



Yarra Ranges Council
Warburton Mountain Bike Destination Project
Preliminary Landscape and Visual Impact Assessment

December 2019

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1. Introduction

1.1 Purpose of this report

The purpose of this preliminary Landscape and Visual Impact Assessment (LVIA) is to inform the development of Referrals to government under the *Environment Effects Act 1978* and *Environment Protection and Biodiversity Conservation Act 1999*, to guide the selection of appropriate planning approval pathways for the project.

1.2 Overview of the Project

Yarra Ranges Council (Council) require a preliminary LVIA as part of the proposed Warburton Mountain Bike Destination project (the project), as identified through a gap analysis undertaken to identify the additional information required to support an EES Referral.

The project is proposed to include the creation of approximately 186 kilometres of world-class mountain bike trails and a visitor's hub, for the purposes of stimulating economic growth in the region through tourism and recreation. The project includes fifteen new trails comprising both downhill and cross-country style experiences. The visitor's hub is proposed to be situated adjacent to the Warburton Golf Course.

The Preliminary Master Plan was prepared by Cox Architecture. This Preliminary Master Plan is currently being progressed through detailed design by World Trail, therefore a number of design options and trail refinements are still being developed.

1.3 Scope

1.3.1 Approval requirements

As identified in the Approval Pathway Options Report, the approval requirements relevant to landscape and visual impacts include the following:

- *Under the Environment Effects Act 1978 (EE Act) a referral to the Minister for Planning may be required if the project had the potential to have a significant effect on the environment. Assessment under the EE Act will inform the approval decisions, but will not result in an approval in its own right. It has been recommended by DELWP in consideration of the scale and type of project that an EES Referral is prepared to better inform the Minister or Planning on the potential environmental impacts of the project. In this case, how the project structures and any necessary vegetation clearance may impact on the existing landscape character and visuals experienced by existing residents and visitors to the area. It is expected due to the nature of the scheme and small scale impact of construction that visual impacts will be minimal, however this study will be required to provide evidence to support or dismiss this and to guide mitigation in design if required.*

1.3.2 Scope of work

The scope of work is to prepare a preliminary LVIA for the project as part of the EES Referral process. This will include the following:

- A review of landscape and visual sensitive receptors near the project
- A description of the existing landscape and visual character of the project area
- A summary of relevant findings from previous studies and stakeholder consultations

- An assessment of the preliminary landscape and visual impacts and mitigation measures during operation and construction stages
- Provision of recommendations to support the EES and/or EPBC referral.

An initial draft preliminary LVIA was undertaken in June 2019, which was subsequently revised in September 2019 (this report) based on new design information received by Council.

1.4 Limitations

This report: has been prepared by GHD for Yarra Ranges Council and may only be used and relied on by Yarra Ranges Council for the purpose agreed between GHD and the Yarra Ranges Council as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Yarra Ranges Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Yarra Ranges Council and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Methodology

2.1 Standards and guidance

This preliminary landscape and visual impact assessment has been prepared in accordance with the following:

- *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Institute of Environmental Management & Assessment, 2013).

2.2 Landscape and visual existing environment

2.2.1 Study Area

For the purposes of this preliminary report, the study area is defined as land generally within one kilometre of the project footprint.

2.2.2 Review of legislation and policy

A high-level review of planning zones and overlays, policies and guidance was undertaken in relation to the landscape and visual environment within the LVIA study area. The emphasis of the review was to identify key values relevant to the landscape character and visual qualities of the study area.

2.2.3 Desktop analysis of the project, landscape and visual resources

Existing data was gathered and reviewed, including project design information, background reports relating to the project, topography, land use, and vegetation information, Google Earth and Google Street View. Using this data, a desktop assessment of the landscape and visual environment was undertaken to inform the site inspection.

2.2.4 Site inspection

A site inspection was undertaken by three Landscape Architects on the 7th June 2019. An additional site inspection was undertaken by one Landscape Architect on the 18th September 2019. The purpose of the inspections were to inspect the study area and appreciate views to / from the project site, inspect publically accessible locations identified in the desktop study as likely to provide views of the project, identify sensitive visual receptor locations, assess the landscape character of the study area, and undertake site photography suitable for photomontage preparation, if required. The Global Positioning System (GPS) coordinates of each viewpoint were recorded during the site inspection.

2.3 Preliminary Landscape Impact Assessment

2.3.1 Definition of existing landscape environment

A preliminary landscape character analysis was undertaken to determine the existing features within the study area, their character and value. Considerations include land use and built form, landform, topography and hydrology, vegetation.

2.3.2 Landscape character types

Landscape character considers common landscape types defined by typical features and characteristics identified during the desktop assessment and site inspection. Defining landscape character types identifies areas sharing the same homogenous environmental or cultural qualities or pattern such as topography, vegetation, hydrology, land use and settlement, built

form scale and character, cultural and recreational characteristics. These types make each part of the landscape distinctive and give each its particular sense of place.

Existing landscape character types were established around the project site to provide a framework for discussion around potential preliminary effects from the project.

2.3.3 Preliminary Landscape effects

Assessment of landscape effects deals with the effect of change and development on landscape as a resource. The concern is with how the project will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.

As part of this preliminary assessment, a discussion has been provided only, on the potential effects of the project on each landscape character type defined.

2.4 Preliminary Visual Impact Assessment

2.4.1 Definition of existing visual environment

A preliminary visual analysis was undertaken to determine the existing features within the study area and their values. Considerations include topography and vegetation, key views, visual characteristics, and the project viewshed. This preliminary LVIA primarily focuses on impacts to existing views from surrounding sensitive receptor locations.

2.4.2 Viewpoint selection

Assessment of visual impacts deals with the effects of change and development on the views available to people and their visual environment. It assesses how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views as a result of the change or loss of existing elements of the landscape and/or the introduction of new elements.

Visual receptors have been considered in terms of the views they are likely to obtain from within the study area including consideration of any key vantage points, such as lookouts, where there is particular interest in the view. Visual receptors are identified based on:

- proximity of the receptors to the project, as the most affected visual receptors are anticipated to be located closest to the project, unless located at an elevated vantage point
- type of receptor, as different viewer types would have different perceptions of the change.

Based on the analysis of the existing landscape and visual environment, sensitive visual receptors were identified and viewpoint locations selected as representative locations for discussion.

2.4.3 Preliminary Visual effects

The evaluation of potential impacts on the visual environment is based on the sensitivity of the viewpoint (and the visual receptor it represents) to change, and the magnitude of change that is likely to occur.

As part of this preliminary assessment, a discussion will be provided only, on the potential effects of the project on each viewpoint location identified.

2.4.4 Panorama

All photographic images were captured using a 50 millimetre fixed focal length lens on a 35 millimetre full frame format camera at a camera height of 1.6 metres. All photograph locations were recorded and mapped.

Six viewpoint locations were chosen and existing views represented using a panorama technique. This technique involves the stitching together of a number of adjoining images using the Adobe Photoshop software program representative of a 60 degree field of view.

An additional two viewpoint locations have been included for discussion.

2.5 Mitigation measures

Potential mitigation measures may include adopting alternative designs or revisions to the basic engineering and architectural design to prevent and/or minimise negative impacts; remedial measures such as colour and textural treatment of structural features; and compensatory measures such as landscape design to compensate for unavoidable negative impacts and to attempt to generate long-term positive impacts.

3. Project Background

3.1 Review of Relevant findings from Previous Studies

As part of this preliminary assessment, relevant project-related background studies provided by Council have been reviewed and summarised below.

3.1.1 Warburton Mountain Bike Hub Master Plan, Preliminary Master Plan Report (Cox Architecture, 2016)

This Master Plan Report follows on from a feasibility study undertaken by World Trail in 2013 investigating future opportunities for mountain biking tourism in the region. A key aspiration of the Master Plan is to focus mountain bike activities and associated commerce to the Warburton township as much as possible, with the main hub facility functioning similar to a ski style resort where visitors access trails directly from their accommodation.

The report presents a background and environmental study, proposition for product alignment and marketing, a management model, a risk assessment, signage guidance, and drawings illustrating the concept master plan for 15 proposed trails and main trail head located in Westburn Park.

3.1.2 Mt. Tugwell Trail Assessment (MakinTrax 2017)

This report provides a review of three existing mountain bike trails in Warburton to understand whether these trails can be integrated into the proposed trail network as part of this project. The existing trails assessed are *Hey Hey My My* located near Old Warburton Road, and *Top Track*, and *Matts Track*, located near Mt. Tugwell. These community designed and constructed trails were rated according to safety, sustainability and compatibility with the proposal. Recommendations were made to remediate these to achieve the desired world class standard.

3.1.3 Trail Construction Plan, Warburton Mountain Bike Trails (Cox Architecture)

This report provides information relating to the design development of the trail network regarding ground-truthing activities undertaken by project stakeholders, and environmental design guidelines in relation to typical mountain bike trail features such as the trail corridor, trees, trails on slopes, water crossings and sensitive areas, drainage, design for ecological and habitat areas, and cultural consideration. General high-level construction principles are also provided for elevated platforms and bridges.

3.1.4 Product Review: Warburton Mountain Bike Trail Destination (World Trail, May 2019, Draft)

This draft report provides a peer review of the Warburton Mountain Bike Hub Master Plan (Cox Architecture). The focus of the review was to ensure high levels of rider experience satisfaction so that the mountain bike product has high demand and visitation. The review addresses key considerations such as terrain, natural features, view opportunities, rest stops, and water crossings. The final outcomes are a series of 18 recommendations, each relating to amendments to trails or sections of trails designed by Cox Architecture to maximise the experience offered by the trail network and overall success of the project.

In relation to views, this draft report considers views from the perspective of enhancing viewing experiences from the trails for the riders, for example maximising views from the summit of Mt. Little Joe towards Warburton.

3.2 Summary of relevant Project Objectives

The Cox Preliminary Master Plan Report has established the following design principles for the project:

'A well designed constructed, managed and maintained mountain bike trail will be developed to Australian and International Mountain Bike Association (IMBA) standards, consider sustainable design principles and minimise environmental and cultural impact. We seek a trail network with attractive and inviting trail heads, a trail network that is iconic, unique to the area and considers all mountain biking disciplines. Key design guidelines for the design of the trails include:

- *Limit environmental impacts*
- *Keep maintenance requirements to a minimum*
- *Avoid user conflicts and consider local impacts.'*

3.3 The Project

3.3.1 Key project components

For the purposes of this assessment, the project includes the following key components:

3.3.1.1 Mountain Bike Trails

Fifteen new mountain bike trails are proposed as part of this project. The alignment is based on the Warburton Mountain Bike Hub Master Plan (Cox Architecture), with further trail refinements based on draft recommendations within the Product Review, Warburton Mountain Bike Trail Destination (World Trail, May 2019, Draft), as well as subsequent refinement undertaken in September 2019. No large tree (>200 mm dbh) removal is proposed as part of the trail construction, however some groundcover and understorey vegetation will be removed. The trail network will also include built form such as bridges, platforms, culverts, rock armour, and berms. Signage associated with the trail and trail heads is proposed to be minimal, consisting of small maps at strategic intersections, and trail name signage.

The below image (Figure 1) is the existing mountain bike trail south of Old Warburton Road, associated with the *Hey Hey My My* trail network. The proposed trails are likely to similarly conform and respond to the existing landform and vegetation, however are likely to be wider potentially with more design features. Figure 2 below is an extract from the *Warburton Mountain Bike Trails Design & Masterplan* report as a typical trail section. The section shows the proposed trail requires a clearance of between:

- 0.8 metres and two metres wide (B)
- 2.2 metres and 2.4 metres high (C), and
- a proposed path width between 0.15 metres and 1.5 metres wide (A).

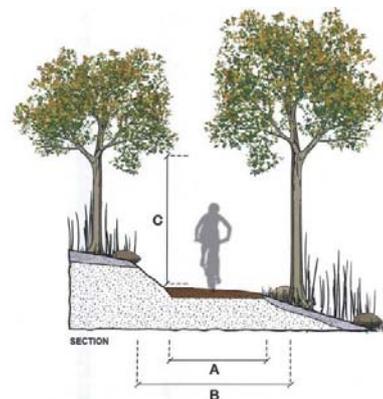


Figure 1 Existing mountain bike trail

Figure 2 Typical trail section

3.3.1.2 Visitor's Hub

Visitor's Hub and associated facilities are based on those shown in the Warburton Mountain Bike Hub Master Plan (Cox Architecture), however the location is now proposed to be at the Warburton Golf Course. Discussions are ongoing in relation to the securing of potential additional land for the main trail head.

The trail head and associated facilities would be located at the southern end of the golf course adjacent to Dammans Road. Facilities will include carparking for approximately 250 cars, a new shelter, four or five wash bays, and a shuttle bus and trailer drop-off area. The existing golf course building and public shelter on Dammans Road is proposed to be retained and upgraded.

Two trails are proposed on the slope connecting the trail head north and south to the O'Shannassy Trail.

3.3.1.3 Bridges

Three longer span shared use bridges are proposed crossing over roads and waterways, including the Frenchman's Creek Bridge, Old Warburton Road Bridge, and the Yarra River Bridge. The locations and design of these bridges are currently in concept development stage.

Old Warburton Road Bridge

The Old Warburton Road bridge is proposed to be located near the intersection of Old Warburton Road and Backstairs track. The preliminary concept design of the bridge is a Glulam (glued laminated timber) bridge spanning approximately 25 metres across Old Warburton Road, with a six metre radius curved exit ramp from the bridge on the north-western side to align with the road corridor, ramping down along the slope to meet the trail below. The bridge is proposed to have a total width of approximately two metres, with a minimum clearance above the road of five metres. Tree removal associated with this bridge is likely to include at least one small tree on the south-western bank, with likely additional trees in the location of the ramp, to be confirmed with refinement of the design. No large trees, with a diameter at breast height (dbh) greater than 250 mm will be removed.

The below sketch (Figure 3) has been provided by Council to illustrate the design intent for the bridge.

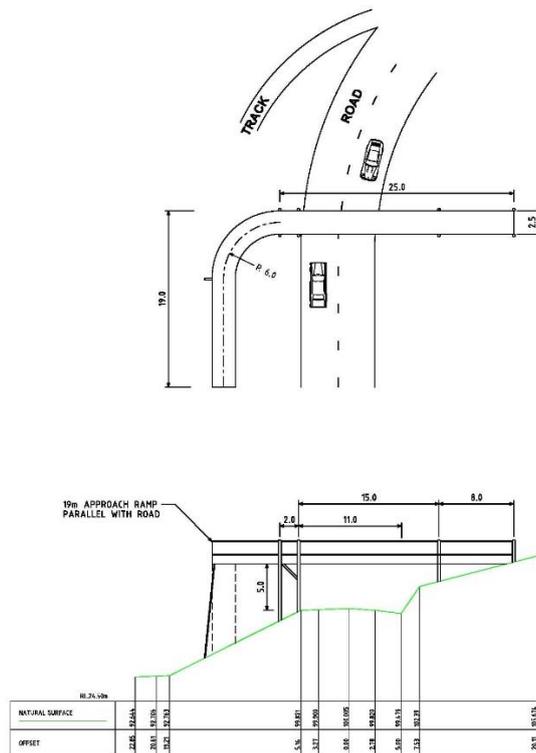


Figure 3 Concept sketch of proposed Old Warburton Road bridge (provided by Council)

Yarra River Bridge

The Yarra River Bridge is proposed to be a suspension-style shared use bridge spanning approximately 121 metres across the Yarra River, Warburton Highway and Dammans Road, with bridge landings connecting to the Warburton Rail Trail and the entry to the Warburton Golf

Club. The proposed bridge design has a width of approximately 2.5 metres and a minimum clearance of eight metres above the Warburton Highway. Tree removal associated with this bridge is likely to include a number of trees located on the northern edge of the Yarra River.

The sketch and bridge design example images below (Figure 4 to Figure 7), provided to GHD by Council, illustrate the design intent for this bridge.



Figure 4 Example of proposed bridge type (provided by Council)



Figure 5 Example of proposed bridge type (provided by Council)



Figure 6 Sketch of proposed bridge location (provided by Council)

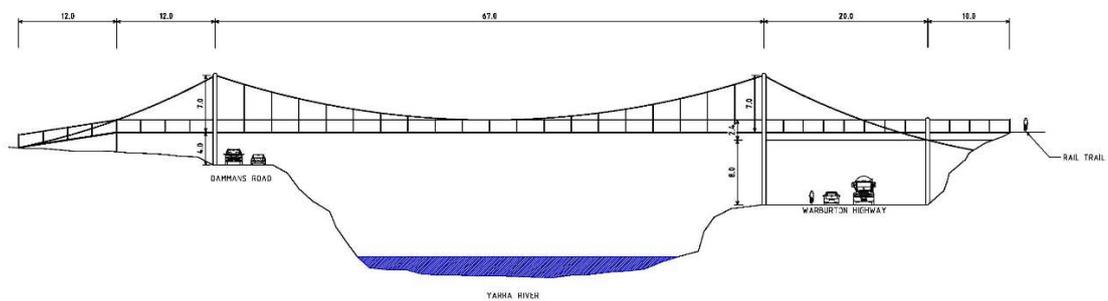


Figure 7 Concept sketch of proposed bridge (provided by Council)

3.3.1.4 Trail Heads

Mt. Tugwell Trail Head

A satellite trail head is proposed to be located close to the top of Mt. Tugwell (Mt. Bride Road). This will include eight carparks, a shuttle bus turnaround and loading/unloading bays, toilet, and picnic area. Tree removal is proposed to be limited to one large (>250 mm dbh) tree in this location.

Mt. Donna Buang Trail Head

A trail head is proposed to be located on the top of Mt. Donna Buang, including an upgrade to the existing carparking, and summit facilities such as toilets and picnic area.

The below images (Figure 8 and Figure 9) have been provided by Council to indicate the design intention for elements associated with the Mt Tugwell trail head.



Figure 8 Trail head precedent images (provided by Council)

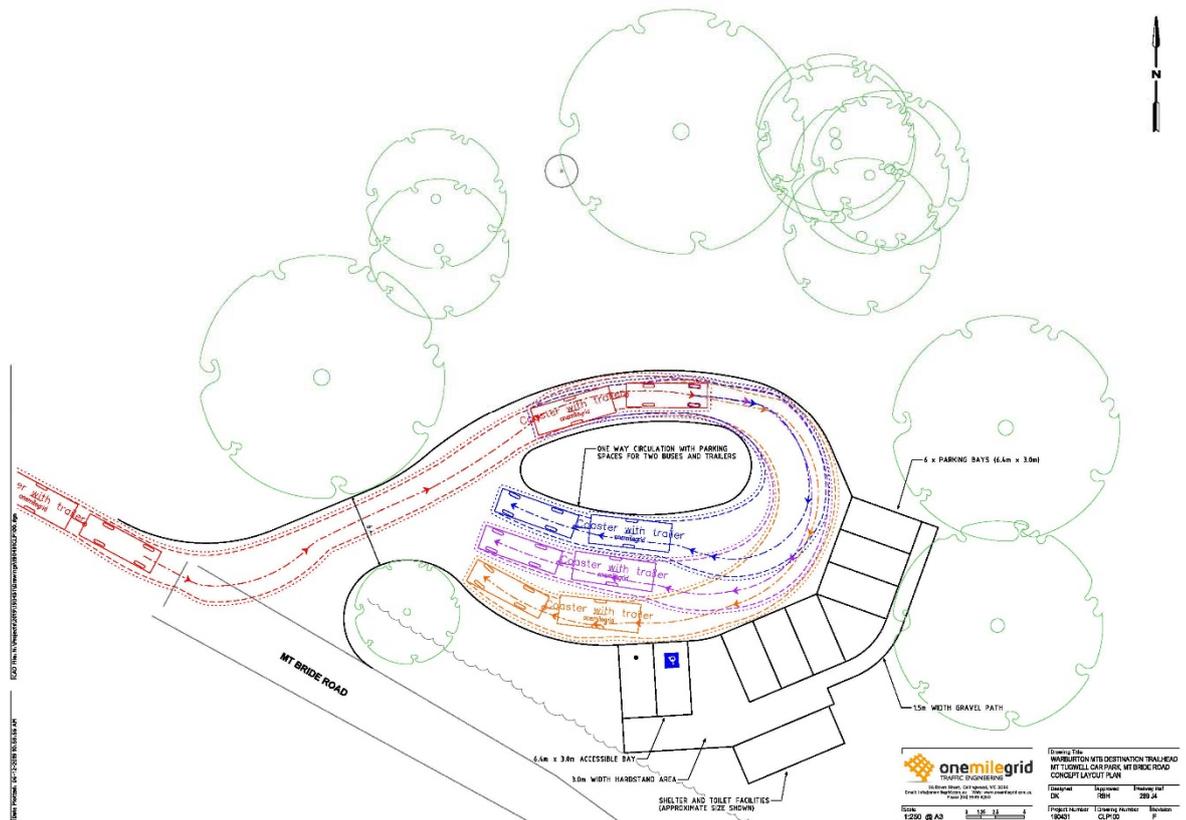


Figure 9 Mt Tugwell Trail Head concept plan (provided by Council)

3.3.2 Project construction

Currently, no specific information has been provided regarding construction activities. However, as the project includes built form elements such as new bridges, structures, furniture and signage, carparking and footpaths, construction activities are likely to involve changes such as designated construction compound areas, construction fencing or hoarding, an increase in construction traffic, works to above and below ground services, earthworks, and construction lighting.

Construction of the trails themselves will be relying on aerial transportation of large items such as bridge components where there is no adjacent vehicle access (Frenchmans creek) by helicopter to minimise environmental impact.

4. Legislation and Policy

4.1 Review of Legislation and Policy

The following section provides a high-level summary review of the legislation and policy context relating to landscape character and visual environment within the project study area.

4.1.1 Yarra Ranges Planning Scheme

The following section will discuss relevant aspects of the Yarra Ranges Planning Scheme in relation to the project.

4.1.1.1 Land Use Zones

The study area includes land use zones comprising of Commercial, Green Wedge, Low Density Residential, Public Conservation and Resource, Public Park and Recreation, Public Use, Rural Conservation, Rural Living, and Special Use.

4.1.1.2 Significant Landscape Overlays

A large proportion of the study area is protected with a Significant Landscape Overlays (SLO). The purpose of these are to preserve and enhance the special areas within the Yarra Ranges and ensure the retention of their unique character and appeal for residents, visitors and new businesses. The recognised values include spectacular mountain scenery, expansive rural plains, slopes and enclosed valleys with small townships where a harmonious balance of forest, farmland and development has been achieved.

SLO's within the study area include the following:

- SLO3: Donna Buang Range
- SLO4: Upper Yarra River & Environs
- SLO17: Little Yarra Valley
- SLO22: Foothills and Rural Townships.

Relevant objectives of SLO3, SLO4 and SLO17 include: *'Protect and enhance the environmental, scenic, visual, cultural and scientific values of the significant landscapes which have been identified in the Shire; Conserve the flora and fauna and associated ecological processes that contribute to the significance of the identified landscapes; Ensure that any new development is located and designed to avoid inappropriate visual intrusion or other detrimental effects on the key characteristics of the identified landscapes'*.

Relevant objectives of SLO22 include: *'To recognise and conserve the environmental and visual sensitivity of residential areas; To ensure development is sensitive to the natural characteristics of the land including slope, terrain and any existing vegetation'*.

4.1.1.1 Environmental Significance Overlays

A large portion of the study area is protected by Environmental Significance Overlays (ESO), including extensive areas of remnant bushland which is intrinsic to the areas unique landscape and environmental character. The purpose of the ESO's are to ensure the long term protection of wildlife habitat and other conservation values of sites of botanical and zoological significance and to ensure that any new development is sensitively designed and sited to reinforce the existing environmental characteristics of the area.

4.1.1.2 Heritage Overlays

A number of Heritage Overlays (HO) are present within the study area. The purpose of these are to conserve and enhance heritage places of natural or cultural significance, and those elements that contribute to the significance of heritage places. Key HO's within the study area include the following:

- HO140: Mount Donna Buang Bridle Tracks & Road
- HO214: Lilydale-Warburton Railway
- HO342: Yarra Yarra Hydraulic Gold Sluicing Company
- HO339: Warburton Swing Bridge, Tennis Courts, Club House and Rotunda.

4.1.1.3 Design and Development Overlays

A Design and Development Overlay (DDO) is present within the study to outline specific requirements relating to the design and built form of new development. In this case, the DDO relates to Warburton town centre as outlined in DDO12: Town Centres.

Relevant objectives include: *'To enhance the distinctive built form and streetscape characteristics of the town centre; To reinforce the main street as the focus of business and pedestrian activity in the town centre; To maintain visual links between the town centre and its rural hinterland; To protect and enhance the amenity of residential and public places within and adjoining the town centre.'*

4.1.1.4 Vision 2020 by Design (2008)

This policy provides an assessment and recommendations to assist in preserving the character of built form, urban areas, towns and villages, and agricultural land within the Yarra Ranges Shire, for future generations. It includes general guidelines for the design, siting and style of new development so that the visual amenity of the Shire is not diminished by new development. The report identifies nine distinct urban and rural area types and presents guidelines for each, as well as for specific development types and landscape areas.

4.1.2 Yarra River

4.1.2.1 Yarra River (Willip-gin Birrarung Murrn) Protection Act 2017

The *Yarra River (Willip-gin Birrarung Murrn) Protection Act 2017* provides an overarching policy and planning framework to coordinate and harmonise planning for the use, development and protection of the Yarra River, its parklands and other land in its vicinity. A purpose of the Act is to protect the Yarra River and the surrounding parcels of public land as one living and integrated natural entity. The Act also recognises the importance of the Yarra River, and its parklands and associated public places, to the economic prosperity, vitality and liveability of Melbourne and the Yarra Valley.

4.1.2.2 Yarra River Strategic Plan

A 50 year integrated river corridor strategy, the *Yarra River Strategic Plan*, is currently underway, which will include waterway and land management. The project is within the Upper Rural reach character area. Specific to this reach, the community's top priorities from recent engagement were recreation, environmental protection, and sense of place.

4.1.2.3 Heritage Rivers Act 1992

The *Heritage Rivers Act 1992 (Vic)* provides for the protection of public land in particular parts of rivers and river catchment area in Victoria which have significant nature conservation, recreation, scenic or cultural heritage attributes. The Act recognises the importance of the landform, waterform and vegetation types of the rivers which contribute to people's enjoyment of scenic vistas or reflect particular landscape character types and river settings.

4.1.3 Yarra Ranges National Park

4.1.3.1 Yarra Ranges National Park Management Plan (2002)

This plan focuses on the management of the Yarra Ranges National Park with a focus on protection of the water resources within the catchment conservation, protection of ecological conservation values, including rare and threatened species such as the Leadbeater's Possum, and conservation of areas of Aboriginal and cultural heritage, whilst accommodating visitor activities.

Key relevant management objectives for the park include: *'Preservation of significant conservation areas including old-growth forest; Protection of water resources in the water supply catchments...; Protection of the park from potentially damaging processes including wildfire, soil erosion and pest plants and animals; Provision of a range of nature-based visitor settings and activities, with a primary focus on day visitors...; Investigations for new short walks and long-distance trails; Improved orientation and information services to assist visitors to use and enjoy the park; Management of cultural and historical places for protection and appropriate visitor access and interpretation'*.

Landscape

Specific to landscape character, key aims are to: *'Protect natural landscape, particularly those of high scenic quality; Upgrade or rehabilitate sites and facilities that are visually unattractive'*.

Key management strategies include: *'Improve visual quality by rehabilitating or upgrading sites that do not meet current visual standards, including Mt. Donna Buang lower car parks...; Participate in planning processes and continue to liaise with the Forests Service and the Shires of Yarra Ranges and Murrundindi to maintain visual quality from high-use visitor destinations and viewing points in the park, including Mount Donna Buang...; Incorporate landscape protection measures into the siting and design of all facilities and utilities. Continually improve landscape values while planning and implementing management activities; Inventory and assess existing viewing points...; Protect areas designated by the National Trust as 'Classified' landscapes; Maintain the scenic values of ...Donn Buange Road including the Ben Cairn section...'*

5. Preliminary Landscape Impact Assessment

5.1 Existing Landscape Environment

The following section provides a preliminary landscape character analysis to determine the existing features within the study area, their character and value. Considerations include land use and built form, landform, topography and hydrology, vegetation.

5.1.1 Land use and built form

The project is situated within the Warburton valley, characterised by densely forested slopes to the north and south, with the township of Warbuton nestled upon the valley floor. The urban development follows the flatter topography on either side of the Yarra River. Village-style small shops and cafes are situated along the Warburton Highway in the Warburton town centre, with the railways station and Visitor's Information Centre nearby. Residential areas are low density, filtering to rural towards the foothills of the ranges, with development not appearing to exceed two storey. The forested slopes to the north are part of the Yarra Ranges National Park, with areas to the south, part of the Yarra State Forest.

5.1.2 Topography, hydrology and vegetation

The Warburton Valley is enclosed by the steep slopes of ridges to the north and south. Mt. Donna Buang forms a continuous ridgeline to the north, reaching a high point of 1245 metres. To the south, Mt. Little Joe rises to 510 metres, and Mt. Tugwell to 790 metres, together forming the smaller valley on either side of Old Warbuton Road. Warburton sits at 159 metres.

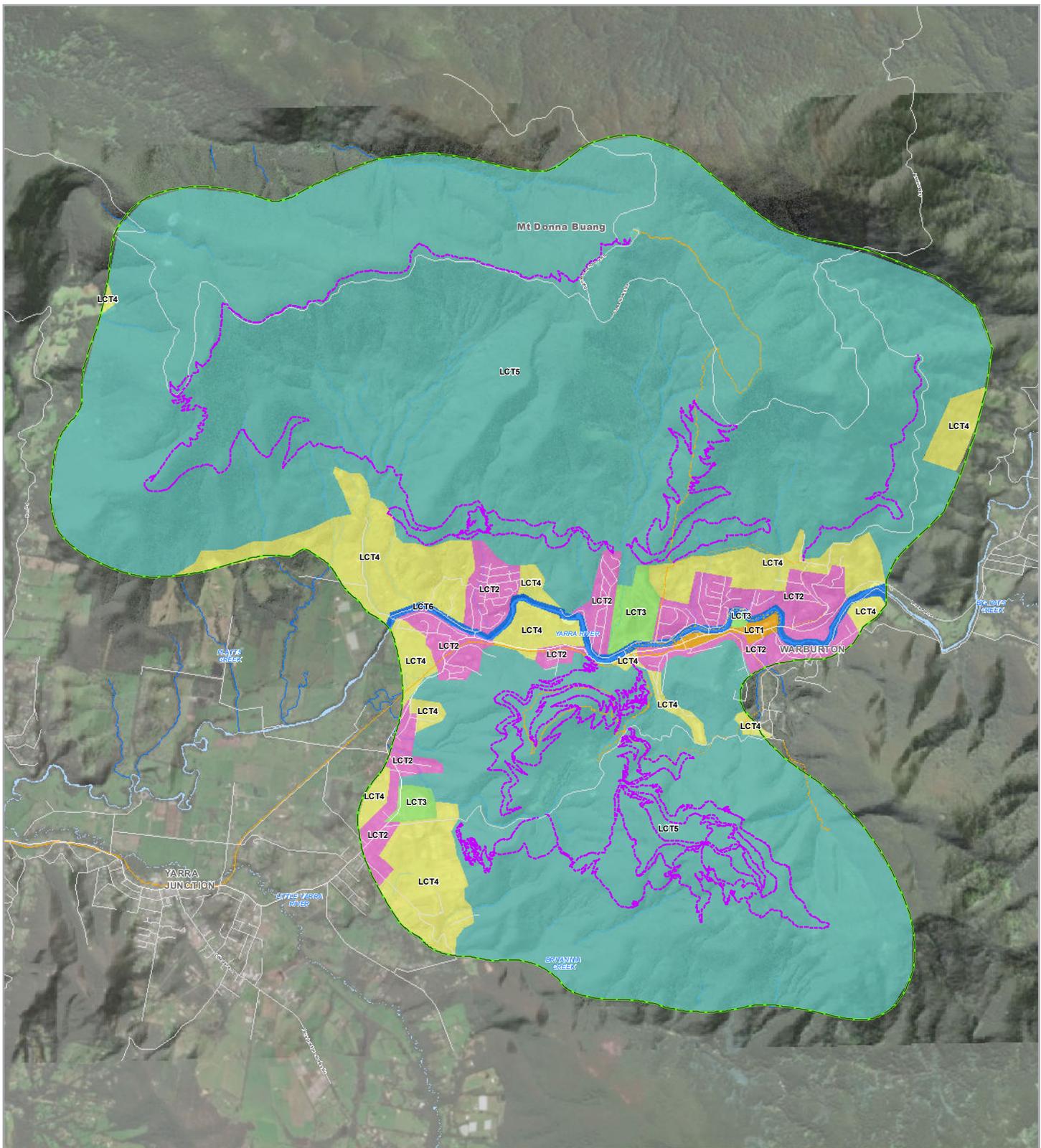
The Yarra River traverses the Warburton valley as part of the Upper Yarra Catchment, with smaller tributaries flowing from the ranges.

Vegetation within forested slopes surrounding the valley include Mountain Ash forest with an understorey of tree ferns and gullies of cool temperate rainforest, with some sub-alpine vegetation areas of higher elevation such as Mt. Donna Buang summit.

5.2 Landscape Character Types

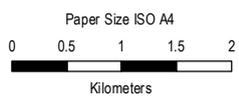
Landscape character types (LCT) have been defined based on broadly homogenous environmental and cultural qualities and patterns in the landscape, such as topography, vegetation, hydrology, land use and settlement. The following landscape character types have been defined within the study area:

- LCT1: Township
- LCT2: Residential
- LCT3: Active Recreation
- LCT4: Rural Valley
- LCT5: Forested Slopes
- LCT6: Yarra River and Floodplain

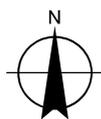


Legend

Landscape Character	Study Area (approx. 1 km)	Stream
LCT 1 Township	Proposed Mountain Bike Trails	Rail trail
LCT 2 Residential	Highway	
LCT 3 Active Recreation	Arterial	
LCT 4 Rural Valley	Collector	
LCT 5 Forested Slopes	Walking Tracks	
LCT 6 River	Watercourse	



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA94 MGA zone 55



Yarra Ranges Council
 Warburton Mountain Bike Destination

Project No. 31-37322
 Revision No. A
 Date 20/09/2019

Landscape Character Types

FIGURE 1

5.3 Preliminary Landscape Character Impact Assessment

This section includes a description and preliminary assessment of impacts to landscape character from the project. An image is include as representative of the landscape characteristics of each type. Refer to Figure 10 for location of LCT's.

5.3.1 Landscape character type 1: Township



Criteria	Comments
Location and description	LCT1 is located in and around the commercial centre of Warburton, along the Warburton Highway, the riverfront, and inner-residential areas. Warburton is a small township within the narrow valley, with shops and restaurants clustered along the Warburton Highway. Building heights do not exceed two storey. Vegetation comprises of predominantly exotic vegetation. Pedestrian paths link to the Yarra River foreshore and riverfront linear parkland.
Values and sensitivities	Relevant values include those associated with the historical settlement pattern, those associated with HO214: Lilydale-Warburton Railway heritage overlay, those associated with the SLO22: Foothills and Rural Townships, as identified in the Yarra Ranges Planning Scheme. Key valued elements near the project include the swing bridge and surrounding precinct, the linear rail trail railway reserve and associated historical remnants and social facilities, and views to the forested hills. SLO22 recognises the character values of the Warburton township, including the dominance of landscape over the buildings and the association of the area with a cottage or chalet style of design, as well as the visual dominance of vegetation, the hillsides appearing to be covered with trees, and the vistas through development to hills, canopy trees and the surrounding landscape.
Discussion of Potential Effects	The project is not likely to have a direct effect on the landscape character of LCT1 at this stage as the project footprint is not within the LCT1 area, however this may change through the design development stages depending on proposed bridge location and trail network links.

5.3.2 Landscape character type 2: Residential



Criteria	Comments
Location and description	LCT2 includes the residential areas within the Warburton Valley, on either side of the Yarra River and Warburton Highway. LCT2 includes predominantly single storey low density residential development. The road network stems from the Warburton Highway whilst following the natural landform. Vegetation comprises of street trees and private garden planting, typically including mature exotic deciduous and evergreen trees.
Values and sensitivities	Values include those associated with SLO3: Donna Buang Range, which includes Mt. Donna Buang as a mountainous backdrop to many rural vistas in the area; the densely forested slopes of Mt. Donna Buang forming a dominant visual feature in the area; the lack of visual intrusions on the forested slopes; and the management of land to preserve the forest cover of these hills.
Discussion of Potential Effects	The project is not likely to have a direct effect on LCT2 or its character. Proposed trails along the foothills of Mt. Donna Buang ranges will be within relative proximity to LCT2, however at this stage, no changes are proposed within the LCT2 area, and the O'Shannessy Adeduct Trail, a recreational walking trail, is already present in this location.

5.3.1 Landscape character type 3: Active Recreation



Criteria	Comments
Location and description	LCT3 includes the active recreation areas of Westburn Park, the Warburton Golf Club, and the Warburton Recreation Reserve. This LCT is characterised by open grassed active recreation fields and associated amenity buildings. Trees within the golf course are mix of mature exotic evergreen and deciduous trees.
Values and sensitivities	Values associated with LCT3 include those identified within SLO4: Upper Yarra River & Environs (within Warburton Recreation Reserve), SLO3: Donna Buang Range and ESO1-Z38: Ythan Creek and Dirty Gully Warburton (within Warburton Golf Course). Mature exotic trees within the golf course also contribute positively to the distinctive character, forming pleasant vistas along fairways with Mt. Donna Buang appearing as a dominant visual feature and distinctive mountainous backdrop.
Discussion of Potential Effects	<p>Of the areas within LCT3, the Warburton Golf Course would be affected by the project. This is the location of the proposed main trail head and Visitor's Centre. Proposed changes within and adjacent to the golf course include a new carpark within the golf course for up to 250 cars, aligned with Dammans Road. A shuttle bus and trailer drop-off area is proposed between the existing picnic shelter and Dammans Road near the golf course entry. Other associated facilities include a new shelter, upgrade to the existing golf course and picnic shelter buildings, wash bays, and new trails on the golf course slope, however limited information has been provided about the design of these project components to date.</p> <p>As the project is currently in concept design, the design development should respect those values highlighted within the Planning Overlays above. In addition, the proposal should retain and protect mature characteristic trees within the golf course and along Dammans Road. Proposed structures and landscape treatment should be designed with sensitive consideration to the existing landform and golf course characteristics.</p>

5.3.2 Landscape character type 4: Rural Valley



Criteria	Comments
Location and description	LCT4 includes the rural residential areas on the valley floor on the north and south of the valley, close to the mountain foothills. These areas are characterised by private residences set back from the road with adjoining open paddocks typically with a variety of native and exotic vegetation. The open fields reveal expansive views to the surrounding mountain ranges.
Values and sensitivities	<p>Values associated with LCT4 include those identified within SLO4: Upper Yarra River & Environs, which include key aspects of the landscape character such as cleared floodplain areas used for broadscale grazing defining the open rural character dominated by the backdrop of mountains. A key objective is for the protection and enhancement of remnant vegetation and wetland features along the river to prevent visual intrusion from inappropriate development and ensure the long term retention of the landscape values of this area.</p> <p>LCT4 also includes values associated with SLO17 Little Yarra Valley, which include landscape character components forming the broad pastoral landscape such as undulating farmland surrounded by forested hills narrowing into areas of tall mountain forest, which requires careful management of development to minimise visual impacts to this rural character.</p>
Discussion of Potential Effects	LCT4 is not likely to be directly affected by the project. A number of trails are proposed within close proximity to areas on the western side of Mt. Tugwell and the north-eastern side of the Warburton Golf Course, however these areas currently have mountain bike trails (<i>Hey Hey My My</i>) and walking trails (O'Shannessy Aqueduct Trail) in these locations.

5.3.3 Landscape character type 5: Forested Slopes



Criteria	Comments
Location and description	<p>LCT5 includes the forested slopes of Mt. Donna Buang, Mt. Little Joe and Mt. Tugwell. This includes areas of the Yarra Ranges National Park, the Yarra State Forest, as well as rural residential properties on either side of Old Warburton Road. Roadways are limited to main public through-roads and gravel services roads. Walking trails and informal mountain bike trails area present, as well as other recreational features such as the Mt. Donna Buang summit observation area. The forest areas primarily comprise of Mountain Ash forest with tree fern understorey, gullies of cool temperate rainforest, and some sub-alpine vegetation in elevated areas. Views experienced within LCT5 are generally enclosed due to dense vegetation.</p>
Values and sensitivities	<p>Relevant values include those associated with the natural values of the Yarra Ranges National Park, as identified in 4.1.3.</p> <p>Values associated with SLO3: Donna Buang Range within LCT5 include the densely forested slopes of Mt. Donna Buang forming a dominant visual feature and backdrop to views in the area; the lack of visual intrusions on the forested slopes; and the management of land to preserve of the forest cover of these hills.</p> <p>Values associated with HO140: Mt. Donna Buang Bridle Tracks & Road within LCT5 include the areas recognition as an important place for locals and visitors to the region since the early nineteenth century, with a long history of use reflected in the lookout tower, picnic area, snow play and toboggan areas, and car park located at the summit, as well as the Ben Cairn lookout.</p> <p>HO342: Yarra Yarra Hydraulic Gold Sluicing Company is also within LCT5, valued as an important gold mining site associated with Old Warburton's history as a major gold township.</p>
Discussion of Potential Effects	<p>All proposed trails are within LCT5. Trail refinement is currently ongoing. A sensitive design approach is required to the detailed design and siting of trail infrastructure. However the trails themselves are not expected to affect the key characteristics that define this landscape character type due to the proposed recommendations to for a sensitive approach to construction provided by Cox Architecture (<i>Trail Construction Plan</i>) and no proposed tree removal associated with the trail construction and operation.</p>

5.3.4 Landscape character type 6: River



Criteria	Comments
Location and description	<p>LCT6 includes the Yarra River and floodplain, riverfront amenities, bridges, and vegetated banks. The Yarra River in this location is approximately 30 metres wide, meandering through the valley with sections of pooling and running water over volcanic rock. The banks have dense native vegetation in rural and residential areas, with recreational parkland within the Warburton township. Native riparian trees and shrubs form a vegetation buffer to the river, with deciduous parkland trees situated alongside the banks within the Warburton township.</p>
Values and sensitivities	<p>Relevant values include those associated with the heritage value of the swing bridge, tennis courts, club house and rotunda precinct (HO339) which include their historical significance and function as landmark / focal points within the Warburton township.</p> <p>LCT6 also includes values associated with SLO4: Upper Yarra River & Environs, which include which include key aspects of the landscape character such as cleared floodplain areas used for broadscale grazing defining the open rural character dominated by the backdrop of mountains. A key objective is for the protection and enhancement of remnant vegetation and wetland features along the river to prevent visual intrusion from inappropriate development and ensure the long term retention of the landscape values of this area.</p> <p>LCT6 also include values associated with with ESO1-Z2: Yarra River and Little Yarra River Corridor.</p>
Discussion of Potential Effects	<p>The project will include a bridge crossing of the Yarra River above the Mayer Bridge. Any proposed development should be undertaken with respect to Yarra River environmental and landscape character values as identified within relevant policy and legislation.</p>

6. Preliminary Visual Impact Assessment

6.1 Existing Visual Environment and Sensitive Visual Receptors

The following section provides a preliminary visual analysis to determine the existing features within the study area and their values. Considerations include topography and vegetation, key views, visual characteristics, and the project viewshed.

6.1.1 Visual Analysis

The Warburton valley is quite incised, with steep slopes and tall forested vegetation with a deep narrow valley floor. The settlement is integrated with an abundance of tall native and exotic canopy trees, with limited clearings typically only associated with active recreation areas such as sports fields. Distant long open views from Warburton to the ranges are therefore relatively limited due to existing vegetation, and where these can be seen, often only the upper portion of hilltops are in view between foreground vegetation.

6.1.1.1 Project Viewshed

The project viewshed is therefore largely limited to the immediate area surrounding built form infrastructure, including bridges and trail head locations. Although the proposed trail network itself affects a large extent of land, as the trails will result in no tree removal, the trail network is not likely to have any visual effect on sensitive visual receptors who are predominantly located within the Warburton township. The proposed trail network on the sloping terrain surrounding Warburton is not likely to be visually noticeable from Warburton and surrounds.

6.1.1.2 Key views

Key views identified within the study area include the following:

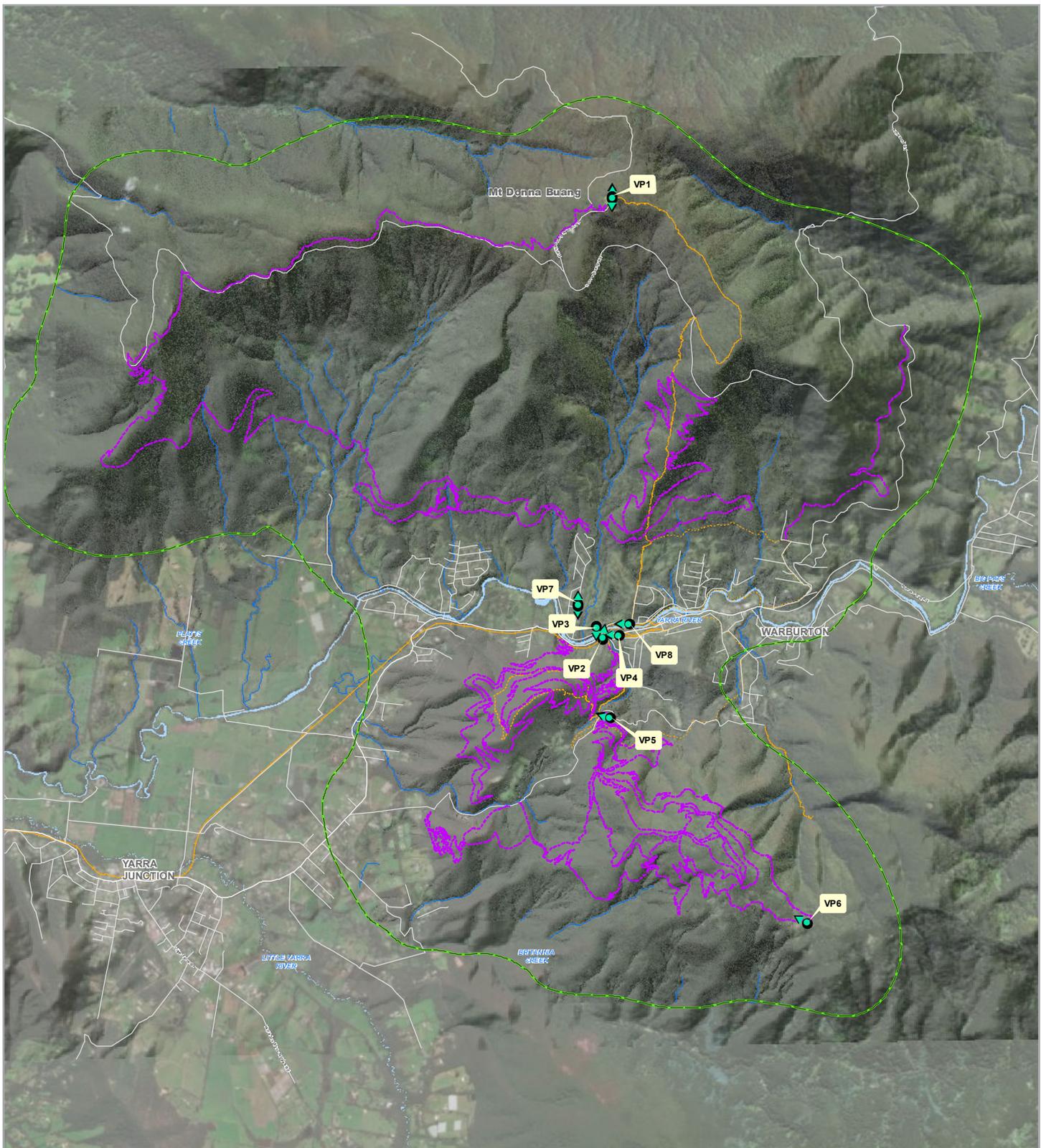
- Views generally north-south across the valley between ridgelines, particularly views north towards Mt. Donna Buang from settlement area within the valley where Mt. Donna Buang forms the backdrop to the views from Warburton and residential areas. These views are valued as recognised within the *Significant Landscape Overlay SLO3 Donna Buang Range* within the Yarra Ranges Planning Scheme.
- Vistas through settlement areas within the Warburton township to hills, canopy trees and the surrounding landscape, and are a recognised value within the *Significant Landscape Overlay SLO22 Foothills and Rural Townships* which includes Warburton.
- Distant ridgeline views from cleared or elevated recreation or community gathering areas in Warburton and surrounding, including from the Warburton to Lilydale Rail Trail, Westburn Park, Warburton Recreation Reserve, and from the Warburton town centre.
- Panoramic views of surrounds from the Mt. Donna Buang summit observation tower.

6.1.2 Sensitive visual receptors and Viewpoint locations

Considering the project viewshed as described above, sensitive visual receptors selected for assessment are outlined in Table 1 below and shown on Figure 11.

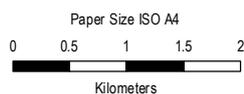
Table 1 Viewpoint locations

Viewpoint	Location	Sensitive Visual Receptor
VP1	Mt. Donna Buang Summit	View representative of visitor's to Mt. Donna Buang Summit.
VP2	Lilydale to Warburton Rail Trail	View representative of walkers and cyclists using the Lilydale to Warburton Rail Trail.
VP3	Dammans Road Picnic Shelter	View representative of visitors to the public picnic shelter.
VP4	Warburton Highway	View representative of road users on the Warburton Highway and pedestrians using the bus stops and nearby amenities.
VP5	Old Warburton Road	View representative of road users on Warburton Road.
VP6	Mt. Bride Road	View representative of road users on Mt. Bride Road.
VP7	Surrey Road	View representative of surrounding residences and local road users.
VP8	Yarra River Walk	Pedestrians on the Yarra River Walk, and road users on Dammans Road.

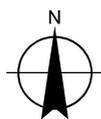


Legend

-  Viewpoints
-  Study Area (approx. 1 km)
-  Proposed Mountain Bike Trails
-  Highway
-  Arterial
-  Collector
-  Walking Tracks
-  Watercourse
-  Stream
-  Rail trail



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA94 MGA zone 55



Yarra Ranges Council
 Warburton Mountain Bike Destination

Project No. 31-37322
 Revision No. A
 Date 20/09/2019

Viewpoint Locations

FIGURE 2

6.2 Preliminary Visual Impact Assessment

The following section provides a preliminary assessment of the potential visual impact of the project from the following viewpoint locations as identified in Table 1 and Figure 11. The project is in concept design stage only, therefore a discussion will be provided only, followed by mitigation recommendations.

6.2.1 Viewpoint location 1 - Mt. Donna Buang Summit



View looking north-east (above)



View looking south-west (above)

Criteria	Comments
Location and View Direction	VP1 is located at the summit of Mt. Donna Buang, on the grass adjacent to Donna Buang Summit Road. Two view directions are shown for VP1, looking north-east towards the existing summit carpark, and looking south-west towards the extent of clearing.
Sensitive Visual Receptors	VP1 is representative of visitors to Mt. Donna Buang Summit and picnic area. This is a popular visitor destination within the Yarra Ranges National Park, offering panoramic views from a lookout tower over the surrounding area from the 1245 metre summit. A number of walking trails also start from the picnic area. Values associated with this site are identified in HO140, relating to the sites historical importance for locals and visitors to the region, with a long history of use reflected in the lookout

	tower, picnic area, snow play and toboggan areas, and car park located at the summit.
Discussion of Potential Effects	<p>A trail head is proposed at this location, including upgrades to the carpark, picnic area and toilet facilities. There is currently no known concept design for this site.</p> <p>The trail head is proposed to enter the site from the south through the bushland.</p> <p>Changes to VP1 looking north-east are likely to include upgrades to the carpark as a minimum. Changes to VP1 looking south-west would include a new bike trail entry point which may continue through or around the clearing. Vegetation removal is unlikely, however some signage may be proposed. Any additional changes to this view are unknown at this stage.</p> <p>Viewers in this location are primarily interested in views from the lookout tower, however the picnic area within the National Park setting is a valued amenity area for scenic drive visitors and walkers. Refer to Mitigation Measures (Section 7) for high level design guidance for this location.</p>

6.2.1 Viewpoint location 2 - Lilydale to Warburton Rail Trail



Criteria	Comments
Location and View Direction	VP2 is located on the northern side of the Lilydale to Warburton Rail Trail shared use path. VP2 is looking north.
Sensitive Visual Receptors	VP2 is representative of pedestrian, cyclists, and horse riders using the rail trail shared use path. This path is a popular 38 kilometre recreational trail used by locals and tourists attracted to the recreational, historical and scenic amenity it provides, along with the amenities within the townships of Lilydale and Warburton. Visitors experiencing this view would likely be approaching or departing from the nearby Warburton town centre and associated amenities. This viewing location is a transition point where a path adjoins the trail, and between a section of the main trail that transitions from a forest-like setting to bridge. There is no formal seating however this is a location where people may stop to enjoy the open views towards the ranges from an elevated location.
Discussion of Potential Effects	<p>VP2 is orientated towards the location of the proposed shared use path bridge which would be above and to the right of the Mayer bridge, connecting the rail trail to the Warburton Golf Course. A number of trees are likely to be removed on either side of the new bridge.</p> <p>The existing view is dominated by foreground vegetation associated with the Yarra River riparian corridor, the Warburton Highway and Dammans Road. Mayer Bridge can be seen to the left of the view, crossing the Yarra River. The Warburton Golf Course, a residence and a picnic shelter on the far side of Dammans Road are largely obscured by vegetation. The undulating formations of Mt. Donna Buang create a continuous backdrop to the view. Infrastructure to the foreground includes overhead wires. A public amenities building can be seen to the right foreground.</p> <p>The new shared use bridge would be visible from VP2, appearing across the centre of the view from the lower right foreground to centre left of view. The bridge connection on the far side of the river would appear to the left of the tall eucalypt tree in the centre of the view. The bridge clearance above Dammans Road in this location is approximately four metres. Tree removal would likely occur between the tall tree and the existing road bridge, therefore canopy is likely to be removed from this location revealing views to the golf course entry road behind.</p> <p>Bridge support structures and associated connecting elements would be the tallest bridge features, reaching a height of approximately fifteen metres above the Warburton Highway and eleven metres above Dammans Road. These would appear within the view, to the foreground and middleground on either side of the river. It is proposed that the bridge support structures would align with the tall trees parallel to the Yarra River to limit visual impacts. The structures on the far side near Dammans</p>

Road would not exceed the height of existing trees already within the view, however the structure adjacent to the Warburton Highway may.

Overall, there would be more built form and less vegetation within this view, and the new bridge would be visually prominent, partially screening existing features such as the Yarra River and Mt. Donna Buang. The bridge design should give sensitive consideration to the height, materiality and colour of existing features within this view and the design should be responsive to these elements. Consideration should also be given to the replacement / introduction of additional tall trees on the northern side of the river to provide visual mitigation to the bridge.

Refer to 7.1 for high level mitigation recommendations.

It is recommended that a photomontage be created to illustrate the proposed change to the view from this location or similar.

6.2.1 Viewpoint location 3 - Dammans Road Picnic Shelter



Criteria	Comments
Location and View Direction	VP3 is located adjacent to the public picnic shelter located adjacent to the Warburton Golf Club entry on Dammans Road. VP3 is looking south-west.
Sensitive Visual Receptors	VP3 is representative of visitors to the public picnic shelter. This would likely include local residents, walkers, and groups gathering to share a meal together.
Discussion of Potential Effects	<p>VP3 is looking towards the location of the proposed shared path bridge over the Warburton Highway, Yarra River and Dammans Road. Parking for shuttle bus and trailer drop-off area is also proposed between the shelter and Dammans Road.</p> <p>The existing view largely comprises of native vegetation along the riverfront on either side of the Mayer bridge. The forested slopes of Mt. Little Joe can be seen in the background. Dammans road appears in the foreground across the view. Existing utility poles features within this view.</p> <p>The proposed bridge would extend horizontally across the view from left to right, with a clearance of approximately four metres above the roadway. Vertical structural supports would likely be located in the vicinity of the utility pole to the foreground. Vegetation removal is likely to the left of the bridge, revealing views to elements behind such as the bridge, Warburton Highway, and rail trail. The depth of the main bridge component is proposed to be 2.4 metres, which would appear to the front of all other elements within the view.</p> <p>Overall, the bridge would be a new built form element within the foreground of this view. The bridge would likely create a substantial change within the view due to its close proximity. The bridge design should give sensitive consideration to the height, materiality and colour of existing features within the view and the design should be responsive to these elements. Consideration should also be given to the replacement / introduction of additional tall trees on the northern side of the river to provide visual mitigation to the bridge.</p> <p>Refer to 7.1 for high level mitigation recommendations.</p>

6.2.1 Viewpoint location 4 – Warburton Highway



Criteria	Comments
Location and View Direction	VP4 is located on the northern side of Warburton Highway between the bus stop and the Patchwork Teahouse. VP4 is looking west.
Sensitive Visual Receptors	VP4 is representative of road users on the Warburton Highway and pedestrians using the bus stops and nearby amenities. There are limited formal footpaths along the roadside, however adjacent amenities include the public toilets, a bus stop, café, and riverside picnic area.
Discussion of Potential Effects	<p>VP4 is looking towards the location of the proposed bridge over the Warburton Highway connecting the rail trail to the Warburton golf course.</p> <p>The existing view is looking along the highway. The forested slopes of Mt. Little Joe forms a backdrop to the view to the left. Tall eucalypts feature in the centre of the view along the roadside. Large shrubs and trees on the left provide a buffer to the substation on the slope behind, as well as shielding views to the rail trail behind, which is at a higher elevation. To the right, the public toilets, temporary parking area and bus stop are visible. Overhead poles, wires and signage features within the view.</p> <p>The proposed bridge would have a clearance of approximately eight metres from the highway, emerging behind foreground vegetation and appearing above the bus shelter to the left of the roadside, extending across the view. Two vertical structural supports would be visible, one located in the vicinity of the bus shelter, and another to the right of the highway. These would reach a height of 15 metres. In the context of this view, these would be higher than the existing poles on the left, and a similar height to the pole in the foreground to the right. The horizontal portion of the bridge is proposed to be a consistent 2.4 metres across the view, which would appear to the front of the vegetated backdrop.</p> <p>Overall, the new bridge would be a noticeable new features within the view, however against a backdrop of vegetation. The bridge design should give sensitive consideration to the height, materiality and colour of existing features within this view and the design should be responsive to these elements. Consideration should also be given to the landscape treatment to the slope, as additional vegetation in this location could assist with visual mitigation of the bridge.</p> <p>Refer to 7.1 for high level mitigation recommendations.</p> <p>It is recommended that a photomontage be created to illustrate the proposed change to the view from this location or similar.</p>

6.2.1 Viewpoint location 5 - Old Warburton Road



Criteria	Comments
Location and View Direction	VP5 is located on Old Warburton Road, near the junction with a fire trail that connects to the existing Mount Little Joe Track to the south of Backstairs Creek. VP5 is looking south-west along Old Warburton Road.
Sensitive Visual Receptors	VP5 is representative of road users on Old Warburton Road, which may include visitors and local residents. Viewer interest may include travelling to their destination (ie. home), as well as enjoyment of the scenic drive through the area (for visitor's and local residents).
Discussion of Potential Effects	<p>VP5 is the location of the proposed cycle bridge over Old Warburton Road and ramp connection from the bridge to the Mount Little Joe Track. The proposed bridge would be approximately 25 metres in length, with a minimum clearance of five metres above the road.</p> <p>The existing view includes Old Warburton Road to the centre with tall canopy trees and understorey vegetation to either side of the road. The landform slopes across the view from a higher elevation on the left, towards the Backstairs Creek gully to the right. Trees and lower height tree ferns form a dense background to the view.</p> <p>The proposed bridge would appear toward the centre of the view, crossing over the road within the upper third of the view. The visibility of the bridge would be most noticeable above the road, beyond which it would be partially shielded by existing canopy trees to the left and right. The depth of bridge structure would likely be approximately 2.5 metres. The bridge would be a new built feature in the view. Potential impacts may be somewhat mitigated with an environmentally sensitive design strategies recommended in section 7.</p>

6.2.1 Viewpoint location 6 – Mt. Bride Road



Criteria	Comments
Location and View Direction	VP6 is located on Mt. Bride Road, approximately half way between the intersections of Cumming Spur Track and Burns Road. VP6 is looking north-west.
Sensitive Visual Receptors	VP6 is representative of views from road users on Mt. Bride Road. This road is one of a connected network of public gravel roads through the Yarra State Forest. Viewers are likely to use this road for the purposes of park maintenance or recreation activities including to access local walking trails within the park.
Discussion of Potential Effects	<p>This is the location of the proposed satellite trail head for Mt. Tugwell trails, which will include 30 car parking spaces, a toilet, picnic area, and bus turnaround bay. Tree removal is potentially limited to one tree. Some additional minor earthworks and clearing of understorey is likely. Associated infrastructure will likely include bollards, bicycle parking, lighting, paving and signage.</p> <p>The existing view comprises of forest vegetation including dense tall understory shrubs and canopy trees. Mt. Bride Road is to the left of the view with road bollards to either side. A level clearing is present to the right of the view.</p> <p>The anticipated change to this view will be the new facilities to the right of the view on the existing level clearing.</p> <p>As tree removal is likely to be limited to one tree, and built form limited to one new shelter and toilet building, the potential impact to this view is likely to be mitigated with an environmentally sensitive approach to design as recommended in the Mitigation Measures (Section 7). The key aspects of the view, the understorey and canopy vegetation, are likely to largely remain, with the new features present to the foreground.</p>

6.2.2 Other Viewing Locations

6.2.2.1 Viewpoint location 7 – Surrey Road



View looking north (above)



View looking south (above)

Viewpoint 7 is located on Surrey Road within a residential area north of the Warburton Highway and west of the Warburton Golf Club. This location has been included for discussion as it is one of relatively limited locations where open views can be achieved from the valley to the surrounding slopes. The view looking north features Mt. Donna Buang as a backdrop, and the view looking south is towards Mt. Little Joe. New trails are proposed on these slopes, however as mentioned in section 0, due to no tree proposed as part of the trail construction, no change would be noticeable to these views after construction of the project is complete. However, during the construction period, helicopters may be seen if flying within the viewshed of this viewpoint.

6.2.2.2 Viewpoint location 8 – Yarra River Walk



Viewpoint 8 is located on the Yarra River Walk, a riverfront pathway loop along connecting to the town centre. This location is on the northern side of the river adjacent to Dammans Road, between the town centre and Mayer Bridge. VP8 is looking west. This view has been included as the proposed Visitor's Hub carpark would be located along the roadside edge, within the golf course boundary. The carpark would appear to the right of the view beyond the fence. Consideration should be given to the sensitive treatment of this roadside edge in relation to views from the popular riverfront walking trail, the existing character of Dammans Road in this location particularly the interface with the golf course and existing characteristic mature trees along this edge. Appropriate visual mitigation should be integrated into the design to retain the existing character and minimise any views to parked cars from the Yarra River Walk.

7. Mitigation Measures

The following section recommends high-level mitigation measures that respond to issues arising within the assessment that have potential to adversely impact on landscape character and visual environment.

7.1 Mitigation Recommendations

7.1.1 Mountain Bike Trails

- Ensure trails are designed to avoid any tree removal; trail interventions requiring more space (eg. switchbacks) should be sited within existing clearings where possible.
- Trail alignment should be sited in accordance with the natural landform to avoid earthworks.
- Materials selection (eg. rocks and timber) for proposed trails should respond to the local environment and be locally sourced where possible.
- Any supplementary planting must use indigenous species appropriate to the setting, to be confirmed with project ecologist.

7.1.2 Visitor's Hub

- Establish an integrated site plan / masterplan and design guidelines for the Visitor's Hub and associated facilities, ensuring the proposal responds sensitively to its unique environmental setting.
- Ensure the design retains views towards Mt. Donna Buang range and canopy vegetation within the golf course, when viewed from Dammans Road (ie. ensure no built form obstruction).
- Minimise visual clutter to the entrance to the Warburton Golf Club, and utilise planting to soften any potential new built form.
- Minimise tree removal; any new landscape planting should be appropriate to the environmental and golf course setting and reflect the existing species palette within the surrounding context.
- Ensure the materiality, lighting and colour palette responds sensitively to the unique environmental setting.
- Permanent lighting will be in accordance with AS 4282-1997 *Control of obtrusive effects of outdoor lighting* to avoid light spill into adjacent residential properties and the Yarra River corridor.
- Retain and enhance visual screening, such as buffer planting, to existing and proposed car parking area when viewed from Dammans Road / the Yarra River Walk.

7.1.3 Bridges

Warburton Highway / Yarra River Bridge

- Establish a site plan and design guidelines for the bridge and trail transition points to ensure the proposal is best sited to ensure it functions well within the existing Warburton activities and movement networks.
- Consider the design of bridges in the local and surrounding area, for example associated with the Yarra River and Warburton to Lilydale Rail Trail. Consider the proposed new bridge design within the context of these existing bridges.
- Incorporate new planting where appropriate to assist with visual mitigation of the bridge within its setting.
- Ensure the bridge form and structure is simple and visually transparent to allow the natural surroundings to take visual prominence; avoid obstructing views across the Yarra River from sensitive visual receptor locations.
- Ensure the bridge design minimises the requirement for additional road signage, particularly overhead signage on the bridge itself.
- Ensure the bridge design does not result in the requirement for roadside barriers or similar infrastructure.
- Ensure the materiality, lighting and colour palette responds sensitively to the unique environmental setting.
- Minimise disturbance to the Yarra River, and ensure all replacement planting is in accordance with the existing ecological planting palette. Ensure the bridge design and construction is undertaken in accordance with relevant government and land managers.

Old Warburton Road Bridge

- Establish a site plan and design guidelines for the bridge and trail transition points to ensure the proposal fits sensitively within its environmental context.
- Minimise tree removal, and use an indigenous landscape planting palette only of local provenance, to be confirmed by project ecologist.
- Ensure the bridge is sited well within the existing landform with an aim to minimise changes to the natural topography.
- Allow the natural features of site (the forest setting) to take visual precedence over the bridge design; ensure the materiality and colour palette is responsive to the setting, and the bridge is simple and visually transparent, with minimal visual clutter associated with the bridge design.
- Ensure the bridge design minimises the requirement for additional road signage, particularly overhead signage on the bridge itself.
- Lighting should be minimised and if required permanent lighting will be in accordance with AS 4282-1997 *Control of obtrusive effects of outdoor lighting* to avoid light spill into adjacent residential properties and the surrounding bush environment.

7.1.4 Trail Heads

General

- Minimise tree removal and use an indigenous landscape planting palette only of local provenance, to be confirmed by project ecologist.
- Proposed materiality and colour palette should be responsive to the sensitive landscape setting, and lighting should be minimised.

Mt. Donna Buang Trail Head

- Establish a site plan and design guidelines for Mt. Donna Buang trail head, in consultation with relevant land managers, to ensure proposal fits sensitively within its National Park context.
- Ensure the site design minimises earthworks to retain the natural topographic characteristics of the summit location.

Mt. Tugwell Trail Head

- Establish a site plan and design guidelines for Mt. Tugwell trail head, in consultation with relevant land managers, to ensure the proposal fits sensitively within its forest context.

7.2 Mitigation Recommendations during construction

The approach to trail construction should be one that minimises the requirement for storage areas and new clearings within the National Park and Yarra State Forest not associated with the final trails themselves. The focus should be on non-intrusive methods of construction, use of small machinery that can utilise the mountain bike trails under construction, and material transfer via helicopter or on foot. Generally, construction equipment, stored materials and other visible elements should be located away from views from sensitive visual receptors. Should such equipment or stored materials be located in visually prominent locations for any reasonable period of time, screening measures such as hoarding or temporary plantings, and practices should be incorporated to ensure sites are kept tidy.

7.3 Recommendations for Future Work

This report provides a preliminary landscape and visual impact assessment only. The following recommendations for future work are advised, for the benefit of the project.

- A more comprehensive legislation and policy review for the study area with a focus on landscape character and visual amenity values and objectives. This report provides a preliminary review only.
- An urban design study to investigate how the project could integrate with the surrounding environment of Warburton and mitigate any landscape and visual impacts.
- Photomontages illustrating the proposed changes to existing views from sensitive receptor locations and to assist with bridge design development particularly in relation to the Warburton Highway / Yarra River bridge.

8. Conclusion

This preliminary LVIA has been undertaken to inform the development of Referrals to government under the *Environment Effects Act 1978* and *Environment Protection and Biodiversity Conservation Act 1999*, to guide the selection of appropriate planning approval pathways for the project. This scope of the report is to review the landscape and visual sensitive receptors near the project, describe the existing landscape and visual character of the project area, provide a summary of relevant finding from previous studies, provide a preliminary assessment of landscape and visual impacts and mitigation measures.

The concept master plan for the project was undertaken by Cox Architecture. The project is currently in detailed design phase, with World Trail currently refining the trail design alongside other consultants providing advice and guidance for associated project components such as bridges. This assessment is therefore based on a developing design proposal. Key project components include the mountain bike trails, Visitor's Hub, bridges and trail heads.

The project is situated in the Warburton valley, with proposed trails extending across the forested slopes of Mt. Donna Buang, Mt. Little Joe and Mt. Tugwell, and connecting to the township of Warburton. Landscape values include those associated with Mt. Donna Buang and the Yarra Ranges National Park, the Yarra River, heritage aspects including the Warburton swing bridge and Warburton to Lilydale Rail Trail, and features defining the character of development on the valley floor such as views to Mt. Donna Buang.

The study area extends approximately one kilometre from the project extents. Six landscape character types were identified within this area, including LCT1 Township, LCT2 Residential, LCT3.Active Recreation, LCT4 Rural Valley, LCT5 Forested Slopes and LCT6 River. A preliminary discussion has been provided in relation to landscape values and sensitivities and potential effects from the project. The project is not likely to have a direct effect on the landscape character of LCT1, LCT2, and LCT4. Potential effects are within LCT3, LCT4 and LCT5. The design development should be sensitive to the values identified within this report and consider mitigation measures proposed in section 7 to minimise impacts to landscape character.

The landscape context characterises the visual environment within the study area, with intermittent views through the narrow valley to the tall forested mountain ranges to either side. The project viewshed is largely confined to areas surrounding proposed bridge structures and trail heads where clearings within forested vegetation are present or within an urban context. Six viewpoint locations were chosen in these location and a preliminary discussion provided of potential visual effects of the project on identified sensitive receptors. An additional two viewpoint locations were included for discussion. Of these viewpoints, VP2, VP3 and VP4 will have the most visual effects associated with the proposed shared path over the Yarra River and Warburton Highway within the context of the Warburton township.

Mitigation measures for key project components provide high-level design guidance for the minimisation of affects to existing landscape character and sensitive visual receptors, to be taken into consideration as the design progresses.

9. References

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