

The background image shows a dirt road with a reddish-brown surface, curving through a landscape. In the foreground on the right, there are green, elongated leaves on a branch, possibly from a tree. The background is slightly blurred, showing more trees and a clear sky.

Bindoon Bypass Project

Landscape Character and Visual
Impact Assessment

Prepared for

Arup Jacobs Joint Venture / ASJV

Great Northern Highway Muchea to Wubin
Stage 2

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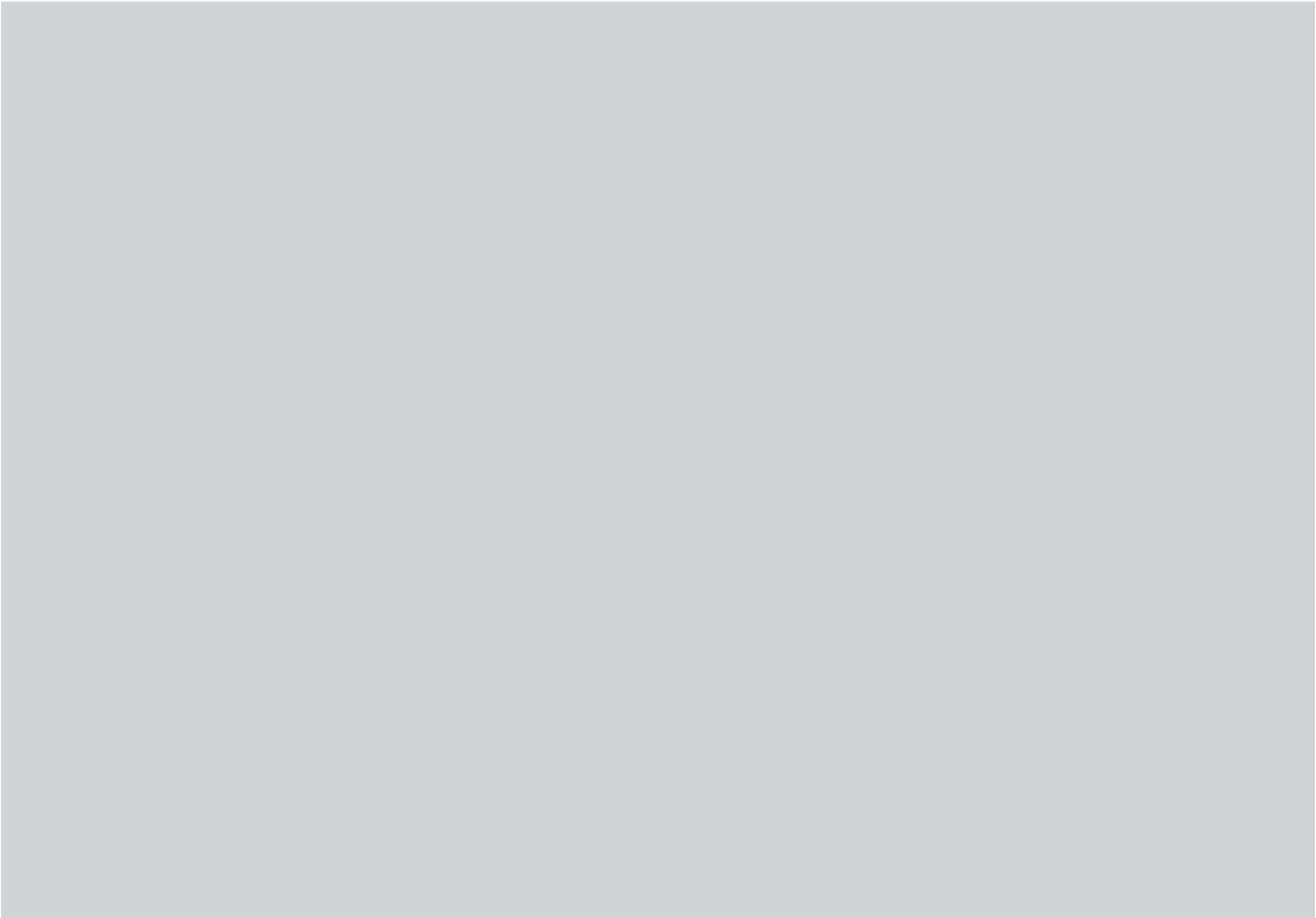
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01

Introduction



Introduction

Background

The Great Northern Highway (GNH) is part of the existing National Highway Network between Perth and Darwin. It is a strategic freight route which connects regional and remote communities and serves as a tourist route. In order to enhance transport efficiency and improve safety conditions of the highway, Main Roads Western Australia (Main Roads WA) established the Great Northern Highway Muchea to Wubin Integrated Project Team (IPT team) in 2014, comprising of Main Roads WA and industry partners Jacobs and Arup. The Muchea to Wubin team were asked to investigate existing highway deficiencies and conduct a comprehensive planning review of the Muchea to Wubin transport corridor.

As part of this review, the IPT team investigated options to improve the GNH in the vicinity of Bindoon Townsite and Bindoon Hill. A wide range of corridors were investigated, including the previously endorsed Perth to Darwin National Highway (PDNH), Brand Highway alternatives and hybrid GNH/PDNH corridors. Sixteen corridor options were investigated, assessed and refined between SLK 37.80 and SLK 94.74 which lead to the

recommendation of Western Bypass Corridor A (Bindoon Bypass) as the preferred corridor.

On the 12th of January 2017, Bindoon Bypass was endorsed as the preferred corridor by the Minister for Transport. In June 2017, \$20 million worth of savings from the overall Great Northern Highway Muchea to Wubin Upgrade Stage 2 contributed to \$416 million budget was allocated to the Bindoon Bypass project to fund land acquisition and environmental approvals.

As the predicted traffic volumes indicated that the interim single carriageway required partial duplication within 30 years, the IPT progressed the advanced activities based upon the ultimate Bindoon Bypass. A preliminary ultimate road design and determination of a road reserve boundary was progressed to allow the commencement of the lengthy land acquisition process, providing certainty to those land owners who were impacted by the footprint of the ultimate Bindoon Bypass and to allow the environmental approvals to progress.

Purpose of this report

This report has been prepared to support the environmental assessment of the Bindoon Bypass under Part IV of the Environmental Protection Act 1986. An Environmental Scoping Document (ESD) for the assessment was prepared by the WA Environmental Protection Authority (EPA) and published on the EPA website in December 2017. The ESD required the assessment of impacts to visual amenity as part of the broader Environmental Impact Assessment (EIA) of the project.

This specialist report:

- » Provides a Landscape Character and Visual Impact Assessment (LCVIA) that considers the potential impacts (adverse and beneficial) that are likely to occur as a result of the project.
- » Identifies mitigation measures and design recommendations to avoid, minimise or improve potential landscape and visual impacts where possible.



02

Methodology



Methodology

Guidance

The following documents, guidelines and policy frameworks have been considered in the preparation of this LCVIA and in defining an appropriate and transparent methodology;

- » Visual Landscape Planning in Western Australia; a manual for evaluation, assessment, siting and design (2007) Western Australian Planning Commission
- » Guidelines for Landscape and Visual Impact Assessment produced jointly by the Landscape Institute and the Institute of Environmental Management and Assessment, (2002) Second Edition

- » Reading the Remote, Landscape Characters of Western Australia (1994) Department of Conservation and Land Management (State Guideline)
- » Bindoon Bypass Stakeholder and Community Consultation Summary Report
- » The Shire of Chittering Local Planning Strategy (2001-2015)
- » The Wheatbelt Regional Profile (2014)
- » The Wheatbelt Regional Planning and Infrastructure Framework (2015).

Assessment rationale

LCVIA takes into account all effects of change that may arise from the project in the landscape and visual amenity. It is concerned with how the surroundings of individuals or groups of people may be specifically affected both quantitatively (with regards to the physical extent of change) and qualitatively (with regards to the change to the qualities of the view or landscape).

The approach consists of the following systematic steps:

1. *Planning context* | A review of the regional and local planning policy to gather information on the planning objectives and aims that are relevant to the LCVIA.
2. *Baseline analysis* | An analysis of the local context is undertaken with a focus on landscape and urban features, visual amenity through a selection of representative views, and landscape character. Determination of the sensitivity of the landscape and visual amenity.

3. *Integrated design outcomes informing and leading to assessment* | Potential landscape and visual impacts that may arise are fed back in to the design development process to embed mitigation measures within the project design. Consultation with the community has been undertaken throughout the design development process.

4. *Assessment* | An analysis of the potential impacts that may arise as a result of the Bindoon Bypass project through assessment of representative viewpoints and how this leads to integrated design outcomes.

5. *Mitigation measures* | Where potential impact cannot be resolved through the embedded design process, additional measures have been explored.

These steps are illustrated in the adjacent diagram. Further detail on the approach to the baseline analysis and assessment of the landscape and visual amenity is provided on the following pages.



Reporting Approach

Landscape approach

Landscape character can be defined as the aggregate of built, natural and cultural aspects that make up an area and provide a sense of place. It includes all aspects of a tract of land – built, planted and natural topographical and ecological features. During a review of State, Regional and Local planning documents, Landscape Character Types were assessed along with their geographical relationship to the project. The State publication ‘*Reading the Remote*’ provides an intimate understanding of the landscape and has been used to inform this process.

Visual approach

A Visual Envelope Map (VEM) has been prepared to identify the theoretical area of the landscape from which the Bindoon Bypass project would be visible. The VEM was generated based on the visibility of a high sided vehicle (4.5m above carriageway level) travelling on the road.

The VEM is a helpful tool for providing an overview as to the extent to which these elements may, or may not be visible from the surrounding study area, assisting the site work. However, it is important to note that the VEM is by its nature approximate only and generated to represent a worst case scenario.

Viewpoint selection

Following a thorough desktop study, review of the VEM and a site visit, representative viewpoints with the potential to be visually affected by some element of the project are identified and selected for further analysis.

Viewpoints were selected to illustrate:

- » Residential receptors across the corridor
- » A range of view types including elevated, panoramic and filtered views
- » A range of viewing distance from the project

Impact

Landscape is assessed on its visual amenity according to existing context and aesthetic quality, the proposed sensitivity of the view, proposed magnitude of change, proposed impact including impact on character, and suggested mitigation opportunities. These findings can be found in this report from page 41.

The overall impact rating of the project is based on themes of sensitivity and magnitude of change. Sensitivity relates to

the inherent and intrinsic nature of the view or the landscape character and magnitude of change focuses the scale, nature and duration of the change and the degree to which the change can be mitigated.

The severity of these impacts are determined using the matrix illustrated in Table 1.0.

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High Impact	High- Moderate Impact	Moderate Impact	Negligible Impact
	Moderate	High-Moderate impact	Moderate Impact	Moderate - Low Impact	Negligible Impact
	Low	Moderate Impact	Moderate - Low Impact	Low Impact	Negligible Impact
	Negligible	Negligible Impact	Negligible Impact	Negligible Impact	Negligible Impact

Table 1.0 - Impact Assessment

Community Values

In accordance with the Western Australia Planning Commission (WAPC) guidelines: *Visual Landscape Planning in Western Australia*; a manual for evaluation, assessment, siting and design (2007), an assessment of community preferences, experiences and values was undertaken by the IPT, including collaborative mapping, to ascertain community values about the existing landscape. A summary of the findings is outlined below.

Analysis of background information and community values

The key stakeholder groups identified are the Government groups including Shire of Chittering; Minister for Transport; Planning; Lands; State and Federal Environment Departments; land owners; Local Businesses; industry; emergency services; Yued Traditional Owners; environmental advocacy Groups and the Safe Road Committee. Community and industry stakeholders who risk being directly impacted by the proposed Bypass have provided the majority of the feedback.

As summarised in the Bindoon Bypass Stakeholder and Community Consultation Summary Report the major concerns for the community included a potential reduction in number of visitors to Bindoon Township, proximity of proposed Bypass to homes, potential loss in property value, potential noise and visual impacts, road safety concerns, justification for the new alignment, potential loss of access to water sources for farms, potential pollution of waterways and loss of fauna diversity, and general frustration on the prolonged nature of the planning and consultation for the proposed Bypass over the years. The design has evolved to address the community concerns and embed mitigation within the design where possible.

Refer to the 'Bindoon Bypass Stakeholder and Community Consultation Summary Report' for further detail on the stakeholder and community consultation process.

Assumptions and limitations

- » The assessment is based on a concept engineering design which would be further developed during future design stages. The final design may vary from that described within.
- » A series of photomontages have been undertaken to inform the assessment process. The photo simulations are based on concept engineering design. The end built form may differ from that portrayed in the images as a result of the design development that will occur during the detailed design stage. Therefore, the photomontages should be considered as indicative only.
- » No detailed night time assessment has been undertaken as part of this. However, impacts associated with the likely lighting requirements have been considered and a commentary provided. Refer to GNH-CN12-TN-01 for further detail on lighting impacts. 1
- » The surface Digital Terrain Model (DTM) was derived from Landgate (20m resolution) and a photogrammetry DEM of the proposed road corridor (5m resolution).
- » The VEM was based on the surface DTM as mentioned above, including a DEM of the proposed road design (5m resolution)
- » At the time of assessment the construction timeframe and phases was unknown.
- » It is important to consider the conclusions of this assessment in the context of these limitations however; it is not considered that any of these limitations would have a significant effect on the assessment of impact.



03

Planning Context

Planning context

State and Regional Policies

The State Planning Strategy

State Planning Policy No 2 states the need to consider visual or landscape impact assessments for development proposals that may impact sensitive landscapes, and also points out the importance of protecting landscapes and ensuring development is sensitive to the character of landscapes.

Wheatbelt Regional Planning and Infrastructure Framework

The Bindoon Bypass is part of the Great Northern Highway Muchea to Wubin Stage 2 Upgrade Project and lies within one of Western Australia's Regional Planning areas known as the Wheatbelt Region.

The Wheatbelt Regional Planning and Infrastructure Framework was formalised in 2015 and provides an overview of regional planning issues and a framework for future development. It was an initiative of the Western Australia Planning Commission with input from the Wheatbelt Regional Planning Advisory Committee. The Wheatbelt Region is characterised by its proximity to Perth, a culture of resourcefulness, as a leader in agricultural production, land availability and a sense of community.

This region has traditionally been, and continues to be, the principal agricultural and farming heartland of the State, comprising almost half of all agricultural production with more than a third of the community being engaged in agricultural industries.

As stated in the 'Wheatbelt Regional Profile - Background and context report to support the Wheatbelt Land Use Planning Strategy' (April 2011):

The Wheatbelt region is within the Southwest Australia Biodiversity Hotspot, an area recognised internationally for its high level of species diversity that are under threat from human-induced disturbance.

The primary cause of biodiversity loss in the Wheatbelt is the historical clearing of native vegetation for agricultural expansion. It has been estimated that 90-94 per cent of the Wheatbelt has been cleared for primary production, industry and settlements, which has caused widespread land degradation within the Wheatbelt. Salinity remains one of the greatest threats to industry, the environment and physical infrastructure such as roads, railways and towns within the Wheatbelt, with more than a third of the land area of some Wheatbelt local governments potentially at future risk of salinity.

The Wheatbelt has a chronically constrained water supply, as the vast majority of the Wheatbelt relies on water from the integrated water supply system that supplies Perth, the South-West and the Goldfields. There are currently no known drinkable groundwater resources to ensure the sustainability of established industries and future communities.

Wheatbelt landscape

Objectives of The Wheatbelt Regional Planning and Infrastructure Framework include valuing the natural amenity and the environmental and landscape values for future generations - this includes urban, rural and natural landscapes. The Framework notes there is a need to manage the Wheatbelt's visual landscapes, how they are experienced, and a need to protect valued characteristics. An initiative was set up to identify the region's landscapes and viewpoints by WAPC in 2014.

The Wheatbelt landscape can be described as an agricultural landscape. There are visible signs of environmental problems; for example, salinity and loss of biodiversity, and whether they are being addressed through revegetation efforts. The landscape also shows how well towns present a cared-for appearance. These rural township

and natural features including wildflower habitats attract visiting tourists.

Landscape Units

The Wheatbelt Regional Planning and Infrastructure Framework defines four broad landscape units :

- » Coastal
- » Hills
- » Wheatbelt
- » Woodlands

The Bindoon Bypass project is situated close to the border of the 'Hills' and 'Wheatbelt' units.

Wheatbelt and Hills Landscape Units

The majority of the region comprises the Wheatbelt plateau, an expansive, gently undulating landscape dominated by agricultural uses, principally cereal crops or grazing, and is extensively cleared of native vegetation. Scattered remnant trees, domed granite outcrops, chains of wetlands, lakes and drainage lines, and small towns with prominent grain silos are examples of dominant individual landscape features. Regionally the landscape is viewed from the Great Southern, Great Eastern and Great Northern Highways,

as well as a network of mostly narrow, often straight, rural roads. Some roads are bordered by remnant trees such as Jarrah, Marri, Wandoo, Blackbutt and York gums, creating canopied or framed views across the otherwise open landscape. The amount of remnant vegetation within the landscape varies, with more extensive areas closer to the 'Hills' landscape unit, along roadsides in the south and in conjunction with drainage lines and lakes. Some portions of this landscape comprise extensive areas with almost no remnant vegetation.

Value

Valued features in the 'Wheatbelt' and 'Hills' units comprise both natural and cultural landscape components. Natural examples include: waterways and drainage lines bordered by surrounding Eucalypt open forests; rounded granite rock outcrops; roadside trees with colourful trunks such as Wandoo, Powderbark, or York gum, or with unusual form and colour such as the rough grey bark of the Marri and white smooth bark of the Wandoo. Important vegetation associations occur with the region such as "Banksia Woodland of the Swan Coastal Plain" which provide spectacular form, colour and differing canopy heights within those areas. Cultural features include regional towns with prominent heritage buildings such as

hotels and railway stations and structures such as windmills, silos and building ruins, and associated exotic vegetation such as vineyards and pine forests. There is value in how this is perceived as part of the region's identity, how it becomes an asset for tourism and economy, and how it is valued by the natural environment as habitat.

Land use planning

The Wheatbelt Regional Profile (April 2014), identifies a series of planning implications that will be considered as part of the Bindoon Bypass project. These implications include the following:

- » Regionally important views need to remain visible and not be inadvertently screened out by planted vegetation or buildings, either along roadsides or on adjacent properties. Care needs to be taken with the siting and design of new structures, for example, within rural residential areas it is critical to retain the quality views to ensure vernacular landscape is protected and enhanced.
- » Measures to enhance users' experience of existing scenic travel routes should be considered; for example, reducing speed limits, creating passing lanes, vehicle pullover bays and lookout points. New opportunities may be

created where landscape features of likely interest are not currently accessible; for example, through new picnic sites, lookouts or walk trails.

- » New land uses may alter the visual character of the region. This may also result in cumulative changes in existing uses or land management practices, such as increased revegetation throughout agricultural areas. These uses have the potential to adversely impact on the valued landscape character or views. Alternatively, if they are well designed and the community has a positive attitude towards them, they may be considered as adding diversity and interest to the landscape.

Local Policies

Shire of Chittering Local Planning Scheme

The proposed Bypass lies within the Shire of Chittering which is one of the Wheatbelt Region's larger Shires comprising of approximately 5,218 residents.

The Local Planning Scheme for Chittering aims to "keep the balance" by protecting its rural lifestyle and continue to seek opportunities for appropriate growth.

Specifically the Shire of Chittering aims to protect its landscape and retain the rural character and natural features of the landform.

The Shire of Chittering Local Planning Strategy (2001-2015) further defines these aims within sets of objectives that include retaining the rural lifestyle of the Shire, promoting and enhancing the region as a tourist destination including ecotourism, and protecting the natural environment and landscape qualities amongst other objectives more related to economy and development.

With regards to dividing the landscape into manageable units the Shire focuses on geographical landscape character units. These include Chittering Valley, Northern Broad Agricultural Area, the Dandaragan Plateau, and the Ellen Brook Pallus Plain. The site runs through the Dandaragan Plateau and the Northern Broad Agricultural Area.

The Chittering Valley, Gingin Scarp and the rural areas of Shire of Chittering have been singled out as areas of great landscape character value and sensitivity.

Additionally to retaining landscape value, a number of other specific aims relate to this overarching broad strategy and include:

- » Enhancing landform by application of rehabilitation measures where land degradation is evident
- » Establishing biodiversity corridors by protecting remnant vegetation
- » Prohibiting development or placement of structures along prominent ridgelines
- » Restricting roadside advertisements
- » Designating and protecting local roads for roadside conservation
- » Apply additional planting and screening for any structure or land use which may detract from landscape values (which is a more specific guideline than the Wheatbelt Regional Strategy)
- » Preventing further fragmentation of native vegetation (Local Biodiversity Strategy)
- » Supporting local land owners retaining native vegetation for conservation on their properties
- » Encouraging retention of mature trees.

Conclusion

In conclusion the suite of information from Local, Regional and State publications aim to protect the visual amenity of the rural region, protect biodiversity and strengthen community identity. Landscape character units and land use zoning definitions within these strategies include Wheatbelt District Landscape Units, Chittering Shire Landscape Units and State Landscape Character Types. All are defined by the unique geographical nature of the area and should be read in context with more comprehensive site analysis, undertaken as part of this assessment.

This report will discuss and categorise the landscape and character based on these overarching publications along with field study and mapping of vegetation complexes.

04

Baseline analysis



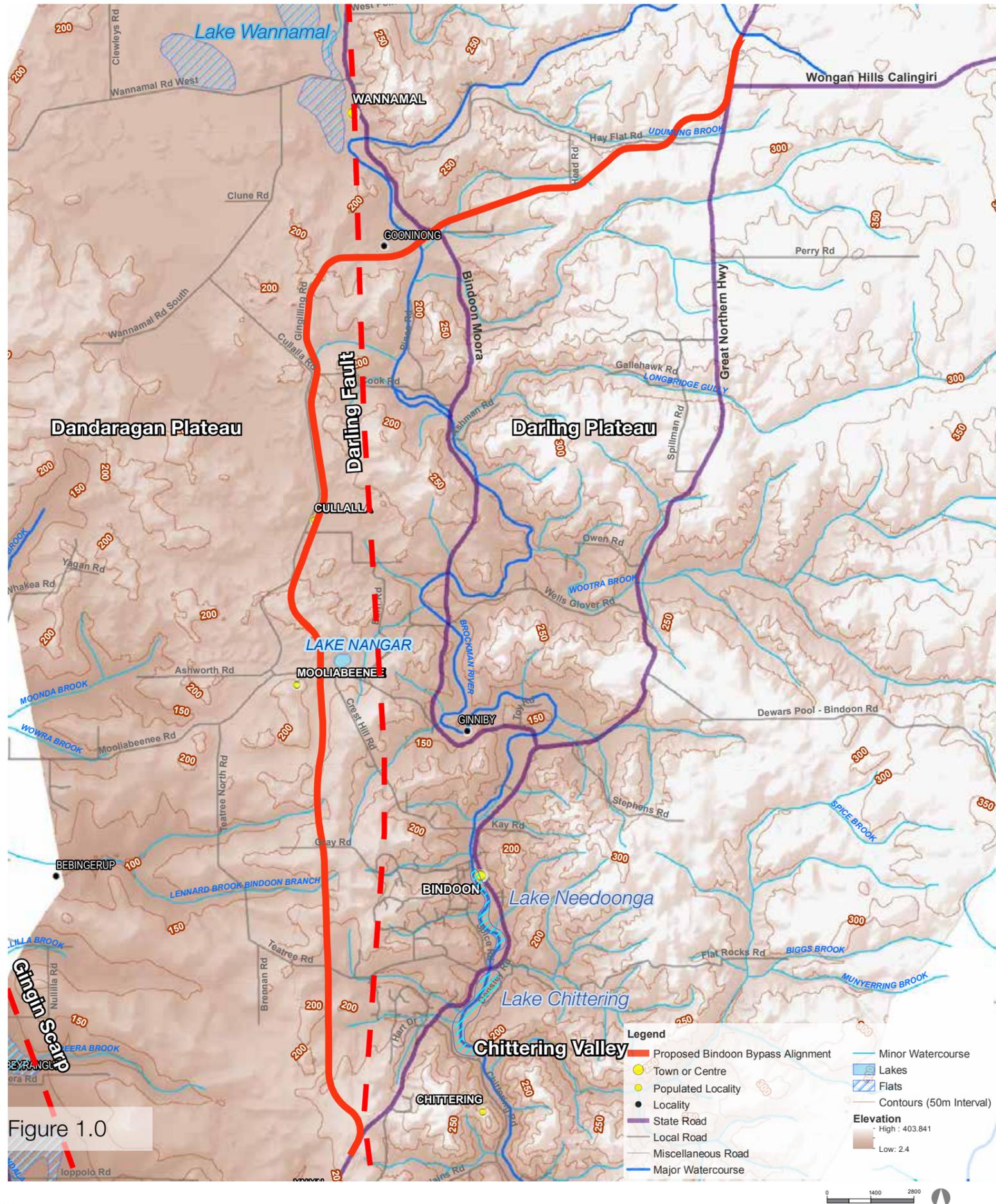


Figure 1.0

Landscape baseline analysis

The landscape has been analysed has been undertaken with reference to topography, hydrology, land use, vegetation and transport, which has been used to inform the preparation of a series of landscape character areas .

Topography and hydrology

The landform of the proposed Bypass consists of undulating hills with occasional granite caprocks covered in scrubby vegetation and denser valleys of drainage lines. The site is surrounded by hills which rise above the sight lines occasionally.

Much of the landcover is moderated by agriculture. Within these pastoral fields undulating hills can display granite outcrops 'monadnocks'.

Most of the soils and geology include a granite structure covered with yellowy sands and alluvial deposits as well as laterite gravel. Southwards towards the sandy flats of Perth there can be sightings of sedimentary rock underneath the topsoil and along road cuttings. Laterite gravel is a definite feature of the landscape along the proposed Bypass and appears in cleared areas removed of the overlying soils. Exposed granite is also a feature where soils have been removed.

The topography of the proposed Bypass is characteristic of the Darling Plateau and Dandaragan Plateau - which lies between the Swan Coastal Plains to the west and the Darling Fault to the east, and just north of the Wheatbelt plains. It is an evolving landscape both due to human and climactic modification. The introduction of agriculture and settlement to the region has revealed the natural topography and levels of the landscape, while promoting more

views towards the escarpment which is naturally eroding eastwards.

Topographical mapping of the area shows the site traverses undulating hills no larger than 200m above sea level - rising further east towards the existing Great Northern Highway around the Gooninong.

The proposed Bypass runs to the east of the town of Bindoon and the Darling Scarp. The exact boundaries of the landscape character depends on changing elements of the fault lines and seams of alternating rock of the topography. However, it does indicate that moving north, the alignment starts for a short distance in the Darling Plateau and moves slightly west into the Dandaragan Plateau, before swinging eastwards to re-enter the Darling Plateau, rejoining the existing Highway.

Mooliabeenee Road wetland area, the Chittering-Needoonga Lakes and the Wannamal Lake system provide a network of wetlands and drainage channels that traverse the region crossing the proposed Bypass in several locations. Chittering-Needoonga Lakes is fed by the Brockman River which flows south and has many tributaries. All these drainage channels appear to contain patches of remnant vegetation even within the cleared pasturelands. Lake Nangar on Mooliabeenee Road also lies in close proximity to the proposed Bypass. It has no public access.

Land Use Zoning

The landscape is highly modified along the proposed Bypass and in the region contextually, due to human intervention from forestry, agriculture, livestock, gravel extraction, and settlement. The majority of land use includes rural residential and agricultural resource such as cropping and grazing, the occasional forest plantation and orchards/foods.

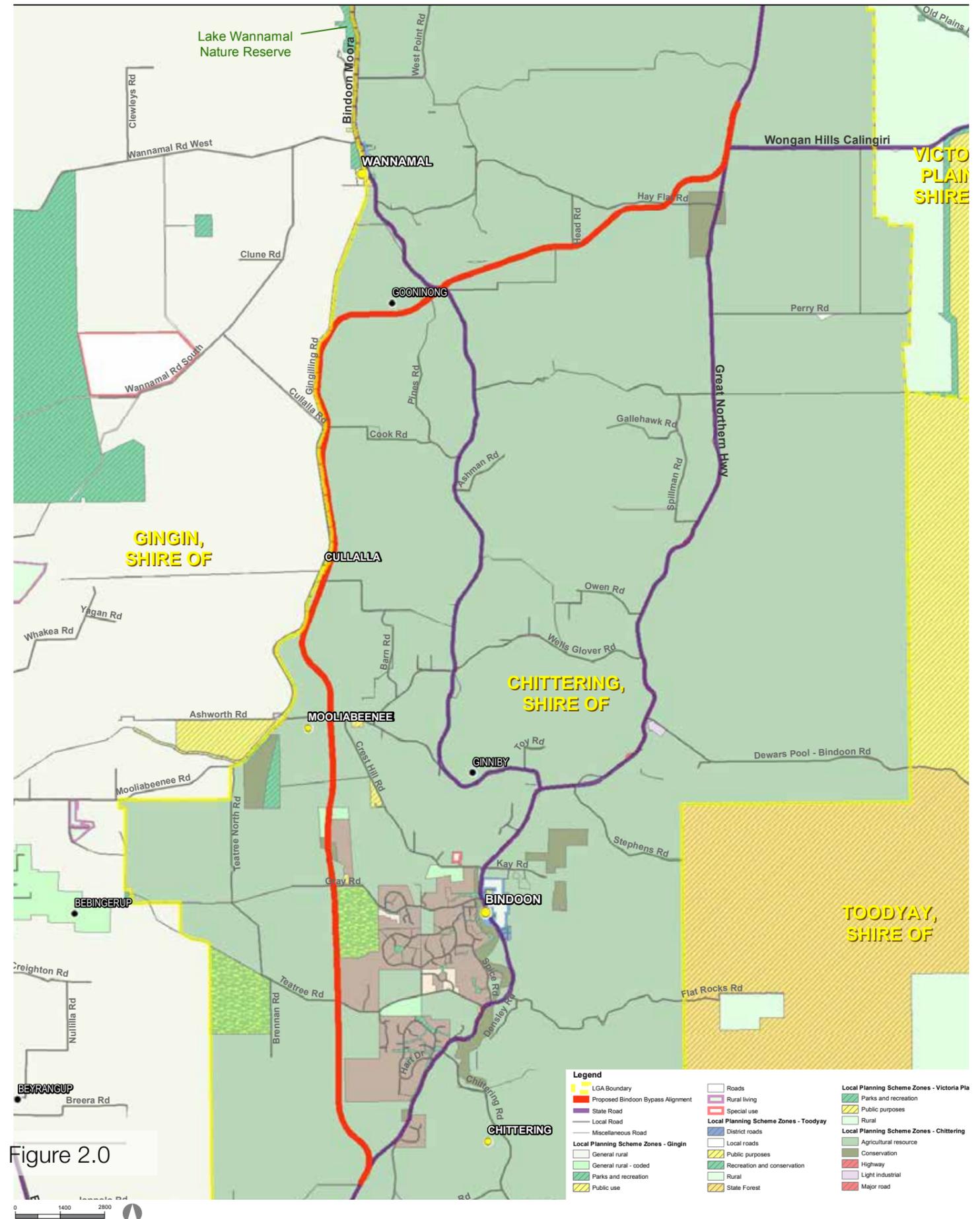
Rural residential land use is clustered more around the township of Bindoon. Rural residential zones provide limited lot sizes, allow uses suitable to the landform and promote more land remediation. There are minimal occurrences of subdivision of rural property for denser residential land use - but these activities are closely monitored by the Shire Planning Policies in order to preserve the rural landscape value.

Culturally the area has some important landmarks such as the Bindoon Cemetery on Gray Road, and places for recreation that promote both nature and culture. There are several driving trails and walking trails found on the Shire of Chittering website within the area including the Bindoon Tale Trail, Chittering Sculpture Trail, Blackboy Ridge Walk which provide a mix of activities unique to the area. During wildflower season the wider region is quite popular for driving tourists who require local destinations and services along the Highway for rest stops and supplies and areas to admire wildflowers.

The Bindoon Bakehaus is an important road stop for locals, tourists and drivers in the region and has famously been visited by Prince Harry. The Bakehaus sits within a small strip of retail shops that service Bindoon and the wider Bindoon community. This area lies along the existing Great Northern Highway just north of where the proposed Bypass starts to Bypass the town to the west.

There are areas of conservation and 'Rural Conservation' including Lake Wannamal Nature Reserve near Wannamal and Chittering-Needoonga Lakes near Bindoon. Both of these locations lie outside the proposed Bypass. Further information on drainage can be read within the Topography section of this report and on Figure 1.0. Natural water reservoirs are an important element of the area.

The Bindoon Bypass is part of the National Highway Network and connects towns, mines, pastoral stations in the north of the State to Perth. The network of local roads, driveways, tracks, highways and rail routes have proven to be a framework for much of the land use along the site allowing for freight and agricultural dispatch, local services to townships and tourists and access to areas of interest such as nature walks, and wildflower habitat.



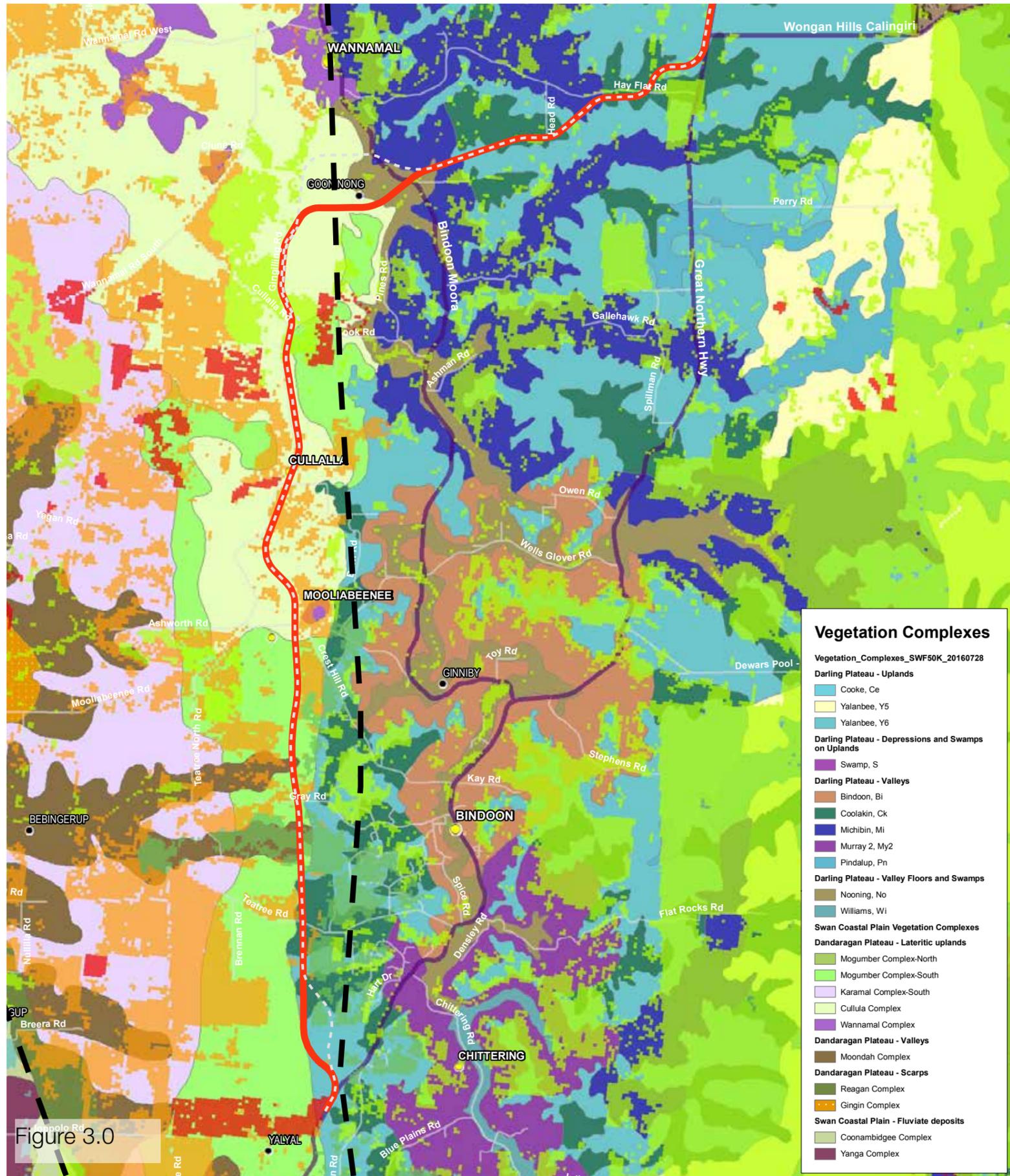


Figure 3.0

Vegetation Cover

Hedde Vegetation Complex mapping has been analysed to discover the mosaic of landscape pattern and vegetation that occurs along the Bypass route. What has not been included but is evident throughout the site is areas of cleared pasture land for cropping or where soil is less arable for sheep and cattle.

Starting to the south, the site passes through the Darling Plateau and the pattern is a mosaic of open forest of *Eucalyptus marginata*, *Corymbia calophylla* and *Eucalyptus marginata* subsp. *thalassica*, *Corymbia calophylla*. Adjacent to outcrops, closed heath of *Myrtaceae*, *Proteaceae* species and lithic complex on granite rocks and associated soils in all climate zones, with some *Eucalyptus laeliae*, and *Allocasuarina huegeliana* and parcels of woodlands of *Eucalyptus wandoo*.

Near Gray Road there are small pockets of low closed to low open forest of *Banksia attenuata*, *Banksia menziesii*, *Eucalyptus todtiana*, with *Banksia prionotes* on slopes and some open woodland of *Corymbia calophylla*.

Just before Mooliabeenee the Bypass travels through areas which have open woodlands of *Eucalyptus calophylla*, with some *Eucalyptus marginata* and *Eucalyptus todtiana*. *Banksia attenuata*, *Banksia menziesii*, and *Banksia ilicifolia* also exist and offer important habitat for Carnaby Black Cockatoo.

Within the Dandaragan Plateau a mixture of low open forest of *Banksia* species, *Eucalyptus todtiana* and open woodland of *Corymbia calophylla* can be found as well as more *Banksia attenuata*, *Banksia menziesii*, and *Banksia ilicifolia*. This complex extends up to Gooninong where the Bypass switches back into the Darling Plateau. This landscape is also an important habitat for the Carnaby Black Cockatoo. The landscape starts to elevate at this point with dissecting valleys where a mosaic of low open forest of *Casuarina obesa* and open scrub of *Casuarina obesa*, *Acacia*, *Melaleuca*, and *Eucalyptus rudis*-*Melaleuca raphiophylla* woodlands are evident on major valley systems.

Drainage lines connecting to the Wannamal Lake system provide a distinct vegetation pattern which follows these waterlines and includes open *Eucalyptus wandoo* woodlands on the dryer slopes, with *Acacia acuminata* understorey. *Eucalyptus loxophleba* can be found on valley slopes with low woodland of *Allocasuarina huegeliana* thriving on the dryer granite outcrops.

As the Bypass travels east towards the existing Great Northern Highway, the landscape returns to the Darling Plateau patterns seen for a short section at the southern end of the Bypass, including *Eucalyptus marginata*, *Corymbia calophylla* dominant on the higher ground with the occasional Blackbutt and Marri. Open woodlands of wandoo are also evident. *Eucalyptus wandoo* and *Eucalyptus patens* are seen in the valleys of this deeply dissected higher terrain.

Transport

The site of the proposed Bypass is bounded by both National, State and local roads, off-road tracks, driveways and the Millendon Junction railway section once known as the Midland Rail route that primarily transports grain.

The Great Northern Highway which is of the longest highways in Australia, is an important freight link between Perth and the State's north as well as Darwin and the Northern Territory. The Great Northern Highway also provides a main tourist route attracting visitors interested in wildflowers and the history of townships north of Perth such as New Norcia Benedictine Monastery.

The Highway is an important major link between the smaller network of roads that service local rural residential areas, townships and national parks and is an important economical investment for these regions.

As an addition to the Great Northern Highway the Bindoon Bypass is an alternative route for freight which should bolster and help further safeguard the region's access to National and State transport networks that link ports, industry and mining throughout the State.

The site bounds what used to be known as the Midland Railway of Western Australia for a short section running parallel to each other near Mooliabeenee. This route includes the Mooliabeenee Historical Train station which lies on the Millendon Junction and concludes at Dongara.

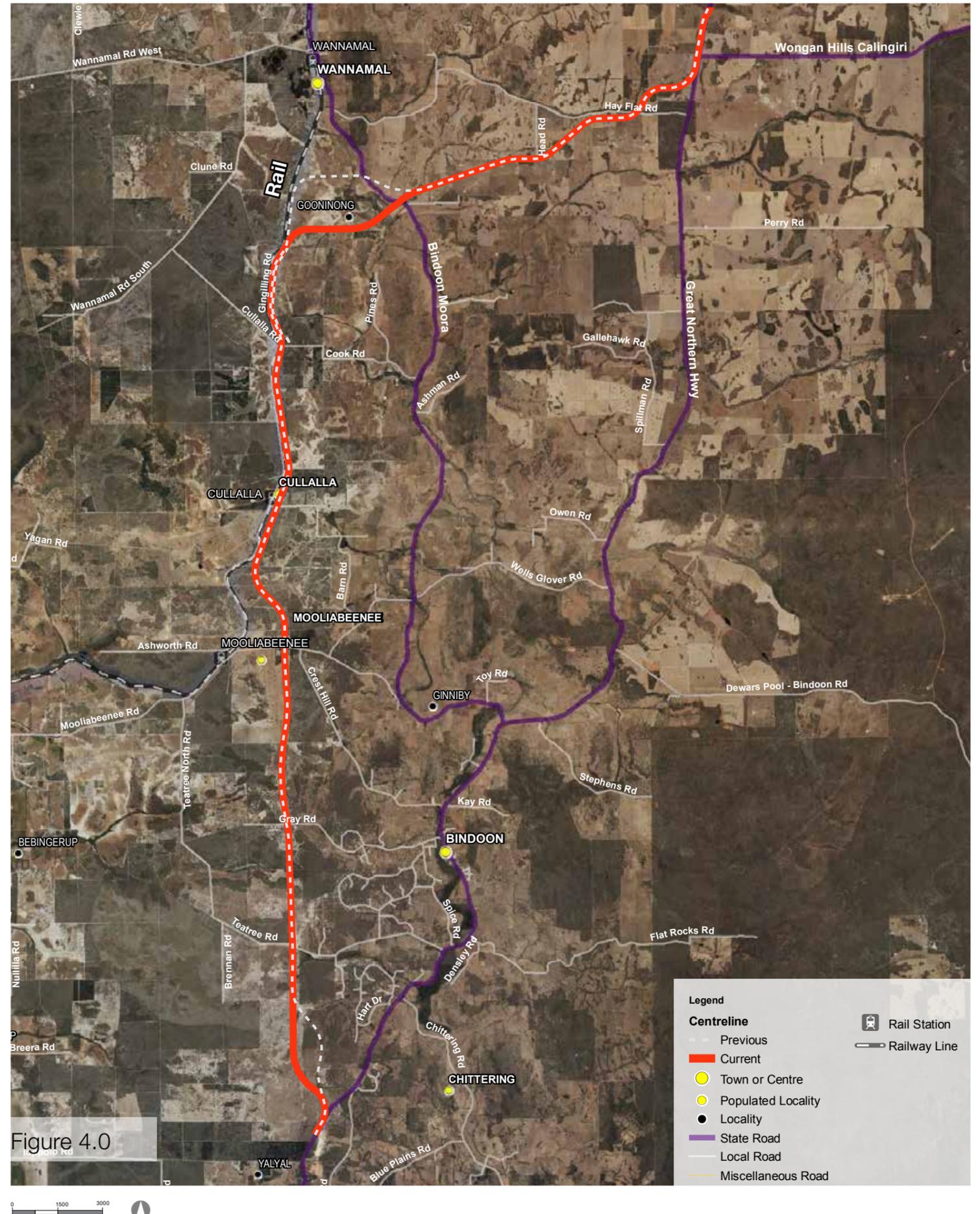


Figure 4.0

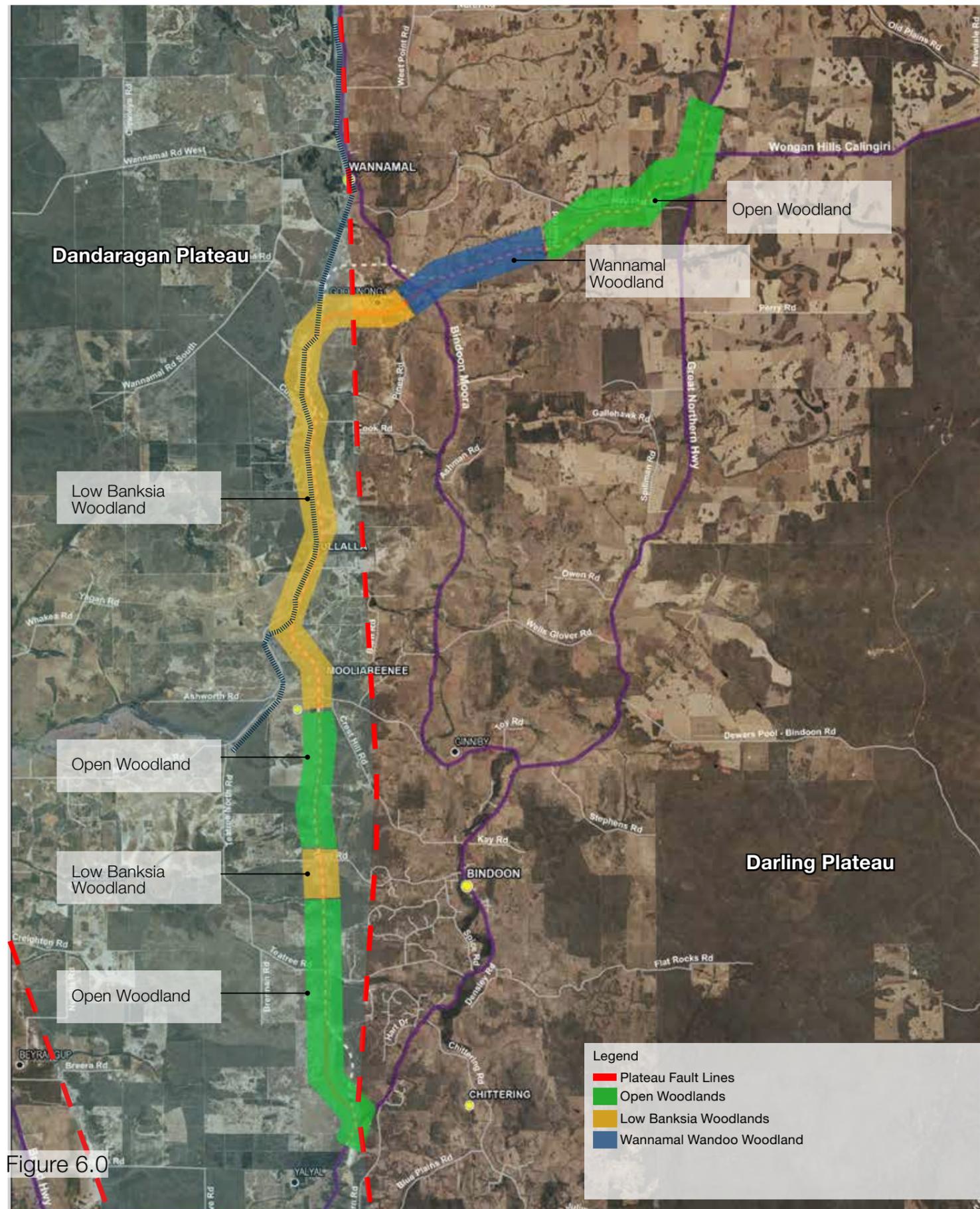


Figure 6.0

Landscape Character

As outlined in the methodology, the landscape character area analysis has been informed by the State landscape character types, landscape character units, land-use, mapped vegetation complexes and topography, as described in detail within the previous pages. The character areas, which are delineated in Figure 6.0, also show how they sit within the two State Character Type Plateaus determined within the 'Reading the Remote' publication.

The project sits within the Wheatbelt Region's *Wheatbelt* and *Hills* Character Units, and the Local Shire of Chittering's *Dandaragan Plateau* and the *Northern Broad Agricultural* Units. These Units and their descriptive character, as outlined in Planning Context on page 16 and 17 of this Report, are echoed in the State Character Type with reference to landform, waterform and vegetation descriptive text. State Character Types are described in *Reading the Remote* publication.

Within the Darling Plateau at the southern and northern most sections of the Bypass on the tops of hills and flatter more slightly undulating slopes the visually distinct 'Eucalyptus open forests' occurs. Rural dwellings, sheds, cleared parcels and other rural infrastructure such as fencing is a common scene here that divides the character of the land into a mosaic of different colour and texture.

The Dandaragan Plateau landscape adopts the open woodlands character before changing slightly as the Bypass travels past Gray Road and the canopy densifies and becomes lower due to the occurrence of Banksia associations. This pattern of Banksia continues towards Gooninong however the pattern and form is open and mixed and starts to include Eucalypt woodlands again.

Once the Bypass turns east and rises up to the Darling Plateau, dissecting drainage lines connecting to the Wannamal Lake system provide another distinct change in form and pattern of character with York Gum, Wandoo and acacia providing a lower denser canopy form.

From this point towards the junction with the existing Great Northern Highway the Darling Plateau uplands provide the open Eucalypt woodland pattern allowing views across the landscape and along valleys. Cleared land is still evident as the site is still within the rural Wheatbelt agricultural region but there is more evidence of cattle and sheep. In the Darling Plateau lowlands Eucalyptus Corymbia and York gum tend to be more dominant.

Summary of The Three Character Areas Developed for this Report

Overall the landscape character is distinctly rural and one of the more significant elements would be the natural landscape forms would have to be the rolling 'open woodlands' which occur consistently along the route in slightly varied densities and trunk colour and texture. This is made more noticeable by the occasional denser enclosed *low Banksia Woodlands* and *Wannamal Wandoo Woodlands* - which would provide diversity in the road's sequential views. The built form of the working rural properties and the mosaic pattern of cleared pasture sit seamlessly within the landscape setting and together form a regionally unique rural character.

Three distinct landscape character areas along the Bypass have been identified using visual assessment analysis from both 'Reading the Remote' and 'Visual Landscape Planning in Western Australia.'

Open Woodlands

Landform

- » The topography ranges from undulating moderate hills to dissecting higher topography to the north. Waterways and dry drainage lines are often associated at the base of shallow and deeper valleys. The landform of this character area provides views across pastures, and to the north from the tops of the higher hills and along the deeper valleys. Granite outcrops are found along the Darling Plateau.
- » Orange laterite edges to roads and tracks are seen in breaks of pasture grass and topsoil.

Vegetation

- » Primarily Eucalypt canopy generally *Eucalyptus marginata*, *Eucalyptus Corymbia*, occasional *Acacia* and *Myrtaceae*, *Proteaceae* understorey near the dryer granite outcrops. Some *Eucalypt wandoo* occur as well.

Land Use

- » A mosaic of agricultural pasture with parcels and edges along clearing of remnant vegetation. Towards the south there is a focus on rural built form such as residences, fences, silos, cropping, sheds etc.
- » There is a contrast in colour, texture and clean lines of built forms and surrounding pastures and canopy.

Low Banksia Woodlands

Landform

- » The topography of the Dandaragan Plateau is undulating, including hills with shallow valleys of waterways and drainage lines from nearby lake systems. There is not much variation in the undulating form.
- » Pale yellow to terracotta soils (clay) are evident

Vegetation

- » A mixture of *Banksias* and *Eucalypts* such as *Eucalypt todtiana* with some *Corymbia calophylla* open woodlands.
- » The vegetation is a diverse mix of texture and colours of green compared with the open *Eucalypt* woodlands.
- » The vegetation canopy can be lower and denser and enclose views in some locations.

Land Use

- » Agricultural land use is still a feature of this character area where clean lines and colours of the built form of rural residences, silos, sheds, fences contrast with the softer fields of crops and surrounding landscape.

Wannamal Wandoo Woodlands

Landform

- » Deeply dissecting valleys and rising topography provide views out over the rural landscape and along valleys.
- » Waterways and dry drainage lines carve through the landscape providing contrast in colour as vegetation becomes slightly denser as it adapts to the water table. Rocky granite outcrops provide a change in colour and texture and become feature focal points in a vista.

Vegetation

- » Due to the connection with the drainage lines and waterways vegetation changes to distinct *Eucalypt* species, including *Eucalyptus wandoo* with occasional *Acacia* on the dryer side of the slopes.
- » Colour and form of the wandoo is a rough white bark and wide canopy - an aesthetic setting when the species are grouped together.

Land Use

- » Agricultural land use is still a feature of this character area. As is typical with the region, the clean lines and colours of the built form of rural residences and farming infrastructure contrast with the softer pasture fields. The dissecting topography and higher peaks restrict diverse forms of agricultural use and livestock is more prominent.
- » Fencing follows the undulating hills forming visual geometric lines across the landscape.

Visual baseline analysis

Approach

As stated in the methodology, the visual analysis has been defined through the preparation of a VEM. The VEM has been prepared utilising GIS to illustrate the theoretical area from which the Bindoon Bypass project would be visible in the landscape.

The VEM is by its nature approximate only and has been prepared to determine the approximate extent of visibility. The terrain data used is based on a gridded digital elevation model and excludes areas of existing vegetation or localised variations in topography, representing the greatest extent of potential impact.

Visual Envelope Mapping

The VEM has been used to identify a series of representative viewpoints to illustrate a complete understanding of the project area. Location of viewpoints along the proposed Bypass are shown in Figures 7.0 and 8.0 on the next page. The representative viewpoints include photographs from each location and photomontages for sites which have been considered high visual amenity.

Visual Amenity Summary

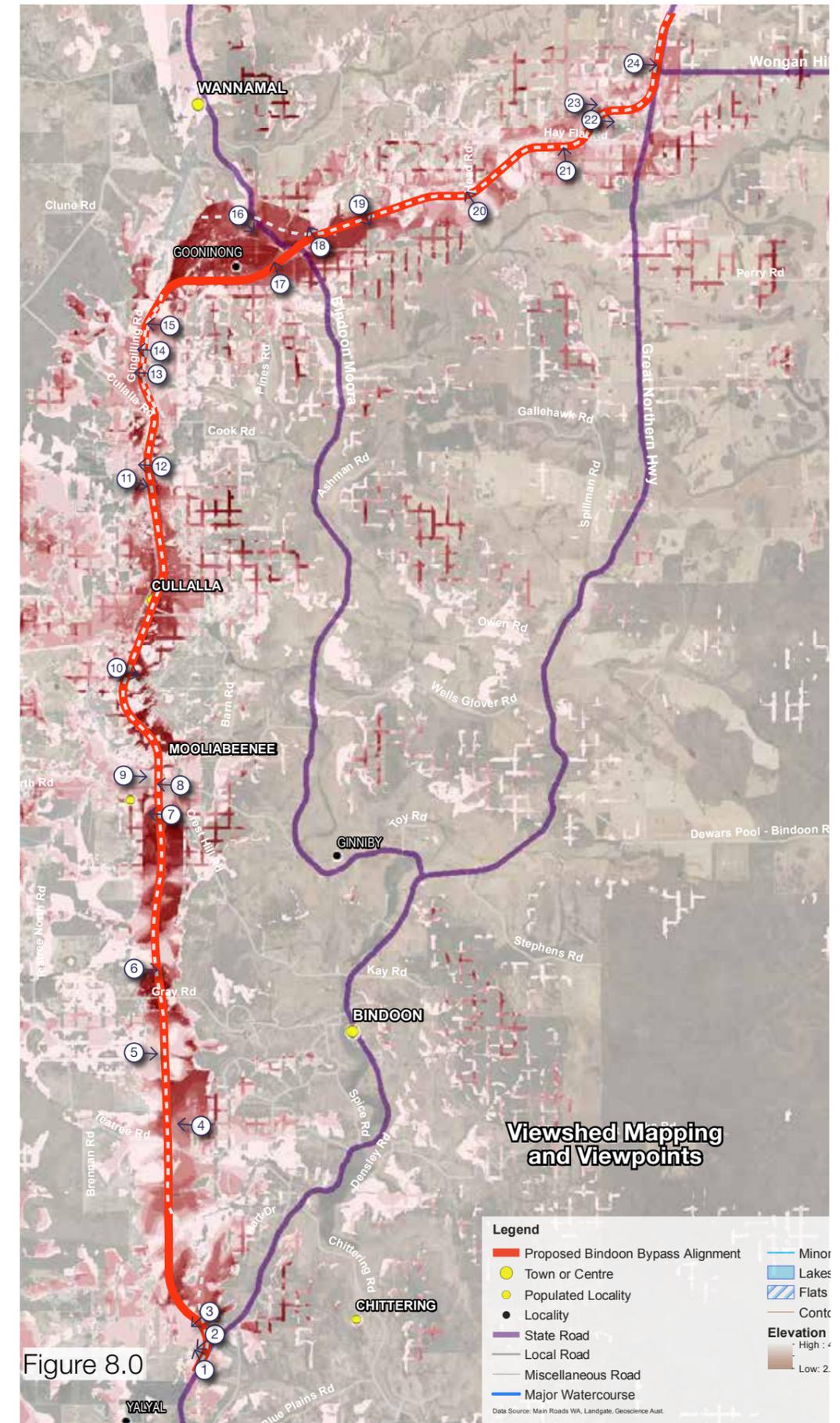
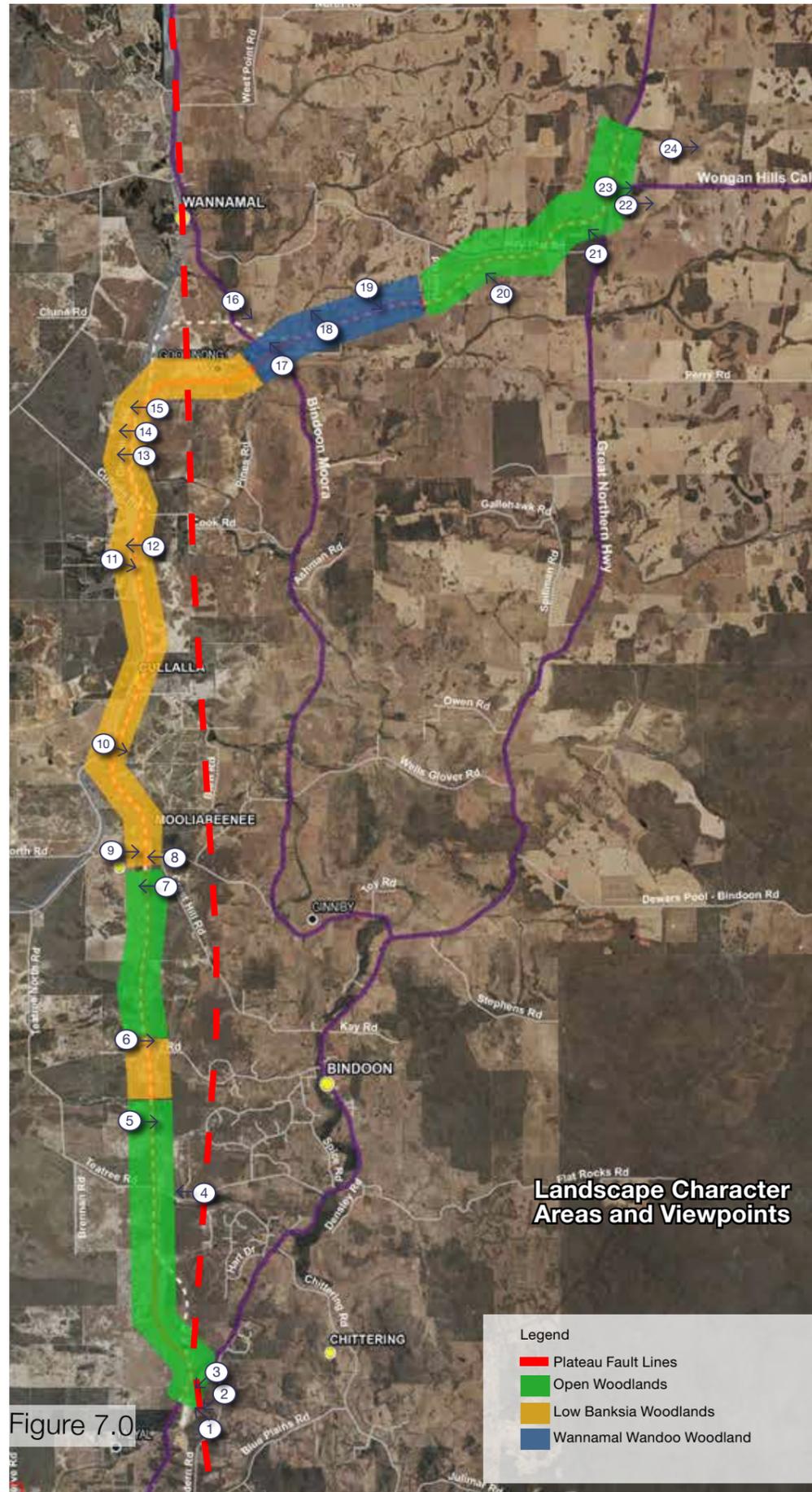
The Bindoon Bypass project will commence to the south at Chittering Road House and traverse northwards through agricultural land with scattered trees. The scattered trees collectively offer a degree of visual enclosure, limiting distant views across the landscape.

Further north, the agricultural patterning of the landscape gives rise to geometric parcels of eucalypt woodlands, positioned on slightly elevated undulating slopes. The approach to Teatree Road and extending further north, the vegetation pattern responds to the topography with irregular boundaries, limiting expansive views across the landscape.

Further to the north, the corridor is defined by a change in canopy form with the topography offering distant views to the north and south within the area of clearing. The eastern extent is marked by mature eucalypt and lower banksia woodlands. To the north of Mooliabeenee Road, the Bindoon Bypass runs adjacent to the rail corridor. The corridor is predominantly enclosed by mature vegetation restricting views from the Bindoon Bypass to the west.

To the south of Betts Nature Reserve, the Bindoon Bypass alignment moves east, crossing Brookman River and Bindoon-Moora Road. The topography gently rises with eucalypt again becoming more dominant, lining field parcels and marking small creek lines. The area is predominantly cleared with a more open character.

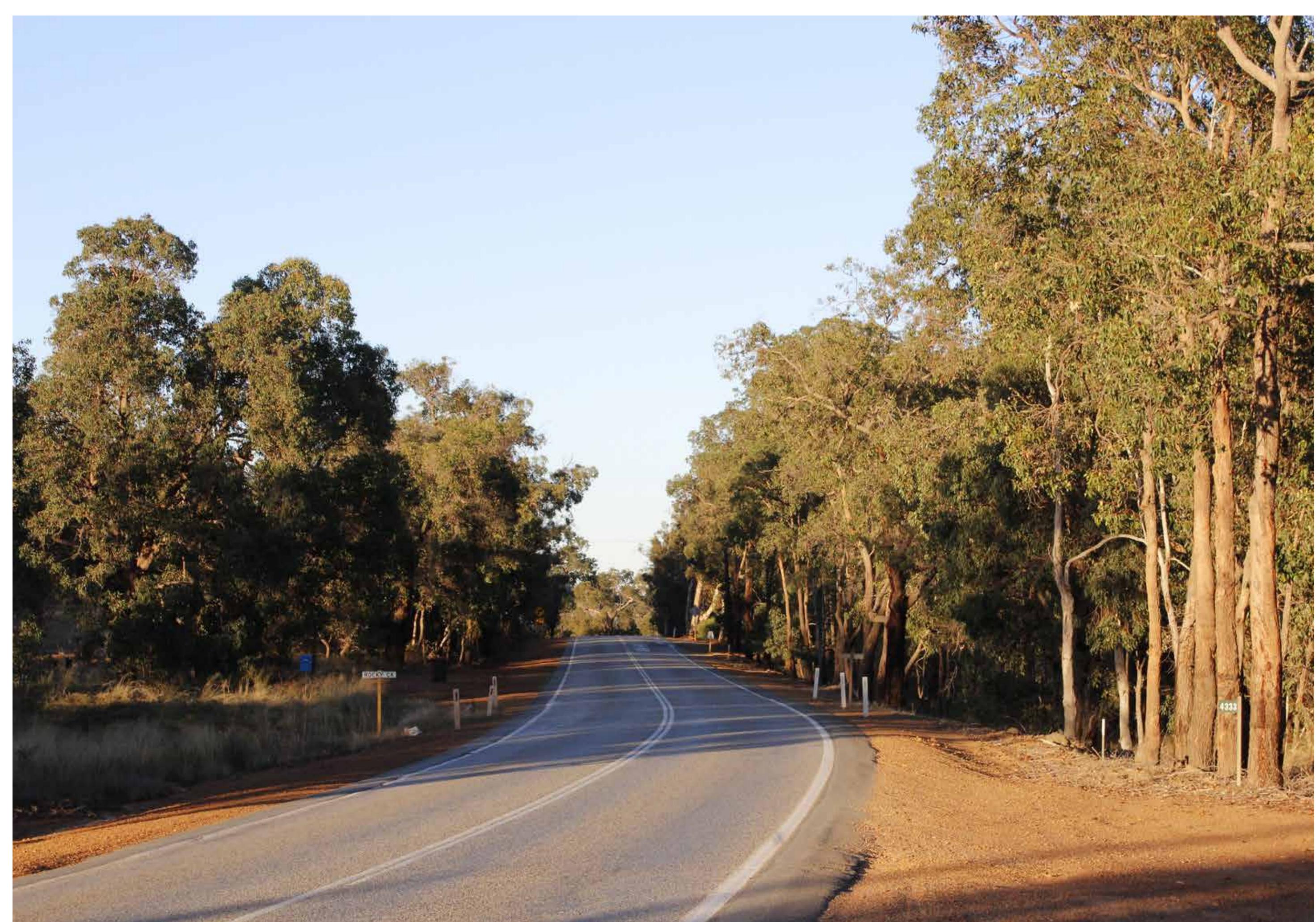
- ① Chittering Road House
- ② Great Northern Highway Stockyard
- ③ Kings Property
- ④ Windemere Way
- ⑤ Teatree North Road Access Road
- ⑥ Gray Road
- ⑦ Crest Hill Road
- ⑧ Mooliabeenee Road (east)
- ⑨ Mooliabeenee Road (west)
- ⑩ Cullalla Road (1)
- ⑪ Cullalla Road (2)
- ⑫ Gingilling Road (1)
- ⑬ Gingilling Road (2)
- ⑭ Gingilling Road (3)
- ⑮ Gingilling Road (4)
- ⑯ Bindoon Moora Road (1)
- ⑰ Bindoon Moora Road (2)
- ⑱ Kangaroo Gully Road (1)
- ⑲ Kangaroo Gully Road (2)
- ⑳ Head Road (south)
- ㉑ Hay Flat Road (1)
- ㉒ Great Northern Highway (west 1)
- ㉓ Hay Flat Road (2)
- ㉔ Great Northern Highway (west 2)



05

Integrated Design Approach





Landscape Approach

Muchea to Wubin Stage 2 Upgrade Project Landscape Framework

Landscape Strategy

The design approach has been informed by the baseline analysis and by the Landscape + Urban Framework developed by the project team at the commencement of the broader Great Northern Highway: Muchea to Wubin Stage 2 Upgrade Project.

The Framework defined a vision, objectives and principles that have been adopted to assist with integrating and mitigating impacts that may arise from the Bindoon Bypass project.

Vision

The Great Northern Highway: Muchea to Wubin Stage 2 Upgrade Project will sensitively respond to the key environmental assets, community values, and heritage and define a clear journey that promotes the unique character of the landscape.

Project Wide Objectives

Six overarching project objectives will guide the delivery of the GNHM2W upgrade works:

- » Improve road safety and reliability
- » Increase freight efficiency
- » Enhance travel wellbeing
- » Contribute to sustainable and viable communities
- » Enhance the environment

Landscape principles

Four principles have been defined that embody the project wide objectives and complement the scale and nature of the corridor.

- » Connect people, communities and the environment
- » Journey + placemaking
- » Self sustaining solutions
- » Informed by nature

CONNECT PEOPLE, COMMUNITY AND THE ENVIRONMENT

- Respond to opportunities to connect modes and communities
- Provide equitable and safe places and connections
- Promote healthy life and equity of access



JOURNEY + PLACEMAKING

- Enhance informal legibility and intuitive navigation
- Create a positive and lasting experience and impression for all visitors and users
- Promote a comfortable and memorable road journey experience



SELF SUSTAINING SOLUTIONS

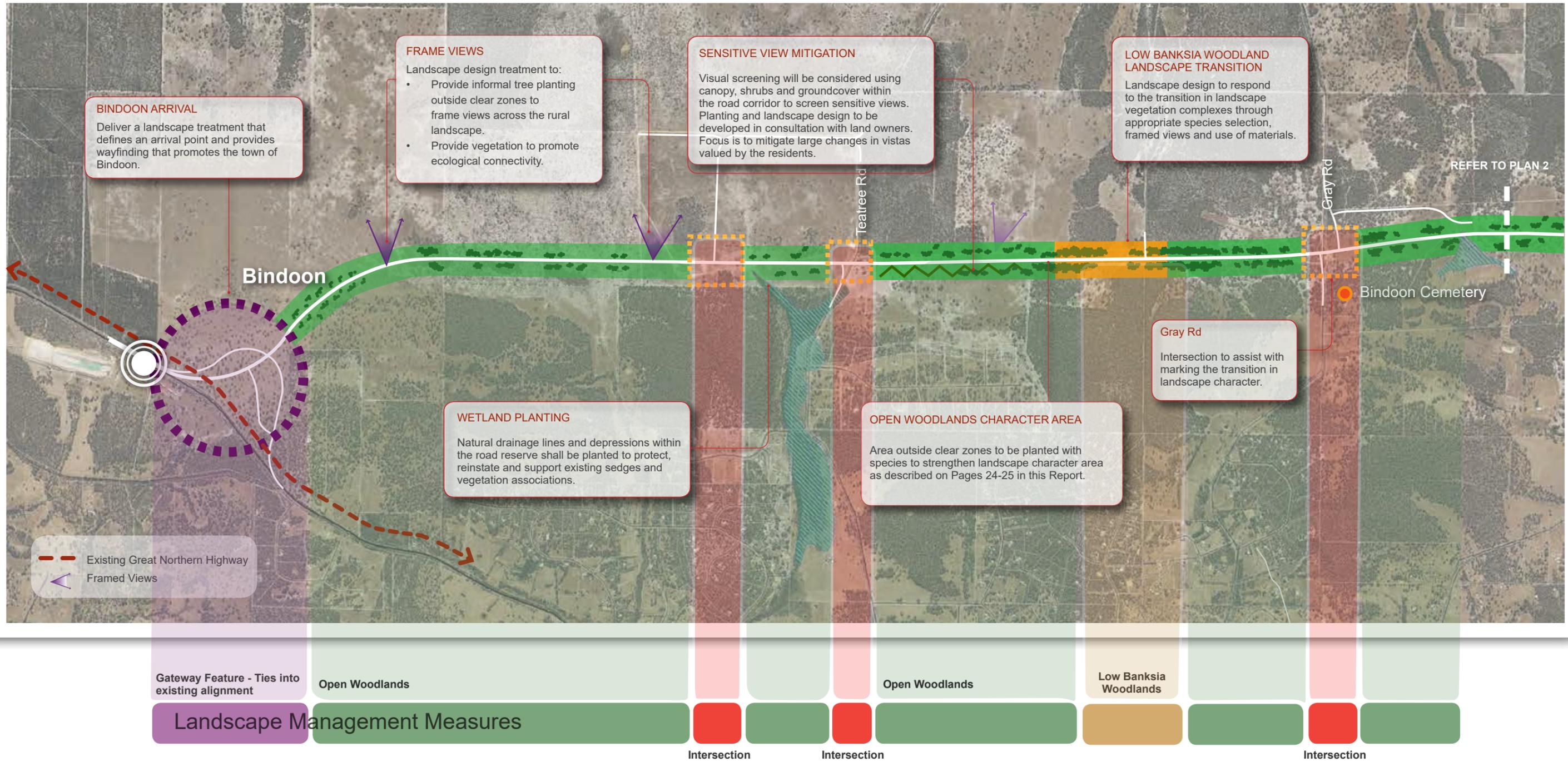
- Incorporate efficient and durable materials for landscape design
- Deliver a safe places through implementing a CPTED approach
- Design for appropriate management regimes over the anticipated life time with consideration to energy use and demand

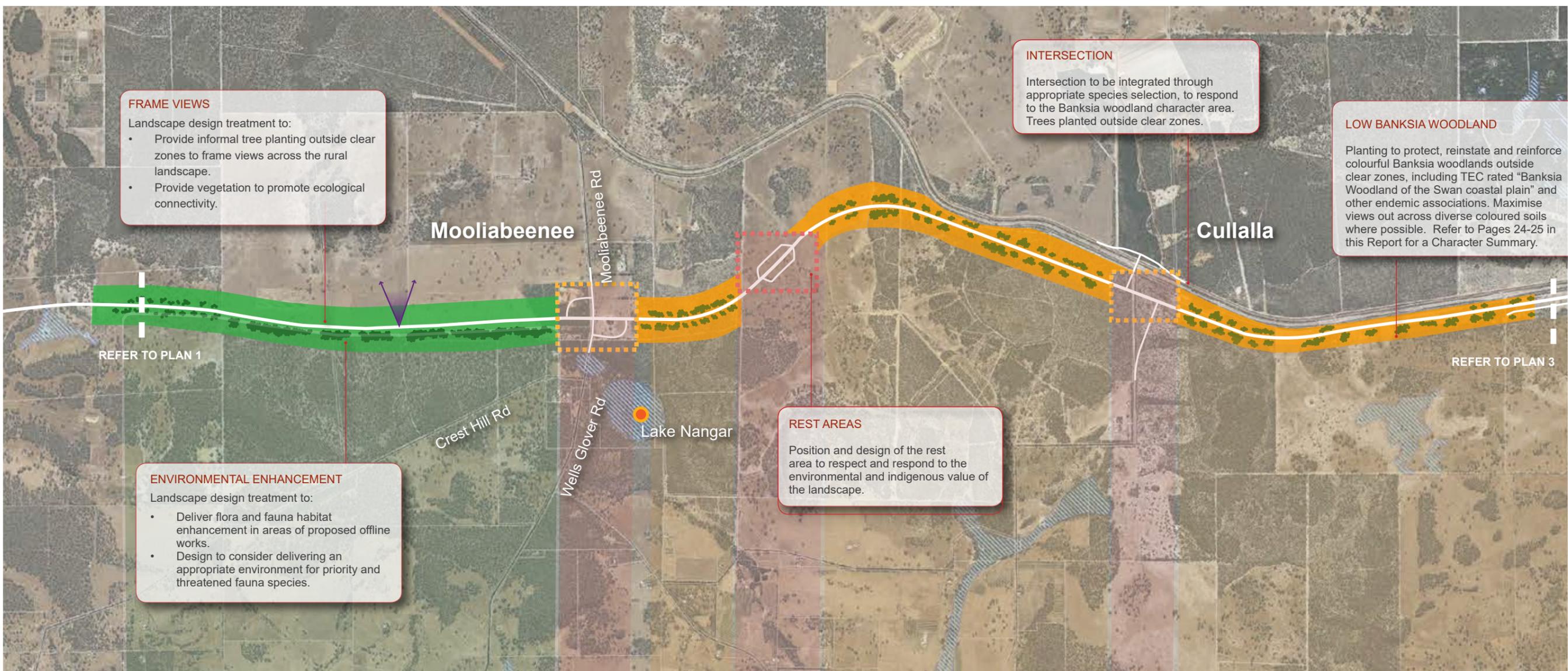


INFORMED BY NATURE

- Respond to the local context and sensitive environmental assets
- Maximise vegetation retention where possible
- Respond to built fabric and environmental constraints to deliver integrated solutions







FRAME VIEWS
 Landscape design treatment to:

- Provide informal tree planting outside clear zones to frame views across the rural landscape.
- Provide vegetation to promote ecological connectivity.

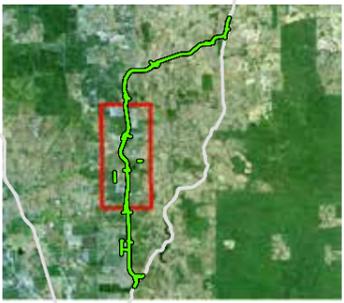
INTERSECTION
 Intersection to be integrated through appropriate species selection, to respond to the Banksia woodland character area. Trees planted outside clear zones.

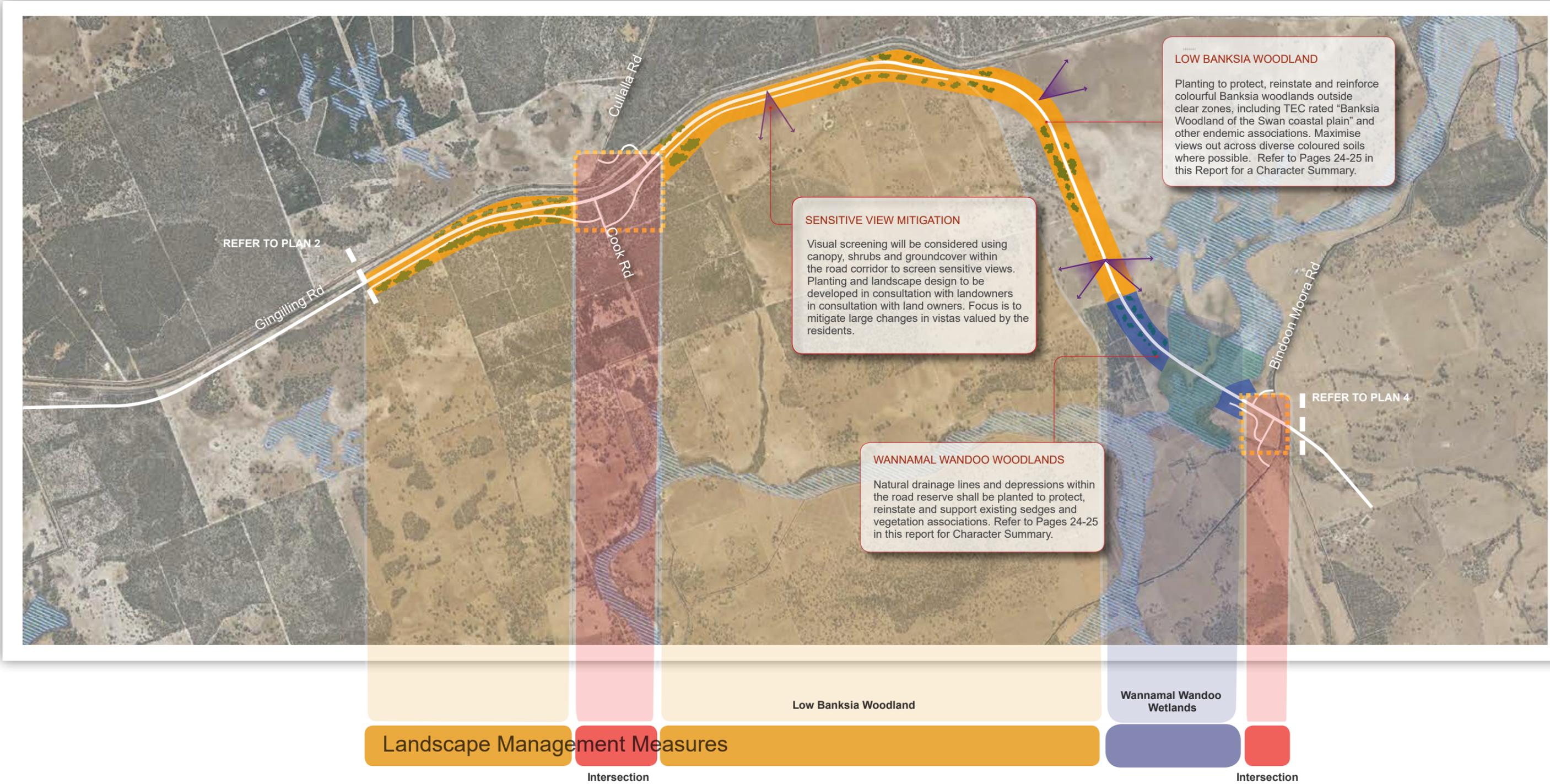
LOW BANKSIA WOODLAND
 Planting to protect, reinstate and reinforce colourful Banksia woodlands outside clear zones, including TEC rated "Banksia Woodland of the Swan coastal plain" and other endemic associations. Maximise views out across diverse coloured soils where possible. Refer to Pages 24-25 in this Report for a Character Summary.

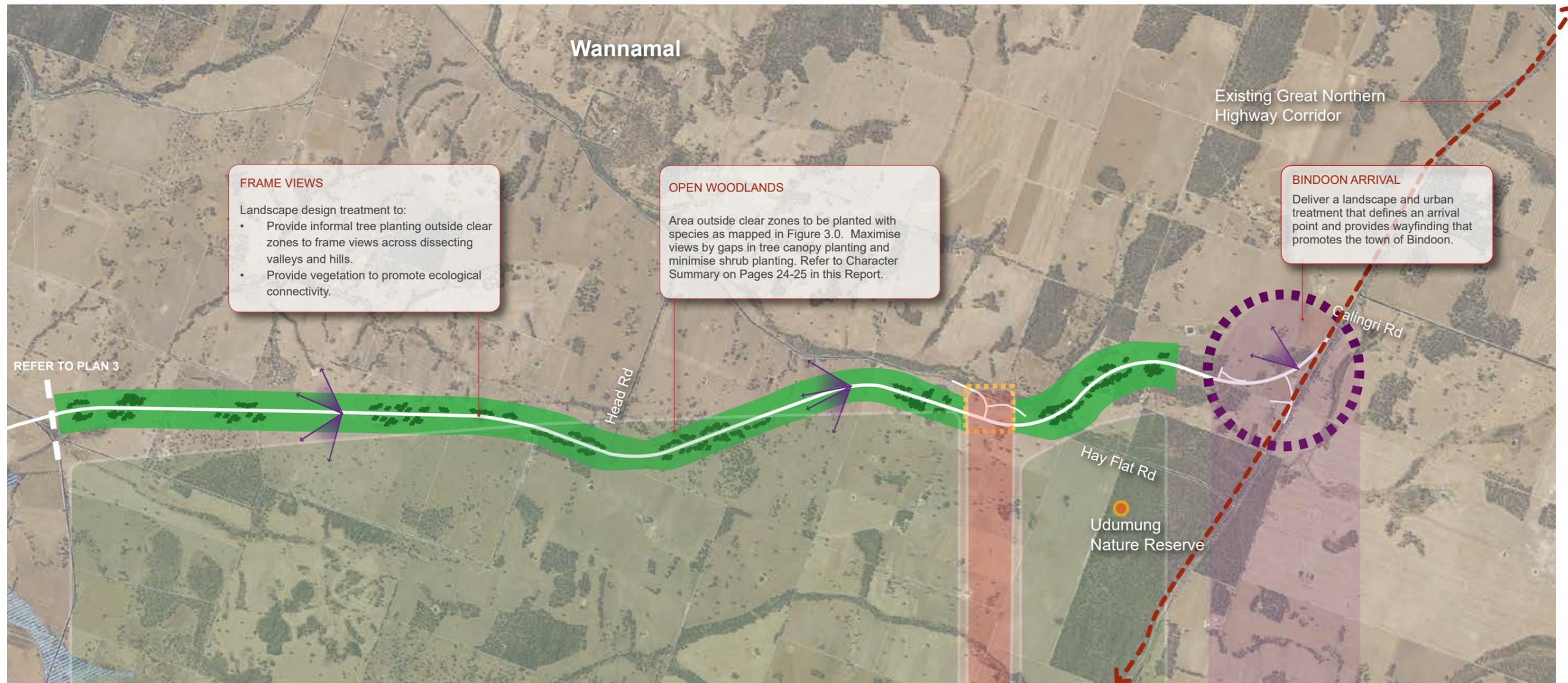
ENVIRONMENTAL ENHANCEMENT
 Landscape design treatment to:

- Deliver flora and fauna habitat enhancement in areas of proposed offline works.
- Design to consider delivering an appropriate environment for priority and threatened fauna species.

REST AREAS
 Position and design of the rest area to respect and respond to the environmental and indigenous value of the landscape.







FRAME VIEWS

Landscape design treatment to:

- Provide informal tree planting outside clear zones to frame views across dissecting valleys and hills.
- Provide vegetation to promote ecological connectivity.

OPEN WOODLANDS

Area outside clear zones to be planted with species as mapped in Figure 3.0. Maximise views by gaps in tree canopy planting and minimise shrub planting. Refer to Character Summary on Pages 24-25 in this Report.

BINDOON ARRIVAL

Deliver a landscape and urban treatment that defines an arrival point and provides wayfinding that promotes the town of Bindoon.

Open Woodlands

Open Woodlands

Gateway Feature - Ties into existing alignment

Landscape Management Measures



Intersection



06

Assessment



Assessment

Consistent with the visual baseline assessment, 23 viewpoints have been identified to provide a comprehensive understanding of the study area and document potential impacts that may arise as a result of the Bindoon Bypass Project.

Each viewpoint includes a summary of the existing context with reference to aesthetic quality, a summary of elements of the project that have potential to alter the view (magnitude of change) and an assessment of potential impacts. Mitigation measures to reduce adverse impacts have also been included as illustrated on the landscape management measures plans pages 34 to 37.

As outlined above it is important to note that these impacts are assumed impacts, and are not confirmed impacts. Additionally they relate to possible impacts in various locations spread across the route.

Design Elements

A summary of the design elements that have the potential to alter the existing views have been provided below.

Introduced urban texture and colour

- » The proposed Bypass severs several of the defined field patterns and vistas across the site, altering the natural scale of the view to a more modified view with reduced scenic value.

Cuttings and fill / earthworks

- » Scale of change in landform is high near major cuttings for the proposed Bypass and alters natural form

Culverts/ highway drainage crossings

- » There is a risk of reduction of ecological and environmental health of some of the drainage lines that cross the proposed Bypass during and after construction from sediment and change in movement of fauna along these drainage lines. Impacts on Flora and Fauna have been covered in the Ecological Chapter

Highway crossings/ new local road diversions

- » Movement and access/ permeability of the area will be altered for local land owners and livestock during and after construction

Highway follows an existing transport route

- » As the proposed Bypass heads north and meets the existing railway line the alignment becomes more sympathetic to existing patterns of the landscape

Clearing for earthworks

- » The proposed Bypass will reduce existing native vegetation and habitat due to clearing during construction

Increased movement/ speed

- » The proposed Bypass will introduce new movement to the existing landscape and introduce an urban feature within a rural context resulting in possible loss of tranquility

Change

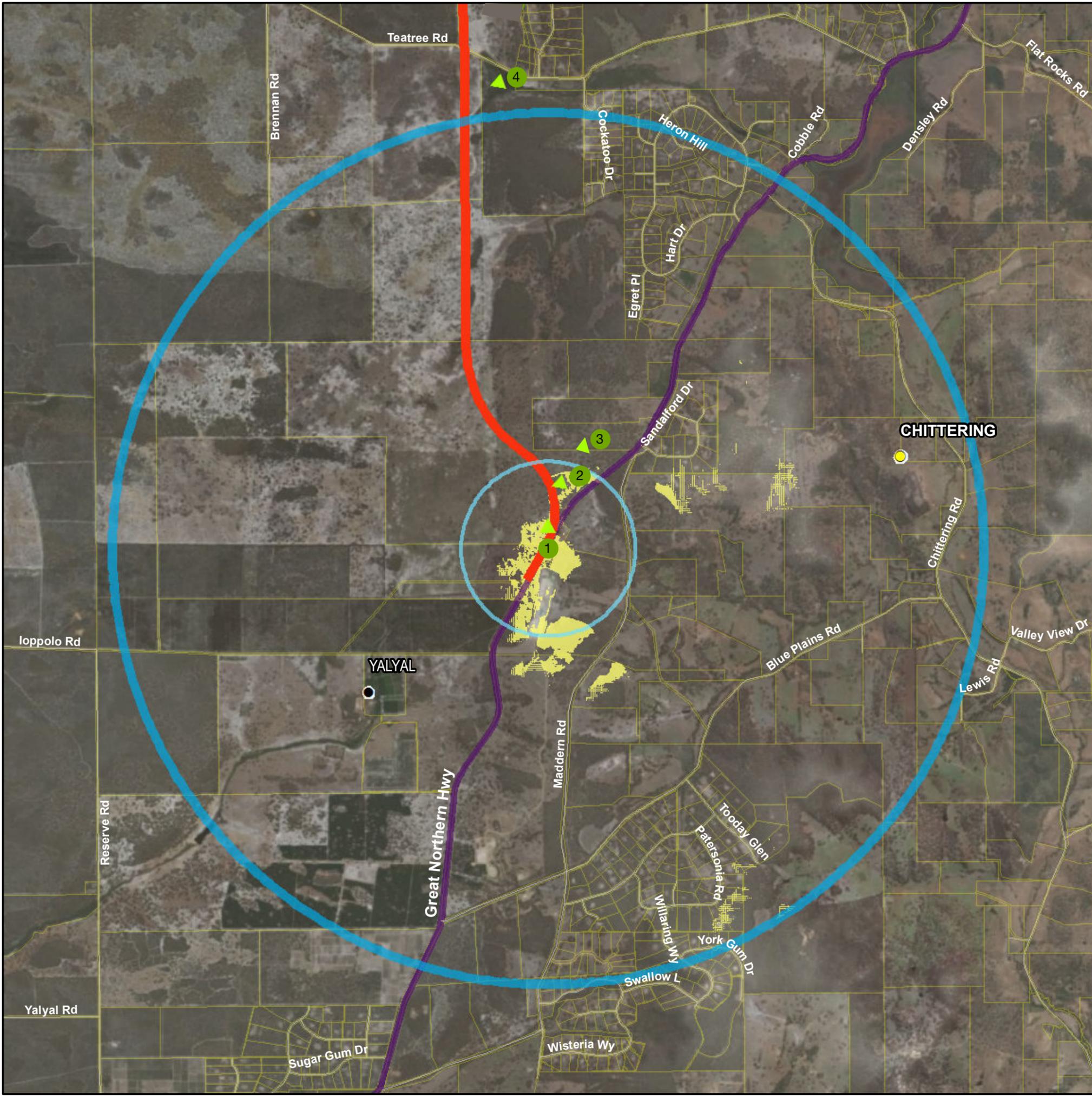
- » Possible loss of place identity as a quiet rural area
- » Possible loss of memorable landmarks, and routes that generational landholders/farmers have valued (old fences, stock routes, sheds).

Approach

As mentioned in the Methodology section of the report (page 12) a Visual Envelope Map (VEM) has been prepared to identify the theoretical area of the landscape from which the Bindoon Bypass project would be visible.

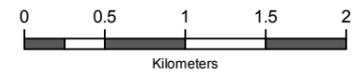
Following a thorough desktop study, review of the VEM and a site visit, representative viewpoints which were accessible and had the potential to be visually affected by some elements of the project are identified and selected for further analysis.

It is important to note the viewpoints were assessed visually and an assumption was made on possible impacts the view would face during and after the proposed Bypass construction. It is understood there may be wider impacts due to the Bypass and some of these are captured in the Environmental Assessment and Noise Assessment Reports. A visual impact assessment however has an essential role in the overall understanding of possible impacts and opportunities for view mitigation.



LEGEND

-  Viewshed
-  Buffer 5km
-  Buffer 1km
-  VIA View Points
-  Proposed Bindoon Bypass Alignment
-  Town or Centre
-  Locality
-  State Road
-  Local Road
-  Cadastral Boundary with Tenure (17-10-201)



Viewpoint Assessment

24 representative viewpoints have been identified through site investigations and review of the VEM. The representative viewpoints include a visual baseline description, photographs from each location and an analysis of the potential impacts that may arise as a result of the Bindoon Bypass project.

Viewpoint 1 | Chittering Road House



Existing context and aesthetic quality

View from Chittering Road House with clear views across the existing GNH corridor with passing traffic. The west side of the corridor is bound by roadside vegetation, filtering views towards the stock yards situated to the west of the corridor.

Visual landscape sensitivity

The sensitivity of this receptor is considered to be **low** due to the proximity of the existing GNH and the commercial nature of the receptor and the temporary interest in the surrounding environment.

Visual landscape magnitude

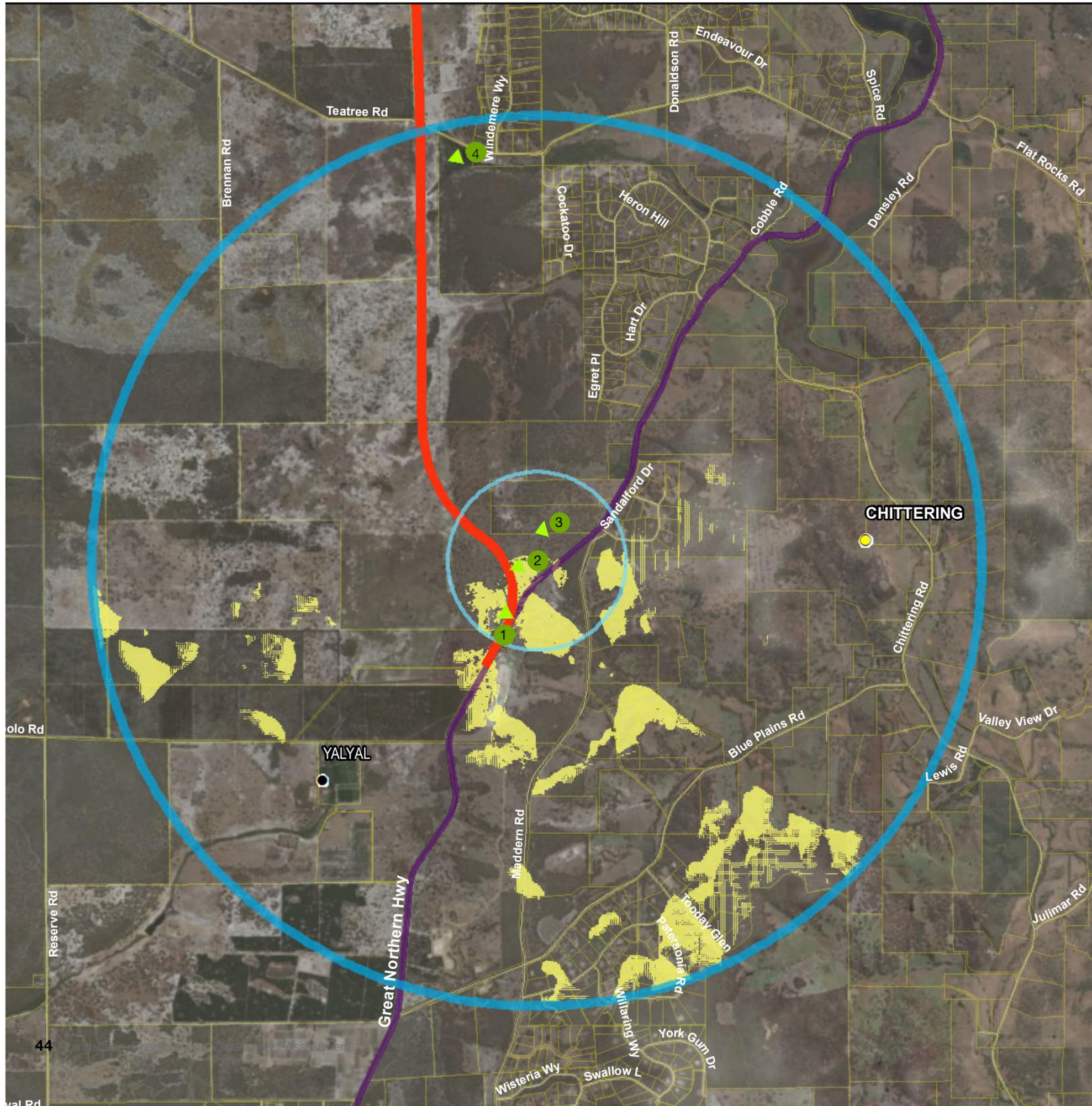
The Bindoon Bypass will diverge from the GNH at this location and is likely to result in the removal of road side vegetation. The removal of the vegetation and addition of the Bindoon Bypass will result in a noticeable and incremental change, increasing the presence of road infrastructure within the view and result in a **moderate** magnitude of change.

Visual landscape impact

The character of the area is already highway focused with the Road House depending of patronage from travellers. The open woodland character would be locally impacted by clearing. The low sensitivity and moderate magnitude of change is considered to result in a **moderate-low** impact during operation. During construction, impacts are anticipated to be heightened, although would be of a temporary nature.

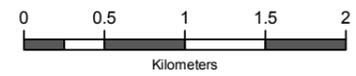
Mitigation

Protection of existing facilities and Road House during construction will be necessary. Mitigation of any loss of vegetation shall include reinstatement of canopy, shrubs and groundcover to disturbed land. Consultation with the land owner should take place regarding visibility of Road House and relation to new planting.



LEGEND

- Viewshed
- Buffer 5km
- Buffer 1km
- VIA View Points
- Proposed Bindoon Bypass Alignment
- Town or Centre
- Locality
- State Road
- Local Road
- Cadastral Boundary with Tenure (17-10-201)



Viewpoint 2 | Great Northern Highway Stockyard



Existing context and aesthetic quality

View towards stockyards and agricultural buildings situated to the west of the existing GNH. Area includes an existing unclassified property within the holding.

View east from the site towards the existing GNH corridor with views to the west and north filtered by stands of intermittent trees.

Visual landscape sensitivity

With due regard to the unclassified nature of the residential premises, the sensitivity of this receptor is considered to be **moderate** due to views and proximity of the existing GNH corridor, the commercial nature of the receptor and the temporary interest in the surrounding environment

Visual landscape magnitude

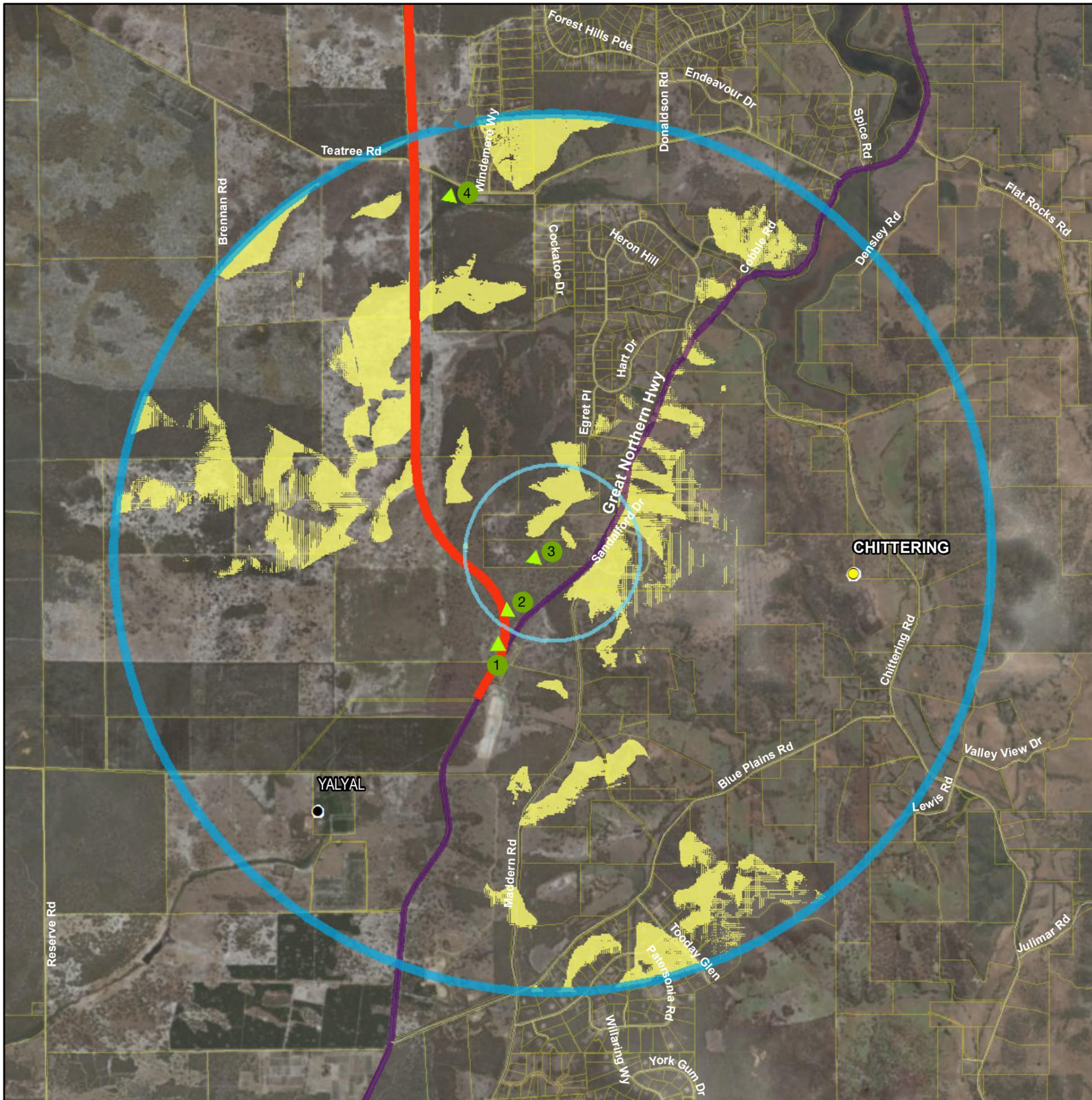
The introduction of the bypass would result in the severance to the existing field pattern and removal of large intermittent stands of trees, changing the aesthetic qualities of the landscape. It is anticipated that introduction of lighting columns will be visible from this location. A portion of the property will be acquired to enable the delivery of the project. Therefore the proposed magnitude of change is considered **high**.

Visual landscape impact

The low sensitivity and high magnitude of change is considered to result in **high-moderate** impact during construction and operation.

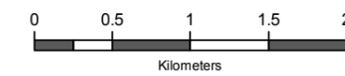
Mitigation

Revegetation along the road corridor will help mitigate the loss of vegetation. Consultation with the land owner is recommended to provide options for planting within the property or developing planted earth bunds to attempt to retain the existing rural nature of the landscape.



LEGEND

-  Viewshed
-  Buffer 5km
-  Buffer 1km
-  VIA View Points
-  Proposed Bindoon Bypass Alignment
-  Town or Centre
-  Locality
-  State Road
-  Local Road
-  Cadastral Boundary with Tenure (17-10-201)



Viewpoint 3 | Kings Property



Existing context and aesthetic quality

Property situated on slightly elevated hill at approx 240m and enclosed by mature bushland. Views from the property are restricted by the mature vegetation, with no evidence of the existing GNH corridor within the view. The sound of passing traffic is evident, impacting the sense of remoteness. Lateritic red soil and a varied texture, colour and form of vegetation makes this a visually aesthetic landscape.

Visual character Sensitive

The character of the place for the receptor is considered valued due to the scenic amenity and enclosed nature of the landscape. The form and density of the mature native trees should ensure the character is retained. The impact is considered **low**.

Visual character magnitude

The magnitude of change arising from the project for this viewpoint is considered to be **negligible** due to screening offered by vegetation and restricted views towards Bindoon Bypass. However, from this location there is the potential for an incremental increase in the sound of passing vehicles that has the potential to alter the sense of remoteness. Further detail on the noise impacts are contained within the noise chapter.

Visual Impact

The low sensitivity and negligible magnitude of change is considered to result in **negligible** impact during construction and operation.

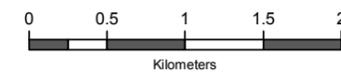
Mitigation

Mitigation would be refined to reinstatement of native vegetation lost during construction within the road corridor. Planting should mirror surrounding vegetation patterns.



LEGEND

- Viewshed
- Buffer 5km
- Buffer 1km
- VIA View Points
- Proposed Bindoon Bypass Alignment
- Town or Centre
- Locality
- State Road
- Local Road
- Cadastral Boundary with Tenure (17-10-201)



Viewpoint 4 | Windemere Way



Existing context and aesthetic quality

View west from Windemere Way. Properties situated in an elevated position to the east with more recent property development situated on lower slopes to the west. Properties experience elevated views to agricultural land, filtered by mature vegetation. A band of vegetation marks the western boundary of recent development to the west of Windemere Way, filtering views to adjoining agricultural land, although views through breaks in vegetation are still apparent.

Visual landscape sensitivity

The sensitivity of this receptor is considered to be **high** due to elevated position, residential viewpoint and the current scenic and remote nature of the view.

Visual landscape magnitude

The magnitude of change arising from the project is considered to be **moderate** due to the introduction of a highway in a rural context, changing in to the composition of the view and the sense of rural tranquility.

Visual landscape impact

The high sensitivity and high magnitude of change is considered to result in **high -moderate** impact during construction and operation.

Mitigation

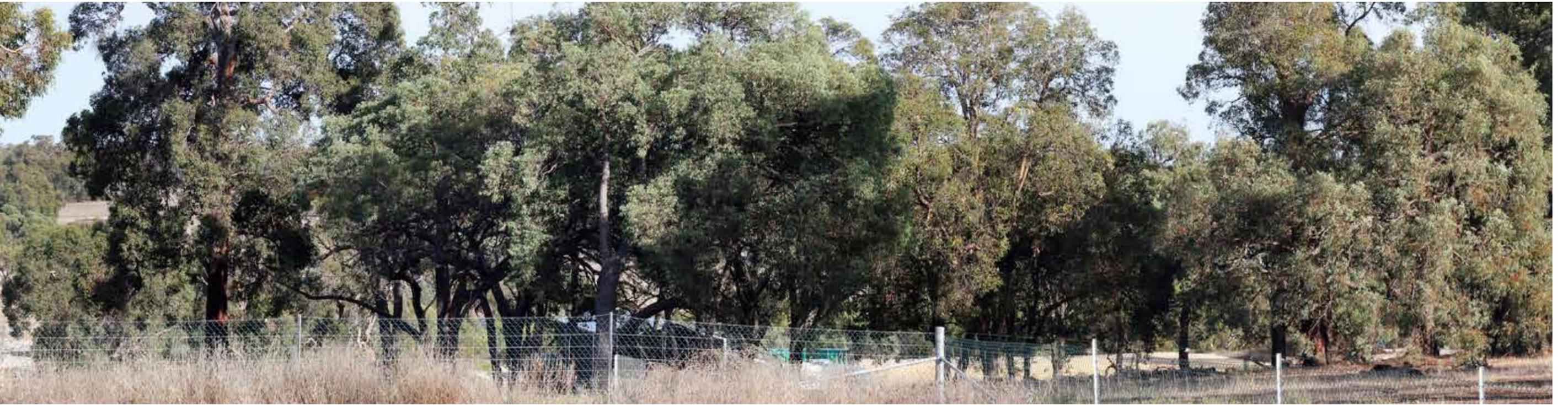
Mitigation proposed would include consultation with the land owner regarding planting canopy, shrubs and groundcover along the Bypass where it passes sensitive locations to maintain enclosed views and privacy. Open canopy planting similar to patterns existing in surrounding landscape would be part of reinstating landscape along the road corridor.

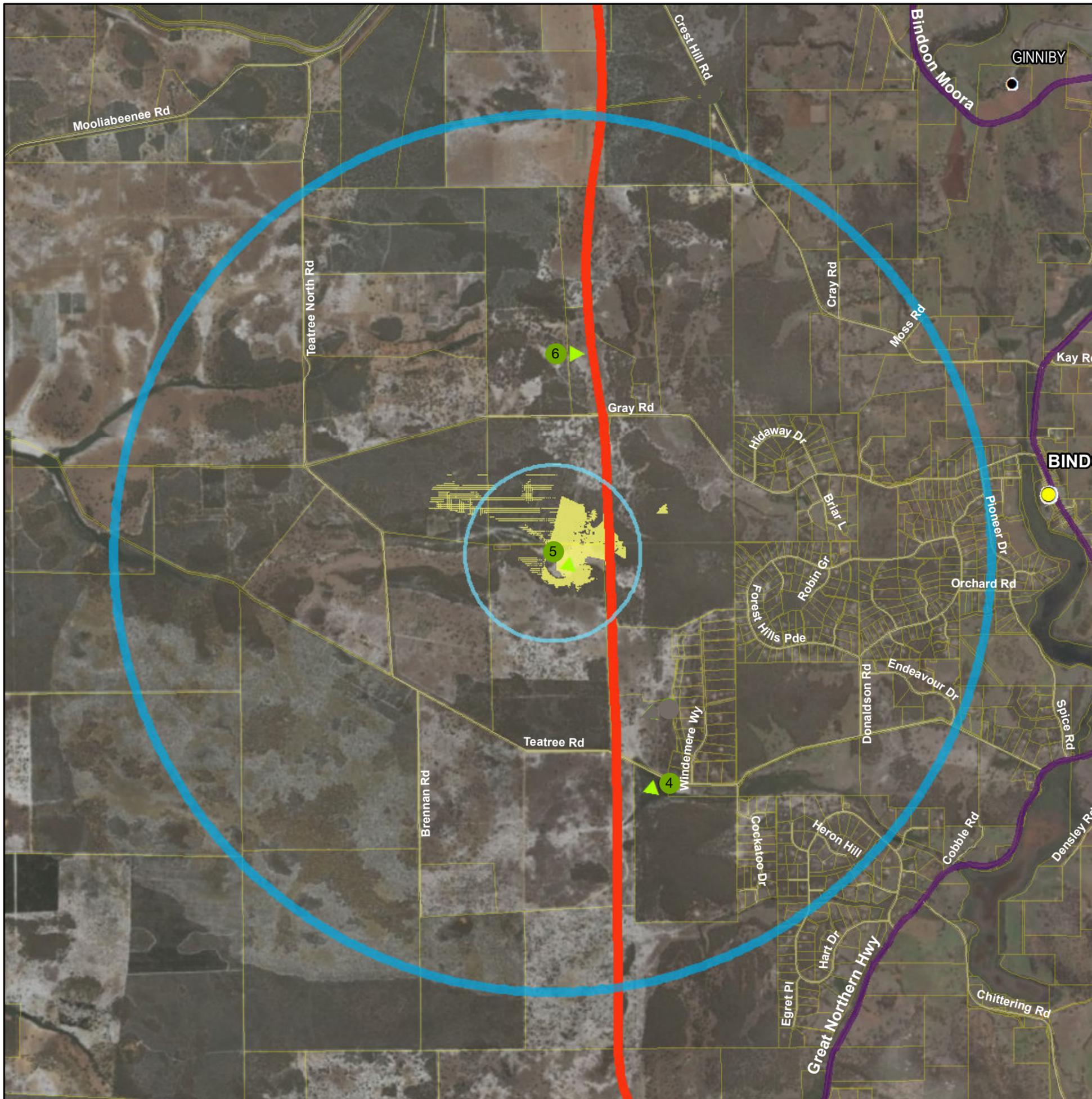


Viewpoint 4 | Windemere Way Before Proposed Development



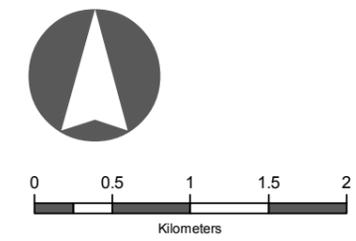
Viewpoint 4 | Windemere Way After Proposed Development





LEGEND

- Viewshed
- Buffer 5km
- Buffer 1km
- VIA View Points
- Proposed Bindoon Bypass Alignment
- Town or Centre
- Locality
- State Road
- Local Road
- Cadastral Boundary with Tenure (17-10-201)



Viewpoint 5 | Teatree Road North (Access Road)



Existing context and aesthetic quality

Property accessed from private access road orientated in a east-west direction. Property enclosed by mature vegetation with outbuildings situated to the East of the property. View south-east through a break in boundary vegetation to towards topography rising to the south. Remnant banksia planting in this location is visually distinctive in terms of height of canopy, soft foliage and intermittent flowers.

Visual landscape sensitivity

The sensitivity of this receptor is considered to be **moderate** due to the current scenic and remote nature of the view, tranquility and enclosure offered by boundary vegetation.

Visual landscape magnitude

The magnitude of change arising from the project for this viewpoint is considered to be **negligible** due to screening offered by vegetation and restricted views towards Bindoon Bypass. However, from this location there is the potential for an incremental increase in the sound of passing vehicles that has the potential to alter the sense of remoteness. Further detail on the noise impacts are contained within the noise chapter.

Visual landscape impact

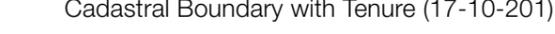
The moderate sensitivity and negligible magnitude of change is considered to result in **negligible** impact during construction and operation.

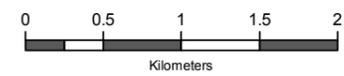
Mitigation

The banksia woodlands should be protected as much as possible as part of the mitigation for this area. New planting along the Bypass shall follow similar patterns of native vegetation associations to further strengthen and improve valued plant communities.



LEGEND

-  Viewshed
-  Buffer 5km
-  Buffer 1km
-  VIA View Points
-  Proposed Bindoon Bypass Alignment
-  Town or Centre
-  Locality
-  State Road
-  Local Road
-  Cadastral Boundary with Tenure (17-10-201)



Viewpoint 6 | Gray Road



Existing context and aesthetic quality

Property situated to the east of mature bushland with scattered stands of mature trees and vegetation to the north and east. View from the rear of the property from a slightly elevated position across extensive bushland to the north. View east to scattered vegetation, collectively providing a visual screen and views to agricultural fields.

Visual landscape sensitivity

The sensitivity of this receptor is considered to be **moderate** due to the current scenic and remote nature of the view, and the enclosure offered by boundary vegetation

Visual landscape magnitude

The sense of being part of a broad rural landscape will change with the introduction of the Bypass.

The magnitude of change arising from the project is considered to be **low** due to filtered views towards the realigned access road, and towards Bindoon Bypass passing vehicles through mature vegetation. Road lighting columns are not anticipated to be visible from this location.

Visual landscape impact

The mature trees and boundary vegetation help maintain the character of the area and existing aesthetic qualities.

The moderate sensitivity and low magnitude of change is considered to result in **moderate-low** impact during construction and operation.

Mitigation

Mitigation will be reinstatement of lost native vegetation in similar patterns to existing landscape to maintain as much as possible sections of enclosed views that existed prior to clearing for the Bypass.