

Appendix D



Terminal Station

Landscape and Visual Impact Assessment: Terminal Station

| FINAL

16th October 2020

Delburn Wind Farm Pty Ltd (An OSMI Australia company)



Delburn Wind Farm Terminal Station

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Appendix A. Seen Area Analysis

Executive Summary

Delburn Wind Farm Pty Ltd (an OSMI Company) is seeking approval to develop a Terminal Station as part of a new wind energy facility in southeast Victoria.

The Delburn Terminal Station development is located within the existing HVP Thorpdale Tree Farm, in the south of the Latrobe Valley, approximately 130 km east of Melbourne, and within the Latrobe City Shire. The Delburn Terminal Station (options A and B) are located off Varys Track, north of Deans Road, approximately 2.0km east of the Strzelecki Highway.

The immediate investigation area is characterised by the timber plantation, which undergoes visual change through harvesting and replanting of timbers.

The Project contemplates two sites, both of which are proposed to be accessed from Varys Track within existing plantation areas. Both sites are adjacent to an existing 220kV transmission line. Both sites are located within existing timber plantation areas. Option A is within an area managed by VicForests, and Option B in an area managed by HVP.

Option A, is situated to the east of Varys Track and is slightly lower in elevation than Option B, which is proposed to the west of Varys Track. The lower elevation of Option A would assist in reducing the visibility of the proposed infrastructure beyond the site.

Views from publicly accessible locations are generally limited to the south and east of the Project, due to screening provided by topography in views from the west. Topography and vegetation provide screening or filtering views to the north and northeast.

Residential dwellings to the south of the Project have demonstrated theoretical visibility of the Project. Views to the Terminal Station locations would be filtered or screened by a combination of vegetation (both plantation and native vegetation) and topography across undulating farmland. Further, dwellings in these areas are at a distance at which that the project would not form a dominant element in views and in a visual setting that includes the taller towers of the existing 500 kV and 220 kV Transmission lines.

In this context, the visual impact of either proposed location would not be an unacceptable visual change.

1. Introduction

Delburn Wind Farm Pty Ltd (an OSMI Australia Company) is seeking approval to develop a Terminal Station to facilitate the connection of a new wind energy facility in southeast Victoria to the Victorian transmission network.

The proposed Terminal Station (the Project) will include:

- A new 220 kV switchyard and 220/33 kV substation (together known as the Terminal Station) near Varys Track;
- Access track upgrades; and,
- Transmission structures to connect to the existing 220 kV lines.

The Project is proposed to be located within the existing plantation areas. Two alternative locations for the Terminal Station have been identified, both adjacent to Varys Track.

1.1 Purpose of this report

The purpose of this report is to assess the landscape and visual impacts that may be brought about by the proposed Terminal Station options. This report is to be submitted as part of the Permit Application.

A separate Landscape and Visual Impact Assessment (LVIA) has been prepared for the Delburn Wind Farm itself. Two options for the siting of the Terminal Station are proposed and are to be assessed within this report.

2. Methodology

The methodology used within this LVIA of the proposed Terminal Station includes the following steps and tasks.

2.1 Project Description

This chapter outlines the visual components of the Terminal Station options that have the potential to contribute to views and visual impact. These changes will include the proposed grid connection point, access roads, Terminal Station and construction activity.

2.2 Viewshed

Defining the viewshed of the Project is based upon the key elevation or overall change in height that might be brought about by the key components of the Project. The viewshed is considered as the distance at which the visual changes brought about by the project may no longer contribute to views in a meaningful way based on parameters of the human vision. The rationale behind the definition of the viewshed is discussed in Section 4 of this report.

This extent will be used to define the study area for this LVIA report.

2.2.1 Zones of Visual Influence

Zones of visual influence quantifies the scale of the potential effects of a Project over varying distances. This step is a useful measure to contemplate the potential for visual dominance of the Project in views.

2.3 Planning Policy Framework

This chapter will identify the relevant policies and provisions that apply to areas within the viewshed of the Project that are relevant to views, landscape sensitivity and visual impact.

This will assist in understanding the sensitivities of different landscapes within the viewshed.

2.4 Landscape Character

This chapter will review the landscape character of the viewshed to identify landscape units.

2.4.1 Landscape Units and Sensitivity

Landscape Units are based on the physical characteristics, land-use and planning provisions of the area within the Viewshed. Features that assist in defining the landscape units and a sensitivity rating include geology, vegetation, topography and drainage patterns, urban development and modification of the landscape. The use of the land and the underlying protections of an area that are afforded by the provisions within the planning scheme assist to determine the sensitivity of that area to visual change. This step recognises that the planning scheme identifies landscapes that are significant, rare or threatened and provides guidance on how these features may be preserved.

The sensitivity of a landscape unit considers the ability for a landscape to accommodate the level of change that is proposed by a project. Generally, the greater the extent of modifications in an area, or the prevalence of the landscape type and its use, the lower the sensitivity that landscape will be to visual change.

These landscape units will assist in understanding a particular landscape's sensitivity to visual change.

2.5 Seen Area Analysis

A Seen Area Analysis (SAA) utilizes Geographical Information Software (GIS) to map the areas of theoretical visibility of the Project, as a whole or in part, utilising topographical data alone. The SAA is a conservative

analysis tool as it does not take into account other factors that may affect visibility, such as intervening vegetation, built form or atmospheric conditions such as fog, low cloud or haze.

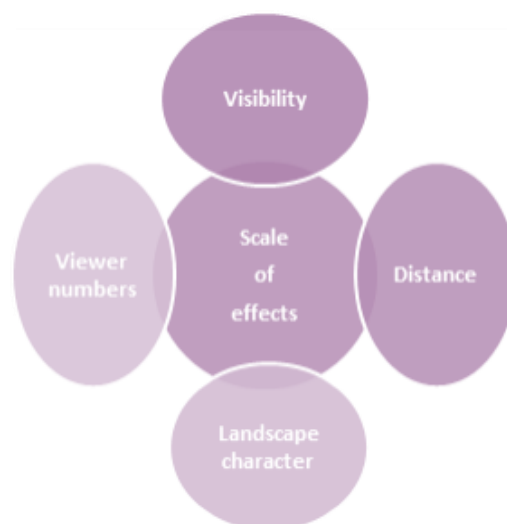
The SAA assists in selecting viewpoints which have theoretical visibility of the proposed works, which will then be assessed within the report.

2.6 Publicly Accessible Viewpoints

This chapter will assess the visual impact of the Project from indicative viewpoints within the public domain.

The visual impact of a Terminal Station development from the public domain is based upon four criteria which are supported by the preceding steps and assessment tasks. These criteria and their influence in determining the assessment of the overall visual impact from the public domain are set out below:

- **Visibility:** The visibility of the Project elements can be affected by topography, vegetation, built form and infrastructure.
- **Distance:** Project visibility and dominance will decrease with distance. The Zones of Visual Impact (ZVI) provides an indication of visual dominance and potential impact based on distance. This criterion is one of several to be considered when assessing the overall visual impact of the Project from any location.
- **Landscape Character and Sensitivity:** Landscape character of an area is based upon visual features such as topography, vegetation and the use of the land, the naturalness of the area and planning provisions. Sensitivity may also be influenced by specific landscape studies and assessments within the project viewshed. Typically, a modified landscape that is prevalent within the viewshed or the region is less sensitive than one that is ostensibly natural or protected for its environmental, ecological or cultural values.
- **Viewer numbers:** The overall level of visual impact, which considers these four criteria, will decrease where there are fewer people able to view the Project. Conversely, the level of visual impact may also increase where the viewing location is a recognised vantage point or tourist route where viewer numbers from these locations would be rated as 'high'.



The overall visual impact is not numerically based alone, rather it is the outcome of the above quantitative criteria that can be measured that is balanced by a discussion of the qualitative aspects from each viewpoint.

The overall visual effect will range from Nil to High. The definition for each scale is discussed below.

2.6.1 Scale of Effects

The overall visual impact of the Project from an indicative publicly accessible viewpoint has been assessed using the following scale:

Nil Visual Impact

Nil – The project will be screened by topography, vegetation or buildings and structures.

Negligible Visual Impact

Negligible – minute level of effect that is barely discernible over ordinary day-to-day effects. The assessment of a 'negligible' level of visual impact is usually based on distance. That is, the Terminal Station is at such a

distance that, when visible in good weather, it would be a minute element in the view within a modified landscape or will be predominantly screened by intervening topography, vegetation or buildings and structures.

Low Visual Impact

Low – visual impacts are those where the Project is noticeable but that will not cause significant adverse impacts. The assessment of a “low” level of visual impact will be arrived at if the rating of any one or more of the four criteria, (visibility, distance, viewer numbers and landscape sensitivity), are assessed as low. Therefore, an additional piece of infrastructure in a landscape which is modified, and which already contains many examples of existing infrastructure may be rated as a low level of visual impact.

Medium/Moderate Visual Impact

Medium/Moderate – visual impact may occur when several of the four assessment criteria are considered as higher than “low” or the visual effects can be mitigated/remedied from an initial rating of High. This will, of course, be moderated by the context of the existing view and the modifications within the landscape

High Visual Impact

High or unacceptable adverse effect – extensive adverse effects that cannot be avoided, remedied or mitigated. The assessment of a “high or unacceptable adverse effect” from a publicly accessible viewpoint requires the assessment of all criteria to be high. For example, a highly sensitive landscape, viewed by many people, with the proposed Terminal Station being in close proximity and largely visible to many people would lead to an assessment of an unacceptable adverse effect.

2.7 Landscape Mitigation

It is recognised that Terminal Station’s often contrast with the environments in which they are situated. The assessment and approvals process is required to consider the acceptability of impacts on landscape values, the amenity of communities and residential dwellings and the ability of mitigation to manage these impacts.

Mitigation options available to manage the visual impact from locations that are significantly visually affected by the Terminal Station include:

- Perimeter landscape screening at strategic locations around the Terminal Station site; or
- Strategic retention of surrounding plantation vegetation;

This LVIA will consider the ability for landscape screening to be effective at filtering or screening views towards the Project.

3. Project Description

This section will describe and locate the Project relative to nearby towns and features and identify key elements of the Project relevant to preparing an LVIA.

3.1 Terminal Station Investigation Area

The Terminal Station Investigation Area is located within the northeast of the broader Delburn Wind Farm site, adjacent to an existing 220 kV lattice-tower transmission line. The site is bordered by Hernes Oak to the north, Driffield to the south/east, and Narracan to the west. Within this area are two options for siting the terminal station and grid connection infrastructure. This area will be the focus of this assessment.

Two options for the siting of the Terminal Station (Option A and Option B) are contemplated:

- Option A is to the east of Varys Track and located on land adjacent to the Delburn Wind Energy Facility, identified as Crown allotment 52B of A in the parish of Narracan. The site is Licenced to VicForests for Blue Gum plantation timber production.
- Option B is to the west of Varys Track and located in land shared with the Delburn Wind Energy Facility. The site is owned by Grand Ridge Plantations (part of the HVP Plantations group) has been recently clear-felled and is used for pine plantation timber production.

Both Terminal Station options are proposed to be located within a cleared area either side of Varys Track, a publicly accessible track within the timber plantation, approximately 2.0 km west of the Strzelecki Highway. Deans Road is a local access road providing access to Varys Track from the Strzelecki Highway. This area is utilised for timber plantations, and some access to farmland is provided off Deans Rd. The plantation to the west of Varys Track (Option B) has recently been harvested, which is not reflected in the aerial imagery below.

Figure 3-1 shows the location of the proposed on-site Terminal Station options.

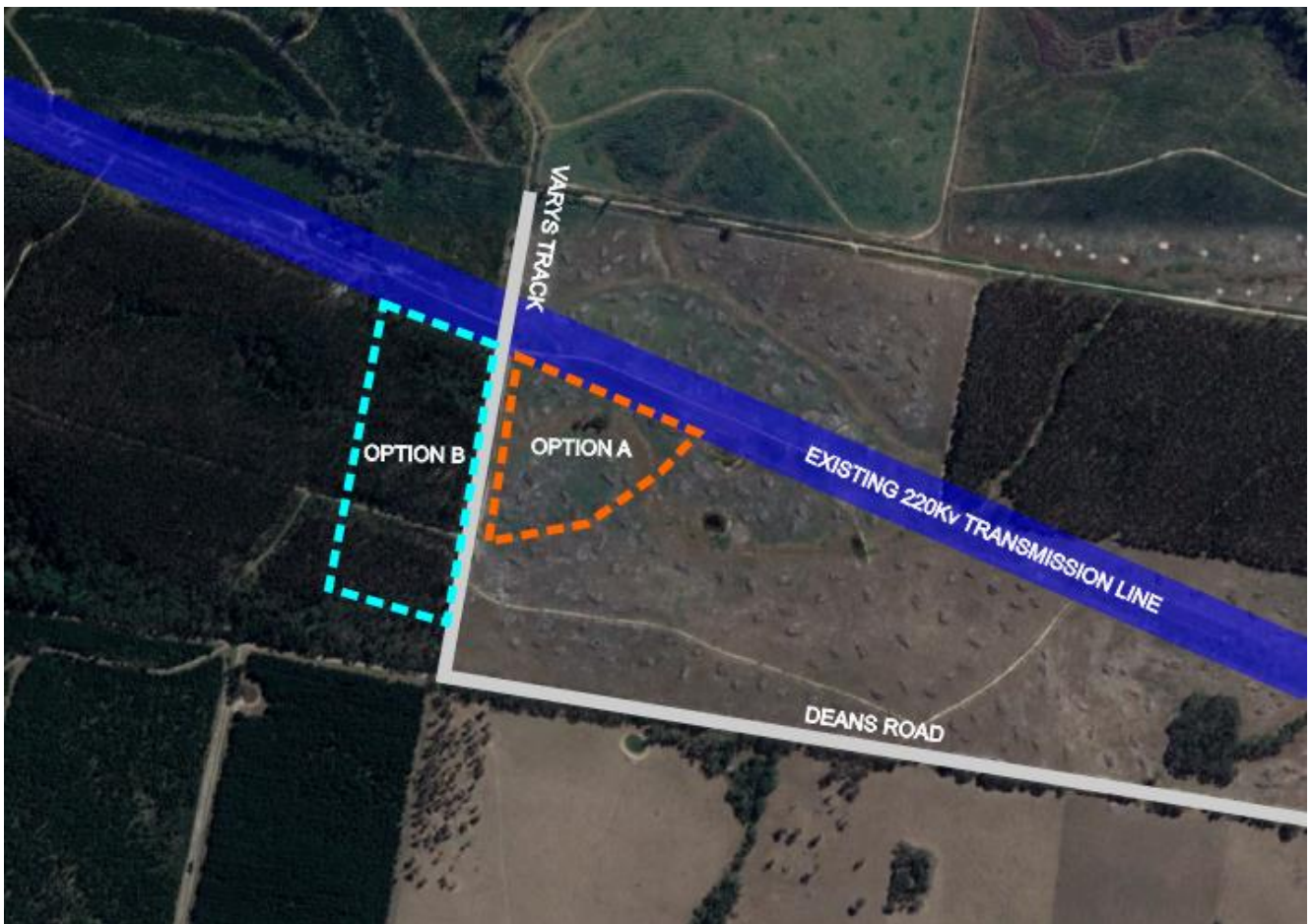


Figure 3-1: Terminal Station options

Both Deans Road and Varys Track are operational roads primarily used by HVP for logging and timber management purposes.

3.2 Terminal Station

The final design specifications will be subject to a grid connection agreement. The Terminal Substation is likely to include the following:

- 220 kV twin strain poles up to 45m in height;
- 220 kV steel lattice tower up to 40m in height;
- 220/33 kV Transformer;
- High voltage (HV) circuit breakers and switchgear;
- Circuit Breakers;
- Disconnectors;
- Current and Voltage Transformers;
- Overhead Gantry;
- Switchroom;
- Office/amenities;
- Carparking;
- Firebreak, or, asset protection zone (APZ);

- Perimeter security fencing; and
- Landscape screening, if required.

The tallest component within the Terminal Station perimeter is the overhead gantry, with a height of approximately 25m. Lightning protection will be provided above this height; however, these elements will not be visible at distance due to their narrow profile. The 220kV twin strain poles that connect the terminal station to the grid are approximately 45m. These are similar in height to the existing 220kV lattice supporting towers of the transmission line the Project proposes to connect to.

The final footprint size of the terminal station will be dependent on tie-in design of which there are two options, single or double circuit tie-in design. The largest of the two contemplated design options is a double-circuit tie-in which is approximately 98 m x 180 m in area and forms the basis of this assessment.

Figure 3-2 shows an indicative elevation of the proposed double-circuit terminal station. This elevation does not include the sloping topography of the sites or investigation areas.

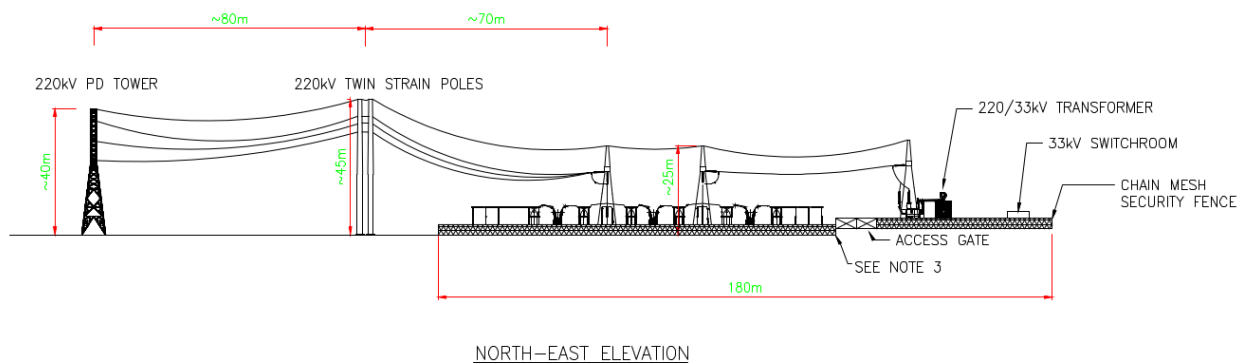


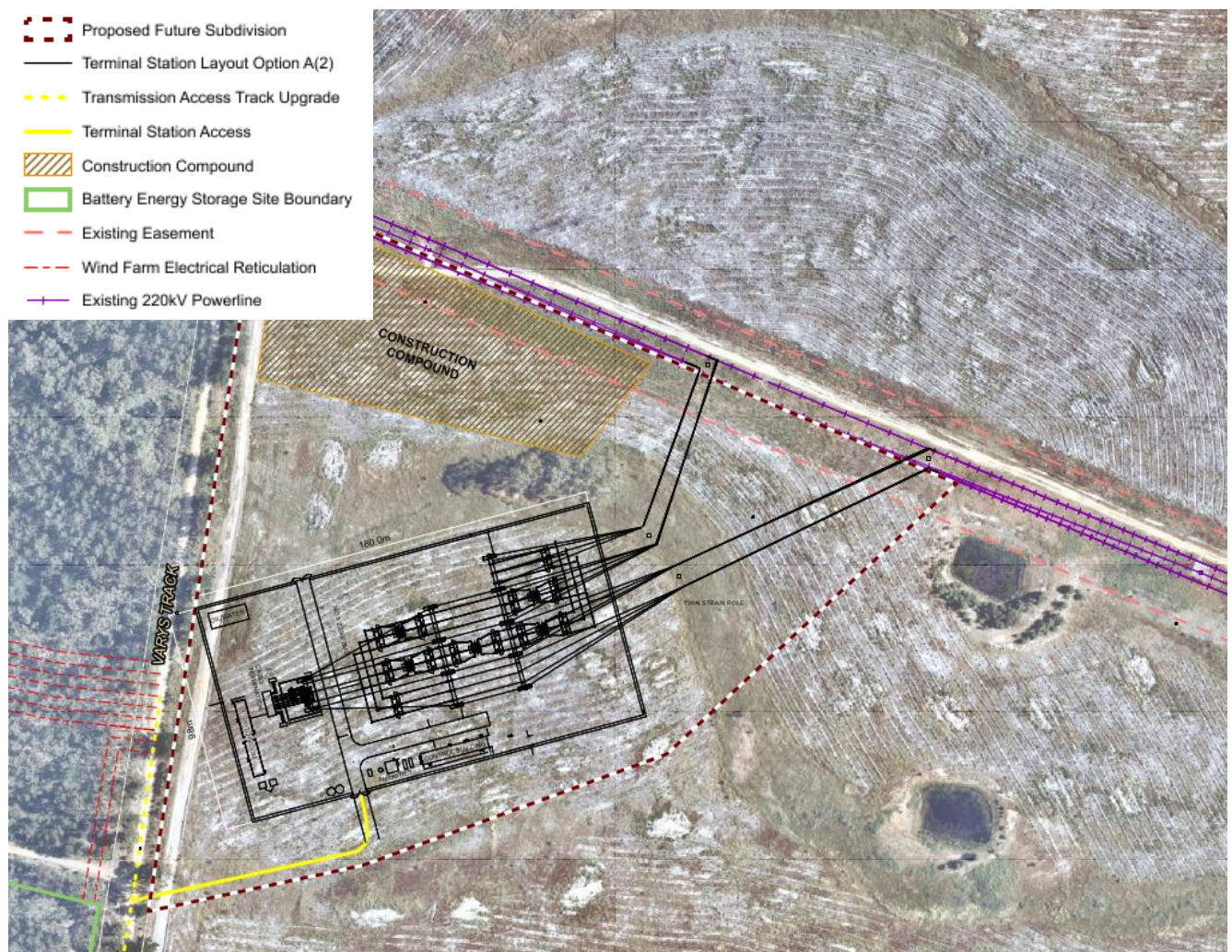
Figure 3-2 Double-circuit terminal station elevation. (Source: Ausnet, SKT-DELBURN-SEC-OP2, 03/06/2020)

To be conservative, this assessment is based upon the larger footprint of the double circuit tie-in design option and 45 m height of the 220kV Twin Strain Poles.

The following section will describe the two Terminal Substation location options.

3.2.1 Option A

Terminal Station Option A is located to the east of Varys Track. The Terminal Substation site layout for Option A is shown in Figure 3-3 below.



3.2.2 Figure 3-3 Double-circuit terminal Station: Option A site plan (OSMI, 02/09/2020) Option B

The proposed temporary construction compound would be located to the north of the proposed substation and adjacent to the existing 220kV transmission line directly to the north. The electrical connections from the wind farm would enter the substation from the west. The Grid connection would be to the east, northeast.

The area to the south, east and north of the substation has been recently harvested and re-planted as also seen in Figure 3-3.

Terminal Station Option B is located to the west of Varys Track. The Terminal Substation site plan layout is shown below in Figure 3-4 and an elevation shown in Figure 3-4.

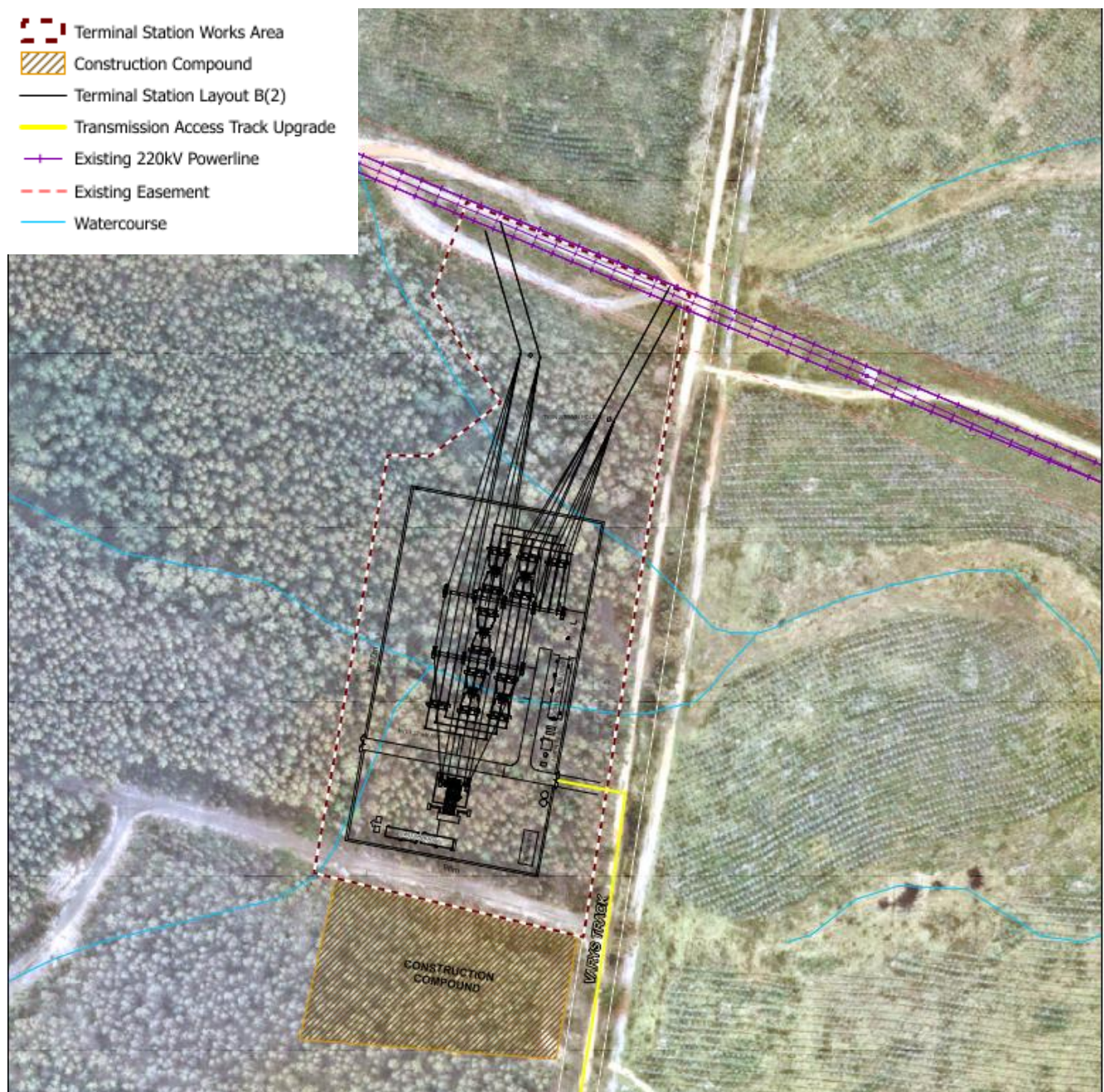


Figure 3-4 Double-circuit terminal Station: Option B site plan

In this location, the temporary construction compound would be located to the south of the proposed substation with the existing 220kV transmission line directly to the north. The electrical connections from the wind farm would also enter the substation from the south-west.

The area to the south, east and north of the substation has been recently harvested and re-planted as also seen in Figure 3-4.

3.2.3 Landscaping

It is typically a permit requirement for perimeter screen planting to be installed along edges adjacent to sensitive interfaces and boundaries of sub-station installations. For both proposed locations, screening would be largely provided by the existing timber plantations and existing roadside native vegetation. If required, permanent

supplementary plantings may be proposed or retained to mitigate views. The requirement for this mitigation will be explored and discussed in this report.

3.3 Access Tracks

The construction and operational phase of the terminal station will require minor upgrades to Deans Road and Varys Track.

3.4 Construction

Construction activities include the temporary construction facilities/amenities, site preparation works, transport of the Terminal Station and transmission tower components, construction of the Terminal Station and transmission line tie-in works, and commissioning of the facility.

Concrete and aggregates required for the foundations will be sourced from the temporary wind farm batch plants and Driffield Quarry, both located on Smiths Rd, Driffield.

Following the completion of construction, all temporary works such as hardstands and construction amenities not required for the ongoing operation of the Terminal Station (including the APZ) will be removed and rehabilitated for plantation areas. If determined to be required by the Bushfire Hazard Assessment, cleared setback areas may be required around the perimeter of the Terminal Station to manage vegetation and fire risk.

4. Viewshed

This section establishes a basis on which to determine the extent of the study area for visual impact, and the scale of the proposed Terminal Substation when viewed at various distances.

The extent of the viewshed is the distance within which the proposed Terminal Station has the potential to be readily perceptible objects in views. This distance is established based upon the parameters of the human vision and the height of the proposed terminal station. It may still be possible to see the terminal station from areas beyond the viewshed, however, it would be at a distance where it would not be conspicuous.

The parameters of human vision relevant to views and visual impact include the vertical and horizontal fields of view. These figures are based on data from *'Human Dimension and Interior Space'*, Julius Panero & Martin Zellnik, Witney Library of Design, 1979. These figures are supported by similar data in *'The Measure of Man and Woman, Revised Edition'*, Henry Dreyfuss Associates, John Wiley & Sons, 2012. This data forms the basis for determining the viewshed for the Project.

Figure 4-1 shows the horizontal field of view.

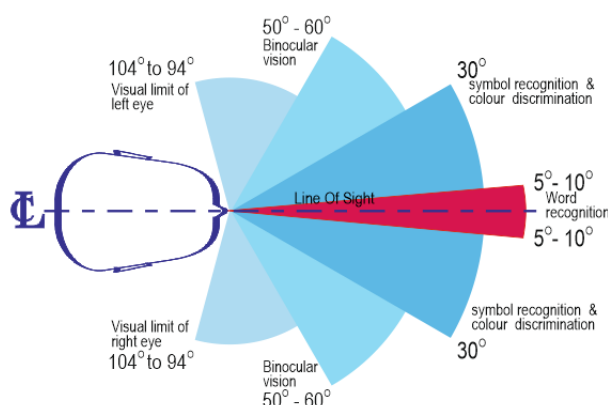


Figure 4-1 Horizontal field of view

The angle of the central field of vision is between 50° to 60°. This view angle is also relevant to the preparation and reproduction of perceptually accurate photomontages and printed reference imagery. By referencing a common benchmark, in this instance 60°, and utilising comparable camera specifications, scale of the proposed Terminal Station over varying distances can be reliably considered.

Figure 4-2 shows similar parameters for the vertical field of view.

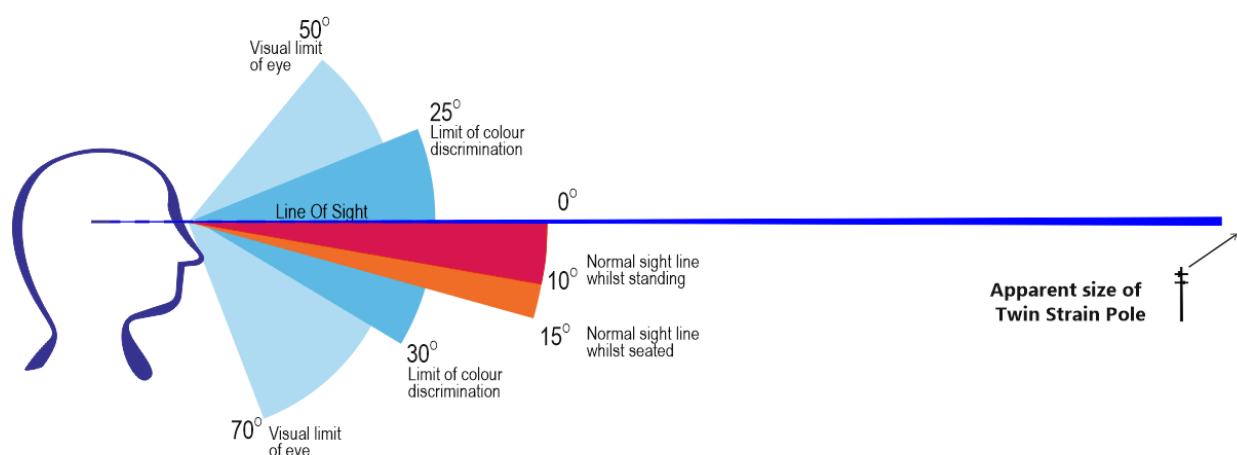


Figure 4-2: Vertical field of view

The “Normal” vertical field of view of a person is between 10° - 15°. The theoretical extent of the viewshed is considered to a distance at which the tallest component of the Project would take up less than 5% or 0.5° of the “Normal” 10° of the vertical field of view.

With an overall height of 45 m, the proposed twin strain poles are the tallest element of the Project. The distance at which a 45 m high tower would comprise 5% (0.5°) of the vertical field of view is 5.2 km.

The following section will describe the Zones of Visual Influence (ZVI) for the Terminal Station.

4.1 Zones of Visual Influence

Zones of Visual Influence (ZVI) assist to assess the visible scale of the proposed Terminal Station over varying distances. The same principles used to determine the viewshed assist to define visual scale based on the distance to a turbine. For example, when a view location is closer to a Terminal Station, the Terminal Station would take up a greater percentage of the vertical field of view. This forms one element of several criteria that contribute to determining the overall visual impact of a project from viewing locations.

The ZVI has been calculated using the twin strain towers as the tallest proposed component. The tallest element within the Terminal Station itself is the overhead gantry (up to 25m), so this may be considered a conservative analysis.

The ZVI, which will form part of the visual assessment of the Project is also calculated based upon the parameters of the human vision are set out in Table 4.1.

Table 4.1: Zones of Visual Influence

Distance to 45m high twin strain pole	The vertical angle of view	Zones of Visual Influence
>5.2km	<0.5	Visually insignificant – Extent of the project viewshed The Project will be a very small element in views, is difficult to discern and will be invisible in some lighting or weather circumstances.
2.6km-5.2km	0.5-1.0	Discernible, but will not be dominant in views The Project will be visible, however, will not be a dominant feature in views or the landscape.
1.0km-2.6km	1.0-2.5	Potentially noticeable and can dominate the landscape Where visible, the Project has the potential to be noticeable in views.

Distance to 45m high twin strain pole	The vertical angle of view	Zones of Visual Influence
500m-1.0km	2.5-5.0	Highly visible and will usually dominate the landscape The Project has the potential to be a dominant visual element in views. The degree of visual intrusion will depend on the Projects' placement within the landscape and factors such as foreground screening.
<500m	>5.0	Will always be visually dominant in the landscape Dominates the landscape in which they are sited.

The extent of the viewshed and the zones of visual influence of the proposed Terminal Station proposed are shown in Figure 4-3.



Figure 4-3: Zones of Visual Influence Map

ZVI provide a guide to considering the visual scale of the proposed Terminal Station based on distance. The proposed Terminal Station (based upon the twin strain tower) will be visually noticeable out to a distance of 5.2 km on clear days with good visibility. The proposed Terminal Station would have the potential to be highly visible and potentially dominant features in views from distances within 2.6 km. It is recognised that the

apparent size of the Project will not change dramatically when a viewer moves from one distance band to another, for example from 2.6 km to 2.7 km.

With the viewshed established at 5.2 km, this following chapter will undertake a review of Planning Policies and Guidelines that apply to the assessment of landscape and visual impacts and the project viewshed.

5. Planning Policy

This chapter will review the relevant section of the Planning Policy Framework, Planning and Policy Guidelines for Development of Wind Energy Facilities in Victoria (January 2016) and identify the local planning schemes and provisions relevant to this assessment.

5.1 Planning Schemes

This section will describe the planning provisions relevant to this LVIA of the Project.

The Project viewshed falls within the Baw Baw and Latrobe Planning Schemes. The entirety of the Project boundary is located within the Latrobe Planning Scheme.

Figure 5-1 shows the Project boundary and the viewshed in proximity to shire boundaries.

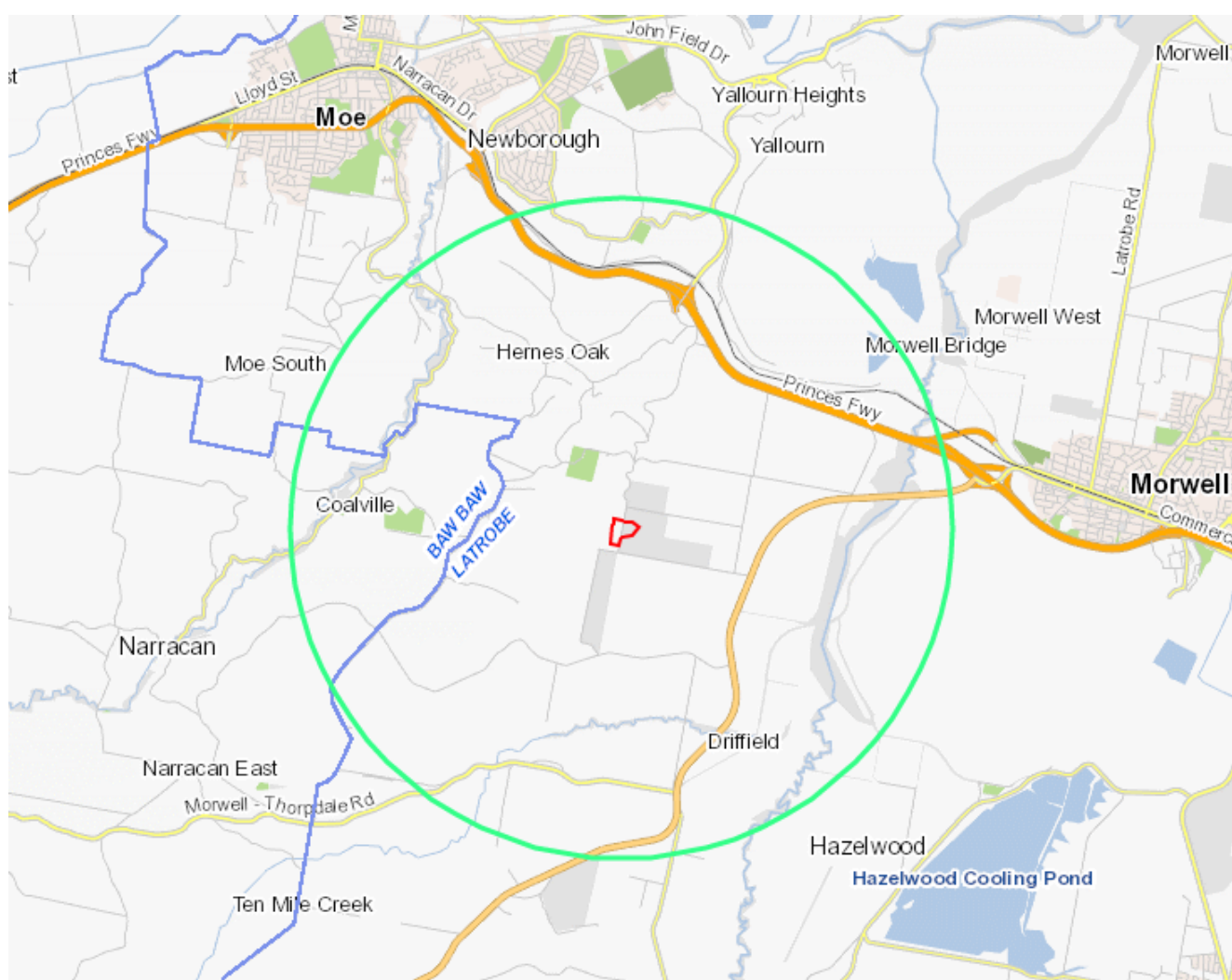


Figure 5-1: Project Boundary and viewshed relative to LGAs

The majority of the project viewshed falls within the LaTrobe Shire Planning schemes. Part of the area to the south-west is within the adjoining Baw Baw Shire to the west.

Although a terminal station falls within the definition of a 'utility' installation' in the Latrobe Planning Scheme and is defined as a separate land use to that of the wind farm. The Minister for Planning is the responsible authority for all new planning permit applications for renewable energy facilities and associated utility installations that are 1 megawatt or greater. Accordingly, the Minister for Planning is the responsible authority

for the Delburn Terminal Station application. Key State Level policies of the Planning Scheme that relevant to a LVIA of the Project include the following clauses.

5.1.1 Clause 12.05-2S Landscapes

The objective of this provision is to protect and enhance significant landscapes and open spaces that contribute to the character, identity and sustainable environments. Key strategies include:

- *Ensure significant landscape areas such as (Native) forests, the bays and coastlines are protected;*
- *Ensure development does not detract from the natural qualities of significant landscape areas;*
- *Improve the landscape qualities, open space linkages and environmental performance in significant landscapes and open spaces, including green wedges, conservation areas and non-urban areas;*
- *Recognise the natural landscape for its aesthetic value and as a fully functioning system; and*
- *Ensure important natural features are protected and enhanced.*

Local content to this clause is provided at Clause:

- *21.03 (Environmental and Landscape Values) of the Latrobe Planning Scheme; and*
- *21.06 (Natural Environment) of the Baw Baw Planning Scheme.*

5.1.2 Clause 13.07-1S Land use compatibility

Clause 13.07-1s seeks to ensure developments with potential off-site amenity impacts are sited suitably.

Relevant strategies of this clause include:

- *Ensure that use or development of land is compatible with adjoining and nearby land uses*
- *Avoid locating incompatible uses in areas that may be impacted by adverse off-site impacts from commercial, industrial and other uses*
- *Avoid or otherwise minimise adverse off-site impacts from commercial, industrial and other uses through land use separation, siting, building design and operational measures.*

Key state level policies of the Planning scheme that are of relevance to the associated Delburn Wind Farm include Clause 19.01-1S (Energy supply) and Clause 19.01-2s(Renewable Energy), which are described below.

5.1.3 Clause 19.01-1S Energy supply

Clause 19.01-1S (Energy supply) seeks to facilitate the appropriate development of energy supply infrastructure. Strategies supporting this include:

- *Support the development of energy facilities in appropriate locations where they can take advantage of existing infrastructure and provide benefits to industry and community.*
- *Support the transition to a low carbon economy with renewable energy and greenhouse emissions reductions including geothermal, clean coal processing and carbon capture and storage.*
- *Facilitate local energy generation to help diversify the local economy and improve sustainability outcomes.*

5.1.4 Clause 19.01-2S Renewable energy

Clause 19.01-2s(Renewable Energy) seeks to promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met. Key and relevant strategies include:

- *Facilitate renewable energy development in appropriate locations;*
- *Set aside suitable land for future energy infrastructure;*

- *Consider the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment; and*
- *Recognise that economically viable wind energy facilities are dependent on locations with consistently strong winds over the year.*

5.2 Local Planning Policy Framework

The following clauses of the LPPF's of described within the Latrobe and Baw Baw Schemes are of relevance to this LVIA of the Project.

5.2.1 Latrobe Planning Scheme - Clause 21.03 Environmental and Landscape Values

This provision provides local content to support Clause 12 (Environmental and Landscape values) of the SPPs. A relevant objective is:

- *(21.03-8) Objective 3 - To protect and enhance the visual, natural and cultural heritage values of rural landscapes.*

5.2.2 Baw Baw Planning Scheme – Clause 21.06 Natural Environment and Resource Management

Clause 21.06 describes the role that rural areas and significant water catchments play in the provision of the State's water and natural resources and the value placed on the pastoral, rural and bushland landscapes by residents and visitors. Key objectives of this clause relate primarily to the protection of:

- Clause 21.06-3 Biodiversity
- Clause 21.06-4 Natural Resource Base
- Clause 21.06-5 Water Catchments
- Clause 21.06-6 Farmland and Soil Quality
- Clause 21.06-7 Forestry Operations
- Clause 21.06-8 Coal Resources
- Clause 21.06-9 Stone Resources

5.3 Zones and Overlays

Planning zones describe permissible uses, identify areas of sensitivity and protection of features that are special or unique to an area. Zones and overlays also protect the continued use of areas and business against adverse amenity claims such as dust, noise, odour or views.

Uses such as coal mines and reserves, power stations, plantations or farming areas have the potential for offsite amenity impacts such as odour, noise, dust or visual. Planning provisions for these areas put in place protections to enable the continued use of those areas and protect them from encroachment and incompatible uses.

Similarly, landscapes that exhibit special or unique features are typically found within a Significant Landscape Overlays (SLOs) or Environmental Significance Overlay (ESO) and include guidance on how these areas might be protected. Sensitive uses, such as residential areas or National Parks are often protected against adverse impacts that may be detrimental to the use and enjoyment of these areas from incompatible uses.

5.3.1 Zones and overlays affecting the site

The entirety of the site is located within the Special Use Zone 1 (SUZ1). A Bushfire Management Overlay (BMO) exists upon the Terminal Station investigation area.

Special Use Zone (SUZ1)

The purpose of the Special Use Zone is *to recognise or provide for the use and development of land for specific purposes as identified in the schedule to this zone.*

The purpose of SUZ1 – Brown Coal is:

- *To provide for brown coal mining and associated uses;*
- *To provide for electricity generation and associated uses; and*
- *To provide for interim and non-urban uses which protect brown coal resources and to discourage the use or development of land incompatible with future brown coal mining and industry.*

Areas within the Special Use Zone contemplates or have approve uses that are intensive in nature and not sensitive to visual change. Further, many of these areas have either current coal mining leases or exploratory licenses in place.

Bushfire Management Overlay (BMO)

The purpose of the Bushfire Management Overlay is to:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.*
- *To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.*
- *To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.*

If landscape screening is required by the project, the layout and design may be subject to a Bushfire Hazard Assessment.

5.3.2 Zones within the viewshed

The majority of the land within the view shed of the Terminal Station is Special Use Zone 1 – Brown Coal Reserves (SUZ1) and Farming Zone (FZ). The Public Use Zone 1 (PUZ1) covers services and utilities in the Shire of Baw Baw, north of the Project site. Figure 5-2 shows the land-use zones within the viewshed of the Terminal Station.

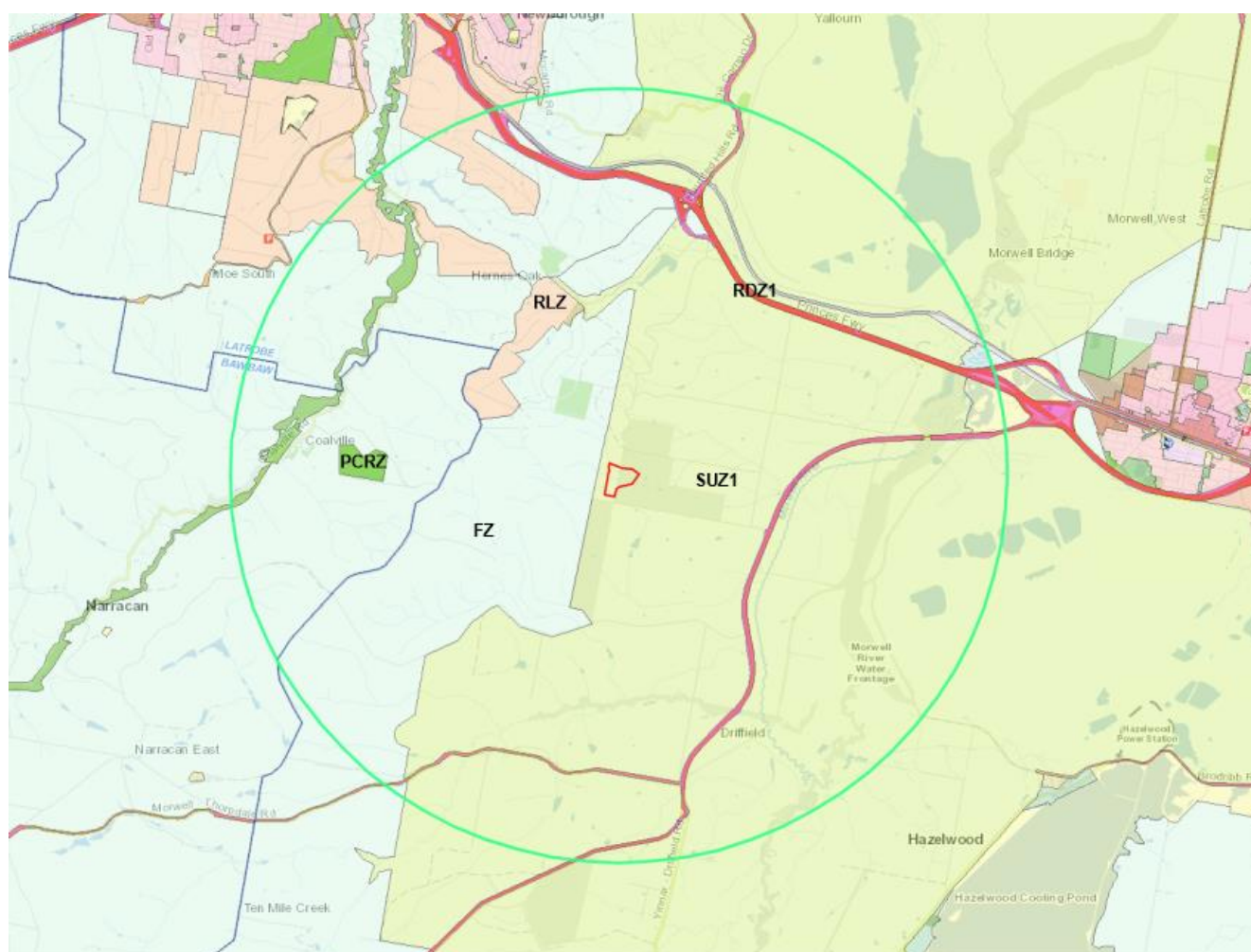


Figure 5-2: Zones within and surrounding the site. (Source: <https://mapshare.vic.gov.au/vicplan/>)

Sensitive uses include the areas within land zoned Public Conservation and Resource Zone (PCRZ), areas within the Rural Living Zone (RLZ) and residential dwellings within the Farming Zone (FZ).

Places of interest and sensitive uses within these zones include the Coalville Bushland Reserve.

All areas zoned for residential purposes are set back from the site's immediate boundaries.

5.3.3 Overlays within the viewshed

Overlays recognise landscape features that are special or unique that are distinct to the areas that surround them. Significant Landscape Overlays (SLO) are implemented to identify, conserve and enhance the character of significant landscapes. There are two such overlays within the Project viewshed. Figure 5-3 shows the SLOs in proximity to the Project site.

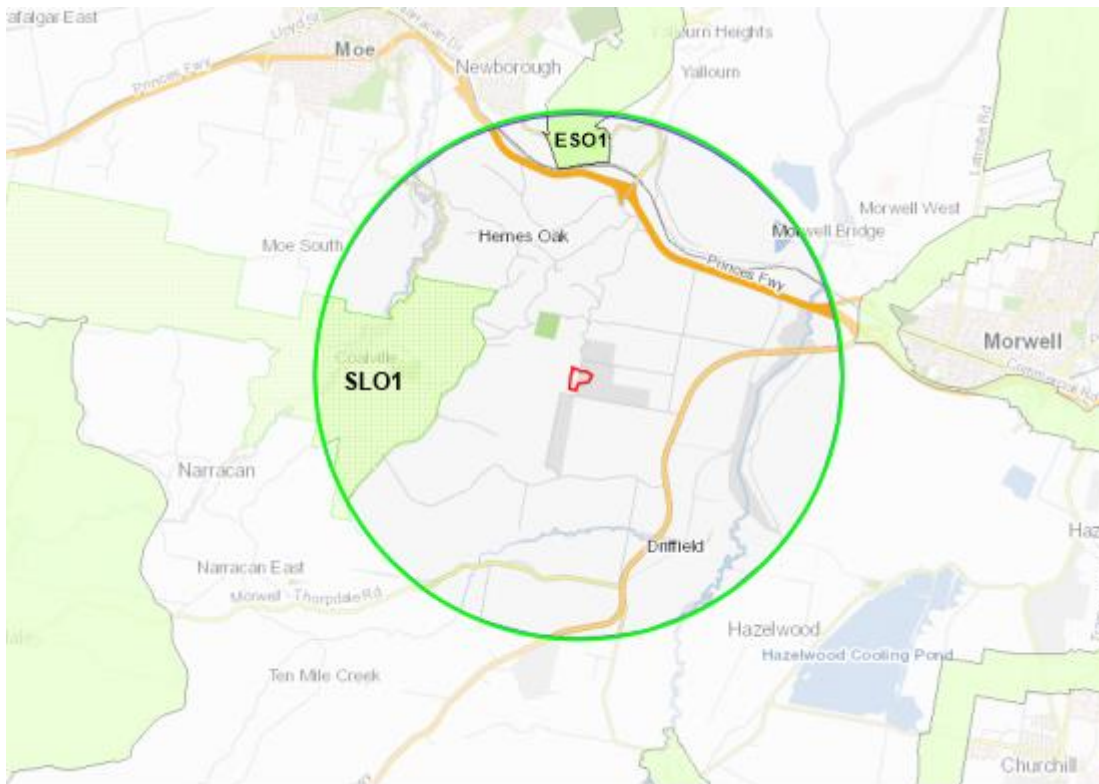


Figure 5-3: Overlays within the viewshed. (Source: <https://mapshare.vic.gov.au/vicplan/>)

Schedule 1 to the SLO of the Baw Baw Planning Scheme applies to the northern foothills of the Strzelecki Ranges. The Statement of significance states that:

The north face of the Strzelecki Ranges presents a landscape of diversity where cleared land, remnant vegetation and timber plantations co-exist. No dominant built development exists and yet houses, and narrow roads climb from the valley floor and foothills adjoining the Princes Highway between Yarragon and Trafalgar.

The Landscape Character objective to be achieved within SLO1 is:

- *To protect the natural beauty and landscape form of the Strzelecki Range.*
- *To protect the rural landscape from insensitively designed development.*
- *To maintain and protect the diversity of landscapes, native fauna, remnant vegetation and sites of historical, botanical and zoological significance.*
- *To provide for the development of tourism-oriented activities which complement the landscape of the Strzelecki Ranges.*
- *To recognise and protect the landscape and conservation features of the Strzelecki Ranges.*
- *To protect the Ranges and the surrounding landscapes from visual intrusion and inappropriate development.*

SLO 1 seeks to, amongst other things protect the landscape form of the Strzelecki Range and the rural landscape from insensitively designed development and to protect them and the surrounding landscapes from visual intrusion and inappropriate development.

The proposed Terminal Substation will be located beyond the eastern slopes of the Strzelecki Ranges, and will not intervene in views to the western aspect to which the SLO1 is applied.

Environmental Significant Overlay (ESO)

ESO1 - Urban buffer (Latrobe Planning Scheme) exists within the north of the Project viewshed, south of Moe. The purpose of this overlay is to protect urban areas from the impact of environmental change due to the coal industry.

This overlay will not be impacted by the Project.

5.4 Particular Provisions

Although not technically applicable to the proposed Terminal Station, other relevant wind farm policies and guidelines which have also been considered include:

5.4.1 52.32 Wind Energy Facility

The purpose of VPP planning clause 52.32 is to facilitate the establishment and expansion of wind energy facilities, in appropriate locations, with minimal impact on the amenity of the area. With regards to landscape and visual impacts, the following is highlighted for consideration:

- 52.32-4 application requirements outline that an application should include an assessment of the visual impact of the proposal on the surrounding landscape;
- 52.32-6 decision guidelines states that before deciding on an application, in addition to the decision guidelines of Clause 65, the responsible authority must consider several documents and guides as appropriate. The most applicable document to visual impacts being the Development of Wind Energy Facilities in Victoria, Policy and Planning Guidelines (March 2019).

5.4.2 Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria (March 2019)

The Development of Wind Energy Facilities in Victoria, Policy and Planning Guidelines (March 2019) are set out to inform planning decisions and set out:

- A framework to provide a consistent and balanced approach to the assessment of wind energy projects across the state;
- A set of consistent operational performance standards to inform the assessment and operation of a wind energy facility project; and
- Guidance as to how planning permit application requirements might be met.

With regards to landscape and visual impact, the guidance outlines the following in summary:

- In Section 4.2.2 Seek Expert Advice, the document states that an application should be accompanied by an assessment considering the visual impacts (amongst others) of the proposal, with the assessment undertaken by a suitably qualified person
- In Section 5.1.3 Landscape and Visual Impact, the document states the landscape and visual impact assessment must take into account, amongst other things, the:
 - The visibility of the development (including construction compound(s), substation(s) and power lines to connect to the electricity network)
 - The locations and distances from which the development can be viewed
 - The significance of the landscape as described by the planning scheme
 - Landscape values associated with nearby land included in the schedule to Clause 52.32-2 of the planning scheme,
 - The sensitivity of the landscape features to change.

5.5 Planning Implications

The PPF puts in place measures to protect natural features, scenic qualities and prominent views and vistas across the project viewshed.

The majority of the project viewshed is occupied by areas within the Farming Zone (FZ) or Special Use Zone (SUZ) which is set aside specifically for the extraction of coal and energy production. The more sensitive uses in proximity to the project are the residential dwellings to the west, north and south of the project. The nearest residential dwelling is approximately 1.3km to the north-west of the Project site.

The following section (Section 6) will determine the landscape character types and their sensitivity to change. Section 7 will then explore the visibility of the Project from these areas within the viewshed to assist with selecting views from each of the identified character areas to develop an understanding of the project in key and sensitive views which are discussed in Section 8.

6. Landscape Character

Landscape Units are based on areas with similar visual characteristics in terms of topography and features, such as creeks and drainage lines, soil, vegetation and land use. The following sections describe the underlying patterns of these elements to derive the landscape units within the viewshed.

The Terminal Station investigation area is set within an area of vegetated hills (plantations).

Existing infrastructure includes roads, telecommunication towers, transmission power lines, distribution power lines as well as existing power generation infrastructure in the north-eastern areas.

6.1 Topography

The Project and the study area are located within the Latrobe Valley, at the base of the eastern aspect of the Strzelecki Ranges.

The topography within the study area varies between the elevated ranges to the west of the Project, the excavated landscape of the open-cut mines to the east, and the gently undulating farmland to the south.

The Terminal Substation investigation area is located within a localised depression. The topography generally slopes from approximately 120m-140m from east to west across the investigation area. This is shown below in Figure 6-1.



Figure 6-1 Localised topography: Terminal Station investigation area (Source: Vicplan)

Option A is located in an area approximately 5-10m lower in elevation than Option B according to 10m contour data.

6.2 Vegetation

Vegetation within the viewshed is varied. It includes plantation vegetation, natural forested areas, roadside vegetation, windbreak/buffer planting within farm areas and garden planting around residences. Figure 6-2 shows an example of vegetation within plantation areas situated on elevated terrain.



Figure 6-2: Vegetation example – Plantation

Figure 6-3 shows an example of native vegetation found in undulating areas within the viewshed situated along creek lines and incised valleys, hillsides and crests.



Figure 6-3: Native Vegetation within the viewshed

Figure 6-4 shows an example of the extensive roadside vegetation found along many of the roads in proximity to the Terminal Substation.

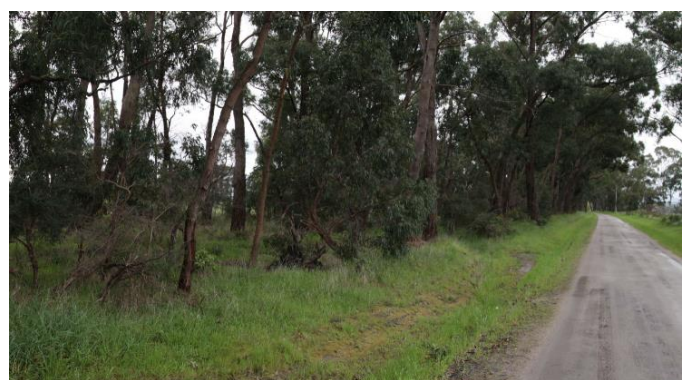


Figure 6-4: Roadside vegetation within the viewshed

Vegetation in proximity to the Terminal Substation investigation area is extensive and diverse ranging from native vegetation in roadsides, to large areas of exotic and native timber plantations on elevated hillsides. This vegetation creates patterns and land-uses that change progressively as plantations mature before being harvested. Road and other vegetation found elsewhere in the landscape screens and filters views across many areas.

6.3 Land Use

Land use and status within the relevant planning schemes assist to understand the significance of an area as identified within the relevant planning schemes. This is due in part to the permissible use and prevalence of that use within an area and the level of protection afforded to that area under the provision of the planning schemes.

The predominant land uses within the viewshed of the Project include:

- Pine and blue gum plantation and forestry;
- Open-cut coal mines;
- Coal-fired power stations; and
- Farming and agriculture.

Sensitive land uses within the viewshed include rural residential areas, including scattered residential dwellings to the south of the Project near Driffield, and the north-west near Coalville and Hernes Oak.

The brown coal resources in the area are one of the largest in the world. The Latrobe Valley brown coal electricity generators supply around 90% of Victoria's electricity. The region is recognised as the "powerhouse" of Victoria through its open-cut coal mines and power stations.

Figure 6-5 shows the core power stations, associated open-cut coal mines, Terminal Substation locations and the high-voltage power line network.

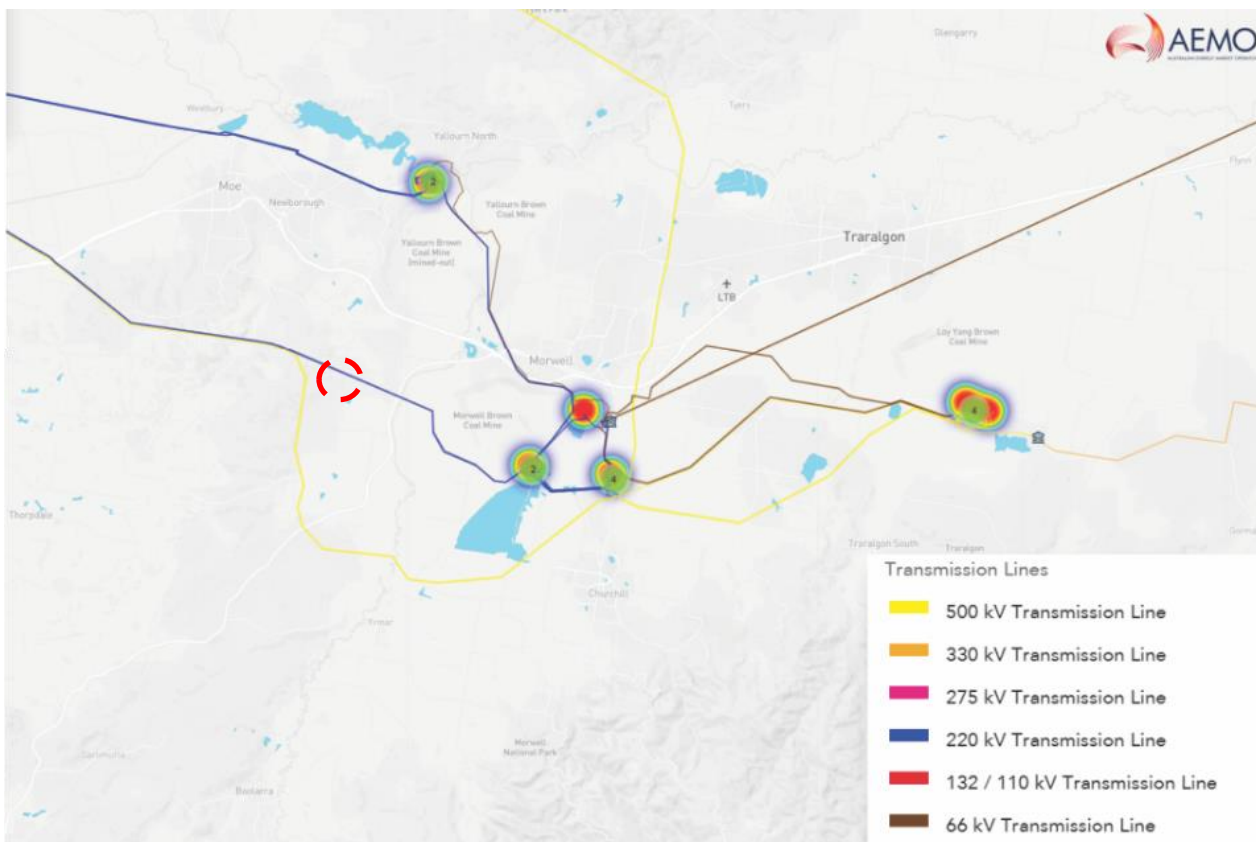


Figure 6-5: Energy Infrastructure (Source: <https://www.aemo.com.au/aemo/apps/visualisations/map.html>)

The presence of open-cut coal mines and power stations are supported by a complex network of high-voltage and domestic scale power lines. These areas and uses, which are considered within the PPF, provide a visual reminder and connection to the important role the Latrobe Valley region plays to the state's electricity security.

The Project site is adjacent to the existing 220 kV HWTS-ROTS transmission line (Hazelwood Terminal Station to Rowville Terminal Station). An existing dual circuit 500 kV transmission line (Hazelwood Terminal Station to Cranbourne Terminal Station) exists within the viewshed of the project, approximately 1.2km to the west of the Project.

6.4 Landscape Units

There are five distinct landscape character types in the area surrounding the proposed Terminal Station. These have been assessed based on land use, topography and vegetation. These landscape character types can be defined as the following:

6.4.1 Landscape Unit 1 – Rural Residential

Rural Living or Rural Residential are areas of residential land uses outside of townships that are not inherently linked to agriculture or other rural industries.

This landscape type is valued for its natural-appearing or 'rural' amenity but does generally include many built features, including neighbouring agricultural or horticultural infrastructure and machinery, tourism-related land uses and the road network.



Figure 6-6: Landscape Unit 1 – Rural Residential example

6.4.2 Landscape Unit 2a – Cleared Flat Farmland

Landscape Unit 2a – Cleared Flat Farmland are areas used primarily for agricultural purposes. There are many instances of constructed elements within this landscape type, including the road network, transmission lines, farm buildings and fences.



Figure 6-7: Landscape Unit 2a – Cleared Flat Farmland example

6.4.3 Landscape Unit 2b – Cleared Hilly Farmland

Landscape Unit 2b – Cleared Hilly Farmland is highly modified, given the historic clearance of native vegetation. The intersection of rolling hills and deeply incised valleys provides for a diversity of framing of views that are either closed and confined or reveal longer views across the valley floor and to the elevated hills in the distance.



Figure 6-8: Landscape Unit 2b – Cleared Hilly Farmland example

6.4.4 Landscape Unit 3 – Industrial / Mining

A large part of the area to the east and northeast of the Project is within the area of land in the SUZ1 and includes many operating coal mines and power stations as well as the recently closed Hazelwood Power Station. The power stations are visible across the landscape but are not within the Project viewshed. Within these areas are the extraction pits, which are open, partially rehabilitated or fully rehabilitated, operating and transitioning power stations and the many overhead high voltage powerlines. The images below show the character of the area within the land in the SUZ1.

Figure 6-9 shows the Hazelwood Power Station. It is noted that the chimneys at Hazelwood have been removed following this photo, and are no longer a feature in the landscape.



Figure 6-9: Landscape Unit 3 – Industrial/Mining example (Hazelwood Power Station)

Figure 6-10 shows an example of the complex network of overhead powerlines found in many locations in the vicinity of the project.



Figure 6-10: Landscape Unit 3 – Industrial/Mining example (Transmission Line)

6.4.5 Landscape Unit 4a – Forested hills (Natural)

Landscape Unit 4a – Forested Hills generally consists of rolling or dramatic hills with large sections of natural vegetation. This landscape is attractive as it contains areas that appear pristine.



Figure 6-11: Landscape Unit 4a – Forested Hills (Natural) example

6.4.6 Landscape Unit 4b – Forested Hills (Plantation)

Landscape Unit 4b consists of rolling hills that are vegetated with ordered plantation vegetation.



Figure 6-12: Landscape Unit 4a – Forested Hills (Plantation) example

The colours and tones of these areas under pine plantation contrast to areas of native forest or timber plantations. These areas are regularly modified through timber harvesting.

6.4.7 Landscape Unit 5 – Waterways

The Morwell River is within the viewshed of the Project. Within the viewshed to the north, the waterway includes the Morwell River Diversion, an engineered river alignment diverted to allow both the Yallourn and Hazelwood mines to expand. Within the south of the viewshed, more natural alignments of the Morwell River exist.

Over time the Morwell River has been impacted by the various mining and extractive activities across its natural alignment, which has resulted in it being diverted from its natural alignment on a number of occasions. The resulting profile and alignment of the streambed can be observed along the river's lower reaches within the viewshed particularly where the Strzelecki Highway crosses the river. Nonetheless, waterways attract a high sensitivity to visual change due to their scenic qualities and intrinsic value. Due to the modified nature of this waterway, the sensitivity is rated as moderate.



Figure 6-13: Landscape Unit 5 – Morwell River Diversion

6.5 Landscape Sensitivity

Landscape sensitivity is in part a measure of the ability of a landscape to absorb visual change based on attributes of a particular landscape. The sensitivity of the previously described landscape units will depend upon a number of attributes, such as:

- **Location.** The sensitivity of a potential viewer varies according to location. For example, visitors to a National Park where the landscape appears untouched or pristine will be more sensitive to the imposition of new or artificial elements within that landscape. The same viewer travelling along a rural highway, which contains existing examples of modifications and artificial elements, will be less sensitive to the presence of new elements. Modifications or artificial elements are not confined to vertical structures or built form, they also include removal of native vegetation; visibility of roads, tracks, fences and other rural infrastructure all of which decrease the sensitivity of a landscape to further change.
- **The rarity of a particular landscape.** Landscapes that are considered rare or threatened are valued more highly by viewers.
- **The scenic qualities of a particular landscape.** Landscapes that are considered scenic are also those that are considered sensitive. They often contain dramatic topographical changes, the presence of water, coastlines, and other comparable features. The presence of modifications or artificial elements (including built form, roads, tracks, fences, and silos), as well as farming practices including land clearing, cropping and burning can decrease the sensitivity of a landscape's scenic qualities.

The landscape within the viewshed includes many constructed elements including new dwellings, structures and sheds, high voltage transmission line towers, mining activities, power infrastructure and other interventions.

The landscape sensitivity of the Cleared Farmland Landscape Unit is considered low. These areas are not rare or unique when compared to areas of state and national parks or native forest. The landscape in these areas

regularly undergoes visually apparent change through rural activities such as grazing, crop cycles and other changes associated with farming and agriculture and are constant reminders of human influence on the landscape. However, it must be recognised that some people value the cleared farmland with minimal signs of mechanised construction such as houses, farm sheds and the like.

The landscape sensitivity of the Forested Hills (Natural) Landscape Unit is considered medium to high, as although it too is relatively common, it appears more pristine or natural than the Forested Hills (Plantation) and Cleared Farmland landscape units.

Table 6.1 rates the sensitivity of the various landscape units within the viewshed of the Terminal Station.

Table 6.1: Landscape Unit Sensitivities

Landscape Unit	Sensitivity
Unit 1 – Rural Residential	Moderate-High - While these areas are valued for their 'natural-appearing' or rural landscape amenity, they have modified landscapes within zones that are set aside for rural related industries such as farming or extractive resources, and thus inherently contain land uses with potential off-site amenity impacts.
Unit 2a – Cleared Flat Farmland	Low – Highly modified, contains visible infrastructure, is not topographically dramatic and does not contain large bodies of water.
Unit 2b – Cleared Hilly Farmland	Low to Moderate – Highly modified, by way of clearing of native vegetation. The intersection of rolling hills deeply incised valleys provides for a diversity of framing of views that are either closed and confined or reveal longer views across the valley floor and to the elevated hills in the distance.
Unit 3 – Industrial / Mining	Low - Highly modified landscape.
Unit 4a – Forested Hills (Natural)	Moderate to High - This landscape is attractive as it contains areas that appear pristine.
Unit 4b – Forested Hills (Plantation)	Low to Moderate - This landscape is attractive when vegetated. This landscape is European in appearance and regularly modified through timber harvesting.
Unit 5 - Waterways	Moderate - Waterways are intrinsically a highly sensitive landscape feature. In the case of this area, the Morwell River Diversion is an engineered waterway, that still appears to have natural form and vegetation in some areas. As such, the sensitivity is rated Moderate.

The landscape units and sensitivity ratings will form the basis of the visual impact of views from publicly accessible locations.

Landscape sensitivity from individual residential properties will always be assessed as "high" as for a resident, their home will always be a highly sensitive location and disturbances to a resident's views must always be considered to have the highest degree of sensitivity.

dwelling around Morwell-Thorpdale Road and Golden Gully Road to the south of the Project, near Drifffield, may have theoretical visibility of the project.

8. Publicly Accessible Viewpoints

This section will assess the potential visual impact of the proposed Terminal Station from publicly accessible locations. Viewpoints have been selected to consider the location of the proposed Terminal Station from key locations in the surrounding area.

Publicly accessible viewpoints within the viewshed and areas of theoretical visibility are largely limited to the road network to the north, south and east of the Project.

The assessed viewpoints are shown below in Figure 8-1.

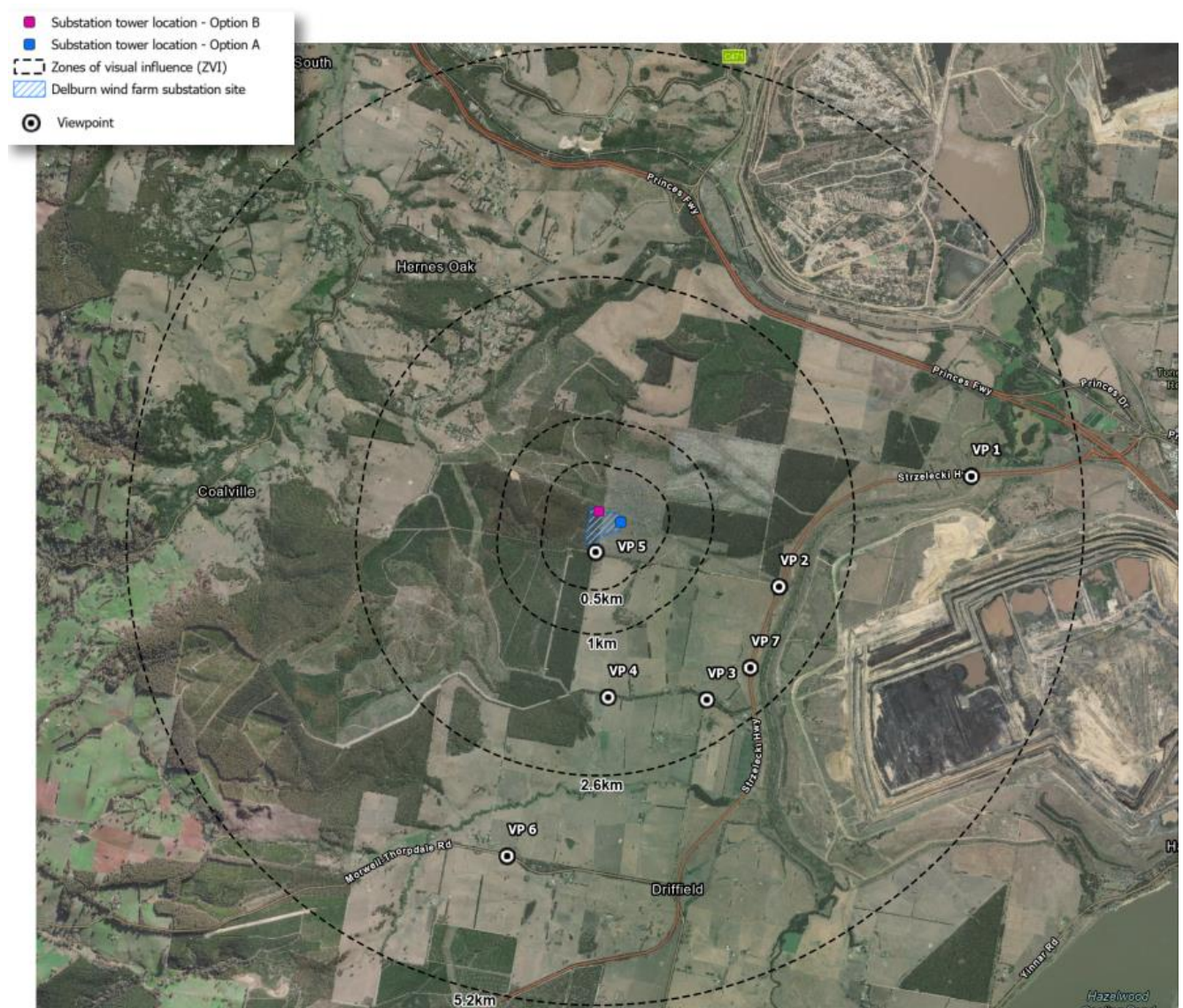


Figure 8-1 Viewpoints map

8.1.1 Viewpoint 1 – Strzelecki Highway

Viewpoint 1 is located on the Strzelecki Highway where it crosses a section of the re-constructed Morwell River approximately 570 m northeast of Marrett's Road.

The Project is approximately 3.9km to the west of this location.

Figure 8-2Error! Reference source not found. below shows the existing view looking south-west.



Figure 8-2 Viewpoint 1 – Existing view looking south-west

The landscape at this location is largely characterised by the open-cut mine to the south, and the plantation hills that form the horizon views to the west.

At this location, vegetation within mid-range views screens views toward the Project site. This vegetation is limited to a short belt of roadside vegetation that road users would pass travelling southbound. Thereafter, vegetation within the plantation would screen or filter views toward the Project.

There is the potential for views toward the Terminal Station should a part of the plantation be removed. These views would be temporary only until new vegetation is established. Views from this location would be at such a distance that the features of the project may be discernible, but would not be dominant elements in views.

Further, to the substation would be through the existing 220 kV transmission lines which the proposed proposes to connect the Delburn Wind Farm to.

The visual impact at this location is assessed as NIL-NEGLIGIBLE.

Viewpoint 1 – STRZELECKI HIGHWAY		
Distance	3.9km west	Discernible, but will not be dominant in views
Landscape Unit	Landscape Unit 3 / Landscape Unit 5	Low-Moderate
Viewer Numbers	Highway	Moderate-High
OVERALL VISUAL IMPACT	NIL-NEGLIGIBLE	

8.1.2 Viewpoint 2 – Strzelecki Highway

Viewpoint 2 is located on the Strzelecki Highway at the intersection of Deans Road. The Terminal Station investigation area is approximately 2.0km to the west of this location

Figure 8-3 below shows the view looking west along Deans Rd from the Strzelecki Highway.



Figure 8-3 Viewpoint 2 – Strzelecki Highway / Deans Road– view looking south-west

The proposed Terminal Station will be located at the western end of Dean's Road. From this location, the Terminal Station will be filtered or screened from view by a combination of topography, vegetation and the existing transmission lines in the foreground of this view.

The obvious presence of the existing 220 kV transmission line, which crosses the highway at this location. Where clearing of plantation vegetation occurs in this area, taller elements of the Terminal Station may be visible temporarily while these areas are cleared.

When visible, the substation would be seen over a modified landscape comprising harvested and replanted timber and against a backdrop that includes the existing 220kV high voltage transmission line. For these reasons, the visual impact at this location is assessed as negligible

VIEWPOINT 2 – STRZELECKI HIGHWAY / DEANS ROAD		
Distance	2.0km west	Potentially noticeable and can dominate the landscape
Landscape Unit	Landscape Unit 4b	Low-Moderate
Viewer Numbers	Highway	Moderate-High
OVERALL VISUAL IMPACT	NEGLECTIBLE	

8.1.3 Viewpoint 3 – Golden Gully Road / Walsh and Gibson Road

This viewpoint is located at the intersection of Golden Gully Road and Walsh and Gibson Road.

The Project is located approximately 2.0km to the north-west of this location.



Figure 8-4 Viewpoint 3- Golden Gully Road / Walsh and Gibson Road - looking north-west

This viewpoint is representative of the residential dwellings along the northern edge of Golden Gully Road, which are the closest dwellings to the Terminal Station and in areas identified as having potential visibility of project features in the SAA.

This location is characterised as flat to gently undulating cleared farmland, with the plantation areas forming the background to views. The majority of this road is vegetated, which filters views toward the project site.

From this location, the Terminal Station investigation area is largely screened by the paddocks to the south of Deans Road and between this location. Taller elements of the Terminal Station, such as the transmission tie-in towers, may be visible but will be sited alongside the existing 220 kV transmission lines, and against the backdrop of the existing plantation vegetation.

The visual impact at this location is assessed as Negligible.

VIEWPOINT 3 – GOLDEN GULLY ROAD / WALSH AND GIBSON ROAD		
Distance	2.0km north-west	Potentially noticeable and can dominate the landscape
Landscape Unit	Landscape Unit 2b	Low-Moderate
Viewer Numbers	Local traffic	Low
OVERALL VISUAL IMPACT	NEGLECTIBLE	

8.1.4 Viewpoint 4 - Golden Gully Road

Viewpoint 4 is located along Golden Gully Road to the west of Viewpoint 3. The nearest Project element is approximately 1.9km to the north-west. The view looking north towards the Terminal Station investigation area is shown below in Figure 8-5. This viewpoint taken where a break in roadside vegetation allows views across the cleared farmland to the north of Golden Gully Road.



Figure 8-5 Viewpoint 4 - Golden Gully Road – View looking north

Extensive roadside vegetation along the northern edge of Golden Gully Road screens and filters views to the north and in the direction of the Terminal Station Investigation areas.

At this location, views toward the Terminal Substation investigation area is largely filtered or screened by the undulating farmland, and intervening vegetation within the paddocks to the north. Where vegetation permits views towards the site, taller elements of the Terminal Station, such as the transmission tie-in towers, may be visible but will be sited alongside the existing 220kV transmission lines, and against the backdrop of the existing plantation vegetation.

For road users, opportunities to views the substation are largely limited by roadside vegetation.

The visual impact at this viewpoint is Negligible-Nil.

VIEWPOINT 4 – GOLDEN GULLY ROAD		
Distance	1.7km north-west	Potentially noticeable and can dominate the landscape
Landscape Unit	Landscape Unit 2b	Low-Moderate
Viewer Numbers	Local traffic	Negligible - Nil
OVERALL VISUAL IMPACT	NEGLECTIBLE	

8.1.5 Viewpoint 5 – Deans Road

Viewpoint 5 is located at the intersection of Deans Road and Varys Track. The nearest Project element is Option B, which is located approximately 50m north of this viewpoint. Figure 8-6 shows the view from this location looking west. This location is on roads that, although publicly accessible, are primarily used for logging and plantation purposes.



Figure 8-6 Viewpoint 5 – Deans Road / Varys Track- Looking north to east

The existing 220 kV transmission line is visible at this location, with the nearest tower approximately 500m north. The Terminal Station options will be located adjacent to this tower, to the south.

Plantation areas are noted as both highly modified and changing landscapes, and also landscapes that may be valued for the views toward vegetated hills. The sensitivity of these landscapes is rated as low-moderate. Due to the obvious presence of transmission lines in this area and low viewer numbers along this road, the sensitivity of this viewpoint is rated as low-negligible.

At this location, either Terminal Station option would be a dominant element in views but would be viewed by few people and is not out of character with the landscape due to the existing high-voltage transmission lines. The siting of the Terminal Station within a relatively low point of topography will assist in screening views from further away.

The visual impact is rated as low.

VIEWPOINT 5 – DEANS ROAD		
Distance	600m north-west	Highly visible and will usually dominate the landscape
Landscape Unit	Landscape Unit 4b	Low-Moderate
Viewer Numbers	Local traffic	Low
OVERALL VISUAL IMPACT	LOW	

8.1.6 Viewpoint 6 – Morwell-Thorpdale Road

This viewpoint is located along Morwell-Thorpdale Road. The Project is approximately 3.7km to the north of this location. Figure 8-7 shows the view looking north where a break in roadside vegetation permits views across the landscape.



Figure 8-7 Viewpoint 6 – Morwell-Thorpdale Road - View looking north

Morwell-Thorpdale road is located to the south of the Project. Views to the site area over cleared undulating, farmland. An existing dual, 500 kV transmission line crosses this road approximately 500m to the west and is visible from locations along the road.

At this location, views toward the Terminal Station would be screened by topography and vegetation to the south of Golden Gully Road and along the road reserve of the Morwell-Thorpdale Road. The Terminal Station, they would be at such a distance that the Terminal Station would be a barely discernible element in background views, if visible at all.

The visual impact at this location is assessed as Negligible-Nil.

VIEWPOINT 6 – MORWELL-THORPDALE ROAD		
Distance	3.7km north-west	Discernible, but will not be dominant in views
Landscape Unit	Landscape Unit 2b	Low-Moderate
Viewer Numbers	Local traffic	Low-Moderate
OVERALL VISUAL IMPACT	NEGLECTIBLE-NIL	

8.1.7 Viewpoint 7 – Strzelecki Highway

This viewpoint is located along the Strzelecki Highway, approximately 2.2km to the south-east of the investigation area. A raised bund follows a large section of the highway along this section. Figure 8-8 shows the view looking west to north from a location where the bund lowers.



Figure 8-8 Viewpoint 7 – Strzelecki Highway, looking west to north

This viewpoint is indicative of views from the Strzelecki Highway. To the west, the landscape is characterised by cleared, undulating farmland. To the east, the Morwell River Diversion exists approximately 140m from this viewpoint and travels parallel to the highway. The Morwell open-cut coal mine is approximately 1.1km to the east. To the north, sections of timber plantation and the existing transmission lines are visible in the background of this view.

Along the roadside to the west is an earthen, grassed bund (raised mounding) that restricts some views across the landscape to the west.

The Terminal Station investigation area would be located approximately 2.2 km to the north-west and is obscured from view by the earthen bund. Elevated elements of the Project, such as the twin strain poles may be visible in background views but would be against the backdrop of the existing transmission line and would not bring about a meaningful change in views from this location. The terminal station itself will be mostly, if not entirely screened from view by the local topography.

The visual impact at this location would be low-negligible.

Viewpoint 7 – STRZELECKI HIGHWAY		
Distance	2.2km north-west	Potentially noticeable and can dominate the landscape
Landscape Unit	Landscape Unit 2b / Landscape Unit 5	Low-Moderate
Viewer Numbers	Highway	Moderate-High
OVERALL VISUAL IMPACT	LOW-NEGLIGIBLE	

8.2 Viewpoint Summary

The Terminal Station exists in a landscape that is highly modified due to timber harvesting and characterised by the existing high-voltage transmission line. Views toward the project exist within modified landscapes, characterised by the high presence of electricity-generating or transmission infrastructure within plantation or cleared farmland landscapes.

The Terminal Station investigation area is visible from few locations due to the Strzelecki Ranges, which screens views to the west, and the extensive plantation timber which screens or filters views to the Project from locations to the north and northeast.

The Terminal Station has theoretical visibility to areas to the south, which includes areas containing residential dwellings associated with farm properties along Golden Gully Road and Morwell-Thorpdale Road. Views to the Terminal Station from these locations are generally filtered or screened by a combination of vegetation and topography across undulating farmland. These areas are generally at a distance that which the Terminal Station would not form a dominant element in views. A detailed assessment from within these private properties has not been undertaken to confirm specific views toward the Terminal Station site from private viewing locations.

Sections of the Strzelecki Highway have theoretical visibility of the Terminal Station. Site visits have determined that localised topography, including the earth mound west of sections of the highway and undulating farmland, will screen views to the south-east of the Project, and highway locations to the northeast of the Terminal Station will be screened or filtered by plantation or other vegetation.

9. Mitigation

The Terminal Station has the potential to be viewed from residential dwellings to the south of the Project, particularly those along Golden Gully Road. Residential dwellings have not been visited to determine whether private viewing locations have visibility of the Project.

Viewpoints were assessed from Golden Gully Road, which determined there would be limited visibility from the public realm due to intervening topography and vegetation.

There appear to be limited locations where views of the Terminal Station would be visible from sensitive locations. Where visible, the Terminal Station would be adjacent to and lower in height than the existing 220kV transmission line.

It is typically a permit requirement for perimeter screen planting to be installed along edges adjacent to sensitive interfaces and boundaries of terminal station installations. For both proposed locations, screening would be largely provided by the existing timber plantations. If required, permanent supplementary plantings may be proposed or retained to mitigate views or vegetation planted as part of the existing timber operations is preserved by the project and retained for screening.

Any proposed landscape screening may be required to be designed in accordance with requirements under the Bushfire Risk Assessment and that appropriate setback of landscaping from Project elements be implemented to reduce bushfire risk to the facility and to allow emergency vehicle access where required.

10. Conclusion

The Project proposes to develop a new Terminal Station and associated transmission line tie-in works required to connect the Delburn Wind Farm to the Victorian transmission network. The immediate investigation area is characterised by the timber plantation, which undergoes visual change through harvesting and replanting of timbers. The investigation areas are located near the eastern edge of the plantation, an area that includes both mature planted trees, and recently harvested areas.

The Project contemplates two sites, both of which are proposed to be accessed from Varys Track within existing plantation areas. Both sites are adjacent to an existing 220kV transmission line. Both sites area is located within existing timber plantation areas. Option A is within an area managed by VicForests, and Option B is within an area managed by HVP.

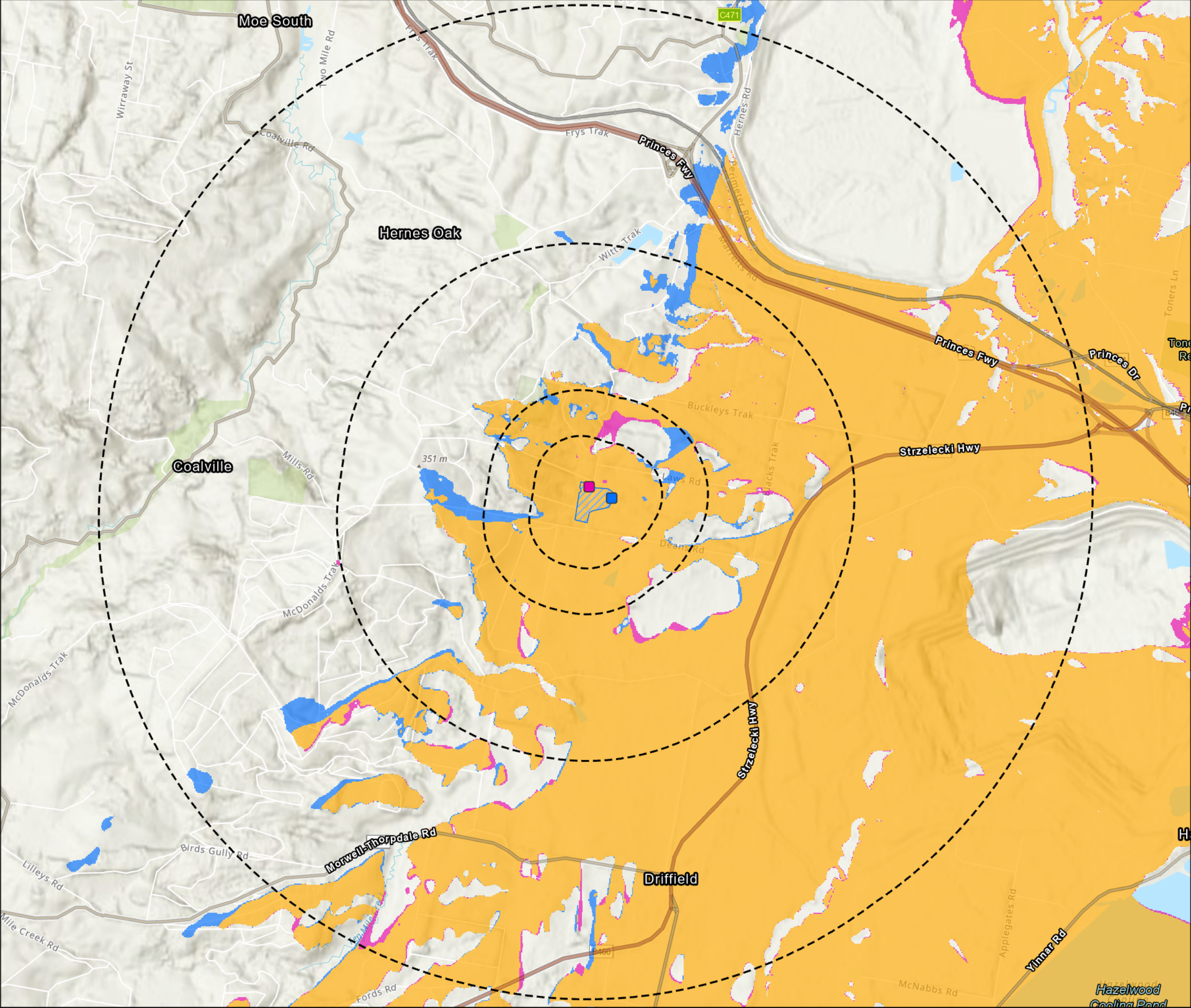
Option A, is situated to the east of Varys Track and is slightly lower in elevation than Option B which is proposed to the west of Varys Track. The lower elevation of Option B would assist in reducing the visibility of the proposed infrastructure beyond the site.

Views from publicly accessible locations are generally limited to the south and east of the Project, due to screening provided by topography in views from the west. Topography and vegetation provide screening or filtering views to the north and northeast.

The Seen Area Analysis demonstrated that residential areas to the west and north west of the Project, including Coalville and Hernes Oak, would not have theoretical visibility of the Project due to intervening topography. Residential dwellings to the south of the Terminal Station, particularly along Golden Gully Road and Morwell-Thorpdale Road have demonstrated theoretical visibility of the Project. Views investigated from the public realm, in Section 8 of this report have demonstrated that most views to the Terminal Station locations would be filtered or screened by a combination of vegetation (both plantation and native vegetation) and topography across undulating farmland. Further, dwellings in these areas are at a distance at which that the project would not form a dominant element in views and in a visual setting that includes the taller towers of the existing 220 kV Transmission line.

In this context, the visual impact of either proposed location would not be an unacceptable visual change.

Appendix A. Seen Area Analysis



Substation tower location - Option A

Substation tower location - Option B

Delburn wind farm substation site

Zones of visual influence (ZVI)

Seen Area Analysis

Only location A visible

Only location B visible

Both location A and B visible

N

IS279700

GDA 1994 VICGRID94

A3

1:40,000

0

1

2 km

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