to be sited and designed to minimise impacts on overland flows, soil erosion, the landscape value of the site, environmentally sensitive areas and, where appropriate, the farming activities on the land to the satisfaction of the Minister for Planning;
- i) new on-site electricity reticulation lines associated with the wind energy facility must be placed under the ground;
- j) on-site fire fighting infrastructure must be provided in accordance with Condition 13.e);
- k) strategic fire breaks must be provided within the wind energy facility boundaries free of raised bed cropping to the satisfaction of the Minister for Planning on advice from the Country Fire Authority (CFA); and
- l) where possible any new above ground power lines associated with the wind energy facility be oriented parallel to the prevailing wind direction.

LANDSCAPE/VISUAL AMENITY

4. Before the development starts, an on-site landscape plan must be prepared to the satisfaction of the Minister for Planning. When approved, the plan will be endorsed and will then form part of this permit. The plan must include:
- a) landscaping to screen the substation, switchyard and associated buildings other than the turbines;
 - b) details of plant species proposed to be used in the landscaping, including height and spread at maturity;
 - c) a timetable for implementation of all landscaping works;
 - d) a maintenance and monitoring program; and
 - e) surfacing of access tracks in a manner which does not unduly contrast with the landscape;
 - f) Fencing or appropriate methods by which the landscaping on-site will be protected from agricultural uses and vermin; -

~~The landscaping as shown on the endorsed on-site landscaping plan must be completed to the satisfaction of the Minister for Planning in accordance with the implementation timetable.~~
The on-site landscaping as shown on the endorsed landscaping plan must be maintained to the satisfaction of the Minister for Planning, including that any dead, diseased or damaged plants are to be replaced.

- ~~5. Within six (6) months of the date of endorsement of the development plan under Condition 1, Before any turbine is commissioned:~~
- ~~6. a program of voluntary landscape mitigation works to the satisfaction of the Minister for Planning must be made available to the owners of dwellings within 3-4 kilometres of the nearest turbine.~~
- ~~7. if a program of voluntary landscape mitigation works is accepted by one or more owners under Condition 5(a), as part of that program, an off-site landscaping plan must be prepared in consultation with the landowners specified in Condition 5(a) to the satisfaction of the Minister for Planning. When approved the plan will be endorsed and will then form part of this permit.~~
- ~~8. The plan must provide details of planting or other treatments that will be used to reduce the visual impact of the wind turbines at the dwellings of the participating landowners.~~
- ~~9. The off-site landscape plan must include:~~
- ~~10. details of the plant species to be used, including the height and spread of plants at maturity and their suitability in terms of;~~
- ~~11. appropriateness for local conditions (may include indigenous and exotic species);~~
- ~~12. fire safety (low combustibility); and~~
- ~~13. impact on native vegetation (weed propensity, overshadowing of remnants on roadsides).~~

- ~~14. use of a mix of tubestock and advanced planting with good survival potential to provide immediate and long term screening;~~
- ~~15. reinforcement planting for existing senescent vegetation;~~
- ~~16. maintenance of landscaping for at least three years; and~~
- ~~17. a timetable for implementation of the landscaping works.~~
- ~~18. The landscaping as shown on the endorsed off site landscape plan required must be completed to the satisfaction of the Golden Plains Shire Council within 12 months of the completion of the development or any relevant stage of it, at the cost of the operator under this permit and thereafter maintained to the satisfaction of the Golden Plains Shire Council.~~
5. Before the erection of turbine towers, an Off-site Landscaping Program must be submitted to the Minister for Planning for endorsement. Once endorsed, the program will form part of this permit.

The Off-site Landscaping Program must:

- a) Provide for off-site landscaping or other treatments to reduce the visual impact of the turbines from any dwelling within 4 kilometres of any turbine.
- b) Include a methodology for determining:
 - (i) the type of landscaping treatments to be proposed;
 - (ii) a timetable for establishing and maintaining the landscaping for at least two years.
- c) Include a process for making offers to affected landowners to:
 - (i) undertake landscaping on the landowner's land, or
 - (ii) make a cash contribution in lieu of landscaping that is sufficient to cover the cost of the landowner establishing and maintaining the landscaping for a period of at least two years.
- d) Include a process for recording:
 - (i) offers that have been made to landowners;
 - (ii) whether or not the offers are accepted;
 - (iii) when and how offers are actioned following acceptance.

The endorsed Off-site Landscaping Program must be implemented to the satisfaction of the Minister for Planning. The endorsed Off-site Landscaping Program must not be altered or modified without the written consent of the Minister for Planning.

An initial progress report regarding the implementation of the endorsed Off-site Landscaping Program must be provided to the Minister for Planning within one year of the date of the endorsement of the plans. A further report must be provided upon the completion of the endorsed Off-site Landscaping Program.

LIGHTING INCLUDING AVIATION OBSTACLE LIGHTING

6. Except in the case of an emergency or any operational call-out, no external lighting of infrastructure associated with the wind energy facility, other than low-level, low-intensity security lighting and aviation lighting in accordance with Condition 7 below, may be installed or operated without the further written consent of the Minister for Planning.

~~7. Aviation obstacle lighting must not be installed unless the written consent of the Minister for Planning has been obtained.~~

~~8. If consent to install aviation obstacle lighting is obtained it must be installed under the following conditions:~~

~~9. The aviation obstacle lighting must be installed such that it is activated only:~~

~~10. if at night, when an aircraft is in the immediate vicinity of the wind energy facility; and~~

~~11. during low visibility daytime conditions such as the existence of smoke and fog.~~

~~12. for each lit turbine, the lighting must consist of a pair of lights mounted above the nacelle so that one is visible from an aircraft approaching from any direction;~~

~~13. each light must be a red medium intensity, flashing light as defined by Civil Aviation Safety Authority (CASA); each light must be shielded so as to restrict the vertical spread of light to not more than 3 degrees and light spread below the horizontal to not more than 1.0 degree;~~

~~14. all lights must flash in unison;~~

~~15. the duration of the light flash must be the minimum period recommended by CASA and the duration of the period between the flashes must be the maximum period recommended by CASA;~~

~~16. before the wind farm is commissioned, a lighting maintenance plan must be prepared to the satisfaction of the Minister for Planning.~~

7. Obstacle lighting for aviation safety must meet the following requirements, to the satisfaction of the Minister for Planning:

- a) The number of lit turbines are kept to the minimum required, and generally in accordance with the Obstacle Lighting Design V0.3 151019 included in the 'Berrybank Wind Farm Aeronautical Impact Assessment' (Ref. 100402-02 V1.0 dated 22 February 2016) prepared by Aviation Projects. The lighting design herein is subject to confirmation of the final turbine layout as any changes to the layout could potentially affect which turbines should be lit in accordance with the 900 metres interval consideration.~~such that the wind farm is not declared a hazard aviation.~~
- b) The turbines referred to in condition 7.a) are to be lit with two steady red low intensity lighting at night as per Section 9.4 of the CASA Manual of Standards Part 139.
- c) The impact minimisation features allowed that should be installed including, but not limited to:

- (i) Treatment of the rear of the blade to avoid reflection of aviation lights; and
 - (ii) Shielding of the lights on the top and bottom such that the maximum intensity of light is limited to a beam of 3 degrees, with only 0.5 degrees of this beam width below the horizon.
- d) The frequency range of the LED light emitted should fall within the range of wavelengths 655 to 930 nanometres to comply with requirements from Department of Defence to enable the lighting to be visible to persons using night vision devices.

The requirements of this condition may be altered or modified with the written consent of the Minister for Planning.

AVIATION SAFETY CLEARANCES

8. Within 14 days of approval, copies of the endorsed development plans must be provided to CASA, the Department of Defence (RAAF Aeronautical Information Service), Airservices Australia, any aerodrome operator within 15 km, the Aerial Agriculture Association of Australia and to any organisation responsible for providing air ambulance services in the area, to enable details of the wind energy facility to be shown on aeronautical charts of the area. Any subsequent changes to turbine location or height on the endorsed plans must be provided to Airservices Australia to enable the changes to be shown on aeronautical charts of the area.

TRAFFIC MANAGEMENT

9. Prior to the development of a traffic management plan an accurate reassessment of vehicle numbers for over dimensional, heavy duty and light vehicles must be undertaken in consultation with Golden Plains Shire Council and VicRoads to the satisfaction of the Minister for Planning.
10. Once heavy haulage transportation routes are known, ~~before development starts~~ a traffic management plan must be prepared in consultation with Golden Plains Shire Council and VicRoads to the satisfaction of the Minister for Planning. When approved, the plan will be endorsed and will then form part of this permit. The plan must include:
- a) separate components for construction and operation of the wind energy facility;
 - b) an existing conditions survey of public roads developed in consultation with Golden Plains Shire Council and VicRoads (as relevant) that may be used for access and designated construction transport vehicle routes in the vicinity of the wind energy facility, including details of the suitability, design, condition and construction standard of the roads;
 - c) the designation of appropriate construction and transport vehicle routes to the wind energy facility site;

- d) the designation of operating hours and speed limits for trucks on routes accessing the site so as to avoid school bus routes and school bus times where relevant, and to provide for resident safety;
 - e) the identification and timetabling of any required pre-construction works;
 - f) the identification of any areas of indigenous roadside vegetation that may require removal or pruning, the pruning practices to be followed and the planning permit requirements for removal of native vegetation;
 - g) the designation of all vehicle access points to the wind energy facility from surrounding roads. The location and detailed design of the connection between the internal access tracks and the public roads must ensure safe sight distances, turning movements, and avoid potential through traffic conflicts;
 - h) measures to be used to manage traffic impacts associated with the ongoing operation of the wind energy facility on the traffic volumes and flows on surrounding roads;
 - i) a program of regular inspections to be carried out during the construction period to identify maintenance works necessary as a result of construction traffic in consultation with Golden Plains Shire Council and VicRoads (as relevant);
 - j) a program to rehabilitate roads to the condition identified by the surveys required above by Condition 10.b) developed in consultation with Golden Plains Shire Council and VicRoads (as relevant); and
 - k) if required by Golden Plains Shire Council, the payment of a security deposit or bond for a maintenance period of 12 months in respect of works covered by the Traffic Management Plan. Such security deposit or bond is to be applied to roadwork not completed under the Traffic Management Plan or to be released at the end of that period.
11. The traffic management and road upgrade and maintenance works associated with the wind energy facility must be carried out in accordance with the traffic management plan to the satisfaction of the Minister for Planning on advice from Golden Plains Shire Council and VicRoads (as relevant) and the cost of any works including maintenance are to be at the expense of the permit holder.

ENVIRONMENTAL MANAGEMENT PLAN

12. Before the development starts, an environmental management plan must be prepared to the satisfaction of the Minister for Planning, in consultation with ~~the DELWP~~ Environment Portfolio ~~Department of Sustainability and Environment~~, Golden Plains Shire Council, Country Fire Authority and other agencies as specified in this condition or as further directed by the Minister for Planning. The environmental management plan may be prepared in sections or stages. When approved, the plan will be endorsed by the Minister for Planning and will then form part of this permit.
13. The environmental management plan must include the following:

- a) **A construction and work site management plan** which must include:
- i. procedures for access, noise control, dust emissions, spills and leaks from the handling of fuels and other hazardous materials and pollution management. Such construction and work site procedures are to be in accordance with EPA requirements;
 - ii. procedures for identifying and reporting the presence of Aboriginal artefacts, [in consultation with Aboriginal Victoria](#);
 - iii. the identification of all potential contaminants stored on site;
 - iv. the identification of all construction and operational processes that could potentially lead to water contamination;
 - v. the identification of appropriate storage, construction and operational methods to control any identified contamination risks;
 - vi. the identification of waste re-use, recycling and disposal procedures;
 - vii. appropriate sanitary facilities for construction and maintenance staff in accordance with the EPA Publication 891.1 *Septic Tanks Code of Practice*;
 - viii. a timetable, where practicable for the construction of turbine bases, access tracks and power cabling during warmer months to minimise impacts on ephemeral wetlands, local fauna and sediment mobilisation;
 - ix. procedures to ensure that construction vehicles and equipment use designated tracks and works areas to avoid impacts on native vegetation;
 - x. [Procedures to protect native fauna from open trenches and holes at night time and after excavation](#) ~~the covering of trenches and holes at night time and to fill trenches as soon as practical after excavation, to protect native fauna~~; and
 - xi. the removal of works, buildings and staging area on completion of construction of the project.
- b) **A sediment, erosion and water quality management plan.** This plan must be prepared in consultation with the Corangamite Catchment Management Authority, Environmental Protection Agency and other authorities as may be directed by the Minister for Planning. The plan must include:
- i. procedures to ensure that silt from batters, cut-off drains, table drains and road works is retained on the site during and after construction and replaced as soon as possible. To this end:
- all land disturbances must be confined to a minimum practical working area;
 - soil to be removed must be stockpiled and separate soil horizons must be retained in separate stockpiles and not mixed and replaced as soon as possible in sequence; and

- stockpiles must be located away from drainage lines;
 - ii. criteria for the siting of any temporary concrete batching plant associated with the development of the wind energy facility and the procedure for its removal and reinstatement of the site once its use finishes. The establishment and operation of any such temporary concrete batching plant must be designed and operated in accordance with the Environment Protection Authority Publication 628 *Environmental Guidelines for the Concrete Batching Industry*;
 - iii. the installation of geo-textile silt fences (with sedimentation basins where appropriate) on all drainage lines from the site which are likely to receive run-off from disturbed areas;
 - iv. procedures to suppress dust from construction-related activities. Appropriate measures may include water spraying of roads and stockpiles, stabilising surfaces, temporary screening and/or wind fences, modifying construction activities during periods of heightened winds and revegetating exposed areas as soon as practicable;
 - v. procedures to ensure that steep batters are treated in accordance with Environment Protection Authority Publication 275 *Construction Techniques for Sediment Pollution Control*;
 - vi. procedures for waste water discharge management;
 - vii. a process for overland flow management to prevent the concentration and diversion of waters onto steep or erosion prone slopes;
 - viii. pollution management measures for stored and stockpiled materials including waste materials, litter, contaminated run-off and any other potential source of pollution to ground or surface waters;
 - ix. incorporation of pollution control measures outlined in EPA Publication 480 *Environmental Guidelines for Major Construction Sites*;
 - x. siting of concrete batching plant and any on-site wastewater and disposal and disposal treatment fields at least 100 metres from any watercourse;
 - xi. appropriate capacity and an agreed program for annual inspection and regular maintenance of any on-site wastewater management system constructed to service staff, contractors or visitors; and
 - xii. a program of inspection and remediation of localised erosion within a specified response time.
- c) A **blasting plan**. This plan is only required if blasting is proposed to be undertaken at the site as part of the construction of the wind energy facility. The plan must include the following:
 - i. name and qualification of the person responsible for blasting;

- ii. a description of the location of where the explosives will be used, and the location of every licensed bore on any property with an adjoining boundary within 1km of the location of the blasting;
 - iii. a requirement for the identification and assessment of any potentially sensitive site within 1 km of the location of the blasting, including the procedure for pre-blast and post-blast qualitative measurement or monitoring at such site;
 - iv. the procedure for site clearance and post blast reoccupation;
 - v. the procedure for the storage and handling of explosives;
 - vi. a requirement that blasting only occur after at least 48 hours prior notification in writing of the intention to undertake blasting has been given to the occupants of the properties which are located in whole or in part within 1km of the location of the proposed blasting; and
 - vii. a requirement that blasting only be undertaken between the hours of 8am and 4pm.
- d) A **hydrocarbon and hazardous substances plan**. The plan must include:
- i. procedures for any on-site, permanent post-construction storage of fuels, lubricants or waste oil to be in bunded areas; and
 - ii. contingency measures to ensure that any chemical or oil spills are contained on-site and cleaned up in accordance with Environment Protection Authority requirements.
- e) A ~~bushfire~~**wildfire** **prevention and emergency response plan** prepared to the satisfaction of the Minister for Planning and in consultation with Country Fire Authority, ~~the DELWP Environment Portfolio~~**Department of Sustainability and Environment** and Golden Plains Shire Council. This plan must include and consider:
- i. the provision of strategic fire suppression and access areas through the wind ~~energy facility~~**farm** clear of raised bed cropping.
 - ii. constructed roads should be a minimum of (4) four metres trafficable width a with a four metre (4m) vertical clearance for the width of the formed road.
 - iii. roads should be constructed to a standard so that they are accessible in all weather conditions and capable of accommodating a vehicle of 15 tonnes for the trafficable road width;
 - iv. the average grade of should be no more than 1 in 7 (14.4%) (8.1°) with a maximum of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres;
 - v. dips in the road should have no more than a 1 in 8 (12.5%) (7.1 °) entry and exit angle;

- vi. water access points shall be located in safe easily identifiable areas, accessible in all weather conditions;
- vii. water access points should be designed, constructed and maintained for a load limit of at least 15 tonnes;
- viii. a turning point with a minimum radius of 10 metres is required for fire appliances at all water access points;
- ix. fire brigade appliances should be able to park within four (4) metres of the water supply outlet on a hard standing area;
- x. bulk static water storages (22500 Litre) should be provided adjacent to main access tracks for fire fighting. Locations should be determined in consultation with CFA Fire safety officers and with operational staff;
- xi. all tanks should be manufactured with at least one (preferably two) 64mm, 3 thread/25mm x 60 mm nominal bore British Standard Pipe (BSP) round male coupling 50 mm from their base. Outlets should be a minimum of two (2) metres apart;
- xii. water access points are to be marked by appropriate signage as per CFA's *Guidelines for Identification of Street Hydrants for Fire Fighting Purposes*;
- xiii. grass should be no more than 100mm in height and leaf litter no more than 10mm deep for a distance of (30) thirty metres around constructed buildings and viewing platforms.
- xiv. a fuel reduced area of (4) four metres should be maintained around the perimeter of electricity compounds and sub station type facilities;
- xv. there should be no long grass or deep leaf litter in areas where plant and heavy equipment will be working;
- xvi. all plant and heavy equipment should carry at least one 9 Litre Water Stored pressure fire extinguisher with a minimum rating of 3A;
- xvii. internal fire protection systems, where appropriate, to assist with fire suppression.
- xviii. lighting protection devices, where appropriate, installed ~~on~~ at the wind energy facility ~~each wind farm~~;
- xix. dedicated monitoring systems within each wind turbine that detect temperature increases in turbines and shuts them down when the threshold temperature is reached;
- xx. construction of the wind energy facility ~~farm~~ outside the fire season where possible;
- xxi. a program of training of volunteer and paid CFA personnel in fire suppression in and around the wind energy facility.

~~Note: For the purpose of this condition, consultation with the CFA must include CFA at headquarters level, the CFA Regional Office and local volunteer brigades on and surrounding the wind energy facility.~~

- f) A native vegetation management plan to be prepared in consultation with DELWP Environment portfolio. This plan must include:
 - i. a report by a suitably qualified person after the completion of a target spring survey of native vegetation in the vicinity of access points where a Vegetation Protection Overlay exists. The report should set out the findings of the targeted spring survey and, if vegetation listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999 is identified, set out how impacts on that vegetation is to be avoided or minimised;
 - ii. a consolidated summary of native vegetation losses and required offsets, consistent with the Victorian native vegetation regulations (as incorporated in the planning scheme);
 - iii. securing of offsets prior to native vegetation removal commencing;
 - iv. explanation of how vegetation removal has been minimised by project design;
 - v. protocols for compliance with relevant Victorian native vegetation regulations if native vegetation disturbance and removal cannot be avoided for the operation or decommissioning stages of the project;
 - vi. a protocol for the protection of native vegetation on the wind energy facility site during the construction phase; and
 - vii. procedures for the rehabilitation of construction zones with appropriate species that reflect pre-works vegetation composition.

~~14. A native vegetation management plan to be prepared in consultation with the Department of Sustainability and Environment. This plan must include:~~

~~15. a report by a suitably qualified person after the completion of a target spring survey of native vegetation in the vicinity of access points where a Vegetation Protection Overlay exists. The report should set out the findings of the targeted spring survey and, if vegetation listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999 is identified, set out how impacts on that vegetation is to be avoided or minimised;~~

~~16. requirements for consultation with the Department of sustainability and Environment and Golden Plains Shire Council in the preparation of any offset plan;~~

~~17. identification of offsets prior to native vegetation removal;~~

~~18. explanation of how vegetation removal has been minimised by project design;~~

~~19. a detailed and thorough description of how the native vegetation management framework's three-step approach has been applied meets the requirements of the Biodiversity Assessment Guidelines (DEPI 2013);~~

~~20. protocols so that net gains will be undertaken if native vegetation disturbance and removal cannot be avoided for the construction, operation and decommissioning stages of the project; and~~

~~21. a protocol for the protection of native vegetation on the wind farm site during the construction phase; procedures for the rehabilitation of construction zones with appropriate pasture species.~~

g) **A terrestrial fauna management plan** that includes:

- i. training of construction staff in the recognition of any threatened terrestrial fauna species likely to be detected during construction; and
- ~~ii. the the Striped Legless Lizard and the Fat-tailed Dunnart;~~
- iii. development of a protocol, in consultation with ~~the DELWP Environment Portfolio~~Department of Sustainability and Environment, that outlines actions to be taken if such threatened species ~~Striped Legless Lizard and the Fat-tailed Dunnart are~~ are detected during construction; ~~and~~
- iv. ~~development of a salvage protocol for the Striped Legless Lizard and the Fat-tailed Dunnart in consultation with the Department of Sustainability and Environment.~~

h) **A pest animal management plan** to be prepared in consultation with ~~the Department of Sustainability and Environment and DEDJTR~~the Department of Primary Industries to the satisfaction of the Minister for Planning. This plan must include:

- v. procedures for the control of pest animals, particularly by avoiding opportunities for the sheltering of pests; and
- vi. follow-up pest animal control for all areas disturbed by the wind energy facility construction works for a period of two years following the completion of the wind energy facility.

i) **A pest plant management plan** to be prepared in consultation with ~~the Department of Sustainability and Environment and DEDJTR~~the Department of Primary Industries to the satisfaction of the Minister for Planning. This plan must include:

- vii. procedures to prevent the spread of weeds and pathogens from earth moving equipment and associated machinery including the cleaning of all plant and equipment before transport to the site and the use of road making material comprising clean fill that is free of weeds and weed seed;
- viii. revegetation of disturbed areas; and
- ix. a protocol to ensure follow-up weed control is undertaken on all areas disturbed through construction of the wind energy facility for a minimum period of 2 years following completion of the works.

- j) **A training program** for construction workers and permanent employees or contractors at the wind energy facility site including a site induction program relating to the range of issues addressed by the Environmental Management Plan.
 - k) **A program for reporting** including a register of environmental incidents, non-conformances, complaints, corrective actions and advice on to whom the reports should be made.
 - ~~l) A complaints management plan designed in accordance with Australian Standard Customer satisfaction – Guidelines for complaints handling in organizations (ISO 1002:2006) having regard to the guidance provided in The why and how of complaints handling HB 299-2006.~~
 - ~~m) The complaints management plan will include procedures for:~~
 - ~~n) readily accessible information on how complaints can be made free of cost to complainants;~~
 - ~~o) immediate acknowledgement of complaints and regular and comprehensive feedback to complainants on actions proposed, their implementation and success or otherwise;~~
 - ~~p) closure of complaints by agreement with complainants;~~
 - ~~q) establishment and maintenance of a complaint register for the recording of receipt and acknowledgement of complaints, actions taken, success or otherwise of actions and complaint closure and for the register to be available to the public during normal working hours;~~
 - ~~r) reporting of the contents of the complaint register to the responsible authority as required, and~~
 - ~~s) regular, at least annual, auditing of the implementation of the complaints management plan with audit results being reported to the responsible authority.~~
 - t) **A timetable for implementation** of all programs and works identified in a plan referred to in Conditions 13.a) to 21.k) above.
13. The Environmental Management Plan must be reviewed and if necessary amended, in relation to matters pertaining to the continued operation of the wind energy facility, in consultation with Golden Plains Shire Council and where relevant DELWP Environment Portfolio to the satisfaction of the Minister for Planning every five (5) years to reflect operational experience and changes in environmental management standards and techniques and must be submitted to the Minister for Planning for re-endorsement.
14. The use and development must be carried out in accordance with the endorsed Environmental Management Plan to the satisfaction of the Minister for Planning.
- BATS AND AVIFAUNA**
15. Prior to commissioning of the first turbine ~~Before the development starts~~, a Bat and Avifauna Management Plan (BAM Plan) must be prepared in consultation with ~~the~~

DELWP Environment Portfolio~~Department of Sustainability and Environment~~ to the satisfaction of the Minister for Planning. When approved the plan will be endorsed and will then form part of the permit. The use must thereafter accord with the endorsed plan to the satisfaction of the Minister for Planning.

16. The BAM Plan must include:

- a) a statement of the objectives and overall strategy for detecting, managing and mitigating any significant bird and bat mortality ~~strike~~ arising from the wind energy facility operations;
- b) a monitoring program of at least 2 years duration, either commencing upon the commissioning of the last turbine of the first stage of the approved development and use (if any) or alternatively such other time of commencement as is to the satisfaction of the Minister for Planning.

17. The monitoring program must include surveys during breeding and migratory seasons, and must aim to ascertain:

- the species, number, age and sex (if possible) and date of any bird or bat mortality arising from the operation of the wind energy facility ~~strike~~;
- the number and species of birds and bats struck at lit versus unlit turbines;
- any seasonal and yearly variation in the number of bird and bat mortalities ~~strikes~~;
 - a) ~~whether further detailed investigations of any potential impacts on birds and bats are warranted.~~
 - b) ~~Any such required further detailed investigations are to be undertaken in consultation with the Department of Sustainability and Environment and to the satisfaction of the Minister for Planning;~~
- c) procedures for the reporting of any detected threatened bird or threatened bat mortalities to DELWP Environment Portfolio within 7 days of becoming aware of any mortality, identifying where possible whether the mortality was by a lit or unlit turbine. ~~bird and bat strikes to the Department of Sustainability and Environment within 7 days of becoming aware of any strike identifying where possible whether the strike was by a lit or unlit turbine;~~
 - d) seasonal information on the efficacy of searches for carcasses of birds and bats, and, ~~where practicable,~~ seasonal information on the rate of removal of carcasses by scavengers, so that correction factors can be determined to enable calculations of the total number of mortalities;
 - e) procedures for the regular removal of carcasses likely to attract raptors to areas near turbines;
 - f) procedures for periodic reporting, within agreed timeframes, of the findings of the monitoring to the Minister for Planning, DELWP Environment Portfolio~~Department of Sustainability and Environment~~ and the local community;

- g) recommendations in relation to a mortality rate for specified species which would trigger the requirement for responsive mitigation or offset measures to be undertaken by the operator of the wind energy facility to the satisfaction of the Minister for Planning; and
- h) implementation measures developed in consultation with ~~the DELWP Environment Portfolio that may be enacted to the satisfaction of the Minister for Planning~~ Department of Sustainability and Environment to mitigate or offset any impacts detected during monitoring including turbine operation management and on-site or off-site habitat enhancement (including management or improvement of habitat or breeding sites).
- i) In relation to Brolga the plan must also include:
- i. a thorough assessment ~~prepared~~ developed in consultation with ~~the DELWP Environment Portfolio~~ Department of Sustainability and Environment of the two Brolga sites and their significance to the wind energy facility ~~farm~~ layout with reference to the Interim Guidelines for Assessment, Avoidance, Mitigation and Offsetting of Potential Wind Farm Impacts on the Victorian Brolga Population 2011 (DSE 2012). ~~Guidelines for Assessment of Potential Wind farm Impacts on Brolga (DSE 2009)~~. The first site is approximately 1km east of the project near Wilgul – Werneth Road and between Urchs Road and Boundary Road ~~W~~ whilst the second site is at the intersection of the Hamilton Highway and Foxhow – Rokewood Road. The assessment must include the results of fieldwork ~~Fieldwork is to be~~ undertaken during flocking and/or breeding season as agreed with ~~the DELWP Environment Portfolio~~ Department of Sustainability and Environment;
 - ii. implementation of measures to increase power line visibility of any new lines constructed as part of the project through marking to mitigate bird collisions to the satisfaction of the Minister for Planning;
 - iii. prior to development commencing consult with the Lismore Land Protection Group other local community members and DELWP Environment Portfolio ~~the Department of Sustainability and Environment~~ to determine if there are any further known Brolga sites within 5 km of the proposed wind energy facility;
 - iv. if further sites are found these must be reported to DELWP Environment Portfolio ~~the Department of Sustainability and Environment~~; and
 - v. based on the above, if additional Brolga sites are found within 5 kilometres of the site develop a mitigation program, in consultation with DELWP Environment Portfolio ~~the Department of Sustainability and Environment~~ and to the satisfaction of the Minister for Planning.

Note: *Consultation with the Lismore Land Protection Group and local community members may be undertaken to inform the plan of further known brotga sites within 5km of the proposed wind energy facility.*

16. Following the completion of the monitoring program of at least 2 years duration as specified in condition 16.b), a report must be prepared by the operator of the wind energy facility setting out the findings of the program to the satisfaction of the Minister for Planning. If, after consideration of this report, the Minister for Planning directs that further investigation of potential or actual impacts on birds and bats is to be undertaken, the extent and details of the further investigation must be prepared in consultation with DELWP Environment Portfolio and to the satisfaction of the Minister for Planning, and the investigation must be carried out to the satisfaction of the Minister for Planning. ~~to the satisfaction of the Department of Sustainability and Environment and the investigation must be carried out to the satisfaction of the Minister for Planning.~~

NOISE STANDARD

17. Except as provided below in this condition, the operation of the wind energy facility must comply with New Zealand Standard 6808: ~~1998~~ 2010 ~~The 'Acoustics – Wind farm noise Assessment and Measurement of Sound from Wind Turbine Generators'~~ – Wind farm noise at any dwelling existing on land in the vicinity of the proposed wind energy facility as at the date of the issue of this permit, to the satisfaction of the Minister for Planning. ~~In determining compliance with the standard, the following requirements apply:~~

- ~~a) — The sound level from the wind energy facility within 20 metres of any dwelling must not exceed a level of 40dBA (L95) or where the relation between background noise levels and wind speed has been determined by the method specified in Condition 21 of this permit, the background noise level by more than 5dBA or a level of 40dBA L95, whichever is the greater;~~
- ~~b) — Compliance must be separately assessed for all time and night time. For the purpose of this requirement, night time is defined as 10.00pm to 7.00am; and~~
- ~~c) If the noise has a special audible characteristic the measured sound level must have a penalty of 5dBA applied. The limits specified under this condition do not apply if an agreement has been entered into with the relevant landowner waiving the limits. Evidence of the agreement must be provided to the satisfaction of the Minister for Planning upon request, and be in a form that applies to the land for the life of the wind energy facility. Any dwelling on or off the subject land may be exempt from this condition. This exemption will be given effect through an agreement with the landowner that must apply to any occupant of the dwelling and must be registered on title. Such dwellings will be known as 'host dwellings'.~~

PREDICTIVE NOISE ASSESSMENT

18. When a final turbine type is selected the noise assessment must be repeated, other than background noise monitoring. The results of this must demonstrate compliance with the noise limits described in Condition 17 ~~without operation in noise management mode~~ and be submitted to and approved by the Minister for Planning.

NOISE COMPLIANCE ASSESSMENT

19. Before the development starts a noise compliance testing plan must be prepared by a suitably qualified acoustics expert to the satisfaction of the Minister for Planning.
20. When approved, the noise compliance testing plan will be endorsed ~~by~~ the Minister for Planning and will then form part of this permit.
21. The use must be carried out in accordance with the noise compliance testing plan to the satisfaction of the ~~responsible authority~~ Minister for Planning.
22. The noise compliance testing plan must include:
 - a) ~~a~~ determination of the noise limits to be applied during construction using the methodology prescribed in the EPA Noise Control Guidelines - publication 1254 released October 2008 ~~Interim Guidelines for the Control of Noise from Industry in Country Victoria, N3/89;~~
 - b) a program of compliance testing to be implemented during the construction of the wind energy facility that:
 - i. Is designed by a suitably qualified acoustic expert, and
 - ii. Utilises the methodology prescribed in *State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No N-1*, to demonstrate compliance with the limits determined in (a) above;
 - c) a procedure for a near field compliance test of the first turbine commissioned at the wind energy facility; and
 - d) a procedure for a final compliance test of the wind energy facility after the commissioning of the last turbine, such testing to:
 - i. consider compliance of the operational wind energy facility as a whole with the noise limits set under condition 17;
 - ii. be carried out according to the method described in NZS6808: 2010 'Acoustics – Wind farm noise' or a method, designed by a suitably qualified acoustics expert, over a period no less than four (4) weeks; and
 - iii. be undertaken within 4 months of the date on which the last turbine is commissioned.

~~of this permit for all non-stakeholder dwellings at or above the predicted noise level of 35dBA predicted from Condition of this permit; and~~

~~A procedure under which all results of compliance testing conducted in any month are reported to the Golden Plains Shire Council and Minister for Planning every 6 months.~~

The final compliance testing report provided to the Minister for Planning must include a summary of the results in terms that are aimed at a lay person, and must be accompanied by

a report by an environmental auditor appointed under the Environment Protection Act 1970, containing the auditor's opinion on the methodology of the compliance testing.

If the proponent considers that a suitable auditor cannot be engaged, the proponent may seek the written consent of the Minister for Planning to obtain an independent peer review of the results of the noise compliance testing instead.

Compliance test results must be publicly available.

~~Before the use begins the proponent must prepare a detailed noise complaint evaluation and response plan in consultation with the Environment Protection Authority and the Corangamite Shire Council.~~

~~The plan must be submitted to, and approved by, the Minister for Planning. This plan must include the following elements:~~

~~a toll free noise complaint telephone service;~~

~~the erection of a sign on site advising of the complaints telephone number;~~

~~minimum recording requirements for noise complaints (that is: date, time, noise description and weather conditions at the receptor);~~

~~a process for determination whether the noise complaint is a breach of Condition~~

COMPLAINT INVESTIGATION AND RESPONSE PLAN

20. Before the development starts, the permit holder must prepare a Complaint Investigation and Response plan to the satisfaction of the Minister for Planning. When approved, the plan will be endorsed by the Minister for Planning and will then form part of this permit. The Complaint Investigation and Response Plan will be designed to respond to all aspects of the wind energy facility including (but not limited to): operation noise, construction noise, construction impacts, traffic, quarry impacts, shadow flicker.

21. The endorsed complaints investigation and response plan must be publicly available on the wind energy facility operator's website.

22. The plan must be prepared in accordance with Australian/New Zealand Standard AS/NZS 10002:2014 – Guidelines for complaint management in organisations and shall include:

- a) a process of investigation to resolve a complaint
- b) a requirement that all complaints will be recorded in an incidents register
- c) how contact details will be communicated to the public
- d) a toll free telephone number and email contact for complaints and queries
- e) details of the appropriate council contact telephone number and email address (where available)
- f) a table outlining complaint information for each complaint received, including:
 - i. the complainant's name
 - ii. any applicable property reference number if connected to a noise background testing location

- iii. the complainant's address
- iv. a receipt number for each complaint which is to be communicated to the complainant
- v. the time, prevailing conditions and description of the complainant's concerns including the potential incidence of special audible characteristics (for a noise complaint)
- vi. the processes of investigation to resolve the complaint.

23. A report including a reference map of complaint locations, and outlining complaints, investigation and remediation actions is to be provided on an annual basis to the satisfaction of the Minister for Planning.

BLADE SHADOW FLICKER

24. Shadow flicker from the wind energy facility must not exceed 30 hours per annum at the surroundings of any dwelling ([garden fenced area](#)) existing prior to the issue date of this permit.

25. This condition does not apply ~~to any dwelling on land on which part of the wind energy facility is erected. (This exemption will be given effect through an agreement with the landowner that will apply to any occupant of the dwelling).~~ [if the operator of the wind energy facility has entered into an agreement with a landowner under which the landowner acknowledges and accepts that shadow flicker may exceed 30 hours per annum at the landowner's dwelling.](#)

[Evidence of the agreement must be provided to the satisfaction of the Minister for Planning.](#)

TELEVISION AND RADIO RECEPTION AND INTERFERENCE

25. A pre-construction survey must be carried out to the satisfaction of the Minister for Planning to determine television and radio reception strength at selected locations within 5kms of any wind turbine including non-stakeholder dwellings. The location of such monitoring is to be determined to the satisfaction of the Minister for Planning by an independent television and radio monitoring specialist appointed by the operator under this permit.

Note: *For the purpose of this condition, a non-stakeholder means the land holder of an abutting property without a contract in respect of the installation of associated wind turbines on that person's property.*

26. If, following commencement of the operation of the wind energy facility, a complaint is received regarding the wind energy facility having an adverse effect on television or radio reception at the site of any dwelling in the area which existed at the date of the pre-construction survey, a post-construction survey must be carried out at the dwelling.

27. If the post-construction survey establishes any increase in interference to reception as a result of the wind energy facility operations, the wind energy facility operator must undertake measures to mitigate the interference and return the affected reception to pre-construction quality at the cost of the wind energy facility operator and to the satisfaction of the Minister for Planning.

SECURITY

28. All site and wind turbine access points and electrical equipment must be locked when not in use and made inaccessible to the general public to the satisfaction of the Minister for Planning. Public safety warning signs must be located on all towers and all spare parts and other equipment and materials associated with the wind energy facility must be located in screened, locked storage areas that are inaccessible to the public to the satisfaction of the Minister for Planning.

PRELIMINARY INVESTIGATIVE WORKS

29. For the purposes of this permit, the carrying out of preliminary investigative works, including geotechnical investigations, for the purposes of gathering data or making other assessments necessary or desirable in order to prepare the development plan or other plans specified in this permit, is not considered to be commencement of the development.

DECOMMISSIONING

30. The wind energy facility operator must, no later than 2 months after any or all wind turbines have permanently ceased to generate electricity, notify the Minister for Planning in writing of the cessation of the use. Within a further ~~12~~ 18 months of this date, the owner of the wind energy facility ~~operator, or in the absence of the operator, the owner of the land on which the relevant turbine(s) is/are located~~ must undertake the following to the satisfaction of the Minister for Planning within such timeframe as may be specified by the Minister:

- a) remove all above ground non-operational equipment;
- b) remove and clean up any residual spills or contamination;
- c) rehabilitate all storage, construction, access tracks and other areas affected by the project closure or decommissioning, if not otherwise useful to the on-going management of the land associated with the use, development and decommissioning of the wind energy facility;
- d) submit a decommissioning traffic management plan to the Minister for Planning and, when approved by the Minister for Planning, implement that plan; and
- e) submit a post-decommissioning revegetation management plan, including a timetable of works to the Minister for Planning and, when approved by the Minister for Planning, implement that plan.

STAGING

31. The use and development authorised by this permit may be completed in stages as shown on the endorsed development plan(s) to the satisfaction of the Minister for Planning, and any corresponding obligation arising under this permit (including compliance with plans or other requirements including noise monitoring, but not including the preparation and approval of the development plan under Condition 1 may be similarly completed in stages or parts.

EXPIRY

32. This permit will expire if one of the following circumstances applies:

- a) the development is not started within 3 years of the date of this permit;
- b) the development is not completed within 6 years of the date of this permit;
- c) the use has not commenced within two years of the completion of the development.

The Minister for Planning may extend the periods referred to if a request is made in writing before the permit expires, or within 12~~three~~ months afterwards.

PERMIT NOTES

33. This permit should be read in conjunction with ~~Golden Plains~~ Planning Permit No 20092821 which applies to the Berrybank wind energy facility within the Corangamite Shire municipality.

Date Issued:

Signature for the Minister

THIS PERMIT HAS BEEN AMENDED AS FOLLOWS:

<u>Date of amendment</u>	<u>Brief description of amendment</u>
<u>1 September 2016</u>	<u>Pursuant to Section 69 of the Planning and Environment Act 1987 this permit was extended so that the permit will expire if the development has not been completed by 24 August 2020.</u>