

Tarrone Power Station Visual Amenity Assessment



Final 011009

Introduction

This report has been prepared by Land Design Partnership Pty Ltd for URS Australia Pty Ltd on behalf of AGL. It addresses the potential impacts upon visual amenity of a proposed gas fired power station and associated sub station to be located at Tarrone in the Western District of Victoria.

AGL propose to develop a gas-fired peaking power station with connecting sub station of between 3 and 4 open-cycle gas turbines (depending on turbine type selected) with combined generating capacity of up to approximately 840 MW, including associated gas pipeline and local road upgrades. The site for the proposed project area is located approximately 23 kilometres north of Port Fairy in the rural locality of Tarrone, in western Victoria. Gas will be supplied to the peaking power station via an underground pipeline from the SEA Gas Pipeline.

The proposed Tarrone Power Station would generally be developed in the north-west portion of the site and consist of the power station area (comprising three or four turbines with an operating capacity of between 720MWh and 840MWh dependent on the final choice and number of operating turbines), substation and other onsite auxiliary infrastructure. The bulk of the power station and substation would generally be less than 20 metres in height, with the up to 45 metre high exhaust stacks, and up to 40 metre high lightning rods, the highest components of the overall development. The substation would provide a connection to the 500kV Moorabool-Portland high voltage transmission line that crosses the site.

Methodology

The methodology in this report adopted the following process:

Desktop Review

This review consisted of pre site inspection analysis of a topographic map at scale 1:20000, Moyne Shire planning zones and aerial photographs, both at scale and from satellite imagery. The review assisted in establishing potential receptors prior to the site inspection.

Fieldwork

Fieldwork comprised two days of inspections recording local conditions, analysing landscape character and recording "landscape receptors and potential visual receptors" ¹ via text and photography. The inspections were undertaken under varied weather conditions. The initial inspection was undertaken on January 27th 2009 with a further inspection undertaken on August 6th 2009.

Photography was undertaken with a digital camera. In January this task was completed with a 28mm equivalent lens that illustrates the broad open nature of the landscape. The follow up inspection in August, was undertaken to confirm more current conditions and was completed with a 50mm equivalent lens to more closely reflect the captured view of the eye. Reference to both site inspection images has provided a detailed impression of the site and the local environs on a clear day and an overcast day.

¹ Guidelines for Landscape and Visual Assessment Pg 68, Pg 75, 2nd Edition 2002. The Landscape Institute and the Institute of Environmental Management and Assessment

Impact Assessment Criteria

This report has been prepared to support a referral to the Minister for Planning to determine whether an EES is required. This task involved a review of the potential objectives of the referral as they pertain to Visual Amenity Assessment. Each relevant objective is reviewed in relation to:

- visibility from prominent areas of the public realm;
- visibility from the private realm;
- potential removal of vegetation;
- changes to landform.

In terms of establishing the existing visual amenity of the region and the potential impact of the proposal, these initial tasks needed to address:

- what is the existing visual character and what are its key determinants
- how is the existing visual character experienced by the public
- what are the values placed on visual amenity by the local population

The identification of visual receptors within the public realm is subjective but based on the following criteria:

- the situation from where visual receptors may view the power station and sub station in part or in its entirety
- the approximate number of visual receptors that may be in these locations
- the time each visual receptor may be in the location to view the power station and sub station
- the distance between the visual receptor and the power station / sub station

Visual receptors are defined as members of the public or broader local communities. Visual receptors can also include the views of or from within, valued landscapes. The rationale for the assessment of impacts upon visual amenity is in simple terms, related to the number and length of time that visual receptors are present at the location. Minimal visual impact is likely where the number of receptors is low or time spent at a location is short. Where visual receptors numbers are higher or time spent at a particular location is more prolonged, impacts are likely to be higher.

In this instance the assessment must also address potential impacts upon residential properties, where receptor time may be short but occur on a regular basis.

Background

Refer to Figure One Locality Plan

The proposed gas fired power station and associated sub station to be located on a site near Tarrone in Western District of Victoria, and will be located in the Victorian landscape type generally described as the 'Western Plains'.²

This landscape is usually characterised by flat, mainly volcanic plains now predominantly occupied by agricultural pasture and grasslands. Some open Stringybark woodlands remain with occasional remnant Red Gum forests located on river flats. Some volcanic cones also remain but are rare and more often, low 'stony rises' remain as a remnant of intersecting lava flows. The topography is more often 'flat' to gently undulating.

Open woodlands have generally been cleared with some remnant and regenerating trees of these communities surviving along road reserves. Introduced trees species such as Pinus and Cupressus planted in hedgerows and bounding open pasture, often form a dominant landscape feature in addition to shortening views across the otherwise open pastures.

² *Landscape Character Types of Victoria, Mike Leonard Richard Hammond Forests Commission Victoria 1984*



Figure One - Locality Plan

Roads

Four highways totalling 240km and sixteen main roads totalling 363km are located within the Moyne Shire. The locality plan shows the Woolsthorpe Heywood Road and the Hamilton Port Fairy Road as main or arterial roads. Closer to the site, Riordan Road, Landers Lane, Tarrone North Road, McGraths, Coomete and Poynton Roads are indicated as Access Roads under the Moyne Shires classification. Tarrone Lane is indicated as a link road. Willatook Warrong Road is classified as a collector road.

For classification as an arterial road, VicRoads must consider if the road:

- a. provides a principal route for the movement of people and goods:
 - between major regions of the State; or
 - between major centres of population or between major metropolitan activity centres; or
 - to major transport terminals; or
 - across or around cities; or
- b. is a major route for public transport services; or
- c. has State-wide economic or tourism significance; or
- d. provides necessary connections between arterial roads.

Aside from the highways, main or arterial roads, Moyne Shire defines the rural roads as below:

- link – traffic volumes exceeding 150 vehicles per day
- collector - traffic volumes exceeding 70 vehicles per day
- access sealed – Access to abutting properties prime purpose
- access Gravel Surface 1 – Bus tanker or high percentage of truck use
- access Gravel Surface 2 – Minor local traffic
- formed Unpaved, Unformed/Unpaved – Access roads including emergency access

Features

The region where the site is located is gently undulating with an RL range of 60-90 AHD. The site of the proposed power station and sub station is on the corner of Riordans Road and Landers Lane in Tarrone. The site also has a small frontage to the Tarrone North Road formed by a narrow title access way. The site is generally gently undulating with some evidence of 'stony rises' (low, soil depleted ridges), in the northwest portion of the site.

Remnant pine tree plantings are scattered throughout the open pasture. The site is clearly visible from Riordans Road and Landers Lane (both are local gravel roads), as these road reserves are largely bereft of any vegetation apart from grasses.

Due to the setback of the proposed site of the power station and sub station from the Tarrone North Road, the existing pasture, forming the majority of the site, is partially obscured to the north and south of the small frontage. The existing transmission towers are however clearly visible in this vicinity when travelling along the Tarrone North Road or from adjacent open pasture areas, implying the power station will also be visible to some extent.

The main pasture area of the site is dominated by one of the series of transmission towers, supporting a 500kV line. This particular tower forms a pivot point in a change in the alignment of the powerlines. To the west of the site, the lines follow an east west alignment, paralleling Riordans Road and heading toward the township of Orford. To the east, the powerlines head in a more east north east direction, across the pastoral landscape toward the township of Willatook.

Climate

Climatic conditions will affect the visibility of the Power Station. Rain and cloudy conditions may generally reduce the visibility of the structures within the broad landscape.

Monthly Averages for Hamilton

jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	year
6.8	7.2	5.5	4.2	2.9	3.2	2.1	2.2	2.5	3.1	2.9	4.3	46.9

Mean number of clear days

12.1	10.1	15.3	17.5	20.6	17.2	21.0	20.0	18.7	19.6	18.9	16.8	207.8
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Mean number of cloudy days

4.8	4.3	5.7	8.8	11.4	11.9	13.5	13.8	12.1	10.7	8.2	6.7	111.9
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Mean number of days of rain ≥ 1 mm

This implies cloudy or overcast days outnumber clear days by over 4 to 1.

Landscape Character

Refer to Figure Two (Landscape Character)

Landscape and Visual Impact Assessments are used to describe usually, detrimental changes to an existing landscape that has been recognised as having a particular landscape value, be it natural or cultural.

The field survey identified elements known as receptors. "Landscape receptors are those elements or composition of elements that may be affected in some way by proposed development. Visual receptors would comprise and recognise the visual amenity of the public including residents, visitors and the like."³

As noted previously the proposed site for the power station and sub station is located in the 'western plains' of the Western District in Victoria. From a geomorphology standpoint, the plains are a result of ancient volcanic activity. In this particular area, the gently rolling landscape, punctuated by occasional 'stony rises' implies a landscape formed by the weathering of long, fluid basalt, lava flows. The 'Stony Rises' that occur where flows have intersected or collapsed also result in companion lower lying areas with poor drainage resulting in marsh and swamp like conditions.

³ Guidelines for Landscape and Visual Assessment 2nd Edition 2002 The Landscape Institute and the Institute of Environmental Management and Assessment

The region can be broadly categorised into the following Landscape Character Zones:

The site and its immediate environs are typical of the western plains in their modified agricultural form. The topography is flat to slightly undulating with evidence of stony rises. The pasture to the south of the site towards Tarrone Lane, is generally flatter where slight depressions occur between gently stony rises. The pasture land has been generally cleared with trees generally occurring only near farmhouses and outbuildings or along road reserves. The sky is particularly prevalent where the landscape is flat as the horizon sits low in the field of view.

The land to the north of the site, both east and west of Tarrone North Road is more undulating to rolling with some elevations rising up locally over 20 metres above adjacent low areas. This undulating land also features some remnant vegetation but is largely characterised by native and exotic hedgerows at pasture boundaries or along road reserves. The more rolling topography and vegetation extent is inclined to lessen the impact of the sky and horizon north of the site.

Prior to European settlement, the plains would have supported open woodland and a grassy understorey. This has been heavily modified by agricultural activities and the more recent character of the landscape is characterised by pasture dissected by exotic tree hedgerows. To current generations, this would culturally be the most memorable image of a western district landscape. Remnant native vegetation generally survives only in limited, linear areas such as road, rail and river or stream reserves.

Figure Two describes the nature of existing larger vegetation, dominated by the exotic hedgerows that line some roads, pastures and frame farmhouse lots. Main species include *Cupressus macrocarpa* and *Pinus radiata*. These exotic plantings generally occur in the private domain.

The limited remaining or regenerating, native vegetation occurs generally in the public realm along road reserves. The predominant native tree species is *Acacia melanoxylon*, particularly to the south of the site along Tarrone Lane and the southern section of the Tarrone North Road. To the north along Tarrone North Road Acacias also remain with some Eucalypt species also remaining along the Woolshorpe-Heywood Road.

Where open views are available across the broad plains, the expanse of the sky is also a key factor in establishing the visual character of the landscape. This would be particularly apparent from pastoral areas but is restricted along roads where vegetation remains along the corridor.

Local residents and farm workers would experience facets of this landscape, potentially having access to the broad open spaces where the sky and pasture dominate the hedgerows. Farmhouse lots are however, generally more contained due to dense vegetation providing enclosure and protection to homes and outbuildings.

Roads overlay the landscape and offer opportunities for both residents and visitors to experience the visual amenity afforded by this rural landscape. The landscape is also dissected by generally gravel, local roads, which follow a grid layout. These local roads often provide a different experience to the main or arterial roads as they are often devoid of roadside vegetation and provide access to few farmhouses and farmland.

The Moorabool-Portland high voltage transmission line towers are a key feature in this landscape. The scale of the towers generally dominates any other immediate features.

Visual Assessment

Refer to Figure Three

The existing transmission towers traversing this plain are a significant feature in what is otherwise a low profile landscape of 'flat' to 'gently undulating' pasture with hedgerows of exotic trees on private property, or native trees in road reserves. These hedgerows and roadside vegetation contribute to a containment of long views from the public realm as do occasional low rises in topography. The low rises often comprise stony rises, a bi-product of the historic volcanic nature of the plains.

The site is located on the north east corner of Riordans Road and Landers Lane. The nearest road junction to the proposed site is the intersection of Tarrone North Road and Riordans Road. Riordans Road is a single lane gravel road, providing an east west connection between the Hamilton - Port Fairy Road/Dunmore Road and Tarrone North Road. Landers Lane, another single lane gravel road, heads north only, along the western side of the site and provides local access only.

Several vantage points or the potential location of visual receptors within the public realm, where the proposed power station may potentially be visible from, have been identified in Figure Three along with areas where it appears the facility will be obscured.

In Figure Three and the accompanying images, and aside from those locations identified in close proximity to the site, some longer distant locations may also allow views to the power station and sub station, albeit it in the broader context of a generally open pastoral landscape and expansive sky, with the low horizon fractured by occasional hedgerows and the existing transmission towers.

The red arrows on the generally panoramic images indicate an approximate extent and location of the facility within the broader landscape context. Where there are no red arrows indicated on the image, it appears the facility will be obscured as outlined in the accompanying text.

Assessment of Visibility

Refer to Figure Four (Vantage Points Plan)

"In order to reach an understanding of the effects of development on a landscape resource, it is necessary to consider the different aspects of the landscape as follows:

- *Elements - The individual elements that make up the landscape, including prominent or eye catching features such as hills, valleys, woods, trees and hedges, ponds buildings and roads. They are generally quantifiable and can be easily described.*
- *Characteristics - Elements or combinations of elements that make a particular contribution to the character of an area, including experiential characteristics such as tranquillity and wildness.*
- *Character - The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular geology, landform, soils, vegetation, land use and settlement. It creates the particular sense of place of different areas of the landscape character is identified through the process of characterisation, which classifies, maps and describes areas of similar character.³*

The potential visibility of the power station and sub station from receptor locations will be determined by a number of factors. From an analysis of the vantage points and potential visual receptors identified throughout the public realm, particular implications arise in relation to the possible visual impact of the proposed facility upon the existing landscape and the amenity of the visual receptors.

The landscape character of the western plains is largely determined by the flatness of the topography with views shortened only by vegetation and occasional low rises. In this region and immediate to the site, main roads are few and only roads with predominantly local traffic create opportunities for the views to the power station and sub station.

In terms of a rationale for visual assessment and the potential impact upon the amenity of visual receptors, the regularity and period of time visual receptors are exposed to impacts of the power station and sub station becomes a key determinant. As such it can be argued residential uses are likely to be more impacted than road users.

Based upon the height of the existing transmission towers at approximately 65 metres, middle and distant views, where the facility may be viewed from, are relatively few and easy to identify. Visual receptors are also few from these local road based viewpoints. The exhaust stacks, the tallest part of the proposed facility, will have a height of up to 45 metres, approximately two thirds of the height of the existing transmission towers. The plant and facilities below the stacks will rise in part to a maximum height of 25 metres.

The more immediate vantage points as illustrated in Images 1 - 4, 6 and 13 appear to offer views where the facility may be seen nearly in its entirety without any mitigation measures in place. Images 7 -11,15 and 16 appear to offer vantage points where the higher portions of the stacks may be seen above existing tree lines or intervening topography, although the visual receptors and exposure to these views is limited by scattered roadside and pastoral vegetation. Sightlines from vantage points as illustrated in Images 5,12 and 14 are obscured by topographic change.

Middle distant views of the higher portions of the facility appear to be available to few visual receptors from vantage points as illustrated in Images 17, 20 - 23. Limited roadside vegetation determines that views from the vantage points 20-23 are potentially more prolonged than those from 17 where dense exotic trees limit views from the road. All locations are however, subject to few visual receptors from these local road locations. More distant views such as vantage points to the south west of the site and illustrated in Images 18 and 19, from around the township of Orford and along the busier Hamilton - Port Fairy Road, are obscured by vegetation and topographic change.

Vantage points such as those illustrated by Images 24 - 27, 32 and 33 offer the prospect to visual receptors of glimpses of the higher portions of the facility, within a much broader landscape context and where intervening vegetation limits the time of exposure to the few passers by using the road network. Images 28 – 31 illustrate how intervening vegetation and topographic change obscures views to the proposed facility.

Visual Assessment Criteria

The criteria for ranking of the landscape character and receptor locations, as applied to this assessment, included the following:

- Integrity or diversity in terms of continuity of landscape features around the site
- Uniqueness in terms of both local and regional landscape character
- Perceived impositions on the existing landscape such as the transmission towers, roads or farming practices and infrastructure

The measurement and assessment of these criteria against the outcomes of the analysis phase, establishes a basis for the rating of visual amenity. The ability of the landscape to visually absorb change can then be addressed and balanced with the introduction of mitigation measures if required. In this instance the visual amenity of the landscape has been deemed as moderate. The pleasant but unspectacular nature of the gently rolling northern plains is in contrast to the repetitive nature of the flatter southern plains. The former also has a higher absorption capability given topographic change and vegetation intervening in many potential receptor locations..

Consequently longer views from the west, south through east towards the power station and sub station, particularly the exhaust stacks will be more apparent from the identified receptor locations than those of a similar distance to the north. Distance also increases the view cone and the influence of atmospheric conditions comes into play, thereby placing the station within a much broader context and diminishing any significant impact. Reference to the images illustrates the diminishing impact of the existing transmission towers (if viewed as single object) from sight distances of around 2.5 to 5 kilometres. Despite the more solid nature of the proposed stacks it could be argued that when viewed singly the narrow form would also diminish in a similar distance.

Visual receptors within this range include residents of Tarrone Road North around Riordans Road, residents of the eastern end of Tarrone Lane and motorists using local roads and lanes. Given the relatively low use of local roads as designated by Moyne Shire's road classifications, the residential receptors would be ranked with the highest sensitivity to visual impacts.

As noted previously this assessment has not included access to private property so the assessment of impacts upon residents is based on receptor locations on adjacent roads. Residences in closest proximity to the proposed power station and sub station are primarily located to the east of the site on Tarrone Road North, around the intersection with Riordans Lane. These properties all feature coniferous hedgerow planting of various conditions, which it could be assumed, will provide substantial mitigation to views of the power station and the sub station. Properties at the eastern end of Tarrone Lane generally feature similar dense, boundary planting.

Night Lighting

It would be expected some ambient light will be experienced in Riordans Road and Landers Lane as a result of night lighting of the compound. Neither road is currently lit. Although this light spill can be focussed upon the power station and sub station and the immediate surrounds some ambient light may be visible from more distant receptor locations. This may mark the location of the power station and sub station, however not highlight the detail. However it may mean the power station and sub station precinct is more apparent at night than in daylight hours from some receptor locations. Given external night time activities in residential areas would be largely undertaken under the influence of other more immediate light sources and the exposure to ambient night lighting for motorists would be for a limited time, the impact of night lighting is expected to be low.

Mitigation

Mitigation measures can be employed to reduce or remedy visual and landscape amenity impacts. Mitigation in this landscape will rely heavily upon vegetation. This vegetation can be planted as avenues as it is a feature of the existing landscape and can therefore be relatively easy for the existing landscape to absorb.

By planting in close proximity to identified receptor locations, either within the site or road reserves, views from the public realm will be generally redirected or the focus of the view turned away from the power station and sub station. However, the exhaust stacks are the tallest part of the structure and as such will remain visible to the immediate precinct until vegetation matures to a sufficient height. Estimated heights over five to ten years are noted on the sections. The added benefit of this treatment will be the reduction of views to the transmission towers near the power station.

Conclusion

This assessment concludes that although the power station and sub station, particularly the exhaust stacks will be a foreign feature within this landscape, existing conditions and proposed mitigation measures will lead to a low level of impact.

Receptor numbers and locations will be minimal although it is accepted the impact upon rural residents in the Tarrone locality will be higher in the short term, due to the potential regularity of experiencing views of the power station and the sub station. As vegetation matures within the site boundaries and in neighbouring road reserves, these impacts will be diminished to a point where immediate views to both the ground level facilities and eventually the stacks, will be obscured from Riordans Road or Tarrone North Road.

For visual receptors in the vicinity of the eastern end of Tarrone Lane, similar mitigation measures will in the medium term obscure views, albeit at the expense of the open views across the flat plains typical to some roadsides found throughout parts of the region. However these roadside plantings will complement the character of other roads in the region such as the west end of Tarrone Lane and north end of Tarrone North Road.

Appendices

Bureau of Meteorology Definitions

Mean number of clear days

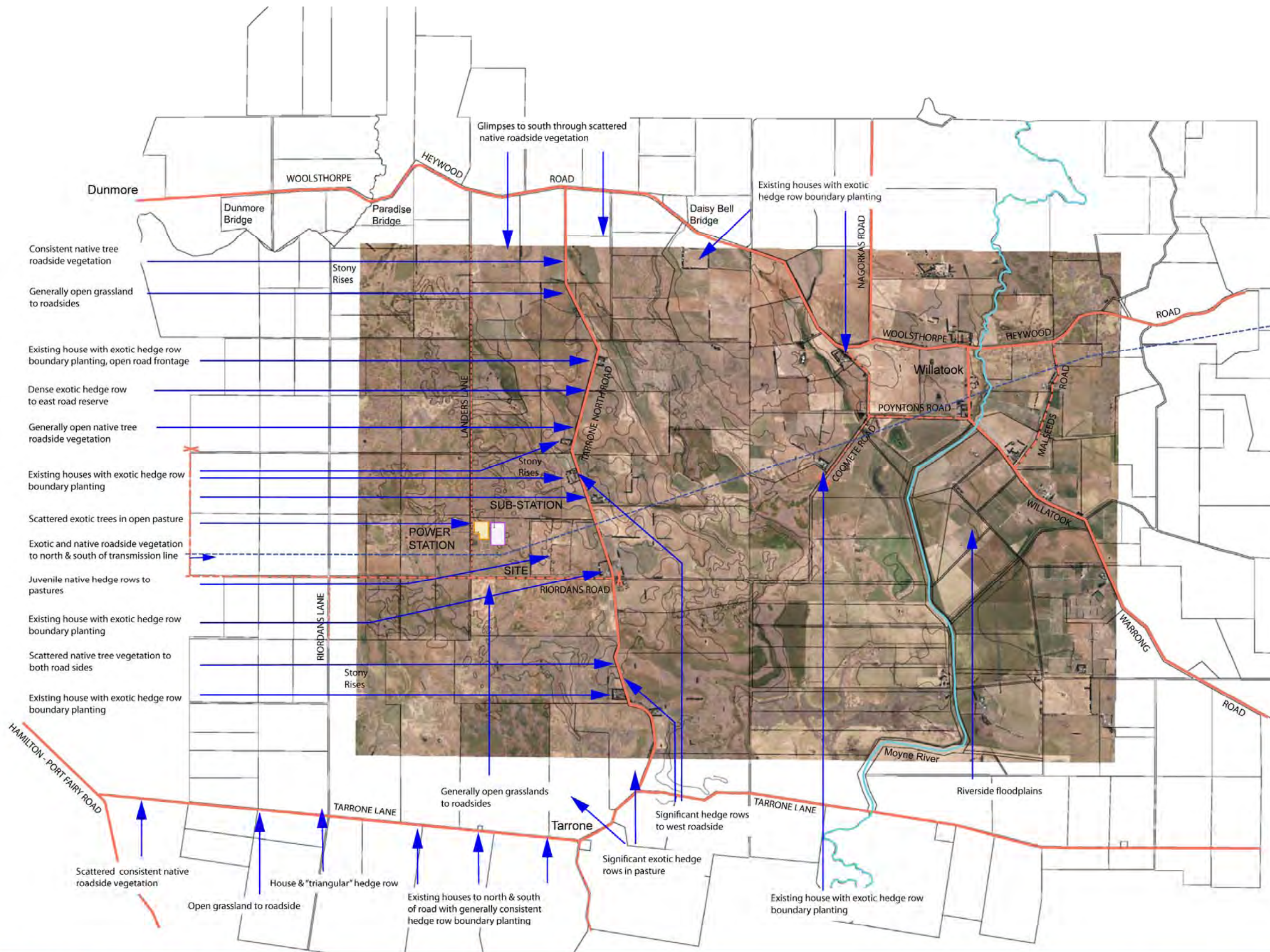
Average number of clear days in a calendar month or year, calculated over the period of record.

This statistic is derived from cloud cover observations, which are measured in oktas (eighths). The sky is visually inspected to produce an estimate of the number of eighths of the dome of the sky covered by cloud. A completely clear sky is recorded as zero okta, while a totally overcast sky is 8 oktas. The presence of any trace of cloud in an otherwise blue sky is recorded as 1 okta, and similarly any trace of blue on an otherwise cloudy sky is recorded as 7 oktas. A clear day is recorded when the mean of the 9 am and 3 pm cloud observations is less than or equal to 2 oktas. This definition has changed slightly over time. Prior to this, a clear day was defined as having less than or equal to 2.5 oktas averaged over the 9 am and 3 pm observations.

Mean number of cloudy days

Average number of cloudy days in a calendar month or year, calculated over the period of record.

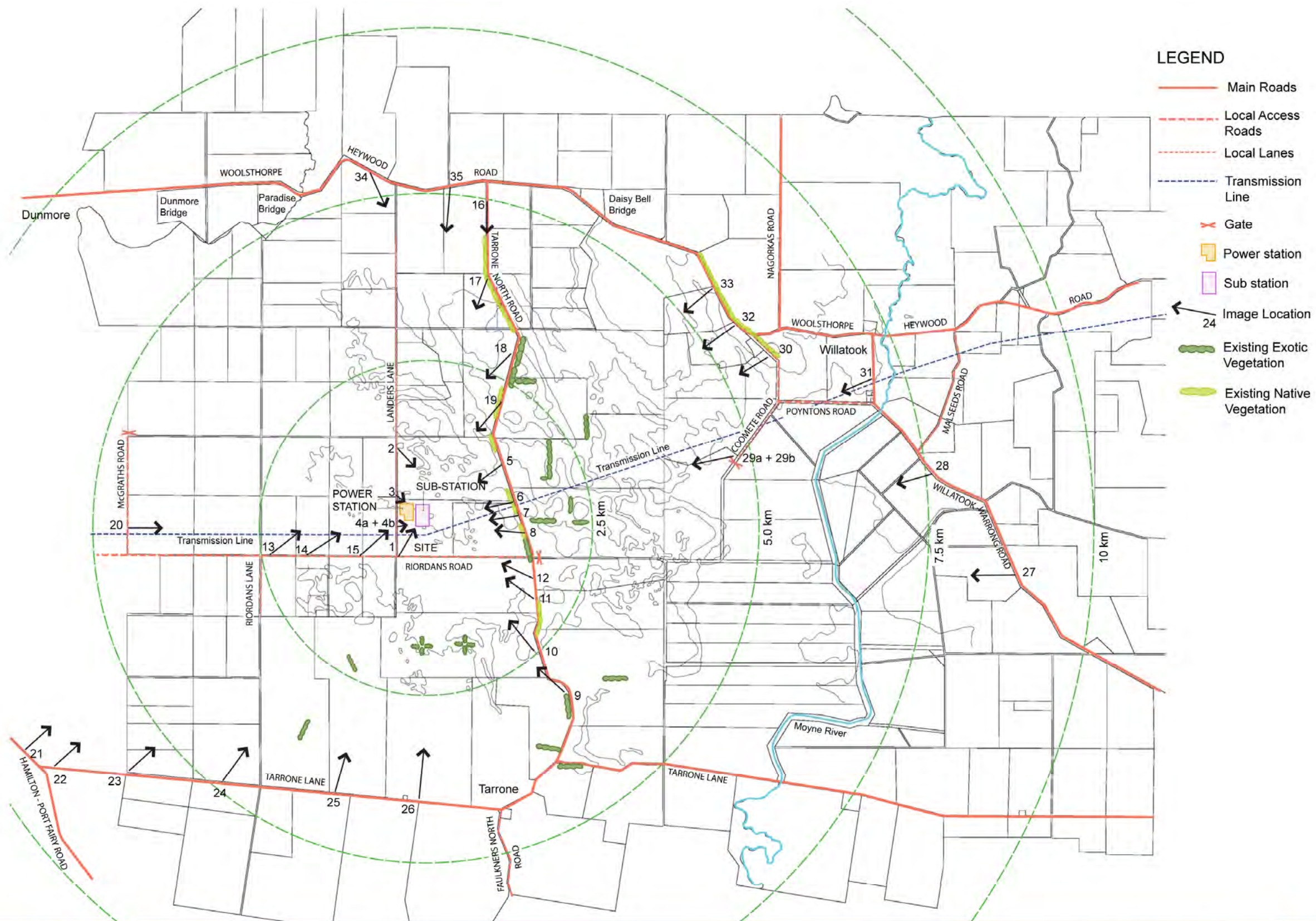
This statistic is derived from cloud cover observations, which are measured in oktas (eighths). The sky is visually inspected to produce an estimate of the number of eighths of the dome of the sky covered by cloud. A completely clear sky is recorded as zero okta, while a totally overcast sky is 8 oktas. The presence of any trace of cloud in an otherwise blue sky is recorded as 1 okta, and similarly any trace of blue on an otherwise cloudy sky is recorded as 7 oktas. A cloudy day is recorded when the mean of the 9 am and 3 pm cloud observations is greater than or equal to 6 oktas. This definition has changed slightly over time. Prior to this, a cloudy day was defined as having greater than or equal to 5.5 oktas averaged over the 9 am and 3 pm observations



Tarrone Power Station Landscape Character Scale 1:50,000 @ A3



Figure Two – Landscape Character

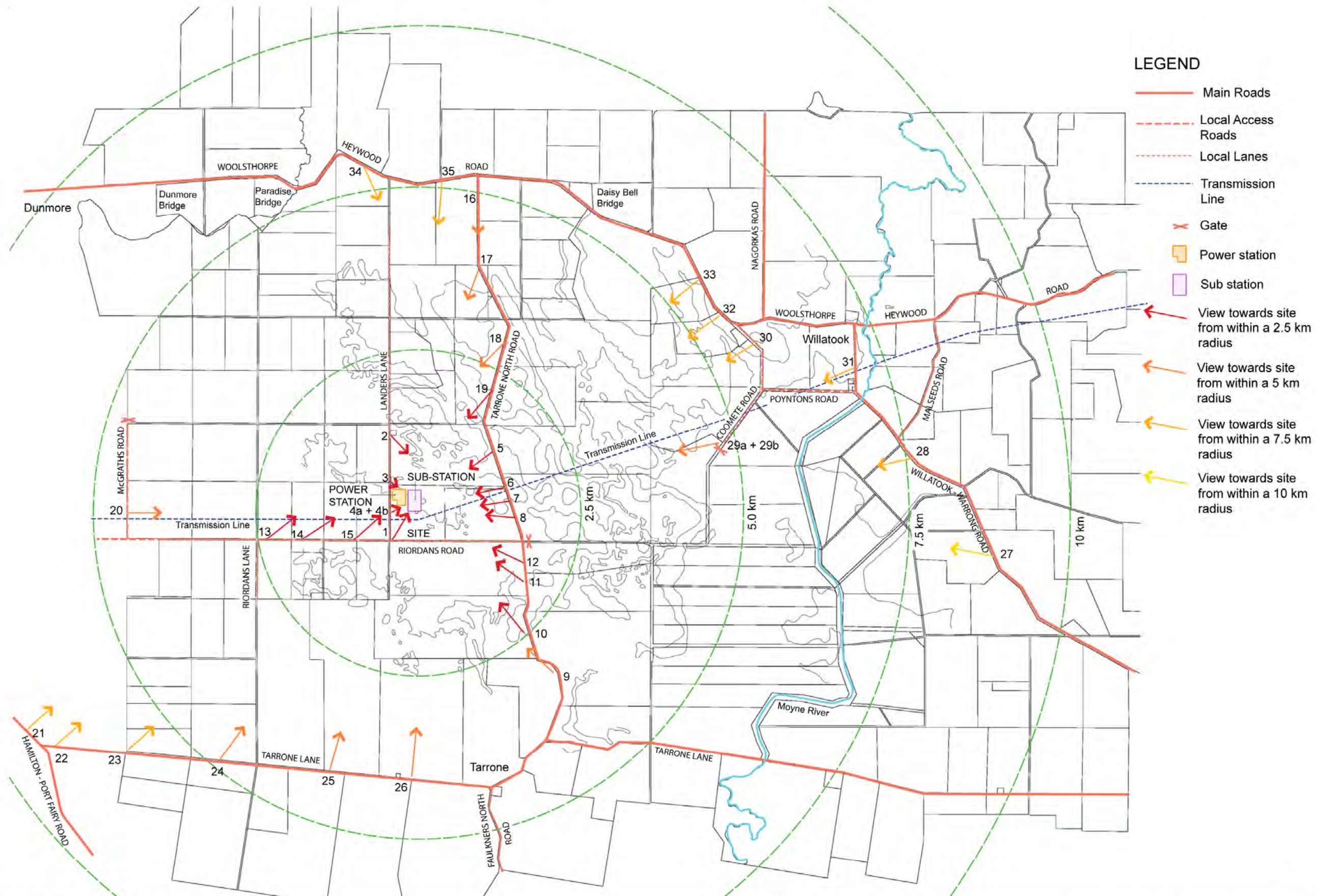


Tarrone Power Station
Visual Assessment

Scale 1:50,000 @ A3



Figure Three – Visual Assessment






**Tarrone Power Station
Vantage Points Plan**

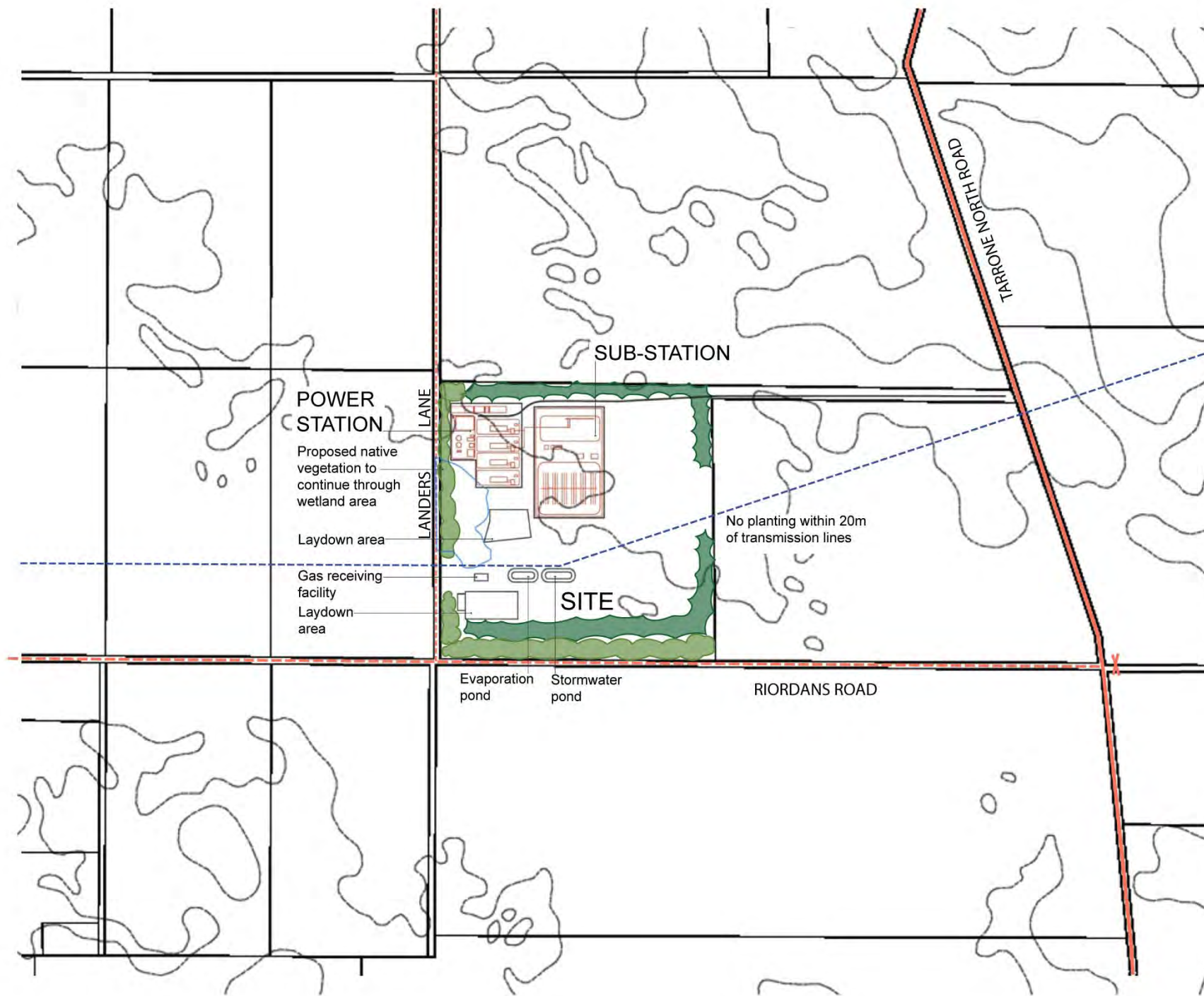
Scale 1:50,000 @ A3



Figure Four – Vantage Points Plan

LEGEND

- Main Roads
- - - Local Access Roads
- · - · - Local Lanes
- - - Transmission Line
- X Gate
-  Proposed Facility
-  Proposed Native Vegetation
-  Proposed Exotic Vegetation



Landscape Concept Options

Refer to Figure Five (Site Landscape Concept Plan) and Seven (Roadside Revegetation Concept Plan)

Two alternative landscape treatments have been investigated to illustrate the potential of the landscape to visually absorb the proposed facility without detriment to the existing character.

The obvious solution is to 'bury' the facility in a frame of exotic hedgerows. With the maximum height of the exhaust stacks of the facility being up to 45 metres, the exotic trees as commonly used in hedgerows in the Western District, would grow to a sufficient height over an approximate ten year time frame, to screen the facility from immediate viewpoints and distract direct sightlines from more distant viewpoints. This form of planting would sit comfortably in the existing landscape. This form of planting would also provide the best filter to night lighting.

In order to better address the short term visual impact upon immediate views, faster growing native species should be planted adjacent to or in road reserves as a foreground to the exotic hedgerows. Species such as the Acacia, already growing successfully along many of the road reserves, could be used in the immediate environs of the site where it abuts both Riordans Road and Landers Lane, reinforcing the existing character these trees impart on portions of both Tarrone North Road and Tarrone Lane. By planting these species as close as possible to the vantage point, sightlines are shortened or focussed upward, above the tree tops. Therefore, this planting would ideally occur within the road reserve.



Planting within the site will not screen all views available within the 2.5 kilometre radius. Oblique sightlines along Riordans Road to the north west and Tarrone Road North to the south west will provide opportunities for the stacks to be seen above the immediate tree line.

As a further option, additional tree planting and revegetation of either private farmland or public roads (subject to permission) could also be instigated. Whilst the additional revegetation of roadsides such as the Woolsthorpe - Heywood Road and Tarrone Lane would also offer opportunities to assist accommodating the facility in the broader landscape from these more distant viewpoints, this may also unnecessarily remove the broad views of the wider landscape and sky, also strong characteristics of this region.

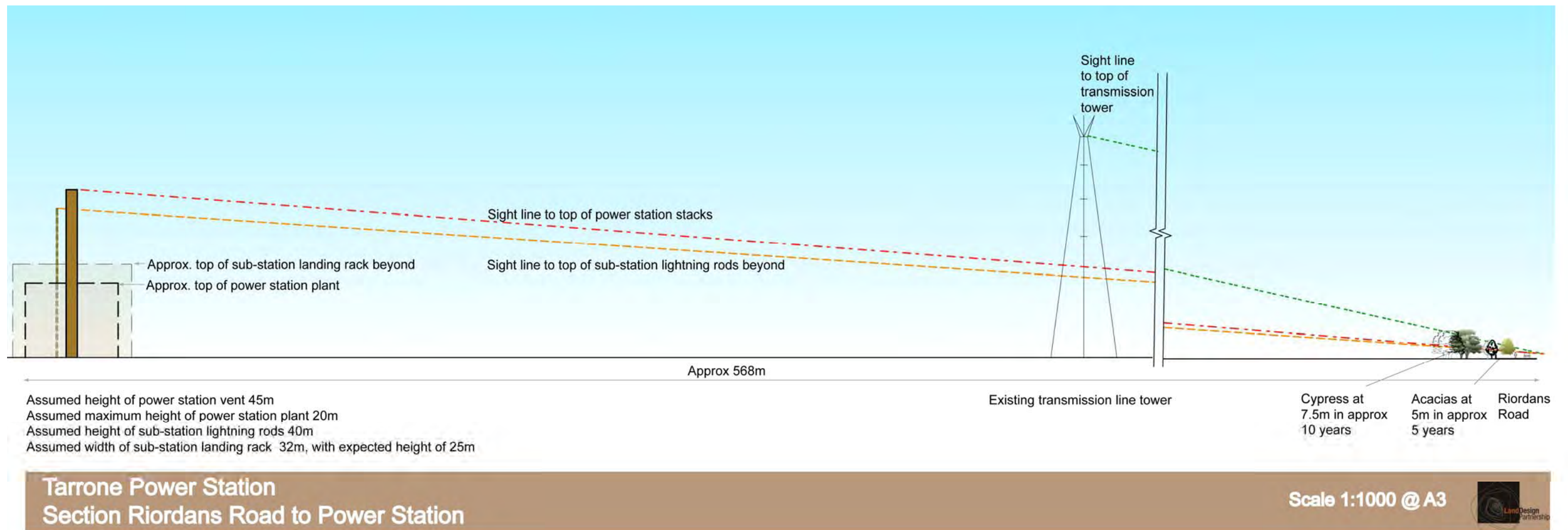
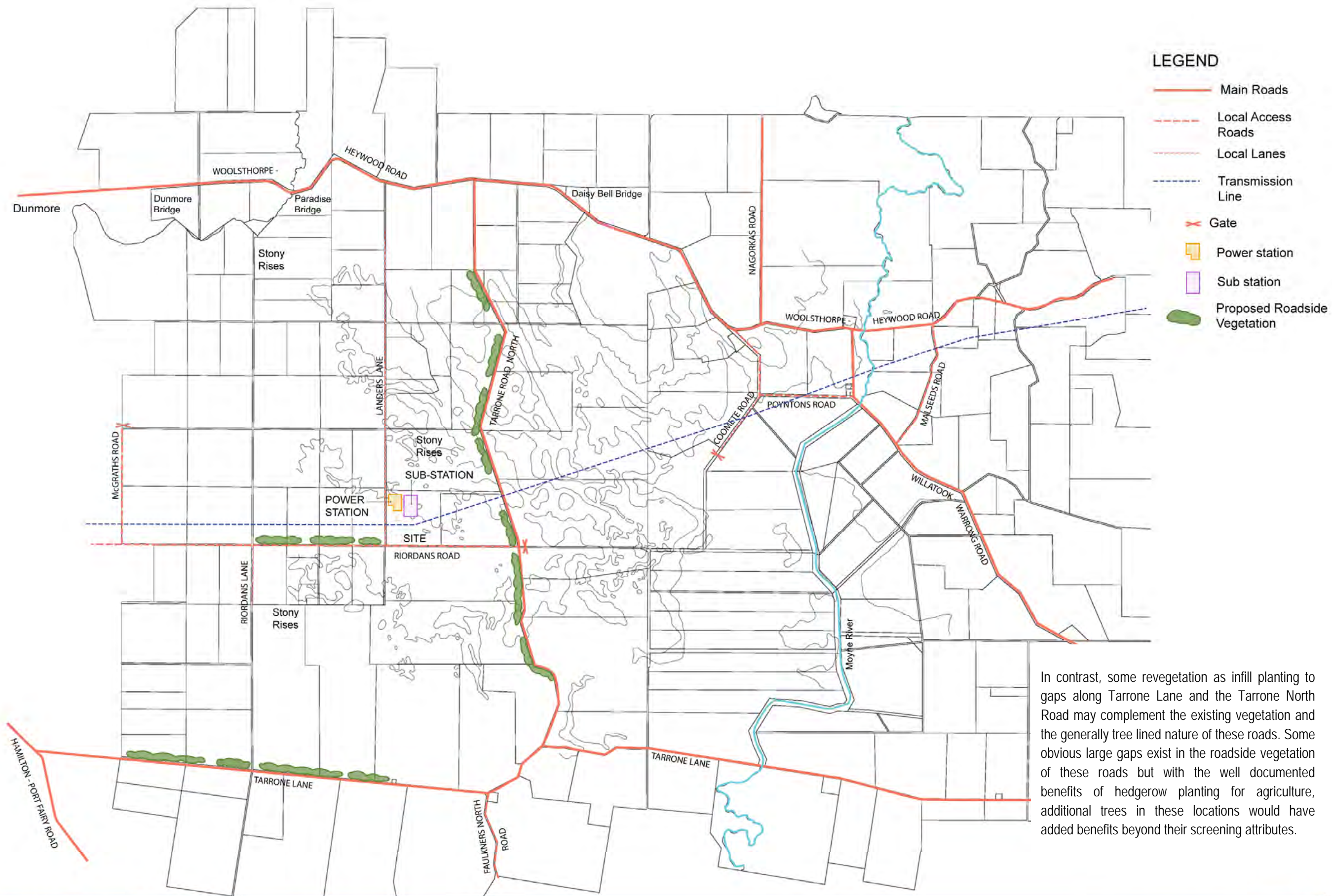


Figure Six – Riordans Road to Power Station



In contrast, some revegetation as infill planting to gaps along Tarrone Lane and the Tarrone North Road may complement the existing vegetation and the generally tree lined nature of these roads. Some obvious large gaps exist in the roadside vegetation of these roads but with the well documented benefits of hedgerow planting for agriculture, additional trees in these locations would have added benefits beyond their screening attributes.

**Tarrone Power Station
Roadside Revegetation Concept Plan Option**

Scale 1:50,000 @ A3



Figure Seven – Roadside Revegetation Concept Plan

In addition the appropriate materiality and colour of the facility, particularly the exhaust stacks, will be a critical factor in reducing any visual impacts. In the short term, the base buildings may need a composition of mid range natural and grey colours that allows their recession into both the low lying pastoral landscape and the sky above as the scale of the structures increases.

The colour of the stacks will need to be selected complement the 'average' sky colour as this will be the predominant background from any viewpoint. Previous studies of this nature have concluded light to mid grey colours are best suited to minimising appearance against the sky.

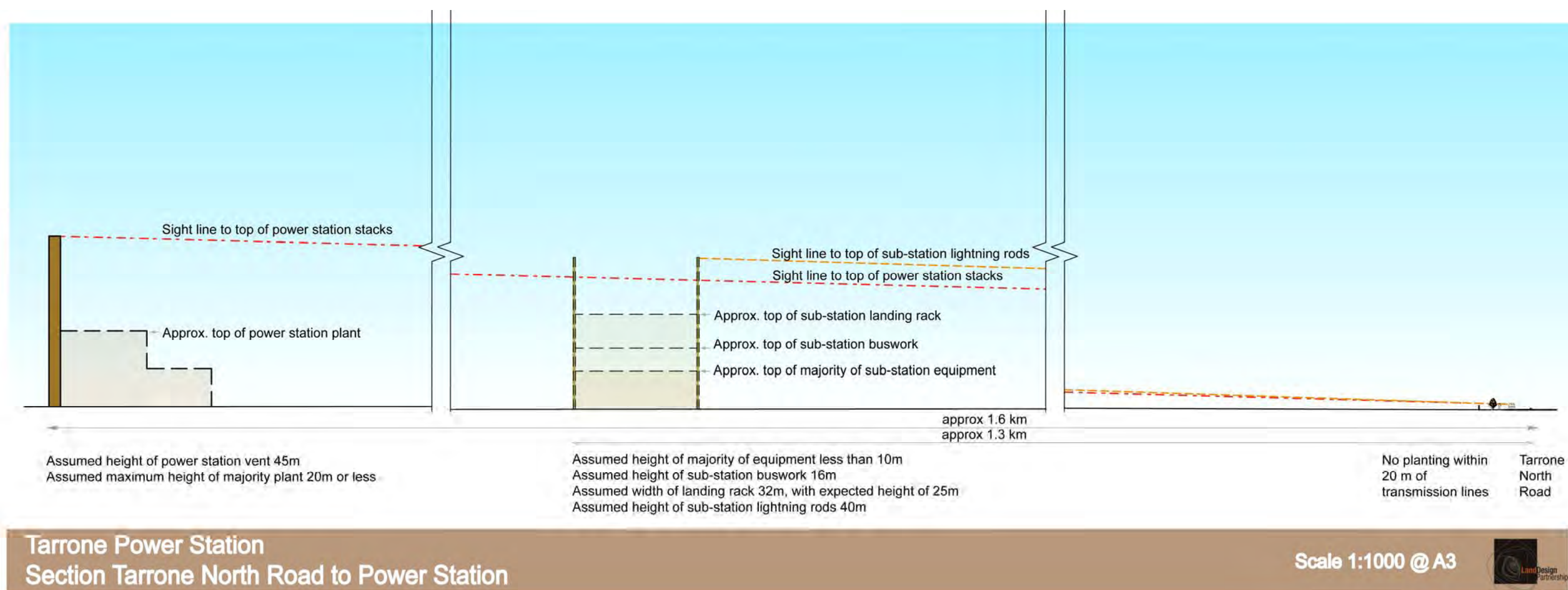


Figure Eight- Section Tarrone North Road to Power Station



Image 1: View northeast at corner of Riordans Road and Landers Lane



Image 2: View south, south east along Landers Lane



Image 3: View east, from Landers Lane at north west corner of site

The immediate site environs are illustrated in images 1-4 a/b and show the open nature of the existing landscape, with immediate and middle distant views afforded to the north, west and south of the site, from Landers Lane. The impact and high visibility of the transmission towers is also apparent in this locale. Ground level views from the east south east and the east are shortened due to relatively juvenile, native hedgerow planting on the adjoining property, located to the east of the site.



Image 4a View east at site boundary on Landers Lane

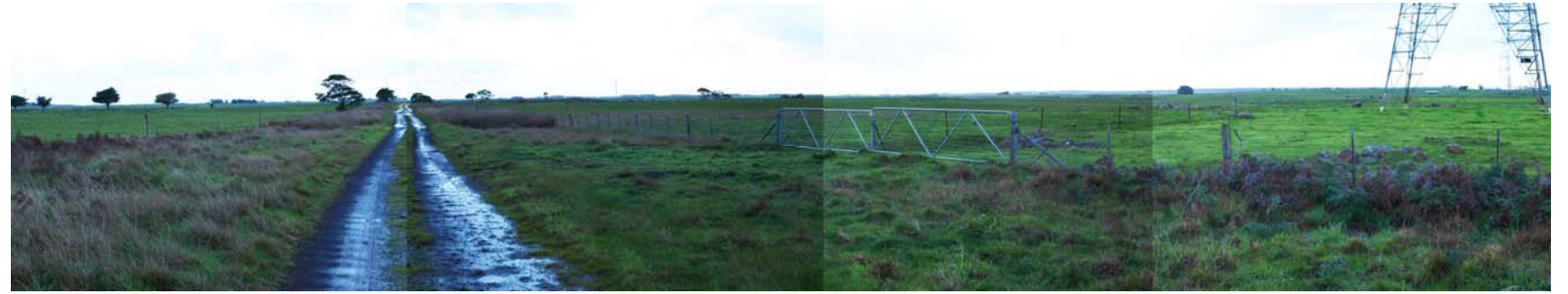


Image 4b. View south south west adjacent to the western site boundary from Landers Lane



Image 5: View south west towards site from Tarrone North Road



Image 6: View west, south through north at short site boundary on Tarrone North Road



Image 7: view south west toward site from Tarrone North Road



Image 8: view north west from Tarrone North Road

Images 5-8 illustrate potential sightlines available immediately east of the site, from the Tarrone North Road. These vary due to the extent or lack of roadside vegetation and some variation in topography where slight rises immediately north east of the site obscure the ground level of the proposed site. Existing vegetation and topography determine that most sightlines are oblique to the drivers or passengers vision.



Image 9: View north west through east from Tarrone Lane

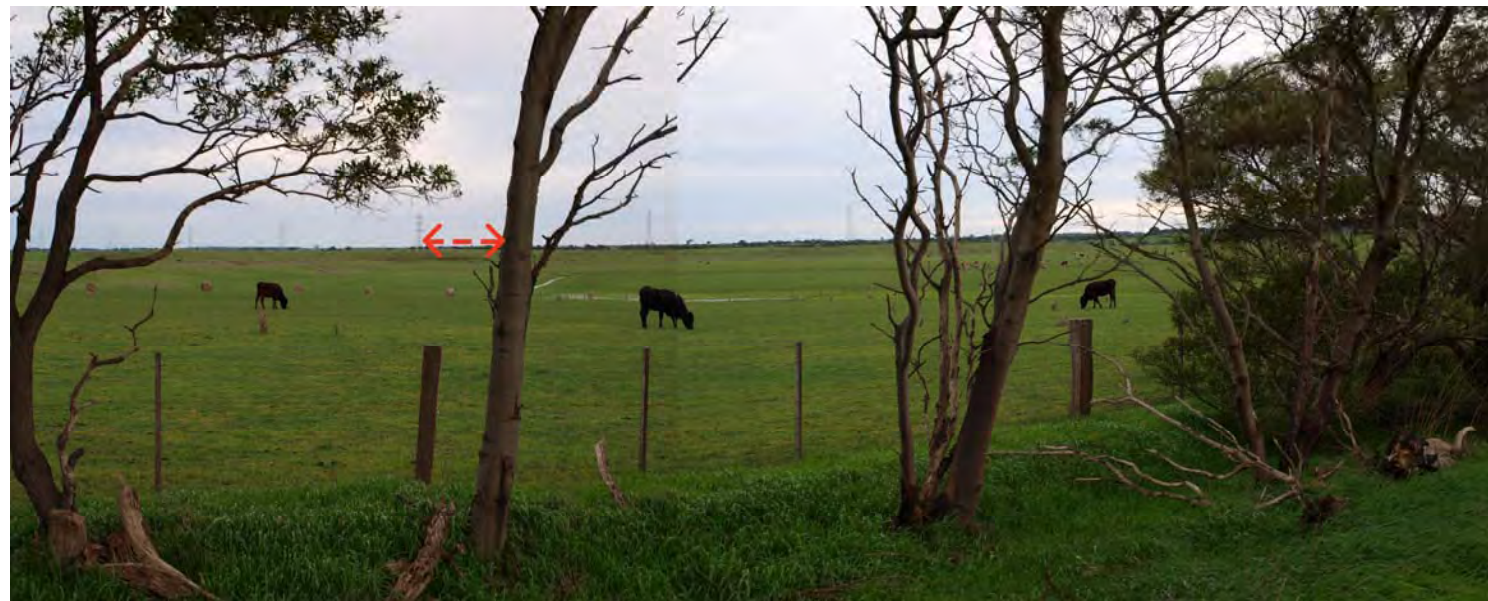


Image 10: View north west from Tarrone North Road



Image 11: View north west. through north from Tarrone North Road

From approximately 2 to 3 kilometres to the south east of the site, along the Tarrone North Road, breaks in roadside vegetation as illustrated in images 9-11 will allow sightlines to the proposed site.

Images 9, 10 + 11



Image 12: view west north west from Tarrone North Road south of Riordans Road



Image 13: View north east, at Riordans Road and Riordans lane



Image 14: View east north east from Riordans Road



Image 15: View east north east from Riordans Road

Similarly, when approaching the site from the west along Riordans Road as in images 13-15, the site will be clearly visible in middle distant and more immediate views. This plain to the west of the proposed site is largely devoid of vegetation and the gently rolling topography will only assist in obscuring some middle distant views to the lower levels of the proposed plant.

Images 12, 13, 14 + 15



Image 16: View south along Tarrone North Road



Image 17: View south, south east through south west from Tarrone North Road



Image 18: View south south west, south through south west from Tarrone North Road



Image 19: View south south west, south through south west from Tarrone North Road

Image 16 illustrates the density of native roadside vegetation at the north end of Tarrone Road North. Images 17-19 reveal the opening landscape as approaching the site from the North along the Tarrone North Road from between 2.5 to 3.5 kilometres. From the corridor like nature of the northern end of this road, created by consistent native roadside vegetation, the view to the site is almost framed from the end of the vegetated portion of the road. This is illustrated in Image 16. The ground level is obscured by intervening topography but the upper portions of the transmission towers are clearly visible. Despite some interspersed vegetation along the roadside, further views toward the site are evident in Images 18 and 19. These views similarly appear to obscure the ground level of the site with the transmission towers becoming more clearly visible on approach.

Images 16, 17, 18 + 19



Image 20 View east from McGraths Road



Image 21: View east north east from Hamilton – Port Fairy Road



Image 22: View north east from Tarrone Lane

Image 20 from McGraths Lane and the more distant views of approximately 7 kilometres, as shown in Images 21-22, offer little potential to see the proposed plant within the context of a broader landscape. The level of impact of these sightlines is diminished somewhat by either the local access nature of McGraths Road as shown in Image 20 or the limited long distant glimpses available from the Hamilton - Port Fairy Road and Tarrone Lane. Intervening vegetation as shown in Images 21 and 22 would largely distract any sighting of the proposed plant across the pastoral landscape.

Images 20, 21 + 22



Image 23: View north north east from Tarrone Lane



Image 24: View north east, north through east from Tarrone Lane



Image 25: View north from Tarrone Lane

Travelling further east along Tarrone Lane, roadside vegetation is either non-existent or acts as a frame to views across an open landscape punctuated by 'Stony Rises', towards the transmission towers and the proposed site. Images 23-25 illustrate these conditions.



Image 26: View north from Tarrone Lane



Image 27: View west north west from Willatook – Warrong Road



Image 28: View west from Willatook – Warrong Road

Directly south of the site, a sightline from Tarrone Lane, as illustrated in Image 26, is framed by the opening created by existing dense vegetation surrounding house lots in Tarrone and native roadside vegetation. In the middle distance are two copses of farm hedgerows that may obscure some of the lower levels of the proposed facility. Images 25 and 26 are approximately 4 kilometres south of the site.

Further distant views from the east on the Willatook-Warrong Road, as illustrated in Images 27-28, also indicate foreground vegetation that may obscure the facility. The slight rise in the landform that occurs beyond the Moyne River flats as shown in image 28 may also assist in obscuring views to the facility.

Images 26, 27 + 28



Image 29a: View south west through west from Poyntons Road



Image 29b: View west through North West from Poyntons Road



Image 30: View south west from Poyntons Road

Approximately 5 kilometres and from the north east of the site, the topography is variable although higher ground around Coometes Road and Poyntons Road as illustrated in Images 29 and 30 does allow relatively, panoramic views to the south and south west across the plain and Back Creek valley.

Images 29a, 29b + 30



Image 31: View west south west from Willatook – Warrong Road



Image 32: View south west from Woolsthorpe – Heywood Road



Image 33: View south west from Woolsthorpe – Heywood Road

A little further towards north, from the Willatook-Warrong Road, Image 31 illustrates the view toward the south west and the proposed site, along the transmission line easement, from the Willatook 'township'. It is difficult to see the change in direction of the transmission lines that occurs at the proposed site, from this vantage point and consequently the facility will not be visible.

Images 32 and 33 taken from approximately 5.5 kilometres from the site on the Woolsthorpe-Heywood Road, illustrate that intervening vegetation and topography obscures the lower halves of the towers adjacent to or on the subject site.

Images 31, 32 + 33



Image 34: View south east through south from Woolsthorpe – Heywood Road



Image 35: View south from Woolsthorpe – Heywood Road

In images 34 -35 the towers adjacent to and on the proposed site are visible although the lower halves are largely obscured by topography in Image 34 and vegetation in Images 35, These images are viewing the proposed site from approximately 5 kilometres, near direct north of the site and are taken from the Woolsthorpe-Heywood Road, from both the east and west of Tarrone North Road.