GOVERNMENT OF WESTERN AUSTRALIA

WAPC Western Australian Planning Commission

LEADING A CONTEMPORARY PLANNING SYSTEM

DRAFT – PUBLIC CONSULTATION

December 2025

DRAFT CODE and GUIDELINE – PUBLIC CONSULTATION

Renewable Energy Planning Code and Guidelines

Prepared under Part 3A of the Planning and Development Act 2005

Acknowledgement of Country

The Western Australian Planning Commission acknowledges the Aboriginal people as the traditional custodians of Western Australia. We pay our respects to the Ancestors and Elders, both past and present, and the ongoing connection between people, land, waters and community.

We acknowledge those who continue to share knowledge, their traditions and culture to support our journey for reconciliation. In particular, we recognise land and cultural heritage as places that hold great significance for Aboriginal people.

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Contents

About this document

This document combines the provisions of the Renewable Energy Planning Code (the Code) and the supporting Guidelines.

The provisions of the Code appear in the main body of the document on a white background while the Guidelines are presented in grey boxes for ease of reference.

Terms shown in bold throughout the document are defined terms and have the meaning given in **Appendix 1 – Definitions**.

The Code (and any amendments to it) is made under Part 3A of the *Planning and Development Act 2005* and in accordance with the Planning and Development (Planning Codes) Regulations 2024.

The Code is intended to guide the assessment of development applications for energy infrastructure – including renewable energy facilities, battery energy storage systems and transmission systems – and sets out:

- the objectives and development provisions for their siting, design, construction, operation and decommissioning; and
- the materials required to accompany associated development applications.

The Code takes effect once it is incorporated into a local planning scheme, improvement scheme or the Swan Valley Planning Scheme.

The Guidelines do not form part of the Code and may be amended from time to time. They provide guidance on:

- matters addressed in the Code, including material required to accompany development applications;
- key reports and plans that may be required as a condition of development approval; and
- proponent-led preliminary community and stakeholder engagement.

Part one

General

1.1 Code Intent

The intent of the Code is to provide a clear and consistent development assessment framework for **energy infrastructure** (including **renewable energy facilities**, **transmission systems** and **battery energy storage systems**) that support the generation, storage and transmission of renewable energy across Western Australia. The Code sets out:

a. objectives and development provisions for the siting, design, construction, operation and **decommissioning** of **energy infrastructure**;

b. materials required to accompany development applications for **energy infrastructure**; and

c. consistent standards and requirements to support quality decision-making across local government areas.

1.2 Code Application

The Code applies throughout Western Australia to the assessment of development applications for **energy infrastructure,** including:

- **wind farms** (Part 2);
- **transmission systems** (Part 3 – to be prepared);
- **solar farms** (Part 4 – to be prepared); and
- **battery energy storage systems** (Part 5 – to be prepared).

The Code does not apply to:

- offshore wind farms located in Commonwealth waters, which are regulated by the *Offshore Electricity Infrastructure Act 2021* and the *Offshore Electricity Infrastructure (Regulated Levies) Act 2021*; and
- energy infrastructure classified as public works where the public work is exempt from requiring development approval under a local planning scheme, in accordance with section 6 of the *Planning and Development Act 2005*.

Notwithstanding the above, proponents of public works that are exempt under section 6 are expected to have due regard to:

- the relevant local planning scheme, including any provisions that incorporate the Code, when planning, designing, constructing, operating and decommissioning energy infrastructure;
- orderly and proper planning, and the preservation of the amenity; and
- any advice provided by the responsible authority.

1.3 Code Objectives

The objectives of the Code are to:

a. guide the establishment of **energy infrastructure** to support a sustainable energy supply for Western Australia;

b. avoid or minimise land use conflicts and adverse impacts on the surrounding environment, amenity, public health and safety; and

c. promote development that responds to the characteristics of the site and its local context.

1.4 Operation of the Code

The Code is organised into different Elements, each addressing a specific planning issue or development phase.

Each Element includes one or more Element Objectives that support the Code Objectives and describe the intended planning goals or aims for that Element.

To demonstrate achievement of each Element Objective, applicants must respond to the associated development provisions, which may include:

- Performance Outcomes – general development principles or guidance; and/or
- Acceptable Outcomes – specific measurable development standards.

Some Elements only include Performance Outcomes, others include only Acceptable Outcomes, and some include both. Where both types of outcomes are provided for an Element Objective, applicants may respond to either the Performance Outcomes or the Acceptable Outcomes to demonstrate achievement of that Element Objective.

Where an Element includes only Acceptable Outcomes and does not provide a Performance Outcome pathway, compliance with the Acceptable Outcome is the sole means for satisfying the corresponding Element Objective.

Terms shown in **bold** throughout the Code are defined in **Appendix 1**.

Where reference is made in an Element Objective or development provision to:

- existing land uses and works, this is to be taken to refer to land uses and works currently being undertaken or have been carried out;
- approved land uses and works, this is to be taken to refer to land uses and works that have received a development approval or building permit.

In both cases, the reference applies to land uses and works on or prior to the date the **energy infrastructure** development application is lodged with the decision-maker.

1.5 Development Applications and Decision-Making

1.5.1 Development Applications

In addition to material required under clause 63 of Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015 (LPS Regulations), development applications for **energy infrastructure** must be accompanied by the material outlined in **Appendix 2**.

1.5.2 Consultation

Development applications for **energy infrastructure** must be advertised in accordance with clause 64 of Schedule 2 of the LPS Regulations.

Statutory Advertising of Development Applications

The statutory advertising process described in section 1.5.2 ensures that communities and stakeholders are formally notified and provided with the opportunity to make a formal submission on the proposed development. Decision-makers are responsible for this process and will consider submissions when determining applications for development approval.

Preliminary Community and Stakeholder Engagement

Prior to lodging a development application, proponents of energy infrastructure are encouraged to engage with communities and key stakeholders, including public and statutory authorities, as detailed in Appendix 3. Proactive and early community engagement offers a range of benefits, including:

a. enables communities to provide informed feedback through access to accurate and timely information;
b. helps proponents understand local values, concerns and aspirations to inform project design and decision-making;
c. supports early identification of potential issues and mitigation strategies;
d. provides an opportunity to identify potential community benefit initiatives; and
e. builds trust that contributes to maintaining a social licence to operate.

The level of community engagement should be proportionate to the scale of the development and degree of public interest or sensitivity.

Proponents should provide clear, relevant and accessible information about the proposed development and actively seek community input on planning matters where engagement can meaningfully influence outcomes.

Development applications should be accompanied by a Community and Stakeholder Engagement Report (refer **Appendix 2**), detailing the outcomes of any preliminary engagement undertaken, including the influence it has had on shaping the proposal.

Landowner and Community Benefit Agreements

Proponents of energy infrastructure are expected to establish community benefit-sharing agreements with local communities. These agreements are intended to provide community benefits based on local and regional needs and assist in building and sustaining social licence. Guidance on developing these agreements is provided in the Draft Guideline on Community Benefits for Renewable Energy Projects: Consultation Paper (DEMIRS, 2025).

Where proponents of energy infrastructure are leasing land, they will enter into private lease agreements with landowners. They may also enter into agreements with neighbouring landowners to manage any development impacts. The Landowner's Guide to Hosting Wind Farm Projects (DEMIRS, 2025) provides guidance on these.

Both community benefit-sharing agreements and landowner agreements sit outside the planning system. While proponents are encouraged to include relevant details of these agreements with their development applications, the decision-maker will not rely on these in determining an application.

1.5.3 Assessment and Determination

Development applications should demonstrate achievement of the Element Objectives by satisfying the corresponding Performance Outcomes or Acceptable Outcomes.

Meeting an Acceptable Outcome provides a compliant pathway for assessment and approval. Where an Acceptable Outcome is achieved, the corresponding Element Objective is deemed satisfied.

In determining whether a development application satisfies the relevant Performance Outcomes, the decision-maker will exercise judgment and undertake a merit-based assessment of the application.

The decision-maker must be satisfied the development application meets the Code and Element Objectives and the Acceptable Outcomes or Performance Outcomes associated with each Element Objective.

In approving a development application, the decision-maker should also be satisfied the development will not create significant adverse impacts. Where potential adverse impacts are identified, they should be addressed, where practicable and in order of preference, through the following mitigation hierarchy:

- avoidance – avoid the adverse impact from occurring altogether;
- minimisation – limit the degree or magnitude of the adverse impact; and
- rectification – repair, rehabilitate or restore the impacted site as soon as possible.

The Elements of this Code represent the key planning issues considered common to all development proposals for energy infrastructure. In considering a development application, the decision-maker is to also have due regard to any other matters that may be relevant to the development as outlined in clause 67(2) of Schedule 2 of the LPS Regulations.

1.6 Local Planning Framework

Where there is a specific local or regional need, local planning policies, structure plans and local development plans, may, subject to WAPC approval:

a. supplement the Element Objectives;
b. modify and/or supplement the Performance Outcomes or Acceptable Outcomes of the Code.

Local governments, in preparing such local planning policies, structure plans and local development plans, and the WAPC in approving them, must ensure they are:

a. warranted due to a specific need relating to the locality or region;
b. consistent with the Code and Element Objectives; and
c. consistent with the LPS Regulations.

Where a local planning policy, structure plan and local development plan that was in effect prior to commencement of the Code is inconsistent with this Code, the provisions of the Code prevail to the extent of the inconsistency.

Part two

Wind farms – development standards

Introduction

Part 2 of the Code sets out the specific requirements for wind farms.

Wind farms are a form of renewable energy facility that converts wind energy into electricity using wind turbines and comprises a range of associated infrastructure elements. Figure 1: Example of a wind farm project. They are typically located in high-wind, rural areas and are generally compatible with agricultural land uses.

Electricity generated from wind turbines can be supplied directly to the electricity grid, stored in battery energy storage systems or integrated into other energy systems such as hydrogen production and related technologies.

Wind farm projects progress through several phases: site selection and feasibility, design, approvals, construction, operation (approximately 30 years) and eventual repowering or decommissioning with site rehabilitation – each with its own considerations.

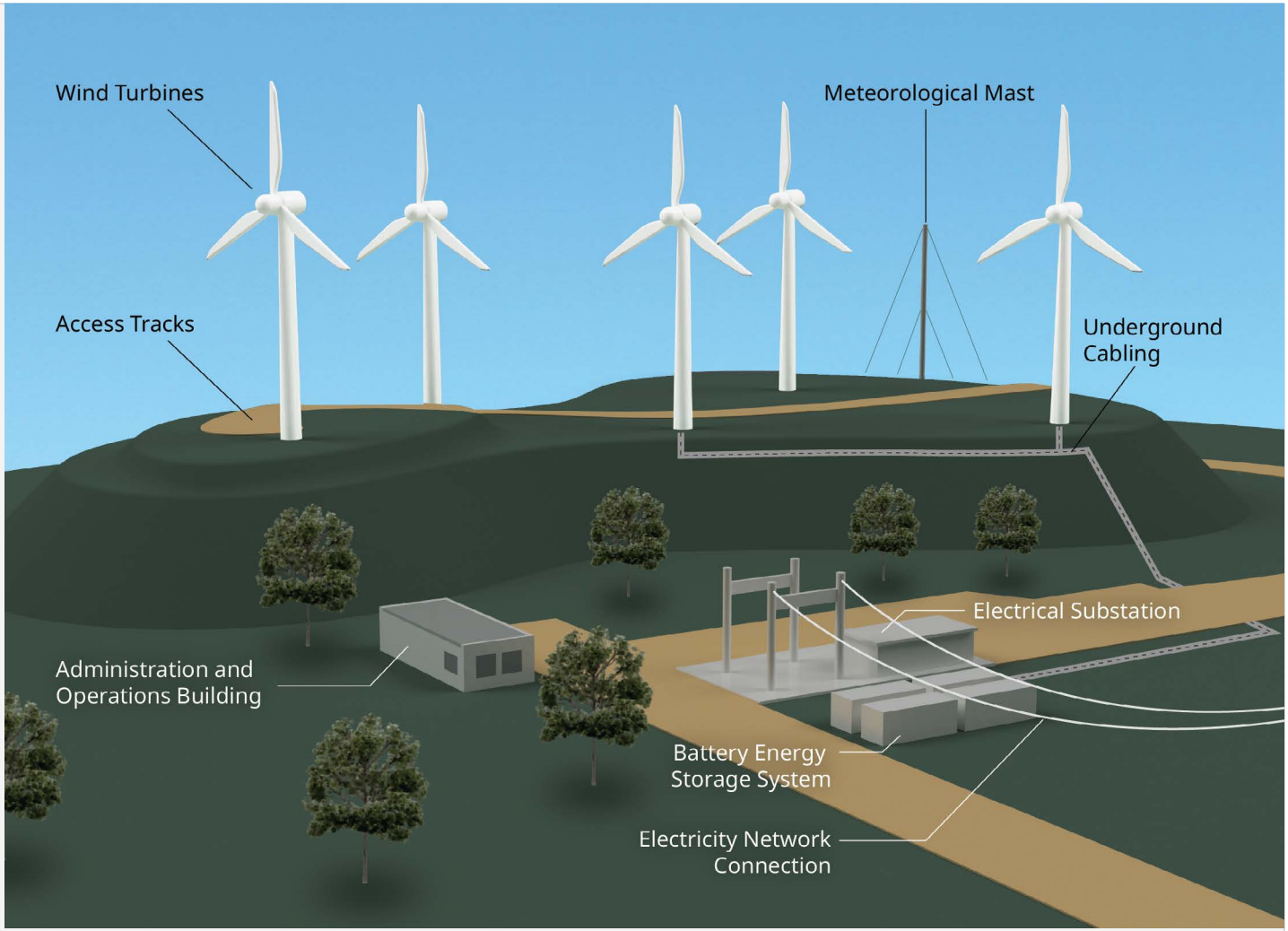


Figure 1: Example of a wind farm project

Wind Turbine Components

Wind turbine components referenced in the Code and supporting Guidelines are illustrated in Figure 2 and described below.

- *foundation* – anchors the wind turbine to the ground.
- *rotor* – includes the blades, hub and nacelle, which capture wind energy and convert it into rotational motion.
- *nacelle* – houses the gearbox, generator and other key components that convert rotational motion into electrical energy.
- *tower* – supports the rotor and raises it to access stronger, more consistent wind.

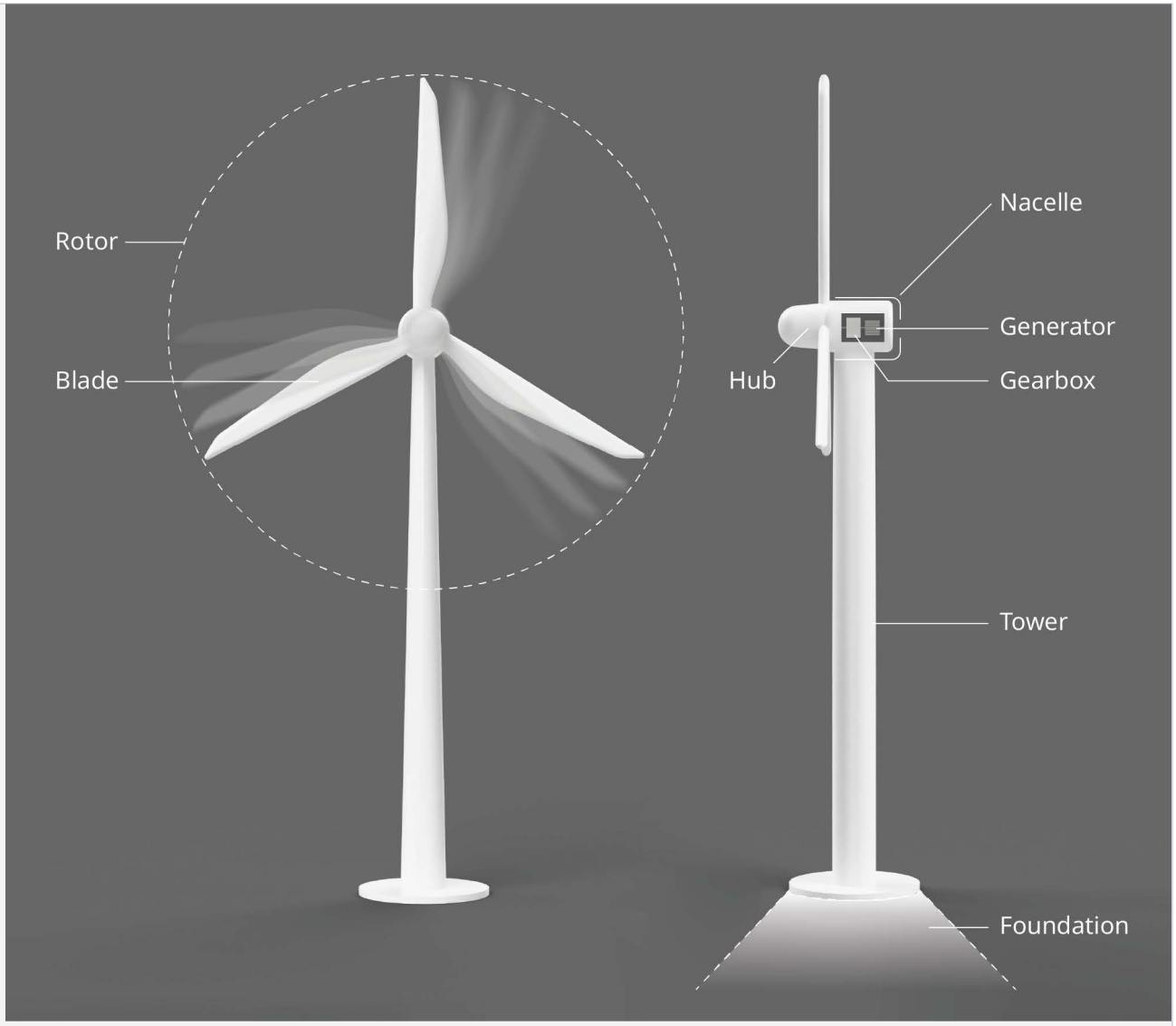


Figure 2: Wind turbine components

Wind Turbine Measurements

Wind turbine measurements referenced in the Code and supporting Guidelines are illustrated in Figure 3 and described below.

- *blade length* – the length of a blade from the hub to the blade tip.
- *ground clearance* – the vertical distance from ground level at the base of the tower to the tip of the lowest blade in its lowest position.
- *blade tip height* – the vertical distance from ground level at the base of the tower to the tip of the highest blade in its uppermost position.
- *rotor swept path* – the circular area around the nacelle within which the blades rotate.
- *rotor diameter* – the diameter of the rotor swept path.
- *hub height* – the vertical distance from ground level at the base of the tower to the centre of the hub.

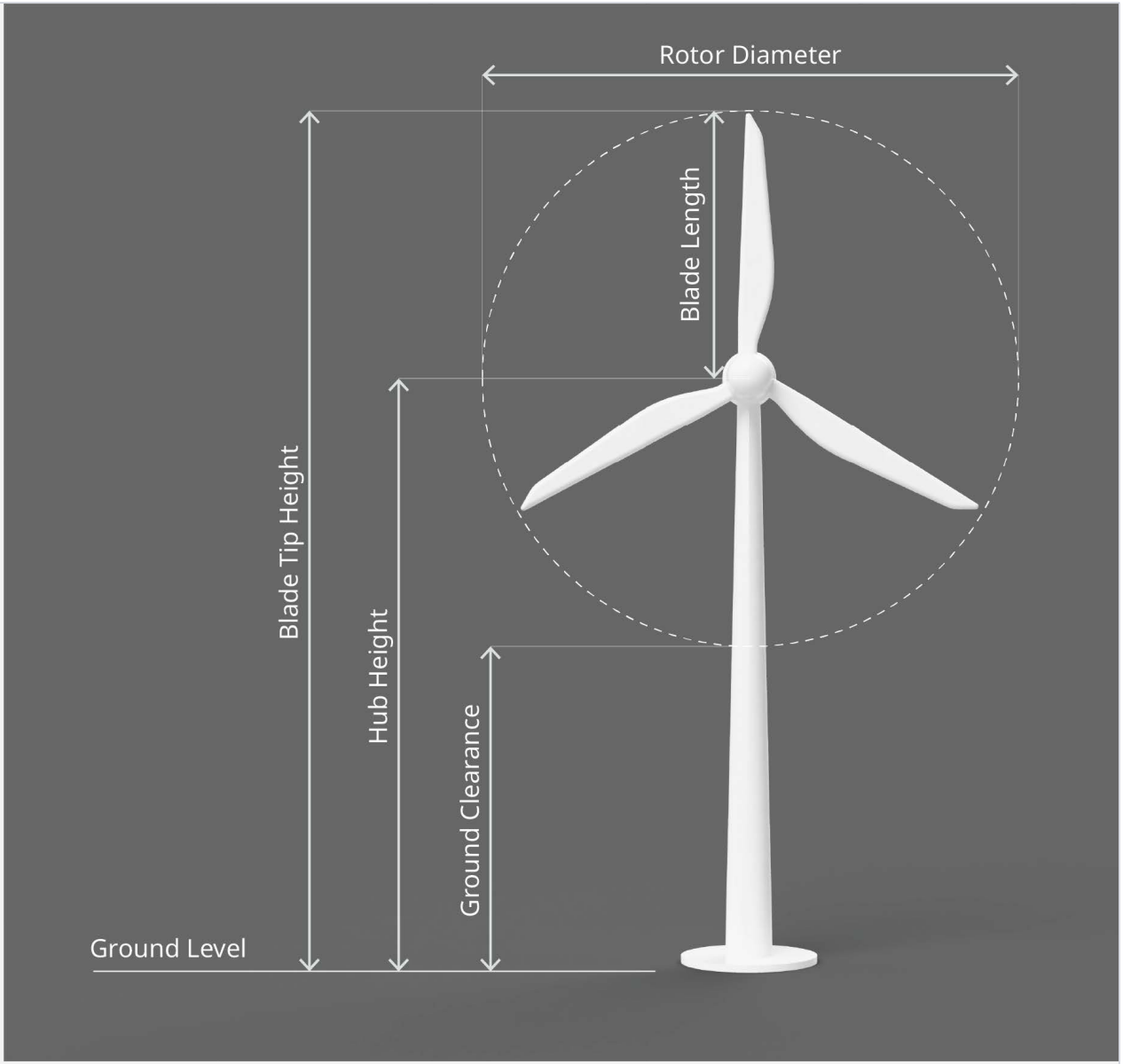


Figure 3: Wind turbine measurements

Managing Noise Impacts from Wind Farms – Existing and New Noise-Sensitive Land Uses

Wind turbines can generate noise that extends beyond the boundaries of the host lot. It is important to protect existing noise-sensitive uses, such as houses, schools and health facilities, from unreasonable wind farm noise, while also avoiding the introduction of new sensitive uses in areas that may be exposed to noise levels exceeding acceptable limits under the Environmental Protection (Noise) Regulations 1997. This helps prevent future land use conflict and ensures existing wind farm operations are not compromised by subsequent nearby development.

The Code and the Deemed Provisions of the LPS Regulations work together to manage these issues.

Element 2 – Noise of the Code includes development provisions requiring that new wind farms are sited, designed and operated to avoid causing unacceptable noise impacts on existing noise-sensitive land uses.

Element 3 – Single House Development Potential on Non-Host Lots includes provisions requiring that potential wind farm noise impacts on nearby non-host lots are considered and assessed to avoid unreasonably limiting the ability to develop those lots with a single house, where one does not already exist.

To support these provisions, the Deemed Provisions of the LPS Regulations introduce development approval requirements for new houses and other new noise-sensitive land uses near wind farms, notwithstanding any exemptions that might otherwise apply. These provisions, which automatically apply under all Western Australian local planning schemes, require that applications for new noise-sensitive uses consider potential wind farm noise impacts where those uses are proposed in proximity to a wind farm. These provisions are aimed at helping to avoid exposing future development to unreasonable noise levels and to reduce the risk that existing wind farm operations are compromised by subsequent noise-sensitive developments.

Note: *The Deemed Provisions described in this section are proposed amendments to the LPS Regulations 2015 and are being progressed in parallel with public advertising of the draft Renewable Energy Planning Code. These provisions are not yet in effect and will be subject to formal gazettal following the consultation process.*

2.1 Micro-siting of Wind Turbines

Context

Micro-siting of wind turbines is an optional tool available to applicants that enables minor adjustments to individual turbine locations after development approval to address issues identified during detailed investigations.

To allow this flexibility, wind farm development applications may include wind turbine envelopes around indicative turbine locations.

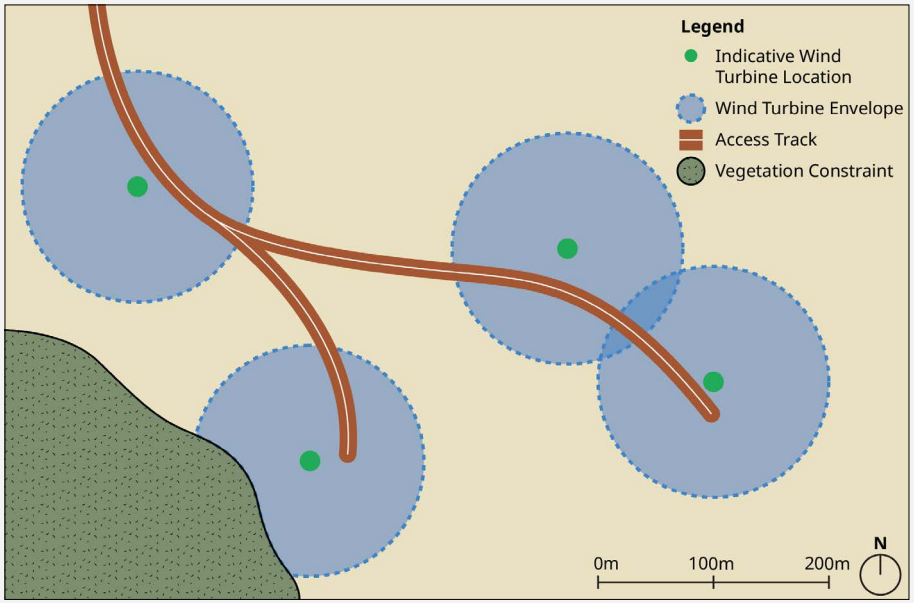


Figure 4: Example site plan showing wind turbine envelopes for micro-siting post-development approval

The following provisions apply only where an applicant chooses to use micro-siting. They outline how **wind turbine envelopes** can be incorporated into a development application to provide flexibility after approval:

2.1.1 **Wind turbine envelopes** may be used in a development application for a **wind farm** to enable minor adjustments to the location of **wind turbines** and their supporting structures within the envelope after approval, providing flexibility for micro-siting.

2.1.2 Where **micro-siting** is proposed, any reference to a **wind turbine** in the Element Objectives and development provisions (Performance Outcomes and Acceptable Outcomes) of the Code is to be interpreted as applying to a turbine envelope.

2.1.3 The maximum extent of each **wind turbine envelope** is a circle with a radius of 100 metres, measured from the centre of an indicative turbine location.

2.1.4 Each **wind turbine envelope** must contain no more than one turbine, and the total number of envelopes must not exceed the number of turbines proposed for the development.

2.1.5 All supporting structures for the **wind turbine**, including the **foundation**, must be fully contained within the turbine envelope.

2.1.6 Each **wind turbine envelope** must be located:

a. to avoid all known physical or environmental constraints where the siting of a turbine would be unsuitable; and

b. so that a turbine and its supporting structures can be positioned anywhere within the envelope and comply with all relevant objectives and development provisions of the Code.

2.1.7 Access tracks to wind turbines may be subject to minor realignment where necessitated by micro-siting, provided the decision maker is satisfied this will not result in any additional adverse environmental, amenity, safety or other impacts.

2.1.8 Post-construction, the applicant must provide the decision-maker with:

a. GPS coordinates for each constructed **wind turbine**; and

b. a plan showing the location of all constructed access tracks.

2.2 WF Element 1 – Safety

Context

Wind turbines can pose a potential risk of injury to people and property due to possible malfunctions, such as blade throw or structural collapse. These risks may arise from direct impacts or debris. While incidents are uncommon due to stringent manufacturing and installation standards – and the typically low population density of rural wind farm locations – the potential consequences of a major incident can be significant.

Element Objective

WF-EO1.1 Wind turbines are sited to minimise risks to people, property and infrastructure arising from hazards such as blade throw, wind turbine collapse and other safety incidents.

Performance Outcome	Acceptable Outcome
	Meeting this Acceptable Outcome satisfies the Element Objective.
Not applicable – Acceptable Outcome applies.	**WF-AO1.1** Wind turbines are set back a minimum of 1.1 times blade tip height from non-host lots, reserves (including road reserves), and existing and approved habitable buildings on host lots and non-host lots.

The safety setback required under **WF-AO1.1** is to be measured from the centre of the **wind turbine** tower to the non-host lot or reserve boundary, or in the case of a **habitable building**, to the nearest external wall of the **habitable building**.

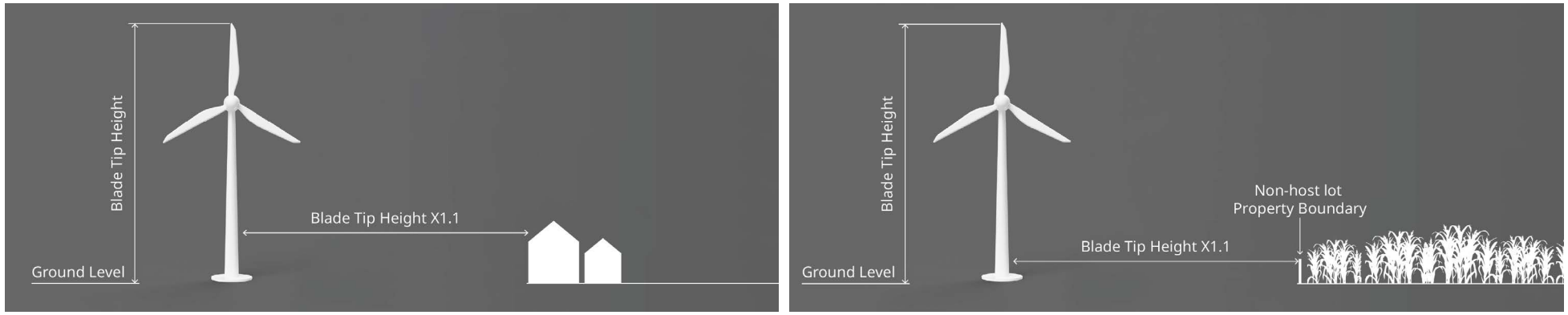


Figure 5: WF-AO1.1 Safety setback

Element Objective

WF-EO1.2 Wind turbines are designed and constructed to ensure structural integrity and operational safety over their lifecycle.

Performance Outcome	Acceptable Outcome *Meeting this Acceptable Outcome satisfies the Element Objective.*
Not applicable – Acceptable Outcome applies.	**WF-AO1.2** Wind turbines are designed and constructed in accordance with relevant Australian and international standards.

Plans and Reports to Accompany a Development Application

Provide wind turbine blade tip height specifications and a site plan showing the location of all turbines, demonstrating compliance with the minimum setback requirements under **WF-AO1.1**.

Plans and Reports Recommended as Conditions of Development Approval

Independent Engineering Certification Report

To demonstrate satisfaction of **WF-AO1.2**, an Independent Engineering Certification Report prepared by a suitably qualified and independent structural engineer is required to certify:

a. ***Pre-construction***: That the wind turbines and their foundations have been designed in accordance with relevant Australian and international standards.

b. ***Post-construction***: That the wind turbines and their foundations have been constructed in accordance with relevant Australian and international standards.

2.3 WF Element 2 – Noise

Context

Wind turbines produce noise with unique acoustic characteristics that can vary depending on location, wind speed and direction, and operational parameters. Noise from wind farms can travel long distances and may affect the amenity of houses and other noise-sensitive land uses. Infrastructure associated with wind farms, including transformers, substations, battery energy storage systems and transmission infrastructure, may also contribute to overall noise impacts.

Wind farm noise has the potential to impact both existing noise-sensitive land uses and areas identified in State and local planning frameworks for future urban and rural-residential development. Maintaining sufficient separation between wind turbines and these land uses or future growth areas ensures wind farms do not cause noise impacts that exceed the limits permitted under the Environmental Protection (Noise) Regulations 1997. This helps protect amenity and avoid constraining planned land use outcomes [1].

Element Objective

WF-EO2.1 Wind farms are sited, designed and operated to avoid an **unreasonable noise impact** on:

a. any existing or approved **noise-sensitive land use**; and

b. areas identified for the future development of **noise-sensitive land uses**.

Performance Outcome	Acceptable Outcome
WF-PO2.1 Wind turbines and other **associated infrastructure** are sited, designed and operated to avoid an **unreasonable noise impact** on any existing or approved **noise-sensitive land use** located on a **host** or **non-host lot**. **WF-PO2.2 Wind turbines** and other **associated infrastructure** are sited to avoid an **unreasonable noise impact** on areas identified for future urban development [2] or rural residential development in WAPC-endorsed State and local planning frameworks, to ensure these areas can be developed without constraint from wind farm noise impacts.	*Not applicable* *– Performance Outcomes apply.*

1 The impact of wind farms on the ability of nearby **non-host lots** to accommodate a future single house where the wind farm's **noise impact area** extends into the **non-host lot** is addressed separately under Element 3 – Single House Development Potential on Non Host Lots.

2 Areas identified for future urban development include, but are not limited to, land identified in regional or local planning strategies, local planning schemes or approved structure plans, for residential, tourism, or other noise-sensitive urban uses.

Plans and Reports to Accompany a Development Application

Noise Impact Assessment

A Noise Impact Assessment should be prepared by a qualified acoustic engineer and include, at a minimum:

a. Predictive noise modelling identifying the extent of noise impacts arising from the wind farm.

b. Consideration of cumulative noise impacts from approved or existing nearby wind farms in noise modelling.

c. Identification and mapping of all existing and approved noise-sensitive land uses located on host and non-host lots within three kilometres of the wind farm development site.

d. Identification of areas designated for future urban or rural residential development in State and local planning frameworks.

e. Mapping of the modelled noise impact area of the wind farm, provided in the digital geospatial format specified by the Department of Planning, Lands and Heritage for publication as part of the Department's dataset.

f. Details of any operational or mitigation strategies – such as wind turbine shutdowns or reduced operation under certain conditions – incorporated into the modelling to achieve **WF-PO2.1** and **WF-PO2.2**.

g. Assessment of the wind farm's compliance with the Environmental Protection (Noise) Regulations 1997.

h. Demonstration that existing and approved noise-sensitive land uses will not be affected by the modelled noise impact area.

i. Demonstration that areas identified for future urban development in State and local planning frameworks will not be affected by the modelled noise impact area.

Plans and Reports Recommended as Conditions of Development Approval

Noise Monitoring Plan and Noise Monitoring Report

A Noise Monitoring Plan and Noise Monitoring Report may be required within the first 12 months of the wind farm becoming fully operational.

The Noise Monitoring Plan, prepared in consultation with the Department of Water and Environmental Regulation, establishes the context, methodology and parameters for any required post-construction noise monitoring.

The Noise Monitoring Plan should, at a minimum:

a. Describe the goals of the monitoring (For example, determination of 'as-built' sound power levels (i.e. the actual measured noise of a wind turbine at source), investigate intrusive characteristics, demonstrate compliance with noise criteria);

b. Describe the procedures and standards to be used for noise monitoring; and

c. Be made publicly available on the wind farm operator's website for the life of the wind farm.

A Noise Monitoring Report details the outcomes of monitoring undertaken in accordance with the Noise Monitoring Plan. Its primary purpose is to verify the Noise Impact Assessment inputs, rather than to measure noise levels at sensitive receivers.

The Noise Monitoring Report should, at a minimum:

a. Compare monitoring data against monitoring goals (For example, measured vs predicted noise levels (i.e. what the actual on-the-ground noise level from a constructed wind farm is in comparison to that modelled in a Noise Impact Assessment), and measured vs modelled sound power levels (i.e. the actual noise generated by a constructed wind turbine at source in comparison to the value assigned as an input in a Noise Impact Assessment);

b. Identify any additional measures required to mitigate identified deficiencies;

c. Identify any required updates to the wind farm's noise impact area; and

d. Be made publicly available on the wind farm operator's website for the life of the wind farm.

Noise modelling is the primary and most effective method for identifying and assessing potential noise impacts. Noise monitoring serves to verify the assumptions and parameters used in the Noise Impact Assessment and should not be used as a substitute for a comprehensive Noise Impact Assessment at the development application stage.

Operational Management Plan

An Operational Management Plan may be required to outline any operational management or mitigation measures necessary to ensure wind farm noise impacts remain at acceptable levels. The plan is to be made publicly available on the wind farm operator's website for as long as the wind farm is operational.

2.4 WF Element 3 – Single House Development Potential on Non-Host Lots

Context

The development of a single house is commonly permitted as-of-right on rural zoned land across Western Australia, with many local governments exempting it from requiring development approval.

Operational noise from wind farms can extend beyond the development site and may exceed acceptable levels on nearby non-host lots, potentially rendering these areas unsuitable for the future development of a single house. However, due to the characteristics of wind turbine noise, it is not practical to require that a wind farm's noise impact area be entirely contained within the boundaries of host lots.

It is therefore necessary to consider the noise impact of a proposed wind farm on affected non-host lots to ensure that it does not unreasonably constrain their development potential.

Element Objective

WF-EO3.1 Wind farms are sited to ensure that **non-host lots** without an existing or approved **single house** retain sufficient land outside the **wind farm's noise impact area** that is suitable for accommodating a future **single house**.

Performance Outcome	Acceptable Outcome *Meeting this Acceptable Outcome satisfies the Element Objective.*
WF-PO3.1 A wind farm's noise impact area may extend onto a non-host lot where: a. The **non-host lot** retains a suitable and sufficient area of land outside the **noise impact area(s)** of the **wind farm** and any other nearby existing or approved **wind farms**, for a future **single house**, which: i. is permissible under the local planning scheme; ii. is not affected by development constraints such as **conservation areas** or flood-prone land; and iii. can be practically serviced, including with vehicle access and utility services; or b. The **non-host lot** forms part of a broader contiguous landholding used for agricultural purposes, where a **single house** already exists on another lot within the same holding, and the **non-host lot** is not intended or required to accommodate a separate **single house**.	**WF-AO3.1** The **non-host lot** is located entirely outside of the **wind farm's noise impact area.**

Plans and reports to accompany a development application

Single House Development Potential Impact Assessment
(not required where **WF-AO3.1** is satisfied)

Where **WF-PO3.1** applies, a Single House Development Potential Impact Assessment is to be submitted and should include:

a. Details of affected non-host lot(s), including lot size and ownership;
b. Identification and mapping of the following on affected non-host lot(s):
    i. the noise impact area (including noise contours) of the proposed wind farm and any existing or approved nearby wind farms;
    ii. existing land uses, buildings, structures and internal access tracks;
    iii. physical development constraints, such as topography, flood-prone land, bushfire prone land and vegetation; and
    iv. areas considered suitable for development of a single house, including their size and location.
c. Details of engagement with the owners of affected non-host lots, including any stated development intentions and, where applicable, the desired location and rationale. (Note: While the outcomes of this engagement will inform the decision-maker's assessment against this Element, they will not be determinative in the decision on the application.)
d. An evaluation of development potential in accordance with **WF-PO3.1**.

An example assessment table is provided in **Appendix 5.**

Plans and Reports Recommended as Conditions of Development Approval

Not applicable.

2.5 WF Element 4 – Landscape

Context

Wind farms are large-scale infrastructure and are often located on elevated terrain to maximise wind capture, making them visible over significant distances.

Visual change to the landscape is an inherent outcome of wind farm development. The acceptability of this change depends on the sensitivity of the landscape and the nature of the viewing experience. In areas with significant landscapes or views of recognised State, national or international importance, such as World Heritage Areas and national parks (e.g. Purnululu National Park and Shark Bay) wind farms may require careful and responsive siting and design to avoid or minimise adverse impacts, and in some cases may be unsuitable.

In other settings, where the landscape is more accommodating of visual change, context-responsive design should still be considered where opportunities exist to minimise visual impacts in key locations.

Element Objectives[3]

WF-EO4.1 Wind farms are sited and designed to avoid or minimise adverse impacts on **significant landscapes** and **significant views**, particularly areas of recognised State, national or international importance.

WF-EO4.2 Wind farms are sited and designed with sensitivity to their **landscape** setting to minimise unnecessary visual disruption and prominence where practical opportunities exist, with the understanding that visual change to the landscape is an inevitable outcome of **wind farm** development.

Performance Outcome	Acceptable Outcome
WF-PO4.1 Where a **wind farm** may affect a **significant landscape** or **significant view**, it is sited and designed to avoid or minimise unnecessary visual disruption and prominence and adverse **landscape** and visual impacts. Siting and design responses may include (but are not limited to): a. siting **wind turbines** and **associated infrastructure** outside the **significant view** viewing corridor or **significant landscape** extent where feasible; b. reducing the number, height or spread of **wind turbines**; c. avoiding siting **wind turbines** and **associated infrastructure** on prominent ridgelines; d. using **landform** and tree planting to screen **wind turbines** and **associated infrastructure**. **WF-PO4.2** In all settings, **wind farms** are sited and designed to utilise practical opportunities available within the landscape setting, such as the screening effect of topography or vegetation, or new planting opportunities, to minimise unnecessary visual disruption and the prominence of **wind turbines**. **WF-PO4.3** Lighting associated with wind turbines is designed to avoid or minimise adverse impacts on views and **landscapes**, while ensuring compliance with aviation safety requirements. **WF-PO4.4 Wind turbine blades** are finished with a surface treatment of low reflectivity to minimise blade glint.	*Not applicable – Performance Outcomes apply.*

[3] Element 4 objectives and performance outcomes replace the guidelines for wind farms in section 3.3 of the WAPC's Visual Landscape Planning in Western Australia: a manual for evaluation, assessment, siting and design (2007).

Plans and Reports to Accompany a Development Application

Landscape and Visual Impact Assessment (LVIA)

A LVIA is required to demonstrate that **WF-PO4.1**, **WF-PO4.2** and **WF-PO4.3** can be satisfied. The LVIA should be prepared by a suitably qualified landscape planner, landscape architect, or other professional with relevant experience, in accordance with the methodology outlined in **Appendix 4**.

The scope of the LVIA should be proportionate to the scale and complexity of the wind farm and its landscape setting, ensuring that it provides sufficient information and analysis, and siting and design explanation to inform decision-making.

The assessment should:

a. Describe and analyse the pre-development landscape and visual characteristics of the study area, including the general viewing experience of the area as illustrated through photographs of the site from key viewing locations.
b. Describe the visual characteristics of the wind farm in its landscape setting, including: viewshed mapping; identification of significant landscapes and significant views; and description of existing or proposed landscape and visual management objectives that should inform wind farm siting and design.
c. Assess potential landscape and visual impacts, identifying those areas and views most impacted and evaluating the nature and extent of those impacts in relation to landscape sensitivity, viewing experience, and relevant landscape and visual objectives(considering stakeholder feedback where relevant).
d. Describe how the siting and design respond to identified impacts, including avoidance, minimisation or mitigation measures.
e. Outline anticipated landscape and visual outcomes, and demonstrate how the Element Objectives and Performance Outcomes are met.

Plans and Reports Recommended as Conditions of Development Approval

Landscape Plan

Required where the LVIA recommends tree planting to mitigate impacts.

Lighting Management Plan

Required where mitigation of lighting impacts on dark skies or astrotourism is warranted, noting that management of dust impacts may be addressed as part of the Construction Management Plan (see Element 11 – Construction).

The Plan must:

- comply with minimum mandatory aviation safety lighting requirements from the approved Aviation Impact Assessment (see Element 8 – Aviation);
- be prepared in accordance with the Position Statement: Dark sky and astrotourism (WAPC, 2022).

2.6 WF Element 5 – Shadow Flicker

Context

Shadow flicker is the recurring flickering of shadows cast by rotating wind turbine blades. Its intensity and duration depend on geographical location, time of year, blade height, proximity to wind turbines and cloud cover. Shadow flicker is most prevalent when the sun is low (early morning and late afternoon) and generally affects areas within an east-west arc of a turbine.

Extended periods of shadow flicker can cause annoyance for nearby visually sensitive land uses, including houses, short-stay accommodation and outdoor recreational areas like ovals and courts.

Element Objective

WF-EO5.1 Wind turbines are sited, designed and operated to minimise shadow flicker impacts on any existing or approved **visually sensitive land use** located on a **non-host lot**.

Performance Outcome	Acceptable Outcome *Meeting this Acceptable Outcome satisfies the Element Objective.*
WF-PO5.1 Wind turbines are sited and operated to ensure that shadow flicker at any **visually sensitive land use** on non-host lots does not exceed: a. **30 hours per year and 30 minutes on any single day**, based on theoretical shadow flicker modelling; or b. **10 hours per year**, based on predicted actual shadow flicker modelling.	**WF-AO5.1 Wind turbines** are set back a minimum distance of 265 times the **maximum blade chord** length from any existing or approved **visually sensitive land use** on non-host lots.

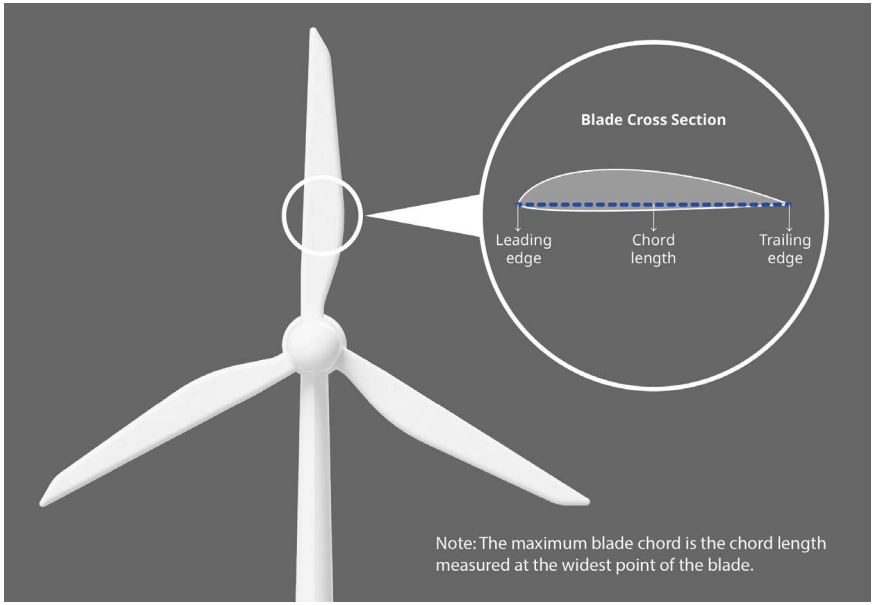


Figure 6:Maximum blade chord measurement

Plans and Reports to Accompany a Development Application

Shadow Flicker Assessment

A Shadow Flicker Assessment is to be prepared by a suitably qualified consultant where **WF-PO5.1** applies and include:

Mapping and description of modelled annual maximum shadow flicker exposure for existing and approved visually sensitive land uses on non-host lots using either of the below methodologies:

a. Theoretical shadow flicker modelling applying the parameters in Table 1; or
b. Predicted actual shadow flicker modelling applying the parameters in Table 2.

Identification of any proposed mitigation measures and how they will be implemented through an Operational Management Plan.

Model Parameter	Setting
Distance for modelling the effect of shadows	265 times the maximum blade chord length
Minimum angle to the sun	3 degrees
Shape of the sun	Disk
Time and duration of modelling	One full year representing a non-leap year 12 to 15 years after the lodgement date for the development application
Orientation of the rotor	Sphere or disk facing the sun
Offset between rotor and tower	Not required
Time step	Ten (10) minutes or less
Effects of topography	Included
Height of visually sensitive land use	1.5 metres – 2 metres and window / balcony height where visually sensitive land use has more than one storey
Visually sensitive land use location	Modelling should be mapped to within 50 metres of the relevant boundary of a visually sensitive land use. The relevant boundary is defined as: a. the perimeter building wall for built land uses such as residential dwellings, short-stay accommodation, schools, hospitals, and childcare centres; and b. the nearest part of the reserve boundary for recreation areas.
Grid size for mapping and assessment of shadow flicker at a visually sensitive land use	Not more than 25 metres
Vegetation or topography blocking shadows	Where it can be demonstrated through a photomontage that the view of a shadow flicker source wind turbine is completely blocked, the contribution of that wind turbine to shadow flicker effect on a visually sensitive land use can be excluded from the modelling.

Table 1: Theoretical Shadow Flicker Modelling Parameters

Mitigation	
Cloud cover assessment	Shadow flicker may be reduced to a maximum of 10 hours per year (see below for assessment of cloud cover).
Wind turbine curtailment	Shadow flicker may be reduced to a maximum of 10 hours per year, subject to implementation of this mitigation measure through an Operational Management Plan. While this mitigation is acceptable, it is less preferred due to greater compliance challenges and should be used only where other means of achieving compliance are not available.

Table 2: Predicted Actual Shadow Flicker Modelling – Summary of allowable mitigations

For predicative actual shadow flicker modelling, cloud cover adjustments must:

a. Use Bureau of Meteorology cloud cover data (minimum three years) from the closest appropriate site (reporting at least 9am and 3pm cloud cover).
b. Calculate monthly averages separately for the 9 am and 3 pm proportion of cloudy days.
c. Reduce modelled shadow flicker in a given month by the relevant cloudiness proportion of cloudy days (evening shadow flicker must be reduced using the proportion from 3 pm and morning shadow flicker using the proportion from 9 am).
d. Sum the reduced monthly totals to determine the revised annual modelled exposure.

Note: The predicted actual methodology does not include a daily limit for shadow flicker exposure as this is inherently satisfied within the annual limit.

Plans and Reports Recommended as Conditions of Development Approval

Operational Management Plan *(required where wind turbine curtailment strategies are proposed to satisfy **WF-PO5.1**)*

The Plan is to detail turbine curtailment strategies, implementation scheduling, and be publicly available on the operator's website for the life of the wind farm.

2.7 WF Element 6 – Natural Environment

Context

Potential impacts of wind farms on the natural environment – including native vegetation, flora and fauna, water resources and soil health – vary according to the characteristics and location of each site.

Wind farm development typically requires significant site works to establish turbine foundations, electricity infrastructure, access tracks and temporary storage areas during construction. It is important that these works minimise native vegetation clearing, soil erosion and disruption to surface water and groundwater systems.

Clearing native vegetation can contribute to biodiversity and habitat loss. Wind farms may pose risks to birds and bats through collision with wind turbines and displacement from adjacent habitats. Ground-dwelling and burrowing fauna may also be affected.

Environmental Approvals

Where a proposal has the potential to significantly impact the environment, it must be referred by either the applicant or decision-maker to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986* (EP Act).

Before a development application can be determined:

- the EPA must determine whether to assess the proposal; and
- where assessment is required, the assessment must be completed and the Minister for the Environment must determine whether the proposal may be implemented.

Proposals involving native vegetation clearing may require a clearing permit under Part V of the EP Act.

Where a proposal may impact matters of national environmental significance, it must also be referred by the applicant to the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Given the timeframes for environmental surveys and approvals, early engagement with relevant government agencies (see **Appendix 3**) is strongly encouraged to identify env ironmental values, assess risks and understand submission requirements.

Element Objective

Flora and Fauna

WF-EO6.1 Wind farms are sited, designed, constructed and operated to avoid or minimise adverse impacts on **flora and fauna**, in particular **threatened species**, **migratory species** and **threatened ecological communities**.

Performance Outcome	Acceptable Outcome
WF-PO6.1 Wind farms are sited outside and sufficiently set back from: **conservation areas**, **threatened ecological communities**, known habitats of **threatened species**, and migration paths of **migratory species**, including birds and bats. **WF-PO6.2 Wind farms** are sited to avoid or minimise **native vegetation** clearing where practicable by locating in areas that have already been cleared or disturbed. **WF-PO6.3 Wind turbines** are designed and operated to reduce adverse impacts on birds and bats, in particular **threatened species** and **migratory species**. This may include (but should not be limited to): a. positioning the height of the **rotor swept path** (see **Figure 7**) outside of known bird and bat flight paths; b. using design features that deter birds and bats and minimise the risk of bird and bat collision; and c. using technology to detect bird and bat activity and curtail the operation of **wind turbines** where needed. **WF-PO6.4** Land management practices are undertaken during the operation of the **wind farm** to: a. reduce the attractiveness of the site to birds and bats which are prone to collision with **wind turbines**; and b. maintain biosecurity and minimise the spread of pests, weeds and diseases.	*Not applicable – Performance Outcomes apply.*

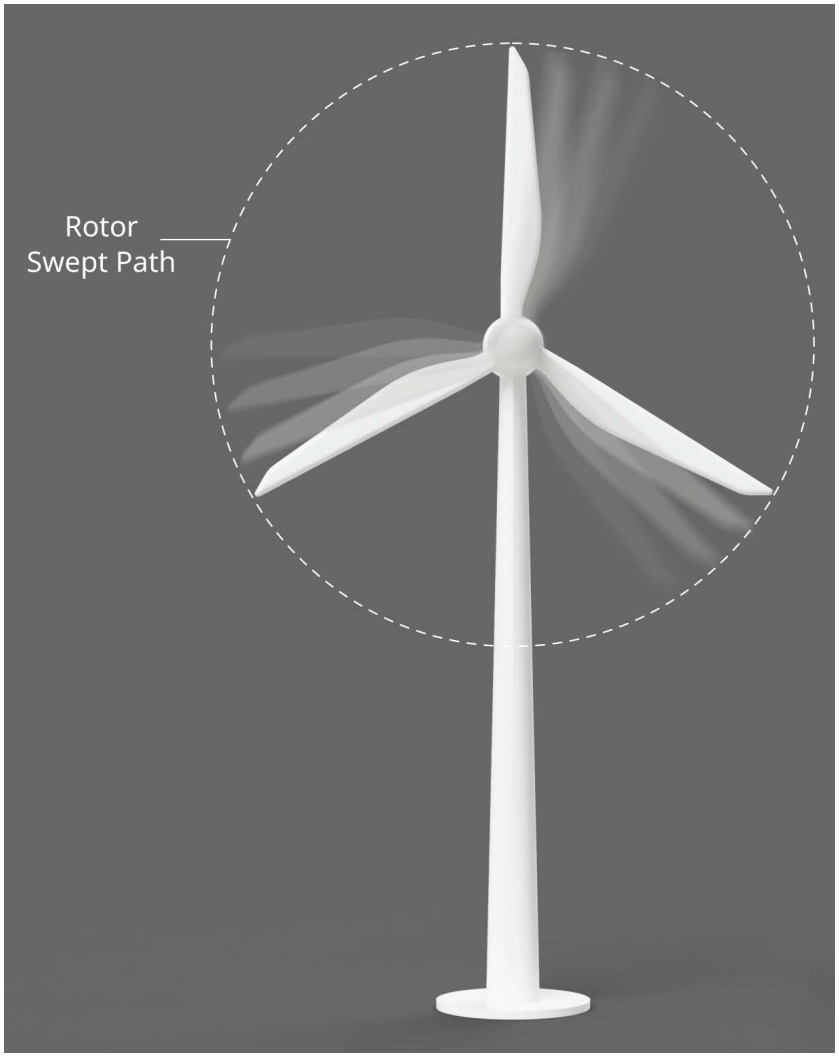


Figure 7: Rotor swept path

Element Objective

Water and Land

WF-EO6.2 Wind farms are sited, designed and constructed to avoid or minimise **land degradation** and adverse impacts on the quantity and quality of water resources and in particular **sensitive water resources**, **public drinking water source areas** and **significant wetlands**.

Performance Outcome	Acceptable Outcome
WF-PO6.1 Wind farms are sited, designed and constructed in accordance with the draft Statement of Planning Policy 2.9 Planning for Water (WAPC, 2021) and draft Planning for Water Guidelines (WAPC, 2021). This includes but is not limited to: a. siting **wind farms** outside and sufficiently set back from **waterways**, **wetlands** and **dams**; b. siting **wind turbines** outside areas with high water tables or areas likely to disrupt natural drainage flows, **water resources, public drinking water areas** and **dams**; and c. designing and constructing stormwater, groundwater and sediment management systems (including rehabilitation and stabilisation of disturbed areas) to maintain water quantity and quality. **WF-PO6.2 Wind farms** are sited and designed to avoid or minimise: a. disturbance of contaminated land or acid sulphate soils; and b. salinity mobilisation and erosion.	*Not applicable – Performance Outcomes apply.*

Plans and Reports to Accompany a Development Application

Environmental Report

The Environmental Report is to identify:

a. The extent, type and condition of features within and near the host lot.
b. The extent and type of the proposed development, including any clearing of native vegetation.
c. The risk of adverse environmental impacts addressing each of the environmental factors (as identified in the EPA's Statement of Environmental Principles, Factors and Objectives and Environmental Factor Guidelines) during construction and operation.
d. Proposed mitigation measures to avoid, minimise and rectify adverse environmental impacts.

Environmental features should be identified through a combination of desktop analysis and environmental surveys and should identify where relevant:

a. Climatic conditions including wind and rainfall.
b. Native vegetation extent, type and condition.
c. Flora and fauna and in particular, birds and bats, threatened species and their associated habitats, migratory species and their associated migration paths, and threatened ecological communities.
d. Conservation areas.
e. Water resources (including waterways and wetlands) and specifically sensitive water resources and significant wetlands, public drinking water source areas, dams as well as coastal waters (Note: these features are to be addressed in detail in the Water Management Report).
f. Geology and soils including land prone to erosion, slip, collapse or subsidence, contamination, acid sulphate soils and salinity.
g. Biosecurity risks (pests, weeds and diseases).

Surveys should be undertaken in accordance with relevant State Government environmental guidelines.

The level of detail provided in the Environmental Report will depend on the extent of environmental features on the site and their significance. Where a development proposal has been referred to the EPA under Part IV (Section 38) of the *Environmental Protection Act 1986*, the Environmental Report should include:

a. Information provided by the proponent as part of the referral of the proposal to the EPA.
b. The EPA's decision whether to assess the referred proposal.
c. The proponent's Environmental Review Document and Environmental Management Plans (where applicable).
d. The EPA report on the assessment of the proposal (where applicable).
e. The Ministerial Approval Statement (where applicable).

Bird and Bat Management Plan

Prepared by a suitability qualified ecologist and include:

a. Bird and bat utilisation survey results.
b. Assessment of the risks of adverse impacts on birds and bats.
c. Measures to mitigate these risks through wind farm siting and design, construction and operation, including post-construction monitoring and reporting of bird and bat activity and injury/mortality, as well as adaptive management responses where necessary.

Water Management Report

Demonstrates appropriate protection, management and use of water resources and public drinking water resource areas, including stormwater, groundwater and sediment management, during construction and operation.

should be prepared in accordance with the draft Statement of Planning Policy 2.9 – Planning for Water (WAPC, 2021) and draft Planning for Water Guidelines (WAPC, 2021).

Plans and Reports Recommended as Conditions of Development Approval

Environmental Management Plan (EMP)

The EMP is to outline how environmental impacts will be managed and monitored during construction and operation. It should be prepared in accordance with the EPA's Instructions – How to prepare *Environmental Protection Act 1986* Part IV Environmental Management Plans.

Where relevant, the EMP should include any relevant elements of:

- The Bird and Bat Management Plan; and
- The Water Management Report

The EMP should be publicly available on the wind farm operator's website for the life of the project.

Reference Documents

The following documents provide guidance in relation to specific environmental impacts and potential approaches or principles that can be applied to avoid and minimise these impacts. They may assist in meeting the requirements of the Renewable Energy Planning Code.

- The Department of Water and Environment Regulation's (DWER) Green Energy Proponent Guideline.
- Environmental Protection Authority's (EPA) Statement of Environmental Principles, Factors and Objectives and Environmental Factor Guidelines;
- EPA's Technical Guidance – Subterranean Fauna Surveys for Environmental Impact Assessment.
- EPA's Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment.
- EPA's Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment.
- EPA's Rehabilitation of Terrestrial Ecosystems (GS 6).
- Australian Government's draft Onshore Wind Farm Guidance – Best practice approaches when seeking approval under the Australia's national environmental law (May, 2024).
- WAPC's Statement of Planning Policy 2.0 – Environment and Natural Resources Policy (WAPC, 2003).
- WAPC's draft Statement of Planning Policy 2.9 – Planning for Water (WAPC, 2021) and draft Statement of Planning Policy 2.9 Planning for Water Guidelines (WAPC, 2021).

2.8 WF Element 7 – Natural Hazards

Context

Wind farm development must consider the exposure and vulnerability of people, property and infrastructure to natural hazards including bushfire, flooding, coastal erosion and inundation, landslides and other land movements (karst), earthquakes and cyclones. Climate change may increase the frequency and severity of some hazards, and this must inform site selection, design and long-term resilience measures.

Element Objective

WF-EO7.1 Wind farms are sited, designed, constructed and operated to avoid or minimise risks to people, property and infrastructure arising from **natural hazards**.

Performance outcome	Acceptable Outcome
Fire **WF-PO7.1 Wind turbines** and **associated infrastructure** (excluding access tracks) are sited: a. Outside **bushfire prone areas** where possible; or b. Within **bushfire prone areas** where the pre-development radiant heat impact does not exceed Bushfire Attack Level (BAL)-29 (29kW/m^2), as shown in pre-development BAL contour mapping; or c. where (a) or (b) cannot be achieved, with asset protection zones (i.e. low fire fuel areas) established around **wind turbines** and **associated infrastructure** to reduce the post-development radiant heat impact to BAL-29 or below, while avoiding or minimising native vegetation clearing and ensuring that any additional landscaping or **revegetation** does not contribute to an unacceptable fire risk. **WF-PO7.2 Wind turbines** and **associated infrastructure** are spaced apart to: a. reduce the risk of fire spreading between components, considering radiant heat flux as a potential ignition source; and b. enable safe and effective aerial firefighting operations with a minimum separation of 300 metres between turbines. **WF-PO7.3 Wind turbines** and **associated infrastructure** incorporate features that minimise ignition risk and support emergency response, including: a. fire and lightning detection, power disconnection, and independent shutdown systems that can operate independently of local communications during an emergency; b. non-combustible or fire-resistant materials in construction; c. aviation obstacle lighting; d. safe storage of hazardous, flammable and/or combustible materials consistent with *Planning for Bushfire Guidelines* (WAPC, 2024), specifically Bushfire Protection Criteria 7: Development - Commercial and industrial A2.4 Storage of hazardous, flammable and/or combustible materials.	*Not applicable* *– Performance Outcomes apply.*

Performance outcome	Acceptable Outcome
WF-PO7.4 Wind farms include vehicular access enabling efficient, safe and reliable emergency response and evacuation, consistent with the Planning for Bushfire Guidelines (WAPC, 2024). This includes: a. at least two ingress/egress points, preferably from two different public roads, and for each part of the **development site** where the site is divided by a public road(s). b. internal access tracks that: i. have suitable gradients, vertical clearances and all-weather surfaces; ii. provide a minimum four-metre trafficable width to each **turbine** and key infrastructure components such as substations and control offices; iii. include passing bays at least every 600 metres, with a minimum size of 20 metres long and six metres wide; and iv. provide adequate turn-around areas for emergency vehicle manoeuvring. **WF-PO7.5 Wind farms** provide sufficient, accessible water supply and firefighting infrastructure. The number, size and locations of water tanks is to be determined in consultation with the Department of Fire and Emergency Services and local brigade, and include at a minimum: a. one 45,000-litre static water tank at each property entrance from a public road; b. one additional 45,000-litre static water tank within the **development site;** c. water tank fittings compliant with relevant *Planning for Bushfire Guidelines* (WAPC, 2024) standards; and d. a hardstand at each tank for emergency vehicles. **WF-PO7.6 Wind farm** operations support emergency response by: a. maintaining firebreaks, **asset protection zones**, access tracks, water supply, hardstands and fire equipment; and b. enacting emergency procedures**,** such as **turbine** shutdown, blade repositioning, power disconnection, activation of obstacle lighting to support aerial firefighting, and facilitating emergency vehicle and water access. **WF-PO7.7** Any new **habitable building** associated with the **wind farm**, located wholly or partly within a **bushfire prone area**, is sited, designed and constructed in accordance with State Planning Policy (SPP) 3.7 Bushfire (WAPC, 2024) and the Planning for Bushfire Guidelines (WAPC, 2024). **Other Hazard Management** **WF-PO7.8 Wind farms** are sited, designed, constructed and operated to avoid or minimise risks associated with: a. coastal erosion and inundation, where within a **coastal zone**; b. flooding; c. cyclones and earthquakes (see *Element 1 - Safety*, **WF-AO1.2**); and d. landslides and other land movement (karst), avoiding slopes 15 per cent or greater as per SPP 3.4 Natural Hazards and Disasters (WAPC, 2006).	*Not applicable* *– Performance Outcomes apply.*

Plans and Reports to Accompany a Development Application

BAL Contour Map

A BAL contour map showing radiant heat impact areas is required where wind farm infrastructure is wholly or partly in a bushfire prone area. The BAL contour map is to be prepared by an accredited Level 2 or 3 bushfire planning practitioner in accordance with the method, manner and form set out in Appendix A.3 of the Planning for Bushfire Guidelines (WAPC, 2024).

Bushfire Management Plan (BMP)

Required where:

a. wind farm infrastructure is wholly or partly in a bushfire prone area with a pre-development radiant heat impact exceeding BAL-29 as shown on the BAL contour map; or

b. any **habitable building** associated with the wind farm is wholly or partly in a bushfire prone area.

Where relating to habitable buildings, the BMP should meet the requirements of SPP 3.7 Bushfire (WAPC, 2024), Planning for Bushfire Guidelines (WAPC, 2024) and the Bushfire Management Plan (BMP) Manual template.

Coastal Hazard Risk Management and Adaptation Plan

Required where triggered by SPP 2.6 State Coastal Planning Policy (WAPC, 2006). Prepared in accordance with the Coastal Hazard Risk Management and Adaption Planning Guidelines (WAPC, 2019).

Geotechnical Assessment

Required where turbines or associated infrastructure are proposed on land vulnerable to landslip (slopes greater than 15 per cent) or other geotechnical hazards (such as karst). The assessment must:

a. detail geology and soil conditions;

b. demonstrate suitability for development; and

c. recommend minimum design and construction standards to mitigate risks.

Prepared by a suitably qualified geotechnical engineer in accordance with AS 1726:2017: Geotechnical Site Investigations.

Plans and Reports Recommended as Conditions of Development Approval

Emergency Management Plan (EMP)

An EMP may be required as a condition of development approval. It should identify the actions to be undertaken in the event of a natural hazard emergency (including structural incidents and bushfire) during the construction, operation and decommissioning phases of the wind farm.

The EMP should be prepared with input from relevant local stakeholders, including:

a. Department of Fire and Emergency Services (DFES), including DFES Aerial Services;

b. local bushfire and emergency response organisations; and

c. host lot and non-host lot landowners and occupiers.

Where relating to bushfire, the EMP should be prepared generally in accordance with the Bushfire Emergency Plan Manual (WAPC, 2024).

2.9 WF Element 8 – Aviation

Context

Wind turbines can pose hazards to aviation due to their height, potential conflict with aircraft operations, interference with radar systems and the creation of turbulence. Consideration must be given at all stages of a wind farm project to the safety, efficiency and operational integrity of airports, aerodromes, aircraft landing areas and other aviation operations and services, including agricultural spraying, aerial mustering, military aviation and emergency air services.

While wind turbines are generally conspicuous during daylight due to their scale, aviation lighting is the primary means of ensuring visibility at night or in low-visibility conditions, and must balance safety requirements with minimising amenity impacts.

Element Objective

WF-EO8.1 Wind farms are sited, designed, constructed and operated to maintain the safety, efficiency and operational integrity of airports, **aerodromes**, **aircraft landing areas** and associated aviation operations and navigation, including low-flying aviation activities.

Performance Outcome	Acceptable Outcome
WF-PO8.1 Wind turbines and **associated infrastructure** are sited, designed, constructed and operated to: a. avoid hazards or unacceptable risks to aircraft safety; b. avoid or minimise adverse impacts on the safety, efficiency or operational integrity of: i. **airports**, **aerodromes** and **aircraft landing areas** and associated aviation operations and navigation; and ii. low-flying aviation operations, including aerial agricultural activities (spraying and mustering), recreational aviation, military aviation, helicopter operations and emergency air services; and c. avoid or minimise adverse impacts on the development and operation of future aviation infrastructure identified in State and local planning frameworks. **WF-PO8.2** Where aviation risks and impacts cannot be fully avoided, they are minimised through effective mitigation measures. **WF PO8.3 Wind turbines** and associated infrastructure incorporate appropriate lighting and marking to address safety risks while minimising impacts.	*Not applicable – Performance Outcomes apply.*

Plans and Reports to Accompany a Development Application

Aviation Impact Assessment

An Aviation Impact Assessment should be prepared by a suitably qualified aviation consultant and include a comprehensive assessment of risks to aviation safety, efficiency and operational integrity, along with proposed mitigation and management strategies.

The Assessment should meet the requirements of:

a. National Airports Safeguarding Framework (NASF) Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installation (Wind Farms/ Wind Monitoring Towers).
b. CASA Advisory Circular AC 139.E-05v1.1 Obstacles (including wind farms) outside the vicinity of a CASA certified aerodrome.
c. Airservices Australia Aviation Impact Statement - Developments at and around **airports**, which includes specific requirements relating to wind farms.

Impacts and Risks

An Aviation Impact Assessment must address (where relevant):

a. Identify obstacle locations and heights both Above Ground Level and Australian Height Datum.
b. Identify surrounding airports, aerodromes and aircraft landing areas, flight paths, airspace (Obstacle Limitation Surface, Procedures for Air Navigational Services – Aircraft Operations, Declared Defence Aviation Areas and any declared/prescribed airspace) and other relevant considerations.
c. Consider future airports identified in State and local planning frameworks to ensure proposed/planned wind turbines do not impact the ability to deliver future aviation infrastructure requirements.
d. Assess potential impacts and risks of the project on aviation activity, including navigation, radar, wake/turbulence and communications.
e. Demonstrate consideration of cumulative impacts of other approved or operating wind farms in the vicinity.
f. Assess impacts of wind turbines on low-flying activities conducted in the vicinity of the wind farm, such as aerial agricultural activities spraying, mustering, recreational aviation, military aviation, helicopter operations and emergency air services.
g. Identify required aviation obstacle lighting, having regard to the defined air traffic routes, aircraft operating heights, approach/departure procedures, radar interference, communication systems and navigation aids.
h. Consider crane use during construction.
i. Detail operational procedures during bushfire events, for example, turbine shutdowns, blade positioning, lighting activation to minimise interference with aerial firefighting operations and activating lighting to increase visibility of turbines to pilots.
j. Conduct a risk analysis in accordance with AS/NZS ISO 31000:2018 Risk Management – Guidelines.

Consultation

While decision-makers will refer applications to the Civil Aviation Safety Authority (CASA), AirServices Australia and the Department of Defence, the Aviation Impact Assessment must demonstrate that the applicant has consulted with the following parties and appropriately addressed any concerns raised:

a. nearby airport, aerodrome and aircraft landing area owners, operators and users;
b. neighbouring non-host lot landowners;
c. aircraft operators known to fly in the area (aerial spraying, mustering, recreational aviation and helicopter operators, and emergency air services including but not limited to DFES and the Royal Flying Doctor Service);
d. Airservices Australia to determine if any aerodrome operating procedures may be affected by the project (prior to consulting with CASA) and whether any aeronautical communications, navigation or surveillance equipment may be affected;
e. Department of Defence to determine whether any defence aerodromes and facilities, Declared Defence Aviation Area (DAA) – protected airspace, low flying military aviation activities or aeronautical communications, navigation or surveillance equipment may be affected;

Plans and Reports to Accompany a Development Application

f. CASA – regarding air safety and lighting/marking. Where CASA advises that a proposed wind turbine or other structure proposed in an application will be hazardous and poses an unacceptable risk to aircraft safety, it should not be supported by a decision-maker. Additionally, the Civil Aviation Safety Regulations 1998 require that a person proposing to construct or erect any object that extends to a height of 100 metres or more above local ground level must, as soon as practicable after forming the intention to construct or erect the proposed object or structure, give notice to CASA (see Civil Aviation Safety Regulations, Regulation 139.175).

Marking and Lighting

The Assessment should:

a. outline lighting and marking recommendations in accordance with CASA and/or Department of Defence advice and National Airports Safeguarding Framework Guideline D;

b. consider measures to minimise the impact on amenity such as radar-activated lighting (specific advice should be sought from CASA and/or the Department of Defence);

c. consider the WAPC's Position Statement: Dark Sky and Astrotourism (WAPC, 2022);

d. identify the proposed colour of turbines (usually white unless otherwise supported by CASA and the Department of Defence); and

e. detail monitoring reporting and maintenance procedures for lighting outages, including CASA notification.

Other Mitigation Measures

The Assessment should also:

a. provide as-constructed details of turbines and monitoring masts (including the specific location coordinates and heights AGL and in AHD) to Airservices Australia Vertical Obstacle Database so they are registered on the national database. Notification is to be of any tall structure's permanent obstacles, including wind turbines, meteorological masts or wind-monitoring towers, greater than 30 metres or more above ground level within 30 kilometres of an aerodrome; or 45 metres or above ground level elsewhere;

b. detail marking of overhead transmission lines consistent with Australian Standard AS 3891.1 Air Navigation (with visual identification tools such as marker balls) and in consultation with the transmission network provider.

Where mitigation requires changes to aerodrome procedures, these must be resolved before an application is determined.

Plans and Reports Recommended as Conditions of Development Approval

Operational Management Plan

The Plan is to detail operational and aviation impact mitigation measures identified in the approved and updated (where relevant) Aviation Impact Assessment or recommended by CASA or the Department of Defence. It must also include procedures for responding to any unanticipated impacts identified post-construction or through complaints.

The plan must be publicly available on the wind farm operator's website for the life of the wind farm.

2.10 WF Element 9 – Electromagnetic Interference

Context

Wind turbines can interfere with or degrade microwave, television, radar and radio transmissions through electromagnetic interference (EMI). This may be caused an electric and magnetic (electromagnetic) field forming around the wind turbine or where radiocommunications are obstructed by the physical structure of the turbine. Services that can be impacted include emergency services, aviation, television and radio broadcasting, internet, weather monitoring and mobile networks.

Element Objective

WF-EO9.1 Wind farms are sited, designed and operated to avoid or minimise **EMI**, ensuring the ongoing reliability and functionality of essential services, including communications, radar, weather monitoring, television and radio broadcasting and radio astronomy.

Performance Outcome	Acceptable Outcome
WF-PO9.1 Wind farms are sited, designed and operated to avoid EMI wherever practicable, ensuring reliable and functional essential services consistent with regulatory and operational requirements, ensuring continuity for civilian, government and commercial systems. **WF-PO9.2** Where **EMI** to essential services cannot be fully avoided, it is minimised through effective mitigation measures, including adjusting wind turbine siting and design, or implementing technical solutions (for example, filters or signal boosters) to maintain service performance.	*Not applicable – Performance Outcomes apply.*

Plans and Reports to Accompany a Development Application

Electromagnetic Interference Assessment

An EMI Assessment is to be prepared by a suitably qualified engineer or specialist with demonstrated expertise.

The Assessment is required to:

a. Assess potential impacts on services, including (but not limited to) point-to-point microwave links, aviation, defence and meteorological radar and communications, emergency service communications, utility communications, mobile voice-based communications, wireless and satellite internet, broadcast and digital radio, digital and satellite television, trigonometry stations, GPS, observatories and radio astronomy. [4]

b. Engage with key stakeholders [5] (as listed in Appendix 3, but not limited to) and document:
   i. statutory or operating requirements of stakeholders that may require consideration; and
   ii. evidence of stakeholder input into and/or review of the EMI Assessment, including confirmation that any identified impacts are acceptable or that proposed avoidance or mitigation measures are supported.

c. Demonstrate the consideration of the National Airports Safeguarding Framework Guideline G: Protecting Aviation Facilities – Communication, Navigation and Surveillance (Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts) where applicable.

d. Demonstrate consideration of any requirements for Radio Quiet Zones regulated by the Australian Communications and Media Authority and Department of Local Government, Industry Regulation and Safety, including relevant local planning scheme provisions.

e. Assess and describe the magnitude, risks and implications of identified impacts on affected facilities and services.

f. Describe avoidance and mitigation measures ensuring achievement of **WF-PO9.1** and **WF-PO9.2**, including any ongoing mitigation required during wind farm operation.

g. Outline the implementation program for mitigation measures and how this will be communicated to affected stakeholders and the community.

h. Describe how post-construction signal strength testing will be used to verify predicted impacts on television, radio and mobile phone coverage, and how any unanticipated impacts will be addressed through additional or revised mitigation measures.

[4] The assessment should consider the worst-case scenario where wind turbine envelopes are being considered.

[5] Some stakeholders may require detailed technical information and several months to provide input prior to the lodgement of the development application.

Plans and Reports Recommended as Conditions of Development Approval

Signal Strength (Television, Radio and Mobile Phone) Testing Report

A Signal Strength Testing Report may be required to record pre-and post-operation signal strength and quality. The report must demonstrate either:

a. no EMI impacts on television, radio or mobile coverage, or

b. where impacts occur, that they are consistent with the EMI Assessment and addressed through mitigation.

Where unacceptable impacts are identified that were not anticipated in the EMI Assessment, the wind farm operator may be required to:

a. prepare an addendum to the EMI Assessment identifying the cause and extent of the impact; and

b. update the Operational Management Plan to include additional or revised mitigation measures and implementation programs.

Operational Management Plan

The Plan is to detail EMI mitigation measures identified in the approved (and updated) EMI Assessment, as well as procedures for responding to unanticipated EMI impacts identified through testing or community complaints.

The Plan is to be made publicly available on the wind farm operator's website for the life of the wind farm.

2.11 WF Element 10 – Transport

Context

The transportation of wind farm components, construction materials and workforce personnel must be efficiently managed and coordinated to protect Western Australia's transport network. This includes the movement of large and heavy components such as turbine blades, towers and nacelles, as well as construction materials, waste and workforce transit. Careful planning and management of transport routes and vehicle movements helps minimise disruption, maintain community safety and preserve the function of local and regional transport infrastructure.

This element principally applies to the construction and operational phases of wind farm development. Transport impacts during decommissioning are addressed in Element 12 – Decommissioning.

Element Objective

WF-EO10.1 The movement of people, materials and equipment associated with a **wind farm** is managed to:

a. minimise disruption to transport networks and ensure their safe and efficient operation; and
b. avoid and minimise adverse impacts on property, infrastructure and vegetation.

Performance Outcome	Acceptable Outcome
WF-PO10.1 Transport routes for oversize overmass (OSOM) vehicle movements are selected, and vehicle movements are scheduled to: a. maintain road and rail user safety; b. avoid unreasonable disruption to local and regional transport networks; c. avoid or minimise the need for: i. modifications to road and rail infrastructure, and utility services; ii. vegetation clearing; and iii. adverse impacts on adjoining properties. **WF-PO10.2** Workforce vehicular access points are sited to minimise disruption to local and regional transport networks.	*Not applicable – Performance Outcomes apply.*

Plans and Reports to Accompany a Development Application

Transport Impact Assessment

An Assessment should be prepared in accordance with the Transport Impact Assessment Guidelines (WAPC, 2016) and include:

a. Port-to-project transport routes for OSOM movements, supported by a Route Survey consistent with Main Roads Western Australia (MRWA)'s Oversize Vehicle Route Survey – Audit Regime. The assessment should demonstrate safe accommodation of vehicles, considering road widths, roadside impediments, swept path analysis and height clearances.

b. Identification of required permanent and temporary modifications to road and rail infrastructure to facilitate transport movements, including estimated costs. Contributions may be required consistent with SPP 3.6 Infrastructure Contributions (WAPC, 2021) as part of any development approval without the need for a Development Contribution Plan.

c. Forecast workforce and OSOM movements during construction and operational phases.

d. Assessment of transport movement impacts, including:
   i. the operation of the road network, particularly intersections (supported by SIDRA analysis where required);
   ii. operation of the rail network where rail crossings are proposed;
   iii. impacts on adjoining properties and associated land uses, buildings, infrastructure (including utility services) and vegetation, including responsibilities for mitigating impacts; and
   iv. utility services within the road reserve (for example, overhead utilities), including any required relocation or protection.

e. An engagement summary documenting consultation with MRWA, local governments, port and rail operators and other relevant authorities.

Plans and Reports Recommended as Conditions of Development Approval

Construction Traffic Management Plan

The Plan should outline how construction-related transport activities will be managed to minimise impacts on the transport network, local communities and the environment. It should include:

a. Final port-to-site routes for required OSOM movements, supported by route assessments and approvals from relevant authorities.

b. Management of temporary and permanent road infrastructure modifications, including changes to intersections, bridges, road widening, service relocation, signage and lighting.

c. Vegetation clearing requirements associated with transport access, including required clearing permits.

d. Procedures for managing disruptions to utility services, including notification protocols and coordination with service providers.

e. Coordination of OSOM[6] and workforce vehicle movements to avoid peak periods (for example, holidays, school terms, local events) and to manage cumulative impacts where multiple renewable energy projects use shared corridors.

f. Management plans for safety, noise, dust and public notification.

g. Rectification and restoration of the road network and other affected infrastructure following construction, including the developer's responsibilities for repairs and reinstatement works.

h. An engagement summary documenting consultation with MRWA, local governments, port and rail operators and other relevant authorities.

Pre- and Post-Construction Road Pavement Survey

A road pavement survey may be required before and after construction to assess any damage from OSOM and heavy vehicle use. This may form a condition of development approval to ensure necessary road repairs are addressed by the developer.

Railway Safety Management Plan

Where OSOM rail crossings are proposed, a Railway Safety Management Plan should be prepared by a suitably qualified consultant, in consultation with the rail infrastructure owner and rail service operator.

6 MRWA approval is required for the use of Restricted Access Vehicles and the transport of OSOM loads. An OSOM Transport Management Plan, prepared in accordance with MRWA's Guidelines for Preparing an Oversize Overmass Transport Management Plan, must be submitted and accepted by MRWA prior to any OSOM movements. Early engagement with MRWA is strongly recommended to support timely assessment and coordination.

2.12 WF Element 11 – Construction

Context

Wind farm construction requires extensive site preparation and logistical activities that can affect the environment, local amenity and services. Activities typically include transporting components and construction materials, constructing access tracks, establishing laydown areas, and installing turbines, foundations and supporting infrastructure such as transmission lines, battery storage and worker facilities.

Significant resources, including water and gravel, are required for turbine foundations and roadworks. Construction may place pressure on local supplies, infrastructure and services, and must therefore be carefully managed to minimise disruption, ensure safety and protect the environment.

Element Objective

WF-EO11.1 Wind farms are constructed to:

a. avoid or minimise adverse impacts on the environment, amenity and safety;
b. maintain sustainable use and management of local resources and infrastructure; and
c. maintain safe and efficient movement of people, materials and equipment.

Performance Outcome	Acceptable Outcome
WF-PO11.1 The construction phase of **wind farms** is managed to avoid or minimise adverse environmental impacts, including effects on **flora**, **fauna**, water, land, air quality and noise. **WF-PO11.2** Land disturbed during construction must be **rehabilitated** post-construction. **WF-PO11.3** Construction activities are planned and executed to maintain site safety and minimise risks to workers and the public, including risks associated with equipment use and, where relevant, aviation interactions. **WF-PO11.4** Use of local resources and infrastructure, including water, gravel and waste disposal facilities, is sustainable and does not place undue strain on local supply or services. **WF-PO11.5** Waste generation is avoided or minimised and, where waste is generated, it is reused or recycled where possible and disposed of responsibly in accordance with best practice. **WF-PO11.6** Vehicular movement of **wind farm** components, construction materials and workforce personnel is coordinated to minimise disruption to transport networks and ensure their safe and efficient operation.	*Not applicable – Performance Outcomes apply.*

Plans and Reports to Accompany a Development Application

Construction Management Plan

A Construction Management Plan should be prepared to ensure construction activities are well managed and impacts are avoided or minimised.

The plan must:

- include a program of works;
- describe measures to manage potential adverse impacts;
- detail how disturbed land will be rehabilitated; and
- address the matters outlined below (where applicable), along with any other relevant matters identified through assessment or arising from other elements of the Code.

Safety and emergency management

a. Safety and site hygiene management
b. Natural hazard management, including fire and emergency management
c. Fuel and chemical storage and handling
d. Unexploded ordnance
e. Aviation impacts and management

Environmental Management

a. Biosecurity, weed and pest management
b. Dust, noise and vibration management
c. Site contamination and remediation
d. Flora and fauna protection and management
e. Site stabilisation and revegetation of disturbed areas post-construction
f. Drainage, erosion and sediment control
g. Dewatering and acid sulphate soil management

Resource management and services

a. Waste management
b. Wastewater management, including treatment and disposal
c. Water and basic raw material supply (for example, gravel for foundations)

Transport

a. Transport impacts associated with construction are addressed in Element 10 – Transport.

Plans and Reports Recommended as Conditions of Development Approval

Not applicable.

2.13 WF Element 12 – Decommissioning and Rehabilitation

Context

Wind turbines typically operate for 20 to 25 years. At the end of their operational life, they may be decommissioned or repowered to extend operation or increase generation capacity.

Decommissioning involves dismantling and removing turbines and other above-ground infrastructure, and disconnecting from the electricity grid where applicable. Below-ground infrastructure, such as foundations, cabling and conduits, may also be required to be removed. However, in some circumstances removal may not be necessary if the infrastructure does not interfere with the future use of the land (for example, grazing of the State's rangeland farming areas). Access tracks may also be retained where they support ongoing or future land uses.

Proponents are expected to have appropriate financial arrangements (for example, bank guarantees or bonds) in place with host-lot owners to meet their decommissioning obligations and ensure that infrastructure is responsibly removed or managed at the end of its operational life.

Element Objective

WF-EO12.1 Wind farms are **decommissioned** upon ceasing operation to:

a. avoid or minimise adverse impacts on the environment, amenity and safety;
b. facilitate sustainable waste management; and
c. maintain safe and efficient movement of people, materials and equipment.

WF-EO12.2 Wind farm host lots are rehabilitated upon **decommissioning** to their pre-development state or to a condition compatible with their intended ongoing or future land use.

Performance Outcome	Acceptable Outcome
WF-PO12.1 Wind farms are decommissioned and rehabilitated within 18 months of ceasing operation. **WF-PO12.2 Wind farms** are decommissioned by removing: a. above-ground infrastructure, unless retention is agreed with the landowner for repurposing (for example, access tracks); and b. below-ground infrastructure to the extent necessary to support future land uses. **WFPO-12.3** Land disturbed as a result of the wind farm and its **decommissioning** is **rehabilitated** to an acceptable condition that supports future land uses, in consultation with the **host-lot** owner. **WF-PO12.4 Wind farms** are **decommissioned** to avoid or minimise adverse environmental impacts, including effects on **flora**, **fauna**, water, land, air quality and noise. **WF-PO12.5 Decommissioning** activities are planned and executed to maintain site safety and minimise risks to workers and the public, including risks associated with equipment use and, where relevant, aviation interactions. **WF-PO12.6** Waste generation is minimised through reuse and recycling consistent with best practice and all waste is disposed of at licensed facilities with confirmed capacity. **WF-PO12.7** Vehicular movement of **wind farm** components, materials and workforce personnel is coordinated to minimise disruption to transport networks and ensure their safe and efficient operation.	*Not applicable – Performance Outcomes apply.*

Plans and Reports to Accompany a Development Application

Preliminary Decommissioning and Rehabilitation Management Plan

This Plan should accompany the development application and:

a. confirm the operator's commitment to decommissioning and rehabilitation;
b. provide a high-level scope of decommissioning and rehabilitation works;
c. outline consultation undertaken with the host-lot owner, including agreement on the scope of works and financial arrangements; and
d. detail proposed consultation with adjoining landowners, the community, local government and relevant government agencies.

Plans and Reports Recommended as Conditions of Development Approval

Detailed Decommissioning and Rehabilitation Plan

A Plan should be prepared prior to the end of the wind farm's operational life – generally at least six months in advance – unless otherwise agreed with the decision-maker. The Plan must be approved before decommissioning commences.

Where repowering is proposed and the replacement turbines and associated infrastructure are not like-for-like, a new development application may be required.

Where partial repowering is proposed, the Plan must clearly identify turbines to be decommissioned and specify the scope, staging and rehabilitation measures.

Decommissioning and rehabilitation works should be completed within 18 months of the turbines ceasing operation.

The Plan must describe the scope and staging of decommissioning and rehabilitation works, and address the following matters, along with any other matters arising through assessment or from other elements of the Code:

Safety and emergency management

a. Safety and site hygiene management
b. Natural hazard management, including fire and emergency management
c. Fuel and chemical storage, handling and disposal
d. Aviation impacts and management

Environmental management

a. Biosecurity, weed and pest management
b. Dust, noise and vibration management
c. Site contamination and remediation
d. Vegetation retention, rehabilitation and associated monitoring
e. Flora and fauna protection and management
f. Drainage, erosion and sediment control
g. Wastewater management

Waste Management

a. Identification of waste types and volumes, including:
    i. confirmation that all waste will be removed from the site;
    ii. outline how waste will be reused, recycled or disposed of in approved and licensed waste management facilities; and
    iii. identify the licensed waste management facility or facilities proposed to be used and confirm their capacity to accommodate the waste.

Plans and Reports Recommended as Conditions of Development Approval

Transport

a. Transport impacts associated with decommissioning must be addressed in accordance with the requirements of Element 10 – Transport, adapted for the decommissioning phase.

b. A Decommissioning Traffic Management Plan is to be prepared and include:

   i. identification of haulage routes and OSOM vehicle movements, conducted safely and in a manner that minimises adverse impacts on the transport network, consistent with MRWA's Movement of High Risk OSOM Vehicles Policy;

   ii. coordination of vehicle movements to avoid peak traffic periods and cumulative impacts where multiple renewable energy projects affect shared corridors;

   iii. dilapidation surveys and arrangements for repairing any road damage caused by heavy vehicles; and

   iv. engagement with MRWA, local governments and relevant authorities to confirm routes and obtain necessary approvals.

Consultation and Landowner Agreements

a. Outline consultation undertaken and agreements in place with the host-lot owner regarding the scope of works, including decisions on infrastructure removal or retention to support future land uses.

b. Outline financial arrangements to fund decommissioning and rehabilitation, including guarantees or security arrangements to ensure responsibilities are met in the event of operator insolvency. [7]

c. Outline consultation undertaken or proposed with adjoining landowners, the community, local government and relevant government agencies and authorities.

[7] Development approvals and associated decommissioning responsibilities run with the land. If the wind farm operator becomes insolvent, these responsibilities transfer to the landowner. Landowners should therefore secure appropriate guarantees to avoid being burdened with decommissioning and rehabilitation obligations.

Appendices

Appendix 1 – Definitions

The terms defined in the Code apply to all grammatical forms of the word.

Aerodrome – means an area of land or water (including any buildings, installations and equipment) intended for use wholly or partly for the arrival, departure or movement of aircraft and is certified as an aerodrome under the regulations made under the *Civil Aviation Act 1988* (Cth).

Aircraft landing area – means an area of ground intended for use for the conduct of take-off and landing and associated aircraft operations for private, aerial work or charter activities.

Airport – means an aerodrome with significant facilities. This includes:

- Federally leased airports regulated by the *Airports Act 1996*.
- a certified **aerodrome** available for use in regular public transport operations (i.e. commercial fee-paying passengers) and may include contiguous land for aviation-related infrastructure/activities.
- defence airfields under the *Defence Act 1903* and joint-user airports under control of the Department of Defence where an arrangement under section 20 of the *Civil Aviation Act 1988* (Cth) is in force.
- land zoned/reserved for the purpose in the scheme.

Asset Protection Zone – means a managed buffer zone located between a bush fire hazard and a building or piece of infrastructure used to reduce bushfire risk by strategically controlling vegetation and limiting plant flammability within the zone.

Associated infrastructure – means the permanent and temporary buildings, structures and other infrastructure associated with energy infrastructure, including meteorological masts, habitable buildings (such as control or office buildings), storage buildings, fuel storage tanks, mobile concrete batching plants, internal access tracks, fencing, firefighting equipment, gates and signage.

Battery energy storage system – means the use of premises for the operation of one or more battery storage devices that:

a. convert electricity into stored energy; and
b. release stored energy as electricity; and

includes any equipment necessary for the operation of the plant.

Bushfire prone area – means an area designated by the Fire and Emergency Services Commissioner under section 18P of the *Fire and Emergency Services Act 1998* as being subject, or likely to be subject, to bushfires. Refer to Department of Fire and Emergency Services Bushfire Prone Area map.

Coastal zone – means those areas of water and land that may be influenced by coastal processes.

Conservation areas – has the meaning given in the *Environmental Protection Act 1986*.

Dam – means any artificial structure, barrier or levee, whether temporary or permanent, which does or could impound, divert or control water, silt, debris or liquid borne materials, together with its appurtenant (associated) works.

Decommission – means the removal of buildings, structures and infrastructure associated with a land use once it fully or partially ceases operation.

Development site – means that part of a lot(s) on which a building or structure that is the subject of the development stands or is to be constructed.

Ecological community – has the meaning given in the *Biodiversity Conservation Act 2016*.

Electromagnetic interference – means the effect of disturbing or degrading communications and monitoring signals currently in operation and transmitted via microwave, very high frequency and ultra-frequency systems resulting from siting and operation of energy infrastructure and other structures.

Energy infrastructure – means renewable energy facilities, transmission systems and battery energy storage systems.

Fauna – has the meaning given under the *Biodiversity Conservation Act 2016*.

Flora – has the meaning given under the *Biodiversity Conservation Act 2016*.

Ground clearance – means the vertical distance from the ground level at the base of a wind turbine to the tip of its blade when it is in its lowermost position (see Figure 2).

Ground level – means the finished ground level resulting from the development.

Habitable building – has the meaning given under State Planning Policy 3.7 Bushfire (WAPC, 2024).

Host lot – means the lot or lots on which the development is proposed or located and includes all land within the development application or approval area.

Land degradation – has the meaning given under the *Soil and Land Conservation Act 1945*.

Landforms – has the meaning given under the Environmental Protection Authority's Environmental Factor Guideline – Landforms as follows: The distinctive, recognisable physical features of the earth's surface having a characteristic shape produced by natural processes. A landform is defined by the combination of its geology (composition) and morphology (form).

Landscape – means the cumulative expression of natural and cultural features, patterns and processes in a geographical area, including human perceptions and associations with visual landscape incorporating appearance and the type of views provided.' [8]

Maximum blade chord length – means the widest point of a wind turbine blade cross-section, measured from the trailing edge to the leading edge of the blade (refer Figure 6).

Micro-siting – means the movement of wind turbines by small distances within the wind turbine envelope during the detailed design or construction stages of a development.

Migratory species – has the meaning given in the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Native vegetation – has the meaning given in the *Environmental Protection Act 1986*.

Natural hazards – means processes or phenomena that have the potential to cause significant adverse impacts to people, property and infrastructure associated with fires, floods, coastal erosion and inundation, landslides, other land movements (karst), earthquakes and cyclones.

Noise impact area – means an area of land in the vicinity of a noise-generating land use that is either currently or projected in the future to be affected by an unreasonable noise impact from that land use as identified through a Noise Impact Assessment.

Noise-sensitive land use – means a land use or development occupied or designed for occupation or use for residential purposes (including dwellings, residential buildings or short-stay accommodation), caravan park, camping ground, educational establishment, child care premises, hospital, nursing home, corrective institution or place of worship.

Non-host lot – means any lot adjoining or in proximity to a host lot that may be impacted by the development or land use.

Predicted actual shadow flicker modelling – means a modelling approach for wind turbines that estimates realistic **shadow flicker** at a specific location by accounting for meteorological conditions (such as cloud cover), turbine operations and mitigation measures, such as curtailment and shutdown, with the aim of providing a more realistic forecast of shadow flicker under typical operating conditions.

[8] Best Practice Note Landscape Assessment and Sustainable Management 10.1, NZ Institute of Landscape Architects 2017)

Public drinking water source area – means underground water pollution control areas, catchment areas and water reserves that are constituted under the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909* or the *Country Areas Water Supply Act 1947*.

Rehabilitation – means a process where disturbed land is returned to a stable, productive and self-sustaining condition, taking future land use into account.

Renewable energy facility/facilities – means premises and structures used to generate electricity from a **renewable source/s**. It does not include renewable energy electricity generation where the electricity produced principally supplies and is incidental to an associated domestic, business or community related premises.

Renewable sources – has the meaning given in the *Electricity Corporations Act 2005*.

Repowering – means the replacement or substantial upgrade of one or more existing **wind turbines** or **associated infrastructure** to extend the facility's operating life or improve its generating capacity.

Revegetation – means returning vegetation (indigenous or otherwise) to an area.

Rotor swept path – means the circular area surrounding the nacelle within which the blades rotate (see **Figure 7**). **Sensitive water resources** – means areas in which development has the potential to affect water-dependent ecosystems, natural waterways and estuaries, **wetlands** and selected coastal inlets and embayment that have been recognised at either the state or national level as having high ecological, social, cultural and/or economic values and are sensitive to contamination associated with land use and development. They include:

a) estuary catchments on the Swan and Scott Coastal Plains;

b) land that drains to and is within two kilometres of Irwin Inlet, Wilson Inlet, Torbay Inlet, Manarup Lagoon, Lake Powell, Princess Royal Harbour and Oyster Harbour;

c) land that drains to and is within two kilometres of the estuarine areas of the following: Dampier Creek (Broome), Hill River, Irwin River (Mid West), Margaret River (South West), Murchison River, Hardy Inlet, Chapman River, Walpole-Nornalup Inlet, Wellstead Estuary and Greenough River;

d) land that drains to and is within two kilometres of the following coastal embayments: Cockburn Sound, Coral Bay, Cowaramup Bay, Flinders Bay, Geographe Bay, Jurien Bay, Koombana Bay, Mangles Bay, Peaceful Bay, Roebuck Bay, Shark Bay (south of the northern tip of Peron Peninsula) and Warnbro Sound;

e) land that drains to and is within one kilometre of other estuarine areas, except for portions approved by government for uses such as ports;

f) within one kilometre up groundwater gradient and 250 metres down groundwater gradient of a **significant wetland**; or where the groundwater gradient is unknown or seasonably variable within one kilometre of the **significant wetland**;

g) habitats of specially protected water-dependent **fauna** and the area within one kilometre of groundwater-dependent **threatened ecological communities** and groundwater-dependent priority **ecological communities**; and

h) wild rivers catchments.

Site-specific assessments undertaken during the planning process may identify additional significant **water resources**.

The sensitive **water resource** area boundaries are identified on the policy map of Sensitive Water Resource Areas and may be refined through higher resolution mapping in accordance with the definition provided above.

Shadow flicker – means the recurrent flickering effect caused when rotating wind turbine blades cast shadows across the ground or nearby buildings, creating alternating patterns on light and shade.

Significant landscape – means a **landscape** area or feature that holds special importance or value, formally recognised in international, national or state legislation or policy and which warrants consideration in planning and development decisions. May include World Heritage areas, national and state parks.

Significant view – means a public view that holds special importance or value for its visual qualities or economic or cultural significance, formally recognised in international, national or state legislation or policy which warrants consideration in planning and development decisions. May include views from iconic scenic or tourist routes, trails and lookouts.

Significant wetland – means Ramsar wetlands and those listed in the Australian Government's Directory of Important Wetlands in Australia; wetlands categorised as Conservation Category in the Department of Biodiversity, Conservation and Attractions' Swan Coastal Plain wetlands dataset, wetlands listed in the South Coast Significant Wetlands dataset, other endorsed wetland datasets and other wetlands that have been identified for protection during the land planning process.

Single house – has the meaning given in the Planning and Development (Local Planning Schemes) Regulations 2015.

Solar farm – means a **renewable energy facility** that uses solar energy to generate electricity and includes ground-mounted photovoltaic and thermal technology and any **associated infrastructure**.

Theoretical shadow flicker modelling – means a modelling approach used to determine the maximum theoretical extent and duration of shadow flicker at a specific location. It is based on geometric simulation that accounts for the sun's path, topographic variation and the wind turbine specifications such as blade chord length and hub height.

Threatened ecological community – has the meaning given in the *Biodiversity Conservation Act 2016* and the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth).

Threatened species – has the meaning given in the *Biodiversity Conservation Act 2016* and the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth).

Transmission system – has the meaning given in the *Electricity Industry Act 2004*.

Turbine curtailment – means the intentional reduction or stopping of blade rotation to avoid or minimise an impact, such as noise, shadow flicker, the risk to wildlife.

Unreasonable noise impact – means a level of noise impact that exceeds the lowest assigned level permitted for a "Noise sensitive premises: highly sensitive area" in Table 1 of the Environmental Protection (Noise) Regulations 1997.

Visually sensitive land use – means a land use where people live or regularly spend extended periods of time, including residential dwellings, short-stay accommodation, schools, hospitals, recreation areas and generally excludes commercial or industrial premises.

Water resources – means watercourses, **waterways** and their estuaries, inlets and floodplains, **wetlands**, groundwater, surface water, stormwater and drainage. A water resource includes all aspects of the water resource, including water, organisms and other components and ecosystems that contribute to the physical condition and ecological health of the water resource.

Waterway – means any river, creek, stream or brook, including its foreshore area or reserve, floodplain, estuary and inlet. This includes systems that flow permanently, for part of the year or occasionally; and parts of the waterway that have been artificially modified.

Wetland – means an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring.

Wind farm – means a renewable energy facility that uses wind energy to generate electricity and includes wind turbines and any **associated infrastructure**.

Wind turbine – means a structure that incorporates a machine designed to convert wind energy into electricity and comprises a foundation, tower, nacelle and rotor. It does not include a wind mill, which uses wind energy to generate mechanical energy.

Wind turbine envelope – means a defined area of land measured from the centre of an indicative wind turbine location within which a wind turbine and its foundation may be sited.

Appendix 2 – Material to Accompany a Development Application

Clause 1.5.1 of the Code requires the following information to accompany an application for development approval for **energy infrastructure**.

All Energy Infrastructure

1. Outcomes from any pre-lodgement community and stakeholder engagement undertaken including:
   a. Details of pre-lodgement engagement activities undertaken.
   b. Summary of information, plans and images shared.
   c. Feedback received, including key issues raised.
   d. Explanation of how feedback was considered or addressed.
2. Confirmation of servicing availability (such as water, power, waste) for any proposed **habitable buildings**.
3. Details of the proposed **transmission system** and transmission line route to connect the **renewable energy facility** and/or **battery energy storage system** to the state's electricity grid and the status of the connection approval where relevant.

Wind Farms

Site Plan Details

1. A plan showing:
   a. Location and GPS coordinates for each **wind turbine** (where individual siting is confirmed), or GPS-defined boundaries of **wind turbine envelopes**.
   b. Setbacks of **wind turbines** and **wind turbine envelopes** from **non-host lot** boundaries and reserves.
2. A plan showing the location, design and depth of **wind turbine foundations**, electricity cabling and other underground infrastructure.
3. A plan showing the location of any **associated infrastructure**.

Wind Turbine Specifications

1. Total number and characteristics of the **wind turbines**, including:
   a. **hub height;**
   b. **blade length** and **rotor diameter**;
   c. **maximum blade chord**;
   d. **blade tip height;**
   e. **ground clearance;**
   f. **rotor swept path;**
   g. colours, materials and finishes;
   h. noise-generation characteristics;
   i. aviation safety lighting; and
   j. transformer locations (near to or inside the tower).

Reports and Plans

1. Noise Impact Assessment
2. Single House Development Potential Impact Assessment (where relevant)
3. Landscape and Visual Impact Assessment
4. Shadow Flicker Assessment (where relevant)
5. Environment Report
6. Bird and Bat Management Plan
7. Water Management Report
8. Bushfire Attack Level (BAL) Contour Map
9. Bushfire Management Plan
10. Coastal Hazard Risk Management and Adaptation Plan (where relevant)
11. Geotechnical Assessment (where relevant)
12. Aviation Impact Assessment
13. Electromagnetic Interference Assessment
14. Transport Impact Assessment
15. Construction and Environmental Management Plan
16. Preliminary Decommissioning and Rehabilitation Management Plan

Note: Information required in the above reports and plans is detailed in Part Two – Wind Farms

Appendix 3 – Preliminary Engagement – Community and Stakeholders

Proponents of energy infrastructure are encouraged to undertake preliminary engagement with communities, stakeholders and relevant public and statutory authorities prior to lodging a development application. Early engagement helps identify potential issues, build understanding and support, and inform project design and assessment.

Engagement should include, as relevant:

a. Adjacent and nearby landowners and occupiers, particularly those with noise-sensitive or visually sensitive land uses likely to be affected;

b. Local governments of the host district and any adjoining districts;

c. Local communities and community groups, including Aboriginal communities, resident groups and business associations;

d. The Department of Energy and Economic Diversification and electricity network operators where connection to the electricity network is proposed;

e. Public and statutory authorities, especially those responsible for issuing other approvals), and any other key stakeholders.

Proponents should seek advice from local governments on:

- relevant stakeholders and community groups to be engaged; and
- appropriate engagement methods tailored to local community needs and expectations.

The following tables identify relevant public and statutory authorities, along with other key stakeholders, that proponents should consult for different types of energy infrastructure.

Note: Tables for other types of energy infrastructure will be added as the Code is expanded.

Wind Farms:

Authorities/ Stakeholders	**Wind Farm Elements**											
	1 - Safety	2 - Noise	3 – Single House Devt Potential	4 - Landscape	5 – Shadow Flicker	6 – Natural Environment	7 – Natural Hazards	8 - Aviation	9 – Electromagnetic Interference	10 - Transport	11 - Construction	12 – Decommissioning
State Government:												
Department of Biodiversity, Conservation and Attractions	X			X		X						
Department of Fire and Emergency Services	X[1]						X[1]	X[1]	X[1]			
Department of Local Government, Industry Regulation and Safety	X								X			
Department of Planning, Lands and Heritage							X[2]					
Department of Primary Industries and Regional Development						X	X				X	
Department of Transport and Major Infrastructure							X[2]			X		
Department of Water and Environmental Regulation		X				X	X				X	

Authorities/ Stakeholders	Wind Farm Elements											
	1 - Safety	2 - Noise	3 – Single House Devt Potential	4 - Landscape	5 – Shadow Flicker	6 – Natural Environment	7 – Natural Hazards	8 - Aviation	9 – Electromagnetic Interference	10 - Transport	11 - Construction	12 – Decommissioning
Environmental Protection Authority						X						
Main Roads Western Australia										X		
Public Transport Authority										X		
Australian Government:												
AirServices Australia								X	X			
Australian Communications and Media Authority									X			
Bureau of Meteorology									X			
Civil Aviation Safety Authority								X				
Commonwealth Scientific and Industrial Research Organisation									X[3]			
Department of Climate Change, Energy, the Environment and Water						X						
Department of Defence								X	X			
Dept of Industry, Science and Resources									X[3]			
Other Key Stakeholders:												
Aircraft Operators								X	X			
Airport / aerodrome owners / operators and users								X	X			
Astronomical observatories									X[4]			
Australian Rail Track Corporation										X		
Local fire and emergency services brigades and emergency management groups							X	X	X			
Port authorities										X		
Royal Flying Doctor Service								X	X			

Authorities/ Stakeholders	Wind Farm Elements											
	1 - Safety	2 - Noise	3 – Single House Devt Potential	4 - Landscape	5 – Shadow Flicker	6 – Natural Environment	7 – Natural Hazards	8 - Aviation	9 – Electromagnetic Interference	10 - Transport	11 - Construction	12 – Decommissioning
Telecommunications providers									X			
Tourism and heritage associations				X								
TV and radio broadcasters									X			
Utility service agencies and companies									X			

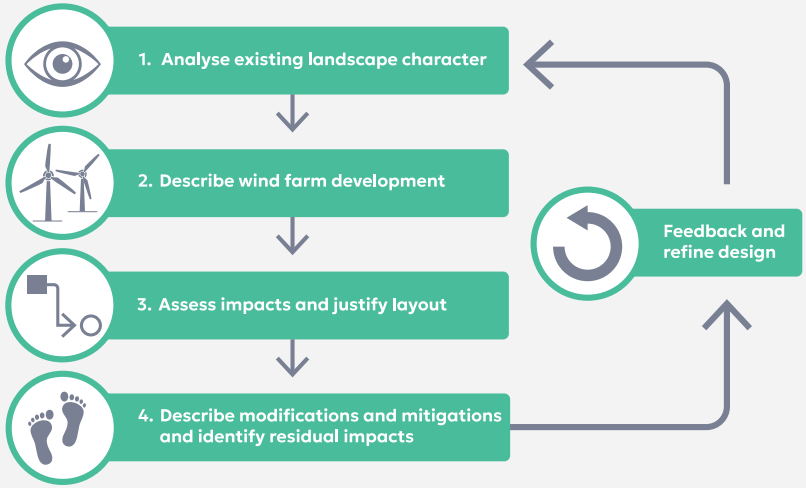
Notes:

1. The Department of Fire and Emergency Services' Land Use Services Branch and Aviation Services Branch should be specifically consulted.
2. The Department of Planning, Lands and Heritage and Department of Transport and Major Infrastructure should be consulted where coastal hazards are present.
3. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Department of Industry, Science and Resources should be consulted where the wind farm is within the Australian Radio Quiet Zone (260 kilometres from the Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory and Square Kilometre Array).
4. Astronomical observatories should be consulted where the wind farm is within proximity to these.

Appendix 4 – Landscape and Visual Impact Assessment Methodology

This section outlines how the general principles of landscape and visual assessment in Visual Landscape Planning in Western Australia: A manual for evaluation, assessment siting and design (WAPC, 2007) are to be applied to wind farm development applications. These principles should be applied in preparing Visual and Landscape Impact Assessment (VLIA) reports to demonstrate achievement of the Element Objectives and Performance Outcomes for Element 4 - Landscape.

The LVIA should follow the steps outlined below, with each step clearly documented in the LVIA report.



1. Analyse Existing Landscape Character

Spatially define and describe the extent of the study area. This includes the preparation of base plans showing:

a. Wind farm development site and distance bands measured from the development site boundary at 1km, 1.5km, 2km, 5km, 10km, 15km and to the extent of the study area.

b. Key landscape context features such as national and state reserves, tourist drives, key lookouts and features of high landscape and visual sensitivity such as water features and distinctive landforms.

c. Location of non-host lot dwellings in proximity to the development site, up to 2km at a minimum.

d. Topography and substantial areas of remnant bushland and other existing screening vegetation such as roadside vegetation.

e. Landscape character types[9] and any other landscape areas and specific features, or considerations relevant to landscape and visual assessment.

Refer to examples – **Figure A4:1**: Location and Context and **Figure A4.2**: Landscape Character – Study Area.

2. Describe Wind Farm Development

Describe the visual components of the wind farm in its landscape setting. This should be supported by maps and graphics, including:

a. Diagrams of individual wind turbines, including dimensions and siting locations.

b. Viewshed mapping showing theoretical turbine visibility (measured from at least nacelle height), graded to show the number of turbines visible. Two viewshed maps should be prepared showing visibility across the full extent of the LVIA study area and visibility for an area up to 5km from the development site boundary.

c. Identification of potentially affected **significant landscapes** and **significant views** where turbines should be avoided or not be visible or, if visible, should not be visually prominent; and

d. Other areas in which it would be appropriate to minimise visual disruption and prominence of turbines, acknowledging that some change in landscape character is inevitable.

[9] Landscape character types refers to areas of land that have uniform patterns of landform, vegetation, water form and land use, defined at a range of scales beginning with state level units identified in 'Reading the Remote – Landscape Characters of Western Australia' and which may be developed at finer scales in local or regional landscape studies.

Refer to examples - **Figure A4.3**: Viewshed (Nacelle Height) and Key Viewing Locations – Study Area, and **Figure A4.4**: Viewshed (Nacelle Height) and Key Viewing Locations – Development Site and Surrounds and **Figure A4.5**: Landscape Areas, Features and Key Viewing Locations – Development Site and Surrounds.

3. Assess Impacts and Justify Layout

The LVIA should assess and illustrate how the siting and design of the wind farm responds to:

a. Avoiding or minimising impacts on significant landscapes and significant views, including consideration of the sensitivity of viewers and the magnitude of change to landscape character.

b. The capacity of the landscape to absorb change, considering factors such as topography, vegetation and opportunities for mitigation through screening or topography.

c. The location, layout and visual prominence of turbines and associated infrastructure and visual disruption to representative public views, and how the design responds to landscape and visual management objectives [10] in a contextually sensitive manner to the landscape.

   At a minimum, this section should include wireframes [11] from representative public viewing locations to illustrate the visual effect of the wind farm, highlighting general public viewing experiences and potentially sensitive public views, with commentary on their sensitivity to change. Photomontages [12] may be included to support wireframes and provide a more realistic illustration of change. Refer to examples such as **Figures A4.6** to **A4.8** for visual impact areas, key viewing locations and wireframe/photomontage outputs.

4. Describe Modifications and Mitigations and Identify Residual Impacts

Building on the assessment of impacts and justification of layout, this step should demonstrate how the wind farm design has been refined to reduce visual impacts. This includes:

a. Adjustments to siting and layout of turbines and associated infrastructure to respond to landscape and visual sensitivities.

b. Measures to minimise lighting effects while meeting aviation requirements, as identified in the Aviation Impact Assessment.

c. Use of new screening vegetation.

d. Clear illustration of residual visual effects after mitigation, supported by graphics and a map identifying areas of greatest impact and any proposed mitigation planting (if applicable).

Refer to **Figure A4.8** for example outputs.

[10] Landscape and visual management objectives means objectives for managing impacts on significant landscapes, significant views or landscape character types.

[11] A wireframe refers to a type of visualisation that is a computer-generated line drawing based on a digital terrain model that illustrates the three-dimensional shape of the landscape and the outline of a development.

[12] A photomontage is a type of visualisation that superimposes an image of a proposed development onto a photograph or series of photographs to illustrate its appearance within the existing landscape.

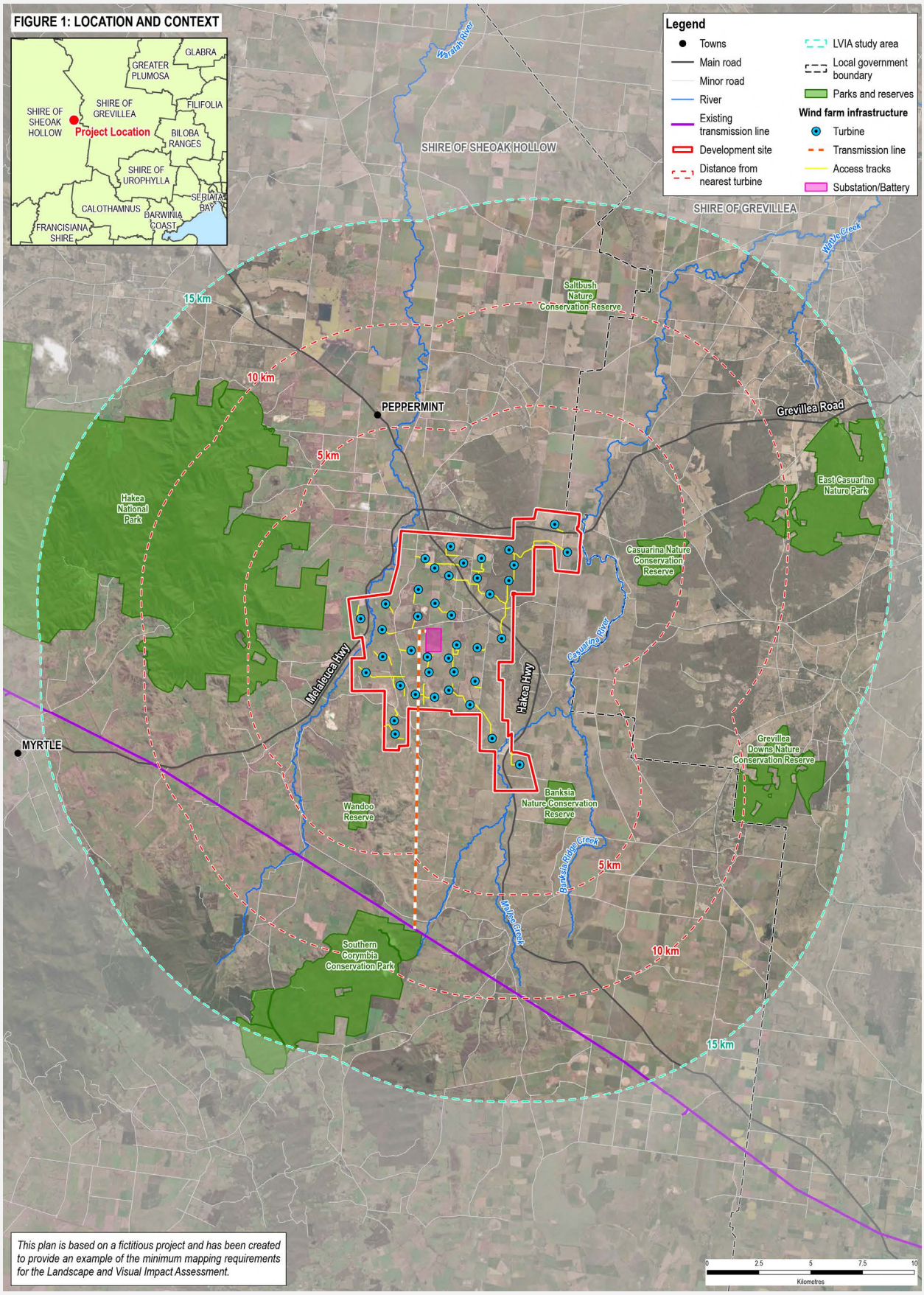


Figure A4.1: Location and context

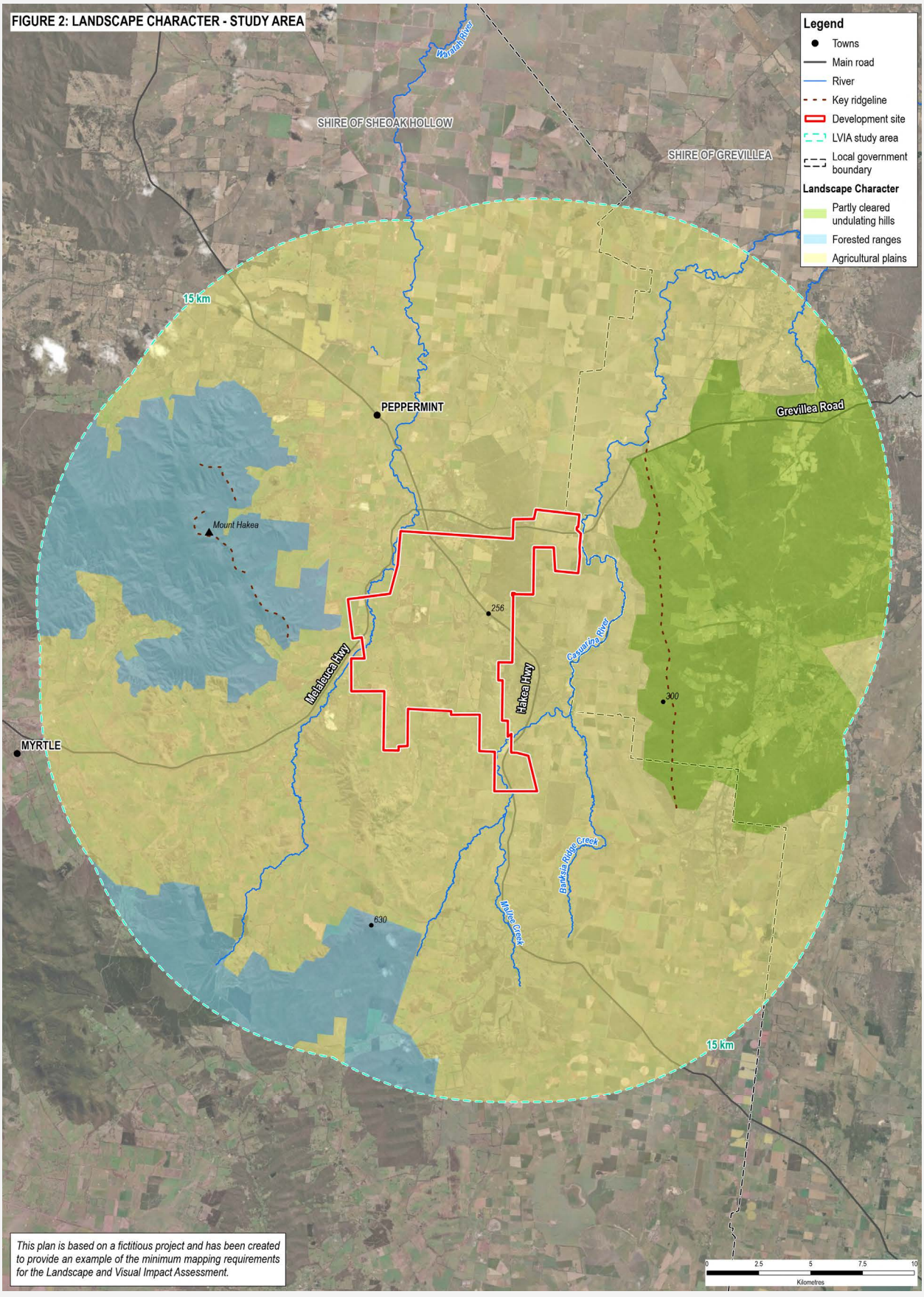


Figure A4.2: Landscape character – study area

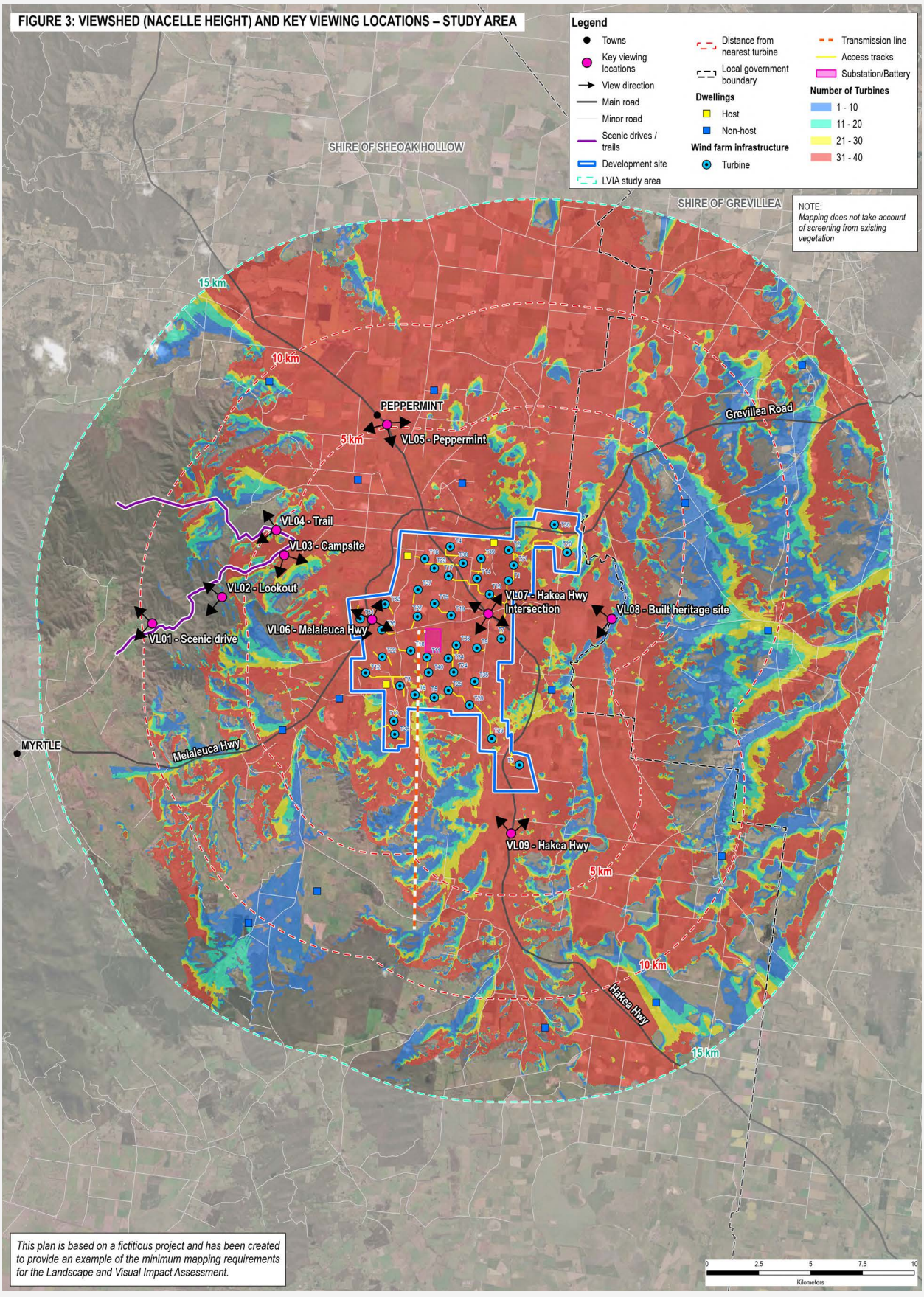


Figure A4.3: Viewshed (Narcella Height) and key viewing locations – study area

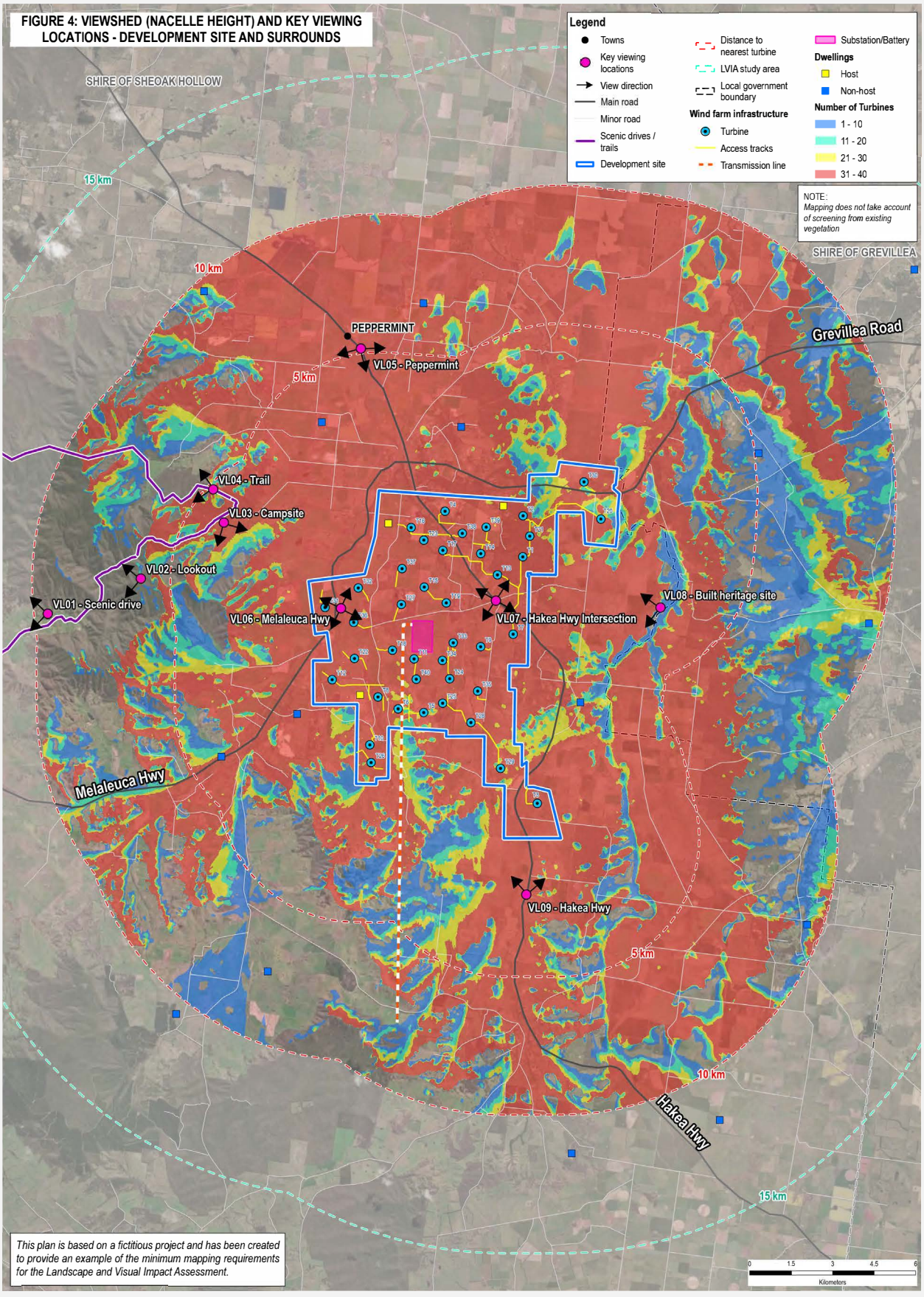


Figure A4.4: Viewshed (Narcella Height) and key viewing locations – development site and surrounds

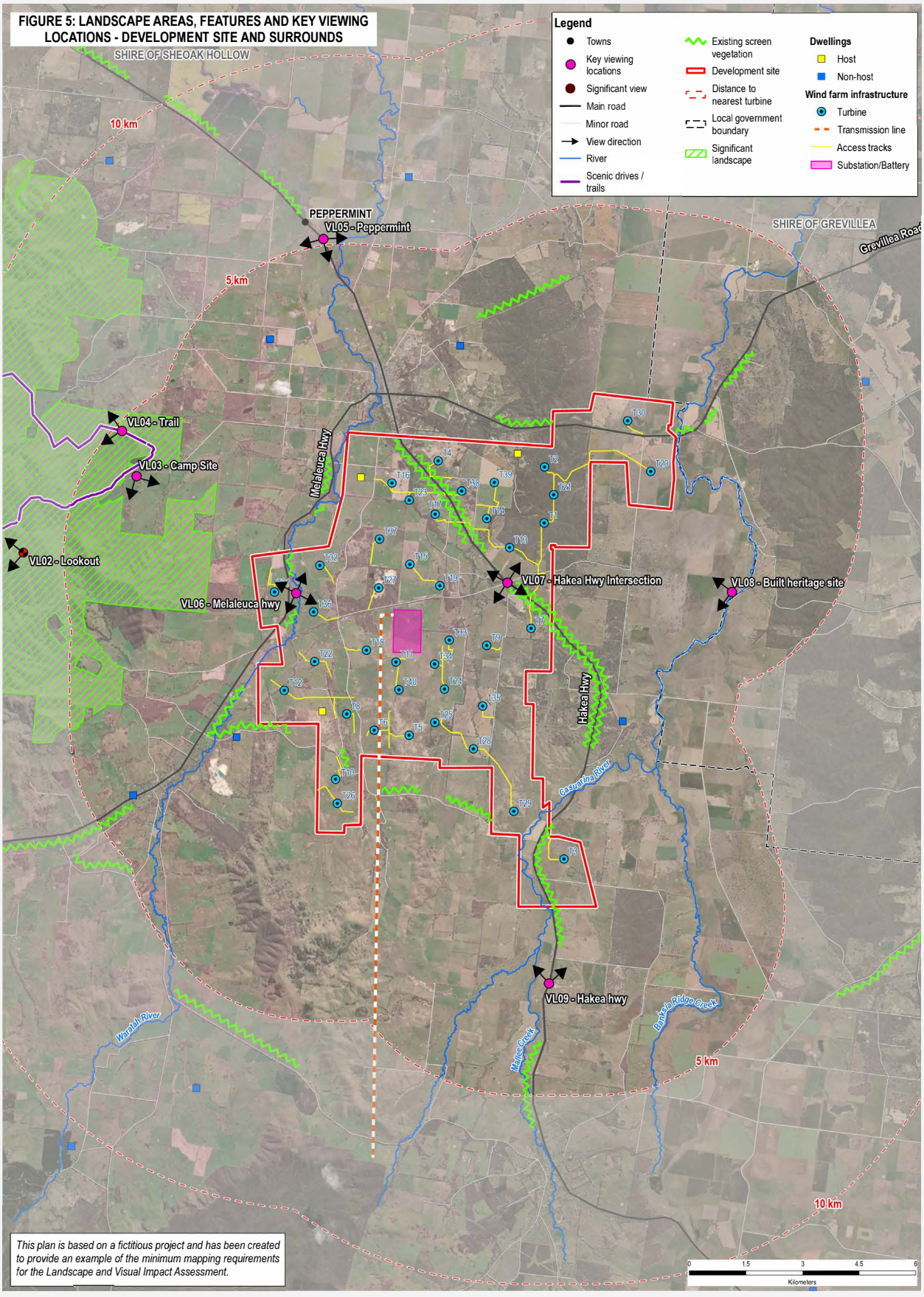


Figure A4.5: Landscape areas, features and key viewing locations – development site and surrounds

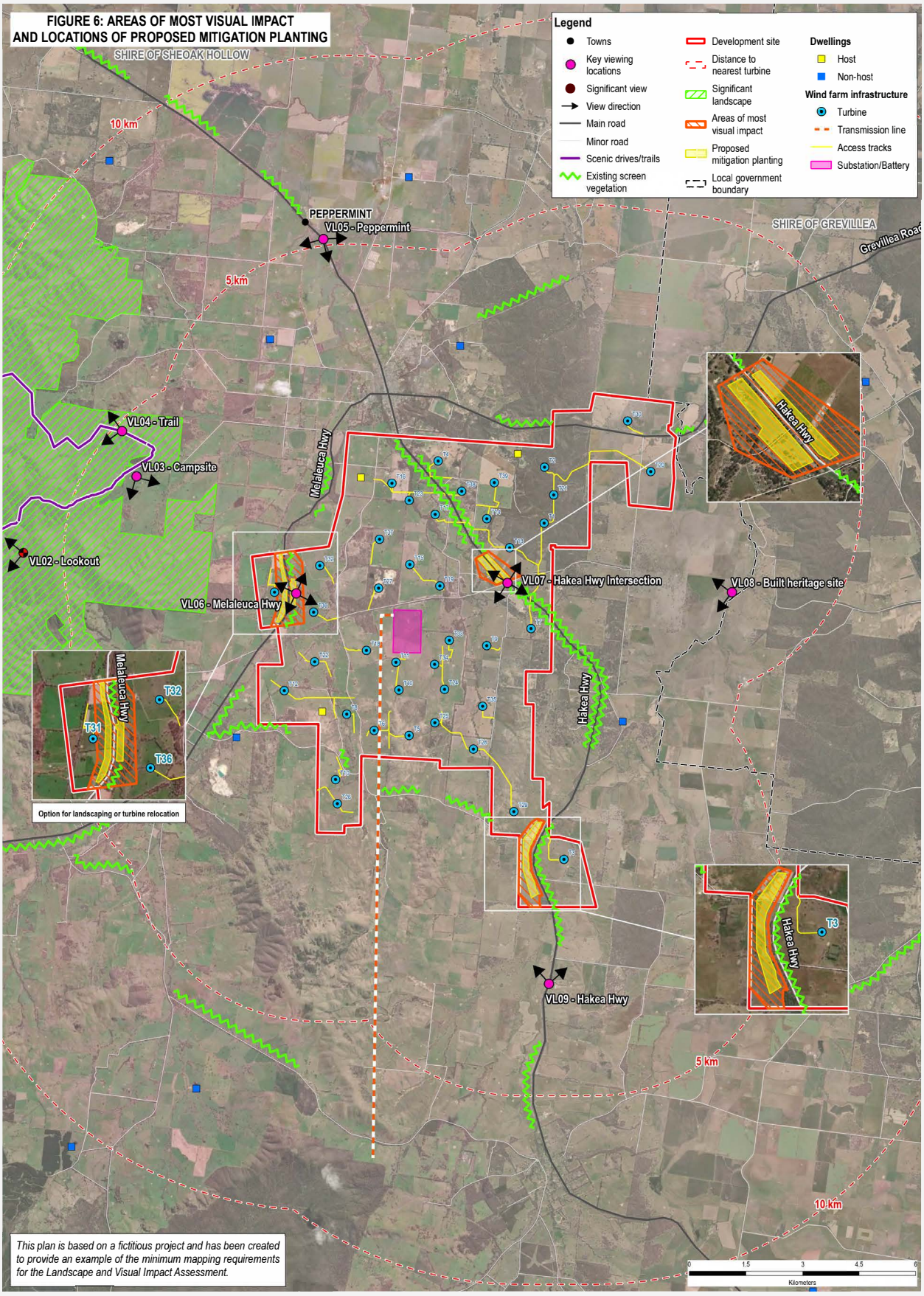


Figure A4.6: Areas of most impacted locations of proposed mitigation planting

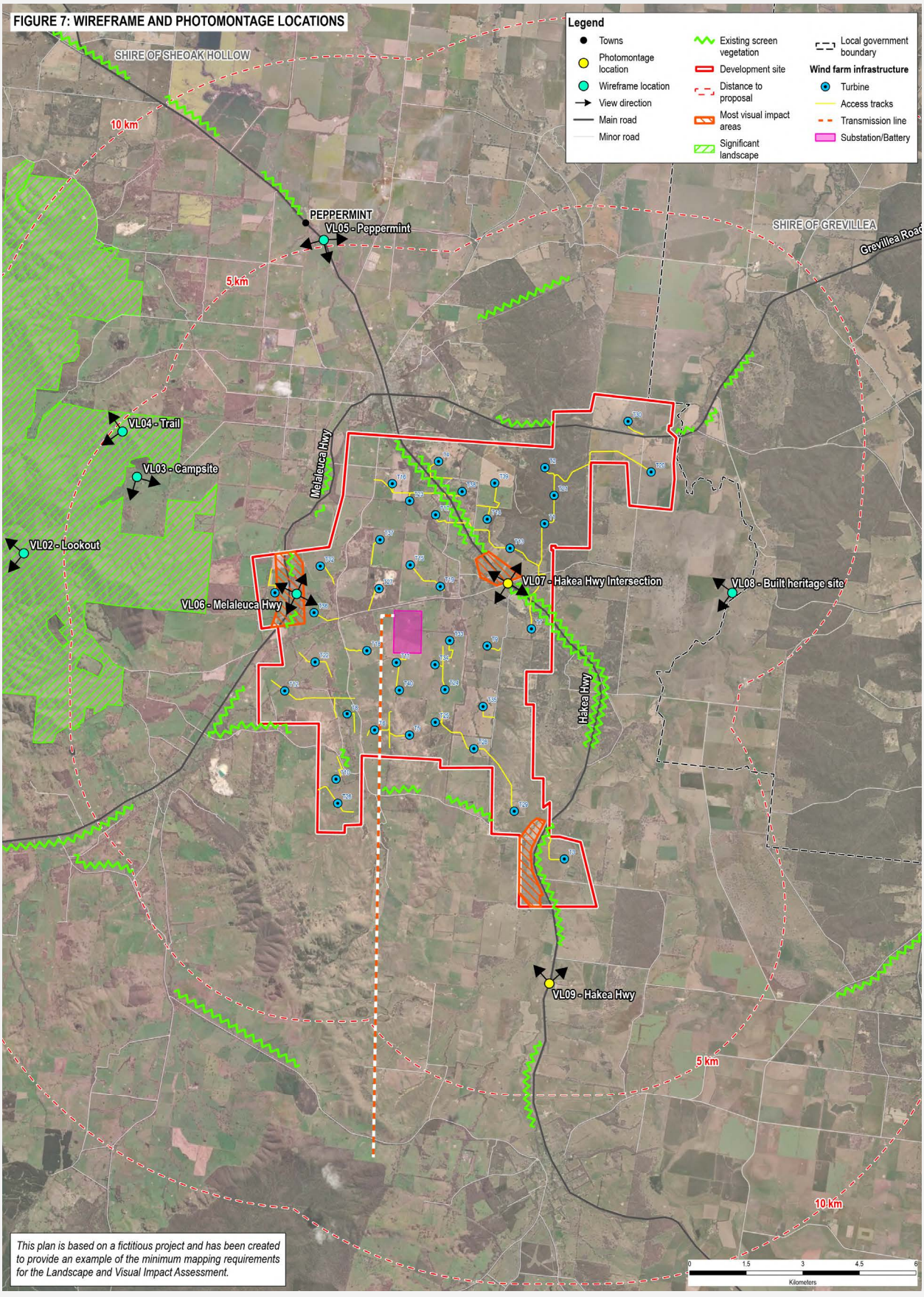
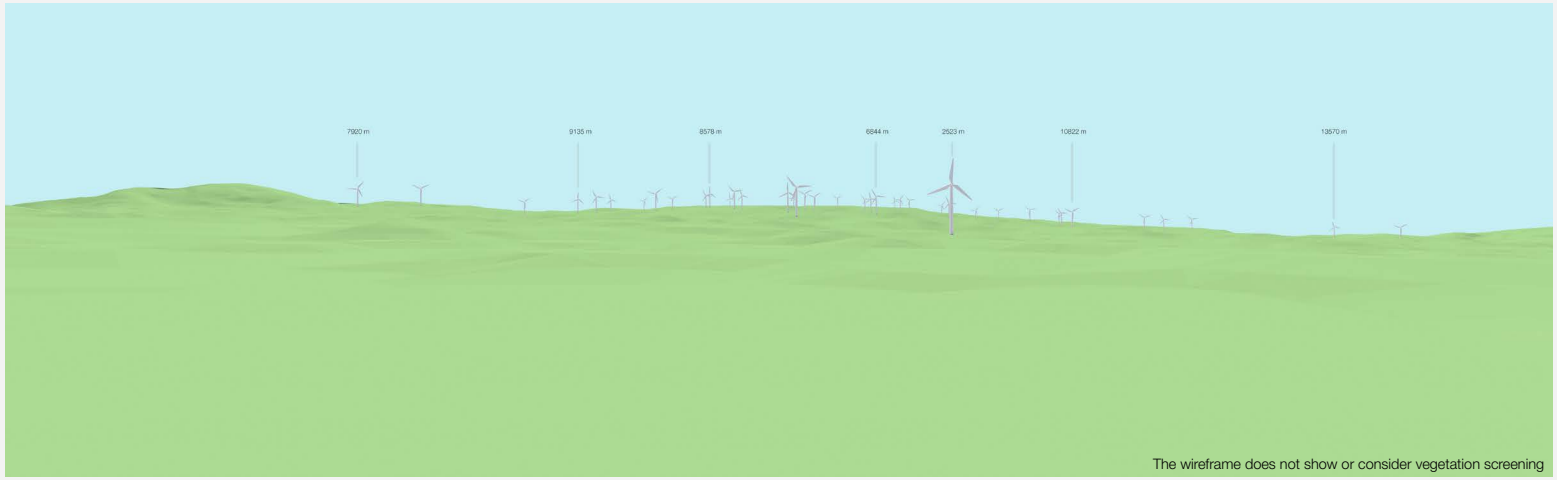


Figure A4.7: Wireframe and photomontage locations

EXISTING

WIREFRAME



KEY PLAN

Closest Turbine	2506 m
Furthest Turbine	13570 m
Turbine Nacelle Height	160 m
Tip Height	240 m

View Direction	13° - 103°
Horizontal Field Of View	90°
Camera Height	1.6 m
Camera Type	Canon EOS 6D
Lens Type	50 mm
Photograph Time & Date	1 October 2025 1252

Location	Hakea Hwy, Banksia, WA
Coordinates	192156, 5874587 (GDA 2020 MGA Zone 50)
Viewpoint Elevation	367 m
Date of Photomontage	7 November 2025
Issue	v 01

Windturbine Project Example
Example Company Name

View Location 09: Hakea Hwy

Windturbine Pty Ltd
Level 12, 280 Windy Street
WindCity WA 6000
T 61 8 1234 5678 **E** info@windturbine.com **W** www.wtp.com

Figure A4.8: Wireframe and photomontage (Part 1)

EXISTING

WIREFRAME

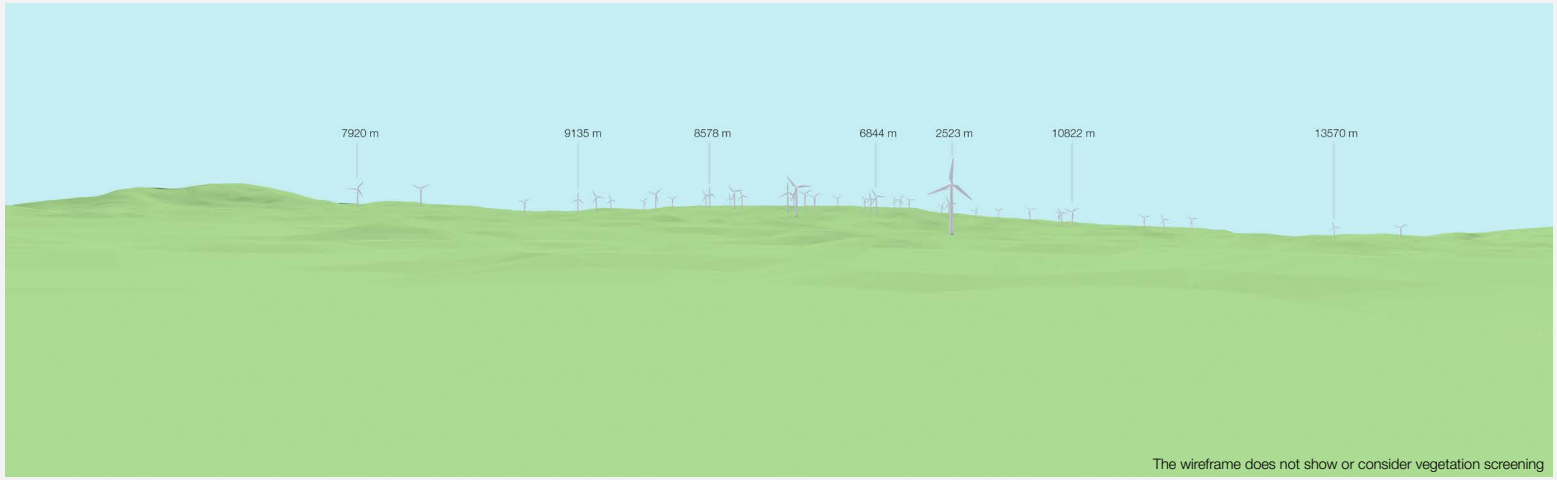


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Figure A4.8: Wireframe and photomontage (Part 2)

Appendix 5 – Examples of Single House Development Potential Impact Assessment on Non-Host Lots

The following examples are provided to demonstrate how a Single House Development Potential Impact Assessment may be undertaken to demonstrate achievement of the Performance Outcomes of WF Element 3 – Single House Development Potential on Non-Host Lots.

Non-host Lot	Details	Assessment
Lot 1 Example Road, Scenarioville	**Lot/Landholding Details** The lot is 500ha in area. The lot does not form part of a broader contiguous landholding. **Current Land Use** The lot is predominately cleared of native vegetation and used for cropping purposes. **Land Use Permissibility** A single house is a discretionary land use under the local planning scheme. **Wind Farm Noise Impact** A small proportion of the lot 10 per cent - 50ha) in the north-western corner is subject to an unreasonable noise impact from wind turbines. **Other Development Constraints** A small proportion of the lot (10 per cent - 50ha) is covered by native vegetation. No other development constraints have been identified that would affect the potential to accommodate a single house. **Servicing and Access** Road and service access to the lot is via Example Road, which runs along its eastern boundary. **Landowner Consultation** Landowners have been consulted and have advised they intend to develop a single house on the southern portion of the lot.	The development potential impact of the wind farm is considered acceptable. There is sufficient land (80 per cent of lot - 400ha) without development constraints, including portions that can be easily accessed and serviced.

Non-host Lot	Details	Assessment
Lot 2 Scenario Road, Example town	**Lot/Landholding Details** The lot is 100ha in area. The lot forms part of a broader contiguous landholding that includes Lot 3 Scenario Road, which has an existing single house. **Current Land Use** The lot is used for cropping purposes, however, a significant proportion of the lot is covered by native vegetation. **Land Use Permissibility** A single house is a discretionary land use under the local planning scheme. **Wind Farm Noise Impact** A large proportion of the (60 per cent - 60ha) of the lot on its western side is subject to an unreasonable noise impact from wind turbines. **Other Development Constraints** The lot is constrained by native vegetation and steep topography on its eastern side, which is likely prevent the development of a single house. **Servicing and Access** Road and service access to the lot is via Scenario Road, which runs along its western boundary and is remote from the land that is suitable for development. **Landowner Consultation** Landowners have been consulted and have advised they do not intend to develop a single house on the lot.	Development potential impact of the wind farm is considered acceptable. Lot 2 operates as part of a larger, consolidated farming property that already accommodates a single house. The landowners have advised they have no intention to develop Lot 2 for an additional dwelling.