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BALD HILL ACTIVATION PLAN

FINAL REPORT

MOORABOOL SHIRE | NOVEMBER 2019

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AUTHORS

Mike Ruzzene Agathy Patsouris Danielle Cousens

Madeleine Hornsby

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VERSION 1

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L1 302-304 Barkly St, Brunswick VIC 3056

+61 3 9482 3888 urbanenterprise.com.au

CONTENTS

FIGURES

TABLES

ACRONYMS

CHMP	Cultural Heritage Management Plan
DELWP	Department of Environment, Land, Water and Planning
DHHS	Department of Health and Human Services
IVS	International Visitor Survey
LGA	Local Government Area
MTB	Mountain Bike
NVS	National Visitor Survey
PV	Parks Victoria
RTB	Regional Tourism Board
SA2	Statistical Area 2
SA4	Statistical Area 4
TRA	Tourism Research Australia

GLOSSARY OF TERMS

Mountain Bike Park	A well-developed network of mountain bike trails that primarily include well-formed single track specially for mountain bikes.
Domestic day trip visitors	Those who travel for a round trip distance of at least 50 kilometres, are away from home for at least 4 hours, and who do not spend a night away from home as part of their travel. Same day travel as part of overnight travel is excluded.
Domestic overnight visitors	People aged 15 years and over who undertake an overnight trip of one night or more and at least 40 kilometres away from home are referred to as overnight visitors. Only those trips where the respondent is away from home for less than 12 months are in scope of the NVS.
International visitor	A person is defined as an international visitor to Australia if they are currently a resident overseas, have been in Australia for less than one year and are aged 15 years or over.

EXECUTIVE SUMMARY

STUDY OVERVIEW

Urban Enterprise has been engaged by Moorabool Shire Council to undertake a Feasibility Study for the Bald Hill Activation Project.

Council has identified the significant development potential of the site into an active recreation precinct for both residents and visitors, and as such aims to identify appropriate and sustainable uses of the site.

A Scoping Study was undertaken by Moorabool Shire Council which identified the core uses for the site. Uses that have been assessed as part of this project include:

- Mountain bike park;
- All abilities walking trail;
- Events space;
- Commercial food and beverage use;
- Conferencing;
- Fitness loop;
- 1001 steps concept.

The Bald Hill Activation project feasibility study provides an assessment of these uses and recommends a refined concept based on market indicators and a greater understanding of site constraints.

This report provides a summary of site constraints, understanding of strategic context and market assessment of potential site uses, site concept and economic and social benefits from the proposal.

STRATEGIC CONTEXT

From a tourism perspective, activation of Bald Hill aligns with the objectives of the State Government's Visitor Economy Strategy by contributing to a number of priority areas identified, including building on the potential for regional and rural Victoria, better tourism infrastructure and improved access into and around Victoria.

The Grampians Cycling Masterplan identifies both mountain biking activity and recreational cycling trails as being limited in the region. The development of Bald Hill Gravity Park is identified as a Tier 1 project within the theme of new and enhanced iconic experiences.

In addition to the tourism benefits, activation of Bald Hill aligns with the objectives of the State Government's Active Victoria Strategy, including increasing the proportion of Victorians regularly participating in sport or active recreation, and creating opportunities for inclusive sport and active recreation that provides all Victorians with opportunities to be involved.

There is strong strategic policy support for investment in trails and cycling infrastructure for purposes of economic growth through attraction, dispersal and growing yield from visitors and the health benefits for residential populations. Active Victoria Strategy highlights the growth in informal recreational activity and the need to support this.

Victoria's 2020 Tourism Strategy clearly states the need to encourage investment in regional Victoria in tourism infrastructure and product in order to grow tourism.

RESIDENTIAL CATCHMENT ANALYSIS

The proposed uses identified in the Bald Hill concept have the potential to service a large regional residential catchment, including the municipalities of Moorabool and Melton within the primary catchment and a secondary catchment that includes western metropolitan local governments areas and western Victorian local government areas including Golden Plains, Macedon Ranges, Hepburn and Ballarat.

There are an estimated 2 million residents in the secondary catchment area who may utilise the facilities within Bald Hill, with population projected to grow to 2.5 million residents by 2031.

Unlike much of Victoria, the age profile of the catchment area is relatively young, with many young families in the region which includes the growth areas of Western Melbourne, Melton, Bacchus Marsh and Ballarat.

The large residential catchment within one hour drive of Bald Hill highlights the potential of Bald Hill to provide regional level facilities for organised and active recreation and open space.

VISITOR MARKET

The Bacchus Marsh area attracts 334,000 visitors per annum. The key reasons for visitation include holiday leisure (30%), visiting friends and relatives (42%), business (9%) and sport (7%). 82% of visitors to Bacchus Marsh are daytrippers, highlighting the lack of both accommodation and tourism product to attract visitors for longer stays.

Analysis of activities undertaken by visitors highlights a lack of experiences in Bacchus Marsh, for example only 33% visitors engage in food and beverage experiences, compared to the regional Victorian average of 46%.

Bacchus Marsh has a number of surrounding nature based assets such as Lerderderg Gorge and Werribee Gorge that are popular destinations. In addition visits to farm gate is a popular activity. Bald Hill would create a new destination that will drive visitation to the region and create greater awareness of Bacchus Marsh as a destination. The delivery of iconic mountain bike and walking trails will help to brand Bald Hill as an outdoor destination.

SITE CONSTRAINTS AND CONSIDERATIONS

Bald Hill is owned by Council, with 60ha of the site managed by council and 70ha leased to Sugar Gum Plantations until 2027. The site is within the Farming Zone (FZ), and is surrounded by Farming Zone (FZ), Low Density Residential Zone (LDRZ) and General Residential Zone (GRZ). Overlays affecting the site include Design and Development Overlay, Environmental Significance Overlay, Heritage Overlay and Significant Landscape Overlay.

Urban Enterprise commissioned Biosis Pty Ltd on behalf of Moorabool Shire Council to undertake a preliminary biodiversity constraints assessment and Aboriginal and historical heritage constraints assessment for the proposed development of a mountain bike trail network and associated facilities at Bald Hill.

Key findings from the ecological assessment include:

- The key areas of ecological value within the study area that may be impacted upon by the project are:
  - Scattered remnant Grey Box and Yellow Gum trees; and
  - Potential patches of native understorey dominated by native perennial grass species (further detailed assessment is needed to determine size and extent of potential patches once design plan is finalised).
- The removal of native vegetation on site may require offsets if the removal includes remnant scattered trees, or forms part of a patch as classified in the Guidelines for the removal, destruction or lopping of native vegetation ('the Guidelines') (DELWP 2017).
- The proposed works associated with development of the study site are unlikely to impact on any listed threatened species or threatened communities, which are matters of national environmental significance; and

- 1.9 ha offset site at the south east boundary of the site contains remnant Grey-Box woodland (grey box woodland) and cannot be developed and therefore should be avoided.

Key findings from the cultural heritage assessment include:

- The geology of Bald Hill is recognised as being a site of international geological significance;
- The study area encompasses three landforms that are listed as being 'Sites of Geological and Geomorphological Significance': Korkuperrimul Creek (International Significance) Mortons Quarry, Main Quarry (International Significance); Bald Hill (Bacchus Marsh) (Regional Significance);
- There are 44 recorded Aboriginal places within the geographic region, two of which have been recorded within the study area; Hallets 1 VAHR 7722-0129 and Bacchus Marsh Hill 1 VAHR 7722-0201;
- There is one recorded historical site within the current study area Bald Hill Quarry (HO200) which is a is a former sandstone quarry and is a protected under the Planning and Environmental Act 1987. The site also has scientific significance for its archaeological research potential. The listing associated with HO200 suggests that modern disturbances within the site boundary have impacted the site and as such remains are unlikely to have survived.
- Predictive modelling identified Korkuperrimul Creek as having the highest archaeological potential for Aboriginal cultural heritage material to be identified.
- Despite previous land use of the study area, the entirety of the area covered by the cultural heritage sensitivity layer cannot be shown to have had a high level of probability to have been subject to Significant Ground Disturbance (SGD).
- The study area for the proposed Bald Hill Mountain Bike Trail is not exempt from a mandatory Cultural Heritage Management Plan (CHMP).

PROPOSED USE ANALYSIS

An analysis of proposed uses for Bald Hill was undertaken which included a review of supply of the proposed core site uses locally, regionally and more broadly in Melbourne and Victoria.

The analysis identified where gaps exist in the market, which is reflected in the table below and the potential market positioning of each use, with consideration of local, regional, state and Australian wide markets.

Conferencing is the only use which has been identified as unviable for Bald Hill. The reason for this is that there is a significant amount of competition from other regions in close proximity to Melbourne such as Mornington Peninsula, Daylesford Macedon Ranges, Geelong and the Bellarine and the Yarra Valley. There is however opportunity to host small-mid size business events in the proposed dining facility.

Bald Hill however is well positioned for outdoor recreation activities.

BALD HILL ADVENTURE PARK CONCEPT

VISION

Bald Hill will become a Destination Regional Park, which provides organised and active recreation uses servicing the local community of Moorabool Shire and attracting visitors from the Melbourne, regional Victoria and interstate.

Bald Hill will accommodate unique active recreation activities including mountain biking, trail walking and running and outdoor adventure uses that are not currently accessible West of Melbourne.

Activating Bald Hill will greatly encourage resident participation in recreation and drive economic growth to Bacchus Marsh through destination land uses such as a Gravity Mountain Bike Park and 1001 Steps concept.

CONCEPT OBJECTIVES

- Provide for much needed organised and active recreation open space which services the western growth areas of Melbourne and Bacchus Marsh;
- Deliver world-leading, innovative design;
- Develop destination recreation and tourism uses that attract visitors to Bacchus Marsh;
- Deliver open space that can support community and tourism events;
- Maintain and enhance views to the site, ensuring the site retains highway presence as an important form of advertising.
- Strike a balance between delivering environmental, recreation and economic outcomes;
- Ensure that all abilities access is delivered; and
- Meet a State wide and Melbourne gap in the provision of Gravity Mountain Biking.

PROPOSED USES

	MARKET				Concept Description
	Local Catchment	Regional Catchment	Melbourne and Victoria	Australia	
Gravity Mountain Bike Park	✔	✔	✔	✔	The Bald Hill Gravity Mountain Bike Park will be a destination mountain bike facility on the southern side of Bald Hill, and will include the former quarry land. The gravity mountain bike park will be unique in the context of Victoria, forming the first masterplanned gravity and slopestyle park in close proximity to Melbourne. The disturbed nature of the site will allow for the establishment of high end slopestyle, traditional downhill and flow trails from the summit of Bald Hill.
Cross Country Mountain Bike Trails	✔	✔			The mountain bike cross country course will deliver up to 15 kms of flowing single track at beginner and intermediate standard. The course will include land north west of the Gravity Park. The cross country course is intended to be a regional level facility to support local and regional riders. The course will include undulating

					downhill and switchbacks with uphill climbing limited to 3%. The aim of the cross country course is to support growth in the mountain biking sector. As skills improve cyclists can transition to include circuits of the Gravity Park as well.
1001 Steps	✔	✔	✔		The establishment of a 1001 steps walk that links Halletts Way at the base of Bald Hill with the peak of Bald Hill, similar to the experience of the 1000 steps in the Dandenong Ranges. Landscaping and vegetation plantings are required to create a sheltered and quality experience. The delivery of a themed 1001 steps, potentially with an indigenous interpretive experience, will set the walk aside from others offered in Melbourne.
All Abilities Trail	✔	✔			An all abilities trail will be delivered on top of Bald Hill which provides an open and largely level site for easy walking, cycling and other activities. The all abilities trail is proposed to be a sealed trail, three metres in width and up to 2 kilometres in length. It is proposed that the trail will include a sculptural element to add to the visitor experience. Views along the trail will extend across the Moorabool Valley towards Melbourne.
Adventure Park/ Playspace	✔	✔			An Adventure Playspace will be delivered on site in proximity to the restaurant/café. It is envisaged that this will be a destination in its own right and strengthen the family market visitation to the site. There is potential to investigate the delivery of adventure activity by the private sector on site.
Open Air Events Space	✔	✔	✔	✔	An open air events space will be delivered on the top of Bald Hill providing a scenic high amenity events space for festivals, markets, car clubs. The events space will cater for up to 5000 people during peak events. This will also serve as a staging ground for other outdoor focused events such as mountain biking events, orienteering etc.
Restaurant / café / function centre	✔	✔	✔		A restaurant /café/ function centre is proposed for the south east side of Bald Hill, allowing extensive views from the facility over the Moorabool Valley towards the You Yangs and Melbourne. The restaurant /café/ function centre will provide for a high quality local food experience servicing a variety of site users and destination food visitors. It is envisaged that the restaurant be delivered by the private sector, with services and parking delivered by the public sector.
Picnic and BBQ Areas					Picnic and BBQ areas will be provided throughout the site. This will attract visitors to the site specifically for these purposes and may also be utilised by those visiting the site for a specific purpose.

VISITATION, ECONOMIC AND SOCIAL BENEFITS

PROJECTED DEMAND AND SITE USE

The proposed uses for Bald Hill including cycle trails, walking trails, events, adventure park, picnics and food and beverage are estimated to generate 347,199 site visitors, including 195,088 visitors from outside of the residential catchment and 152,111 users from within the residential catchment.

Proposed Use	Residents	Visitors	Total
Cycling	27,676	40,197	67,873
Walking	66,805	83,377	150,182
Events		31,250	31,250
Adventure Park/Playspace	57,630*	17,217	74,847
BBQs/ Picnics		23,047	23,047
Food and beverage**	31,179	40,779	77,858*
Total Site Visitors***	152,111	195,088	347,199

*includes social events
**based on site visitors – not included in total
***total site visitors does not include food and beverage visitors

ECONOMIC BENEFITS

The development of the Bald Hill recreation precinct is likely to generate significant economic benefits to Moorabool Shire, resulting from: the construction of the precinct and the ongoing impact from operation (manifested through increases in visitation and additional visitor expenditure).

The table below demonstrates the potential economic benefits during the short-term construction and ongoing operation of the precinct. This is based on estimated construction costs of $12.4 million; and additional visitor expenditure of $4.2 million per annum.

BALD HILL PRECINCT ECONOMIC IMPACT (DIRECT AND INDIRECT)

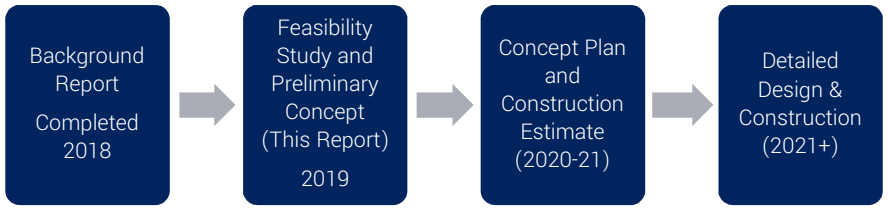
	Output	Employment	Wages	Value-added
Construction phase	$23,277,000	50	$4,539,000	$8,715,000
Operational phase (ongoing) annual	$6,770,000	43	$1,938,000	$3,317,000

IMPLEMENTATION STEPS

Implementation of the Bald Hill Activation Plan should consider the following steps. These may be refined further following detailed site masterplanning.

PROCESS

As outline below, this report is part of a series of work that will inform the construction of the Bald Hill site. Following the completion of this feasibility study and preliminary concept, a more detailed concept plan and construction estimate will be developed (to be arranged by Council).



PHASE 1: PROMOTION AND FUNDING

1. Preparation of a communication plan;
2. Preparation of a pitch document;
3. Review and identification of funding opportunities;
4. Project pitch to Government.

PHASE 2: PLANNING AND DESIGN

5. Preparation of an expression of interest for masterplanning;
6. Preparation of a detailed business Case;
7. Negotiate purchase of the site leasehold;
8. Planning scheme amendment;
9. Seek planning permits;
10. Activation and events strategy.

PHASE 3: STAGE 1 PREPARATORY WORKS

11. Preparation of an expression of interest for preparatory works;
12. Undertake Stage 1 infrastructure works;
13. Undertake Stage 1 landscape and vegetation works;
14. Undertake Stage 1 open air events space.

PHASE 4: DELIVERY OF STAGE 2 KEY RECREATION ASSETS

15. Prepare expression of interest for Stage 2 works;
16. Undertake Stage 2 delivery of mountain bike assets;
17. Undertake Stage 2 delivery of 1001 steps;
18. Undertake Stage 2 delivery of all abilities trail, sculpture and lookouts.

PHASE 5: DELIVERY OF STAGE 3 COMMERCIAL USES

19. Seek a private sector partner to establish the restaurant/café/function centre;
20. Seek a private sector partner to operate a bike hub and shuttle services.

1. INTRODUCTION

1.1. INTRODUCTION

Urban Enterprise has been engaged by Moorabool Shire Council to undertake a Feasibility Study for the Bald Hill Activation Project.

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This report provides a summary of site constraints, understanding of strategic context and market assessment of potential site uses, site concept and economic and social benefits from the proposal.

1.2. METHODOLOGY

STAGE 1. REVIEW AND FINDINGS (URBAN ENTERPRISE)

This stage included project commencement, review of background materials, site visit and assessment of existing active recreation facilities and sites.

STAGE 2. MARKET ASSESSMENT

This stage included an analysis of population and visitor market, identification of target markets, participation and visitation modelling, and catchment identification.

STAGE 3. AREAS OF SENSITIVITY ANALYSIS (BIOSIS)

Biosis undertook desktop investigations and prepared a constraints assessment reports as follows: Ecological Constraints Assessment and Aboriginal and European Cultural Heritage Constraints Assessment.

STAGE 4. CONCEPT IDENTIFICATION AND DETAILING

This stage will included the identification of the ideal mix of uses for the site, based on the findings of Stages 1, 2 and 3.

STAGE 5. ECONOMIC AND FINANCIAL MODELLING [BUSINESS CASE]

Based on finalised modelling, the concept was further detailed, as well as the potential infrastructure needs and capital costs.

STAGE 6. REPORT FINALISATION (URBAN ENTERPRISE)

The final stage of the project will incorporate the key findings and outcomes from the previous stages into a Feasibility Study and a Business Case.

1.3. BALD HILL PRECINCT

Bald Hill is a 120-ha underutilised council reserve in Darley, Bacchus Marsh, Victoria. The site is located approximately 60km from Melbourne, and is partially managed by Council (50ha), with the remainder of the site (70ha) leased until 2027.

The site is characterised by significant gullies and ridge lines and the terrain is generally rough, with significant ground disturbance. These topographical constraints, as well as a number of access and planning constraints, mean that more conventional development of the site for organised sport is difficult, however the site is well suited for walking, cycling and mountain bike uses.

F1. BALD HILL SITE

Source: Urban Enterprise, 2018

1.4. REGIONAL CONTEXT

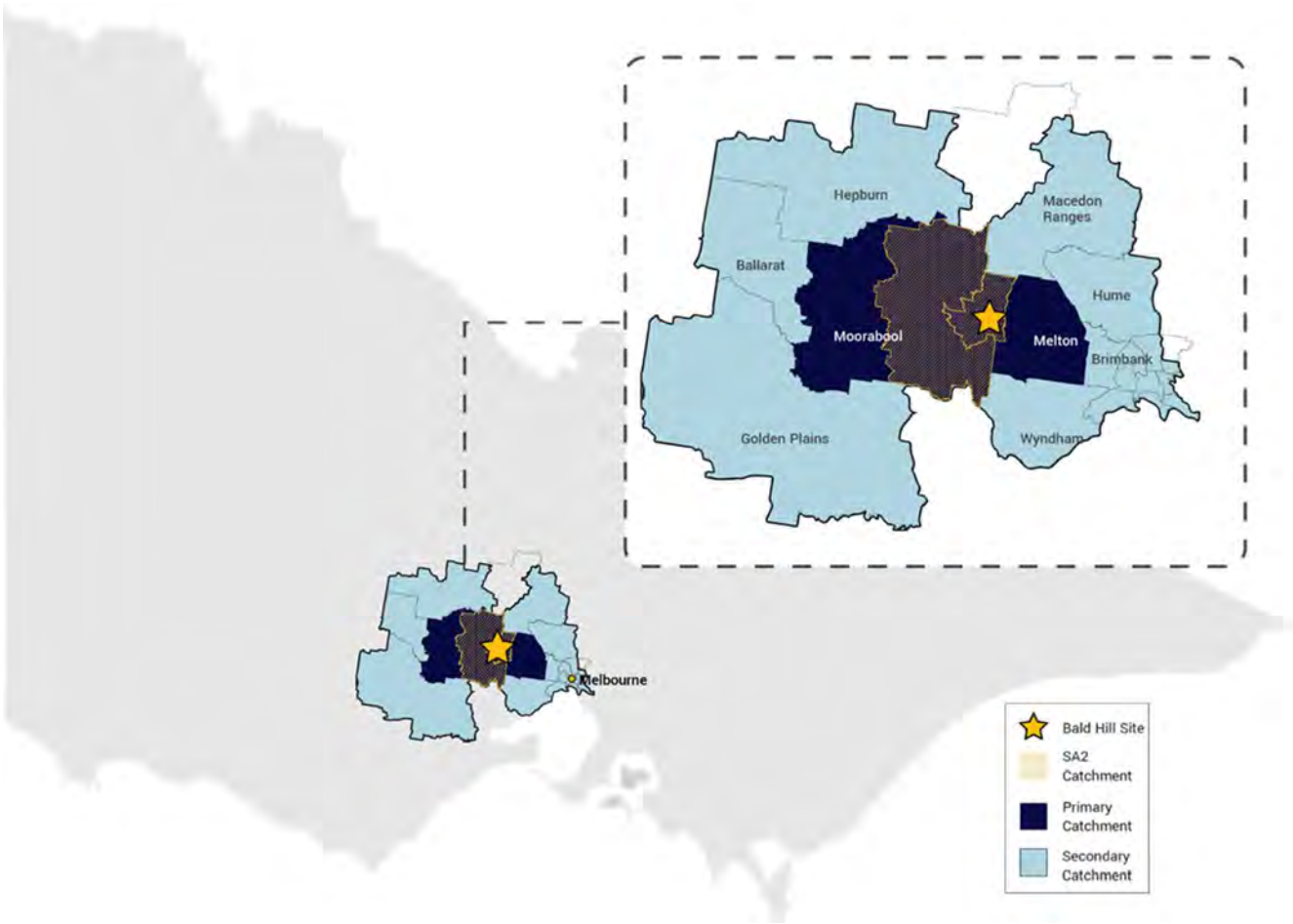
Figure F2 shows the state and regional context of the Bald Hill. For the purpose of this report, three catchments have been identified for the site, as shown in Table T1. These catchments have been used due to the varying nature of products proposed for the site, as well as the potential of some products (e.g. destination walking trails) to draw visitors from wider catchments.

Only part of the Macedon Ranges LGA has been included in the secondary catchment, as this part of the council area is within Greater Melbourne and has greater accessibility to the site, as opposed to Woodend and Kyneton which do not have direct access. Geelong has not been included in the secondary catchment as it is likely that residents of Geelong would not travel to Bacchus Marsh due to proximity of a range of similar products, such as You Yangs Regional Park and Anglesea Bike Park.

T1. BALD HILL SITE CATCHMENT AREAS

Catchment	Statistical Areas	Catchment Usage
Bacchus Marsh Catchment	**SA2's:** Bacchus Marsh, Bacchus Marsh region.	Used for Visitor Analysis
Primary Catchment	**LGA's**: Moorabool Council, Melton Council.	Used for Residential Analysis
Secondary Catchment	**LGA's**: Ballarat, Brimbank, Golden Plains, Hepburn, Hobsons Bay, Maribyrnong; Wyndham. **SA4's:** Melbourne North West, Melbourne Inner.	Used for Residential Analysis

F2. STATE AND REGIONAL CONTEXT OF BALD HILL SITE



*Note: Melbourne's North West and Inner SA4 regions include the LGA's of Hume, Moreland, Moonee Valley, Melbourne, Yarra, Port Phillip, and part of Macedon Ranges, Darebin and Stonnington.

2. STRATEGIC CONTEXT

2.1. INTRODUCTION

This section provides an overview of the strategic and policy context for the site, through a detailed review of local recreational and leisure strategies, as well as the broader tourism context for the region. This includes key drivers of the project and helps to understand the relationship between the development of the site, tourism and the visitor economy.

Key information discussed in this section was sourced from a review of Government strategies and policies.

2.2. KEY FINDINGS

From a tourism perspective, activation of Bald Hill aligns with the objectives of the State Government's Visitor Economy Strategy by contributing to a number of priority areas identified, including building on the potential for regional and rural Victoria, better tourism infrastructure and improved access into and around Victoria.

The Grampians Cycling Masterplan identifies both mountain biking activity and recreational cycling trails as being limited in the region. The development of Bald Hill Gravity Park is identified as a Tier 1 project within the theme of new and enhanced iconic experiences.

In addition to the tourism benefits, activation of Bald Hill aligns with the objectives of the State Government's Active Victoria Strategy, including increasing the proportion of Victorians regularly participating in sport or active recreation, and creating opportunities for inclusive sport and active recreation that provides all Victorians with opportunities to be involved.

There is strong strategic policy support for investment in trails and cycling infrastructure for purposes of economic growth through attraction, dispersal and growing yield from visitors and the health benefits for residential populations. Active Victoria Strategy highlights the growth in informal recreational activity and the need to support this.

Victoria's 2020 Tourism Strategy clearly states the need to encourage investment in regional Victoria in tourism infrastructure and product in order to grow tourism.

2.3. POLICY CONTEXT

This section of the report provides an outline of key strategic documents that need to be considered for the preparation of the Bald Hill Activation Plan.

2.3.1. STATE POLICY

There is a wide body of background information, strategy and research from which the Activation Project can draw upon, and within which it will reference. There are several Victorian State strategies that provide support and context for the growth of cycling and trails as one component of a growing economy, a healthy community, an attractive tourist destination and a vibrant regional lifestyle. Regional Tourism Board and Local Government strategies also address these issues to varying degrees.

TOURISM 2020 STRATEGY

The Tourism 2020 strategy was developed to provide long term goals for the Australian tourism industry. The six key areas of the strategy include:

- Grow demand from Asia;
- Build competitive digital capability;
- Encourage investment and implement the regulatory reform agenda;
- Ensure tourism transport environment supports growth;
- Increase supply of labour, skills and Indigenous participation; and
- Build industry resilience, productivity and quality.

ACTIVE VICTORIA 2017-2021

The Active Victoria Strategy is an initiative by the State Government to increase participation in sport and active recreation by Victorians.

Key strategic directions include:

- More active: An increased proportion of Victorians regularly participate in sport or active recreation.
- More diverse and inclusive: Inclusive sport and active recreation that provides all Victorians with opportunities to be involved.
- Robust, flexible, sustainable and affordable: A sustainable and efficient system that responds to changing demands and provides flexible and affordable choices.
- Broad-based and connected: A system that addresses the different demands, contributors and structure of sport and active recreation and maximises connections across the system.
- Collaborative: Well-planned and connected investment that maximises participation and health, economic, community and liveability benefits.

The Bald Hill Activation Plan will suit a broad range of user groups and will encourage active recreation by visitors and the local community.

VICTORIA CYCLING STRATEGY 2018-28

The Victorian Cycling Strategy provides planning and investment opportunities in cycling. The strategy sets out two goals and a range of initiatives to increase the number, frequency and diversity of people cycling for transport by delivering a safer, lower-stress, better-connected network and by building a more inclusive cycling culture.

The strategy will help guide cycling infrastructure investment over the decade and ensure decisions consider Victoria's transport network as a whole, to deliver the best outcomes for all Victorians.

VISITOR ECONOMY STRATEGY 2016

The Visitor Economy Strategy sets a goal of increasing visitor spend to $36.5 billion by 2025. It highlights nine priorities to achieve this goal. The priority projects identified in this report align with these:

- More private investment;
- Build on the potential of regional and rural Victoria;
- Improved marketing and branding;
- Maximise the benefits of events;
- Improved experiences for visitors from Asia;
- Better tourism infrastructure;
- Improved access into and around Victoria;
- Skilled and capable sector; and
- More effective coordination.

The Bald Hill Activation Plan will contribute to a number of these priority areas, including building on the potential for regional and rural Victoria, better tourism infrastructure and improved access into and around Victoria.

VICTORIA'S TRAIL STRATEGY 2014-24

Published by the Victoria Government in July 2014, Victoria's Trails Strategy (Trails Strategy) outlined five key strategic directions:

- Provide a strategic framework for trail investment
- Support effective planning, development and maintenance of trails
- Provide high quality information on trails
- Create better trail experiences; and
- Market trails

Identifying that there are 2,000 plus trails across the state which attract a wide range of people and provide health, educational. cultural and environmental benefits, the Trails Strategy identified that the Victorian Government manages 85% of these trails,

many of which are in protected areas, such as National Parks, State Parks, State forests and reserves

The Trails Strategy outlines a Vision "for Victoria to be recognised as a leading trail-based destination that provides a diverse range of quality trail experiences for visitors, while strengthening the State's economy and improving the health, wellbeing and lifestyle of the community"

Importantly, the Trails Strategy also outlines that "From a local community perspective, trails are important infrastructure that support recreational and fitness activities, such as walking, cycling and running. They may also be a source of community pride and important local landmarks of cultural and heritage significance".

The vision is *"for Victoria to be recognised as a leading trail-based destination that provides a diverse range of quality trail experiences for visitors, while strengthening the State's economy and improving the health, wellbeing and lifestyle of the community".*

The Bald Hill Activation Plan will link Bacchus Marsh with the Bald Hill precinct and in turn attract additional visitors to the region and improve the economy.

2.3.2. REGIONAL POLICY

Moorabool Shire is located within the Grampians RDV region shown below.

F3. GRAMPIANS REGIONAL CONTEXT

Source: Urban Enterprise, 2018.

GRAMPIANS RDV REGION CYCLING AND TRAILS INFRASTRUCTURE BUSINESS AND MASTER PLAN, URBAN ENTERPRISE, 2018

Urban Enterprise developed the Grampians RDV Region Cycling and Trails Infrastructure Business and Master Plan for Wimmera Development Association in 2018 after taking the lead of the project in February 2018, building on work previously undertaken.

The overarching objective of the project was to 'establish the Grampians RDV region as a premier tourism destination for cycling and trail related experiences', with the report including three key sections:

- Project background which included trail audits, demand assessment and identification of gaps and opportunities;
- Master plan strategy which identified a strategic framework for cycling growth and investment and specific projects and actions for implementation; and
- Business cases for three priority projects.

The Masterplan identified 12 key strategic considerations, of particular relevance to this plan:

- Large and growing market;
- Limited mountain biking activity;
- Limited recreational cycling trails;
- Mountain bike park land tenure and management;
- Former goldfields forests and reserves;
- Tiered approach to investment; and
- Service to the cycling market.

Five themes were identified within the Masterplan:

- New and enhanced iconic cycling experiences
- New and enhanced township focused cycle infrastructure that complements primary and secondary destinations
- Formalisation of existing trails to make them visitor ready
- Deliver a program of cycling events
- Cycle tourism management, marketing and servicing

Under new and enhanced iconic experiences, Bald Hill Gravity Park is identified as a T1 product

CENTRAL HIGHLANDS GROWTH PLAN, 2014

The Central Highlands Growth Plan provides a regional approach to land use planning in the Central Highlands and identifies opportunities to encourage and accommodation growth and manage change over the next 30 years. Importantly the plan identifies:

- Where future development will be supported and assessed at a regional scale;
- Environmental economic, community, and cultural assets and resources of regional significance that should be preserved, maintained or developed;
- How the region can respond to opportunities, challenges and long term drivers of changes; and
- Key regional priorities for future infrastructure planning and investment to support growth.

The vision (identified initially in the Central Highlands Regional Strategic Plan) for the Central Highlands region towards 2030 and beyond is to provide a productive, sustainable and liveable region for its people.

Key principles of relevance for this project include:

- The region's economy should be strengthened so that it is more diversified and resilient;
- The development of sustainable and vibrant communities should be supported by enhancing the level of access to key services;
- Encourage services, facilities and housing that meet the diverse needs of the community;
- Planning for growth should be integrated with the provision of infrastructure
- Encourage infrastructure that has a range of positive benefits or can support directions in the plan;
- The region's land, soil, water, and biodiversity should be managed, protected and enhanced;
- Capitalise on the region's environmental assets to improve environmental outcomes and support economic development; and

- The importance of cultural heritage and landscapes as economic and community assets should be recognised;
- Recognise the economic development and liveability benefits associated with the region's cultural heritage and landscapes.

The plan highlighted that the majority of the population growth across the Central Highlands Region over the next 30 years was likely to occur in the Ballarat West Growth Area and Bacchus Marsh and highlighted the following as challenges for growth for the region:

- Development pressure in high amenity areas;
- Spreading the benefits of population growth;
- Employment growth;
- Changing climate;
- Providing new services and infrastructure, and maintenance of existing services and infrastructure.

PORT PHILLIP AND WESTERN PORT REGIONAL CATCHMENT STRATEGY

The Bald Hill site is located within the Port Phillip and Western Port catchment region, with the regional catchment strategy outlining the following priorities for waterways and wetlands:

- Protect and improve riparian vegetation crucial to the environmental and social values of waterways;
- Maintain and, where possible, improve the diversity and populations of native species in the region's waterways, wetlands and estuaries;
- Improve water quality in waterways, wetlands and estuaries and protect the quality of receiving waters in Port Phillip Bay and Western Port; and
- Protect and improve the features of waterways enjoyed for their aesthetic, landscape and cultural values and for organised and active recreation.

For the hinterland, the objective is to retain extensive and healthy rural landscapes and open space around Melbourne that supports habitat for native species, productive and valuable agriculture, food security, clean air, carbon sequestration, water quality, social amenity values, cultural values and tourism. The priority is to retain, as much as is practicable, the extent of land zoned as green wedge, rural conservation, farm, rural living or some relevant special uses.

2.3.3. LOCAL POLICY

Moorabool Shire Council has a range of strategies, studies and reports that provide information regarding the economic and health drivers, tourist attractions, existing trails and cycle routes, and proposed trails that are a vital resource for this project. Collectively these strategies provide support for Bald Hill both as a tourist, recreation and commuter activity.

There are several regional studies of relevance including:

- Bald Hill Activation Project Background and Scoping Study;
- Moorabool Shire Economic Development Strategy, 2015;
- Recreation and Leisure Strategy;
- Moorabool Hike and Bike Strategy, June 2014;
- Moorabool Municipal Public Health and Wellbeing Plan 2017 – 2021; and
- Moorabool Shire Council Plan 2017 – 2021.

BALD HILL ACTIVATION PROJECT BACKGROUND AND SCOPING STUDY 2018

The Bald Hill Activation Project Background and Scoping Study prepared by Council in 2018 identifies the suitability of the Bald Hill site for recreation and tourism uses. The Study provides the background context of the reserve and identifies potential future uses of the site. It is concluded that:

- The site has potential to become an active recreation facility at a regional level. Potential facilities include shared trails for a range of uses (including cycling, walking, running and horse riding) and a mountain bike facility.

MOORABOOL SHIRE ECONOMIC DEVELOPMENT STRATEGY, 2015

The Moorabool Shire Economic Development Strategy, 2015 outlines the vision, objectives and targets for its local economy into the future. The Strategy also

identifies the main characteristics of the Shire's economy, potential growth opportunities, the role of Council and how the Strategy will be monitored. Three core economic objectives are recognised by the Strategy and are outlined below:

1. "New jobs, for local people;
2. A diverse and entrepreneurial local industry base; and
3. Facilitate the capacity and diversity of the workforce".

Tourism is identified as a prospective high value industry which has potential for further investment activities. Barriers identified to the growth of the industry include accommodation and product offer.

Key initiatives identified in the Strategy which relate to tourism include:

- "Continue to support channels that market local produce more directly to consumers;
- Continue to market the distinctive experiences in each of the Shire's villages;
- Implement existing tourism planning for the Shire; and
- Provide resources for tourism market monitoring and visitor monitor (monitoring task)."

RECREATION AND LEISURE STRATEGY

The Moorabool Council Recreation and Leisure Strategy 2015 to 2021 is divided into three volumes, the Facilities Strategy Plan, Moorabool Play Strategy and the Background Report. An overview of each volume is provided below.

VOLUME 1 FACILITIES STRATEGY PLAN 2015

The Moorabool Facilities Strategy Plan 2015 provides recommendations to improve council policy, existing sporting and recreation facilities as well as recommending new facilities. The Plan identifies the potential need for new active sporting reserves within the shire in the future due to increased population. In addition, a key opportunity identified by the Plan is to "create better connections to cycling/walking networks".

VOLUME 2 MOORABOOL PLAY STRATEGY 2015

The Moorabool Play Strategy 2015 provides a plan for Council for play spaces across the shire. Including facilities which carter for a diverse range of people.

VOLUME 3 BACKGROUND REPORT

The Recreation and Leisure Strategy Background Report identifies key issues and opportunities for recreation and leisure within Moorabool Shire and provides key information used to inform the Facilities Strategy Plan and Play Strategy.

MOORABOOL HIKE AND BIKE STRATEGY, JUNE 2014

The Moorabool Hike and Bike Strategy prepared in June 2014 provides strategic direction and planning for the development of recreation and commuter hiking and biking trails within the Shire. The Strategy outlines the following as the four strategy principles for the development of the trails within the Shire:

1. "The provision of a Hike and Bike Network will provide increased walking and cycling opportunities that will support social interaction, enhance safety and reduce reliance on cars;
2. Tracks and trails provide active recreation opportunities to increase the health and wellbeing of the community';
3. Tracks and trails connect key community destinations such as schools, shopping centres, parks, reserves and other local places of interest to connect people to the town;
4. A hike and bike network will be developed within key towns across Moorabool to foster effective access through the towns, connecting key access ways and community facility infrastructure. This will include the connection of key missing linkages to facilitate a more efficient network."

MOORABOOL MUNICIPAL PUBLIC HEALTH AND WELLBEING PLAN, 2017 - 2021

The Moorabool Municipal Public Health and Wellbeing Plan 2017 to 2021 is a four year plan to promote and improve the health and wellbeing of residents. The Strategy provides several outcomes and strategies to support healthy and active living including increasing the proportion of residents who are sufficiently physically active

through raising awareness and having recreation facilities including parks to improve multi-use capabilities to encourage active recreation. An action to achieve this identified in the Strategy is to consider active design principles when planning sporting grounds and reserves including walking trails linking grounds.

MOORABOOL SHIRE COUNCIL PLAN 2017 – 2021

The Moorabool Shire Council Plan 2017 – 2021 provides a profile of the municipality and identifies the priorities for Council to 2021. The Plan identifies the following strategic framework:

1. Providing Good Governance and Leadership:
    a. Our Assets and Infrastructure;
    b. Our People;
    c. Our Business and Systems;
2. Minimising Environmental Impact;
    a. Built Environment;
    b. Natural Environment;
3. Stimulating Economic Development;
    a. Land Use Planning;
    b. Investment and Employment; and
4. Improving Social Outcomes;
    a. Health and Wellbeing; and
    b. Community Connectedness and Capacity.

In relation to tourism and the Bald Hill masterplan the Plan identifies the industry as emerging and outlines the following actions:

- Review and implement the action plan from the Destination Management Plan Review;
- Revise the Recreation and Leisure Strategy (incorporating Hike and Bike Strategy); and
- Develop a plan to improve, update and beautify the neighbourhood.

3. RESIDENTIAL CATCHMENT ANALYSIS

3.1. INTRODUCTION

This section of the report provides an overview of the residential market

For the purpose of this analysis, the following two catchment areas have been identified and are as follows:

1. Primary Catchment: Moorabool Council and Melton Council; and
2. Secondary Catchment: Ballarat, Brimbank, Golden Plains, Hepburn, Hobsons Bay, Maribyrnong and Wyndham LGAs and Melbourne – North West and Melbourne Inner Statistical areas.

F4. RESIDENTIAL CATCHMENT AREAS

Source: Urban Enterprise, 2019

3.2. KEY FINDINGS

The proposed uses identified in the Bald Hill concept have the potential to service a large regional residential catchment, including the municipalities of Moorabool and Melton within the primary catchment and a secondary catchment that includes western metropolitan local governments areas and western Victorian local government areas including Golden Plains, Macedon Ranges, Hepburn and Ballarat.

There are an estimated 2 million residents in the secondary catchment area who may utilise the facilities within Bald Hill, with population projected to grow to 2.5 million residents by 2031.

Unlike much of Victoria, the age profile of the catchment area is relatively young, with many young families in the region which includes the growth areas of Western Melbourne, Melton, Bacchus Marsh and Ballarat.

The large residential catchment within one hour drive of Bald Hill highlights the potential of Bald Hill to provide regional level facilities for outdoor recreation and open space.

3.3. RESIDENTIAL PROFILE

POPULATION

Between 2001 and 2017 the population of the Primary Catchment experienced average growth of 5.5% per annum, increasing from 77,343 residents in 2001 to 190,871 residents in 2017 as shown in T2. The population of the Secondary Catchment also experienced growth over the period between 2001 and 2017, increasing at an average rate of 2.6% per annum from 1.2 million in 2001 to 1.88 million in 2017.

Both the Primary and Secondary Catchment's historical population growth is forecast to continue. The Primary Catchment is projected to experience an average annual growth rate of 4.1% per annum between 2016 and 2031 increasing from 170,308 people to 312,132 people in 2031. The Secondary Catchment is projected to experience an average annual growth rate of 2.1% per annum, increasing from 1.8 million in 2016 to approximately 2.5 million in 2031 as identified in T3.

The population of Bacchus Marsh and surrounding primary and secondary catchments is growing rapidly, and additional services and recreation facilities will be required to service this growth and ensure a healthy and active community.

T2. HISTORICAL POPULATION

	2001	2006	2011	2016	2018	Growth 2001 to 2018	Growth 2001 to 2018 %	AAGR	AAGR%
Primary Catchment	77,343	106,672	141,313	174,092	190,871	113,528	147%	6,678	5.5%
Secondary Catchment	1,211,396	1,327,320	1,504,515	1,758,282	1,877,072	665,676	55%	39,157	2.6%
Total	**1,288,739**	**1,433,992**	**1,645,828**	**1,932,374**	**2,067,943**	**779,204**	**60%**	**45,835.53**	**2.8%**

Source: Estimated Residential Population, Australian Bureau of Statistics, 2001 to 2018.

T3. PROJECTED POPULATION

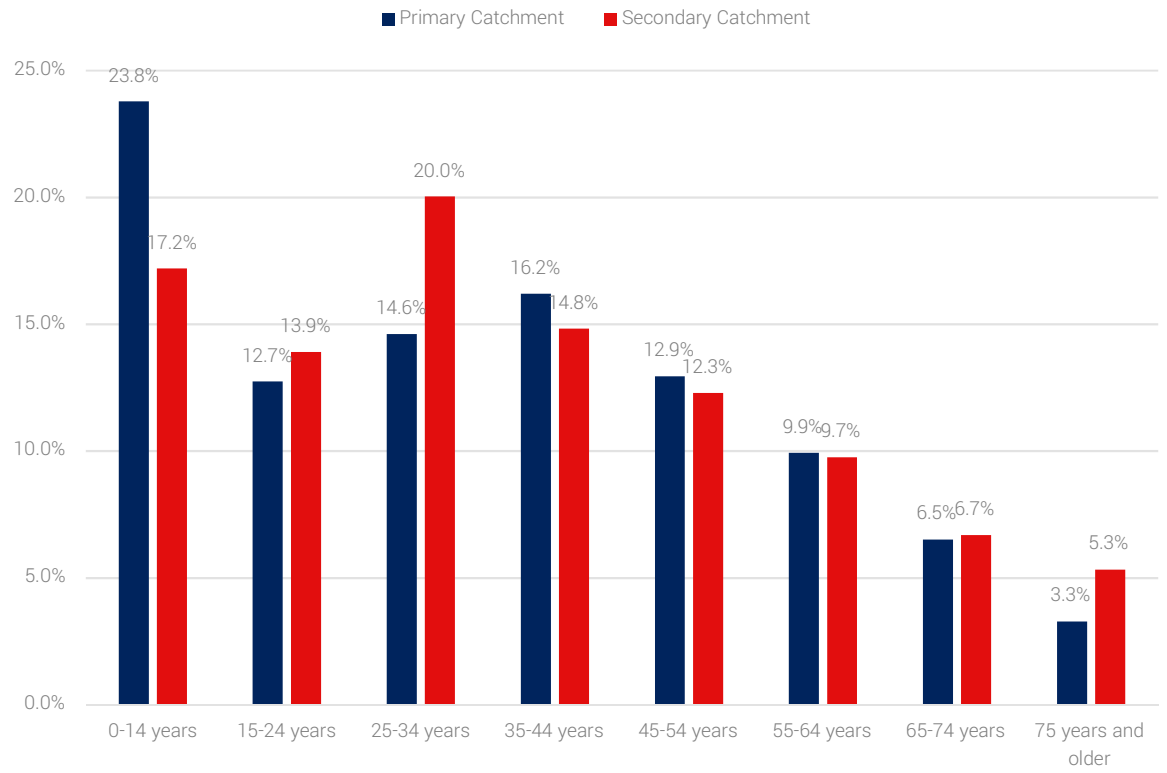
	2016	2021	2026	2031	Change	Change %	AAGR	AGGR%
Primary Catchment	170,308	207,163	256,583	312,132	141,824	83%	9,455	4.1%
Secondary Catchment	1,801,846	2,036,040	2,262,633	2,477,489	675,643	37%	45,043	2.1%
Victoria	**6,048,767**	**6,605,653**	**7,170,957**	**7,733,259**	**1,684,492**	**28%**	**112,299**	**1.7%**

AGE PROFILE

The most common age cohorts in the Primary Catchment are 0-14 years (23.8%), 35-44 years (16.2%) and 25-34 years (14.6%). In comparison, the most common age cohorts in the Secondary Catchment are 25-34 years (20.0%), 0-14 years (17.2%) and 35-44 years (14.8%).

Growth in younger cohorts indicates a significant number of young families are living in both the primary and secondary catchments, and highlights a need to service the sport and recreation needs of this population.

F5. AGE PROFILE 2016



Source: Census of Population and Housing, Australian Bureau of Statistics, 2016.

LABOUR FORCE STATUS

The number of unemployed residents in the Primary and Secondary Catchments has increased over the 5 year period between 2011 and 2016, with the portion of unemployed residents increasing from 3.9% in 2011 to 4.9% in 2016. In the Secondary Catchment, the portion of unemployed residents increased from 4% in 2011 to 5% in 2016 as identified in F6.

In the Primary and Secondary Catchments, approximately 62% of residents in the labour force are employed, including approximately 40% employed full time and 19% employed part time.

F6. LABOUR FORCE STATUS

	Primary Catchment		Secondary Catchment	
	2011	2016	2011	2016
Employed	64.50%	62.20%	62.90%	62.10%
Employed, worked full-time	*42.50%*	*39.60%*	*41.10%*	*39.60%*
Employed, worked part-time	*17.80%*	*19.20%*	*18.00%*	*19.40%*
Employed, away from work	*4.20%*	*3.40%*	*3.80%*	*3.10%*
Unemployed	3.90%	4.90%	4.00%	5.00%
Unemployed, looking for full-time work	*2.40%*	*2.90%*	*2.30%*	*2.70%*
Unemployed, looking for part-time work	*1.50%*	*2.00%*	*1.70%*	*2.30%*
Not in the labour force	31.50%	32.90%	33.10%	32.90%

Source: Census of Population and Housing, Australian Bureau of Statistics, 2011 and 2016. Note not stated and not applicable have been excluded from total.

LOCATION OF WORK

As identified in F7, the majority of residents in the Primary Catchment work in Melton (19%), followed by Melbourne (15%) and Brimbank (14%). In comparison, the majority of residents in the Secondary Catchment work in Melbourne (28%), followed by Hume (7%) and Wyndham (6%) as identified in F8.

F7. LOCATION OF WORK – PRIMARY CATCHMENT

	2011	2016
Melton (S)	17%	19%
Melbourne (C)	14%	15%
Brimbank (C)	12%	14%
Moorabool (S)	8%	8%
Wyndham (C)	5%	7%
Hume (C)	6%	6%
Maribyrnong (C)	4%	4%
Hobsons Bay (C)	4%	4%
Moonee Valley (C)	3%	3%
Unincorporated Vic, no fixed address or undefined	12%	5%

Source: Census of Population and Housing, Australian Bureau of Statistics, 2011 and 2016.

25% of residents in the primary catchment also work within the primary catchment, indicating high proportions of people living, working and playing in the local area.

F8. LOCATION OF WORK – SECONDARY CATCHMENT

	2011	2016
Melbourne (C)	27%	28%
Hume (C)	7%	7%
Wyndham (C)	5%	6%
Brimbank (C)	6%	6%
Yarra (C)	5%	5%
Ballarat (C)	5%	5%
Port Phillip (C)	5%	5%
Maribyrnong (C)	4%	4%
Moonee Valley (C)	4%	4%
Unincorporated, undefined, no fixed address	10%	4%

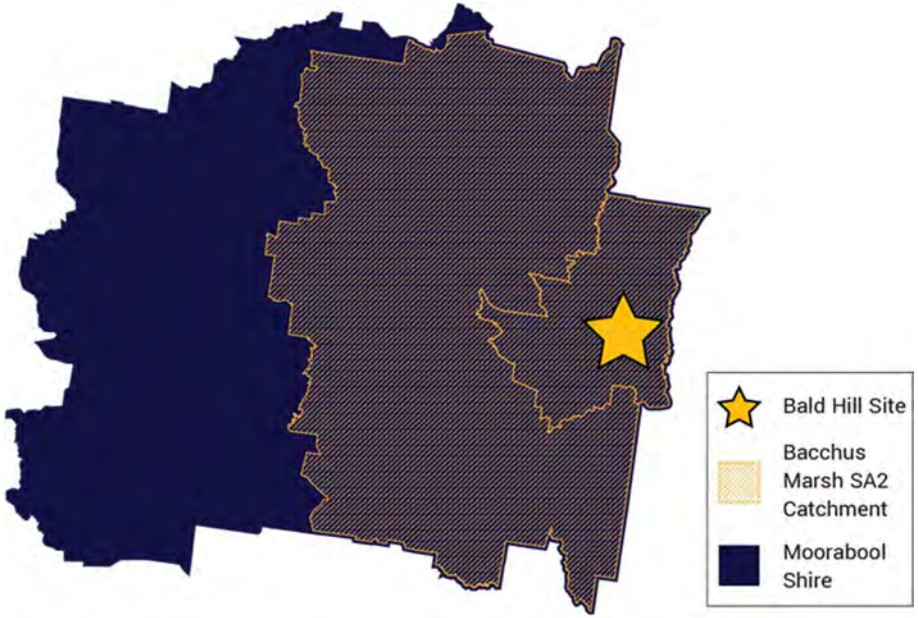
Source: Census of Population and Housing, Australian Bureau of Statistics, 2011 and 2016.

4. VISITORS TO BACCHUS MARSH

4.1. INTRODUCTION

This section provides an overview of visitation and visitor characteristics in the Bacchus Marsh area. This uses the Statistical Area 2 (SA2's) regions of the Eastern part of Moorabool Shire, including Bacchus Marsh and Bacchus Marsh region.

F9. BACCHUS MARSH VISITOR CATCHMENT AREA



4.2. KEY FINDINGS

The Bacchus Marsh area attracts 334,000 visitors per annum. The key reasons for visitation include holiday leisure (30%), visiting friends and relatives (42%), business (9%) and sport (7%). 82% of visitors to Bacchus Marsh are daytrippers, highlighting the lack of both accommodation and tourism product to attract visitors for longer stays.

Analysis of activities undertaken by visitors highlights a lack of experiences in Bacchus Marsh, for example only 33% visitors engage in food and beverage experiences, compared to the regional Victorian average of 46%.

Bacchus Marsh has a number of surrounding nature based assets such as Lerderderg Gorge and Werribee Gorge that are popular destinations. In addition visits to farm gate is a popular activity. Bald Hill would create a new destination that will drive visitation to the region and create greater awareness of Bacchus Marsh as a destination. The delivery of iconic mountain bike and walking trails will help to brand Bald Hill as an outdoor destination.

4.3. VISITOR PROFILE

VISITATION OVERVIEW

Table T4 shows the average number of day, overnight and international visitor trips to the Catchment area per annum. On average there is a total of 334,734 visitors to the Catchment with day trips accounting for 83% of trips (277,348 day trips) overnight trips accounting for 17% of trips (55,435 overnight trips) international trips account for 1% of trips)1,950 international trips).

T4. AVERAGE NUMBER OF TRIPS PER YEAR

	Bacchus Marsh Catchment	Yarra Valley & Dandenong Ranges	Geelong and the Bellarine	Peninsula	Regional Victoria
Day	277,348	3,697,992	3,221,790	4,164,859	25,992,307
Overnight	55,435	722,312	1,093,957	1,285,305	12,272,487
International	1,950	36,933	46,835	47,161	385,063
Total	334,734	4,457,237	4,362,582	5,497,325	38,649,857

Source: National and International Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

PURPOSE OF VISIT

The primary purpose of visit for domestic daytrip visitors to the Catchment area is for to visit friends and relatives, accounting for 42% of daytrips. Visiting for a holiday is also a common purpose of visit, accounting for 30% of daytrips.

F10. PURPOSE OF VISIT – DOMESTIC DAYTRIP

	Bacchus Marsh Catchment	Yarra Valley & Dandenong Ranges	Geelong & the Bellarine	Peninsula	Regional Victoria
Holiday	30%	51%	34%	48%	37%
Visiting relatives	28%	18%	21%	19%	19%
Visiting friends	14%	11%	12%	13%	11%
Business	9%	5%	8%	4%	8%
Sport - participating	7%	3%	3%	3%	3%
Shopping	4%	3%	6%	3%	7%
Personal appointment/business (excl health)	3%	2%	2%	2%	3%
To attend an event, sport or cultural or festival	2%	3%	3%	2%	3%
Education	1%	1%	1%	0%	1%
Medical reasons	0%	1%	3%	1%	3%
Training and research (employed only)	0%	0%	0%	0%	0%
Sport - watching	0%	1%	3%	1%	2%
Providing transport	0%	1%	2%	1%	2%
Attend Funeral	0%	0%	1%	0%	1%

Source: National Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

The primary purpose of visit for domestic overnight visitors to the Catchment area is to visit friends and relatives, accounting for 56% of domestic overnight trips. Visiting for a holiday is also a common purpose of visit, accounting for 22% of overnight trips.

F11. PURPOSE OF VISIT – DOMESTIC OVERNIGHT

	Bacchus Marsh Catchment	Yarra Valley & Dandenong Ranges	Geelong and the Bellarine	Peninsula	Regional Victoria
Visiting relatives	37%	30%	30%	21%	24%
Holiday	22%	39%	39%	58%	47%
Visiting friends	19%	14%	12%	11%	9%
Business	8%	7%	7%	4%	9%
To attend an event, sport or cultural or festival	3%	2%	3%	1%	2%
Education	3%	1%	1%	0%	1%
Sport - participating	2%	2%	2%	1%	3%
Convention/conference/seminar/trade fair/exhibition	1%	1%	0%	0%	0%
In transit	1%	0%	0%	0%	1%
Medical reasons	1%	1%	1%	0%	1%
Shopping	1%	0%	0%	0%	0%
Sport - watching	1%	1%	2%	0%	1%
Personal appointment/ business (excl health)	1%	1%	1%	0%	1%

Source: National Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

LENGTH OF STAY

On average 70% of domestic overnight visitors to the Catchment area stay for 1 or 2 nights as identified in Table T5. 13% of domestic overnight visitors stay for 3 nights and 16% stay for 4 to 7 nights.

T5. OVERNIGHT VISITORS LENGTH OF STAY

	Bacchus Marsh Catchment	Regional Victoria
1 night	35%	27%
2 nights	35%	30%
3 nights	13%	15%
4 - 7 nights	16%	20%
8 - 14 nights	1%	6%
15 - 30 nights	1%	2%
31 or more nights	0%	1%

Source: National Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

Visitors to Bacchus Marsh have a shorter length of stay than visitors to Regional Victoria, likely due to the proximity of Bacchus Marsh to Melbourne, as well as the lack of compelling tourism activities and limited accommodation.

4.3.1. VISITOR DEMOGRAPHICS

VISITOR ORIGIN

On average, the majority (78%) of domestic day visitors to the Catchment are from Melbourne, with the remaining 22% from elsewhere in Victoria. The majority (47%) of domestic overnight visitors to the Catchment are also from Melbourne with 32% from elsewhere in Victoria and the remaining 21% from interstate as identified in Table T6.

T6. DOMESTIC VISITOR ORIGIN

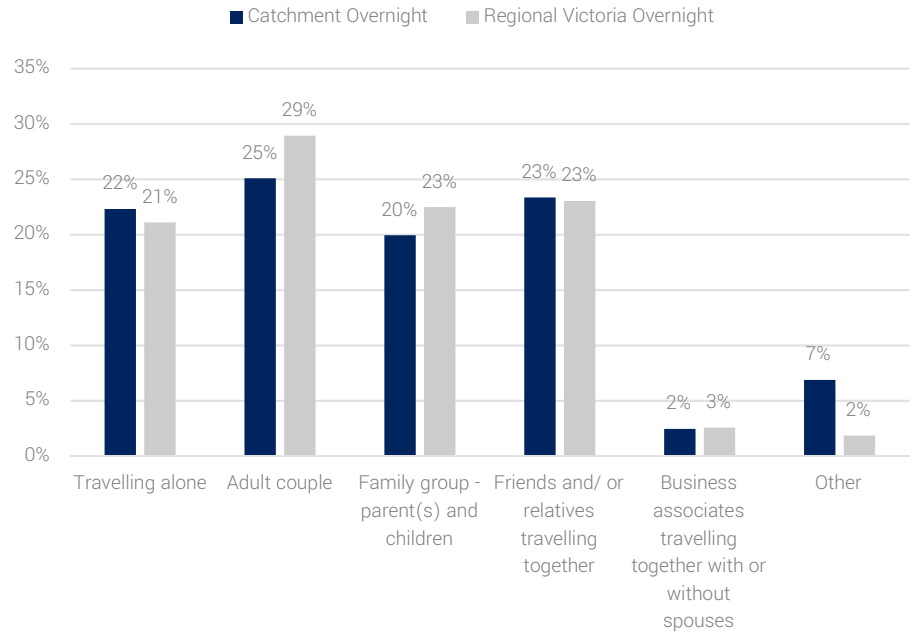
	Bacchus Marsh Catchment		Regional Victoria	
	Day	Overnight	Day	Overnight
Melbourne	78%	47%	59%	60%
Other VIC	22%	32%	38%	25%
Other NSW	0%	6%	3%	4%
ACT	0%	3%	0.01%	1%
Sydney	0%	3%	0%	3%
Other QLD	0%	3%	0%	1%
Brisbane	0%	2%	0.01%	1%
Adelaide	0%	2%	0.1%	2%
Other SA	0%	1.2%	0.7%	1%
Tas	0%	0.8%	0.01%	1%
Perth	0%	0.5%	0%	1%
NT	0%	0.5%	0%	0.3%
Other WA	0%	0.1%	0%	0.2%

Source: National Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

TRAVEL PARTY

The travel party types of domestic overnight visitors to the Catchment is identified in Figure F11. The primary travel party type is adult couples (26%), followed by friends and / or relatives travelling together (23%) and visitors travelling alone (22%).

F12. TRAVEL PARTY TYPE



Source: National and International Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

TRIP ACTIVITIES

Daytrip Visitors

The most common activities undertaken by domestic daytrip visitors to the catchment is visiting friends and relatives (44%), followed by eating / dining out (33%) and sightseeing (13%) as identified in Table T7.

There are significantly lower proportions of visitors dining out in Bacchus Marsh, as compared to other leading destinations within similar proximity to Melbourne. There is a significantly higher proportion of people (12%) undertaking no activities compared to benchmarked regions, indicating a clear lack of tourism product to attract and entertain visitors. Bald Hill will provide an attraction for visitors of all ages and interests.

T7. DOMESTIC DAYTRIP VISITOR ACTIVITIES

	Bacchus Marsh Catchment	Yarra Valley & Dandenong Ranges	Geelong and the Bellarine	Peninsula	Regional Victoria
Visit friends & relatives	44%	33%	39%	39%	35%
Eat out / dine at a restaurant and/or cafe	33%	49%	46%	49%	46%
Sightseeing/looking around	13%	26%	17%	20%	19%
None of these	12%	8%	10%	7%	10%
Bushwalking / rainforest walks	11%	14%	3%	4%	5%
Go shopping for pleasure	10%	12%	17%	13%	17%
Visit national parks / state parks	7%	13%	3%	5%	6%
Pubs, clubs, discos etc	6%	5%	5%	6%	6%
Other outdoor activities nfd	5%	2%	1%	1%	2%
Picnics or BBQs	5%	7%	5%	5%	5%
Visit botanical or other public gardens	4%	5%	3%	3%	3%
Go to markets	3%	3%	3%	3%	3%
Play other sports	3%	2%	3%	2%	3%
Visit farms	2%	2%	0%	1%	1%
Golf	2%	1%	1%	2%	1%
Other activities	2%	1%	1%	1%	1%
Attend an organised sporting event	2%	2%	4%	1%	3%
Fishing	2%	1%	2%	2%	3%
Movies/videos	1%	0%	0%	0%	0%
Cycling	1%	1%	1%	1%	1%

Source: National Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

Overnight Visitors

The most common activities undertaken by domestic overnight visitors to the catchment is visiting friends and relatives (58%), followed by eating / dining out (33%) and going to a pub, club or disco etc. (20%) as identified in Table T8.

As with daytrip visitation, there is a significantly lower proportion of people dining out as compared to benchmarked regions.

T8. VISITOR ACTIVITIES DOMESTIC OVERNIGHT

	Bacchus Marsh Catchment	Yarra Valley & Dandenong Ranges	Geelong and the Bellarine	Peninsula	Regional Victoria
Visit friends & relatives	58%	51%	55%	49%	44%
Eat out / dine at a restaurant and/or cafe	33%	46%	57%	56%	54%
Pubs, clubs, discos etc	20%	13%	17%	16%	20%
Sightseeing/looking around	18%	24%	27%	26%	28%
Bushwalking / rainforest walks	17%	19%	5%	9%	15%
Go shopping for pleasure	13%	17%	24%	23%	20%
Visit national parks / state parks	12%	16%	4%	10%	13%
Picnics or BBQs	10%	6%	5%	6%	7%
None of these	8%	7%	5%	5%	7%
Go to markets	6%	6%	9%	8%	8%
Go on a daytrip to another place	6%	4%	6%	5%	5%
Play other sports	5%	4%	4%	4%	4%
Other outdoor activities nfd	5%	5%	1%	2%	4%
Visit botanical or other public gardens	4%	3%	3%	3%	4%
Water activities / sports	4%	4%	2%	3%	4%
Exercise, gym or swimming	4%	4%	5%	4%	5%
Go to the beach	4%	1%	41%	51%	25%
Cycling	3%	2%	3%	3%	3%
Attend festivals / fairs or cultural events	2%	2%	4%	2%	3%
Visit museums or art galleries	2%	4%	4%	3%	5%

Source: National Visitor Survey, Tourism Research Australia, 2009 to 2018 (10 year average).

5. SITE CONSTRAINTS AND CONSIDERATIONS

5.1. INTRODUCTION

Urban Enterprise undertook a review of existing site constraints, including the impacts of land ownership, zoning, geographical and ecological constraints, and an analysis of areas of sensitivity. This has been informed by the Ecological and Aboriginal and Cultural Heritage assessments undertaken by Biosis (see Appendix A for further detail).

5.2. KEY FINDINGS

Bald Hill is owned by Council, with 60ha managed by council and 70ha is leased to Sugar Gum Plantations until 2027. The site is within the Farming Zone (FZ), and is surrounded by Farming Zone (FZ), Low Density Residential Zone (LDRZ) and General Residential Zone (GRZ). Overlays affecting the site include Design and Development Overlay, Environmental Significance Overlay, Heritage Overlay and Significant Landscape Overlay.

Urban Enterprise commissioned Biosis Pty Ltd on behalf of Moorabool Shire Council to undertake a preliminary biodiversity constraints assessment and Aboriginal and historical heritage constraints assessment for the proposed development of a mountain bike trail network and associated facilities at Bald Hill.

Key findings from the ecological assessment include:

- **The key areas of ecological value within the study area that may be impacted upon by the project are:**
    - **Scattered remnant Grey Box and Yellow Gum trees; and**
    - **Potential patches of native understorey dominated by native perennial grass species (further detailed assessment is needed to determine size and extent of potential patches once design plan is finalised).**
- **The removal of native vegetation on site may require offsets if the removal includes remnant scattered trees, or forms part of a patch as classified in the Guidelines for the removal, destruction or lopping of native vegetation ('the Guidelines') (DELWP 2017).**
- **The proposed works associated with development of the study site are unlikely to impact on any listed threatened species or threatened communities, which are matters of national environmental significance; and**
- **1.9 ha offset site at the south east boundary of the site contains remnant Grey-Box woodland (grey box woodland) and cannot be developed and therefore should be avoided.**

Key findings from the cultural heritage assessment include:

- **The geology of Bald Hill is recognised as being a site of International geological significance;**
- **The study area encompasses three landforms that are listed as being 'Sites of Geological and Geomorphological Significance': Korkuperrimul Creek (International Significance) Mortons Quarry, Main Quarry (International Significance); Bald Hill (Bacchus Marsh) (Regional Significance);**
- **There are 44 recorded Aboriginal places within the geographic region, two of which have been recorded within the study area Hallets 1 VAHR 7722-0129 and Bacchus Marsh Hill 1 VAHR 7722-0201;**
- **There is one recorded historical site within the current study area Bald Hill Quarry (HO200) which is a is a former sandstone quarry and is a protected under the Planning and Environmental Act 1987. The site also has scientific significance for its archaeological research potential. The listing associated with HO200 suggests that modern disturbances within the site boundary have impacted the site and as such remains are unlikely to have survived.**
- **Predictive modelling identified Korkuperrimul Creek as having the highest archaeological potential for Aboriginal cultural heritage material to be identified.**
- **Despite previous land use of the study area, the entirety of the area covered by the cultural heritage sensitivity layer cannot be shown to have had a high**

level of probability to have been subject to Significant Ground Disturbance (SGD).

- **The study area for the proposed Bald Hill Mountain Bike Trail is not exempt from a mandatory CHMP.**

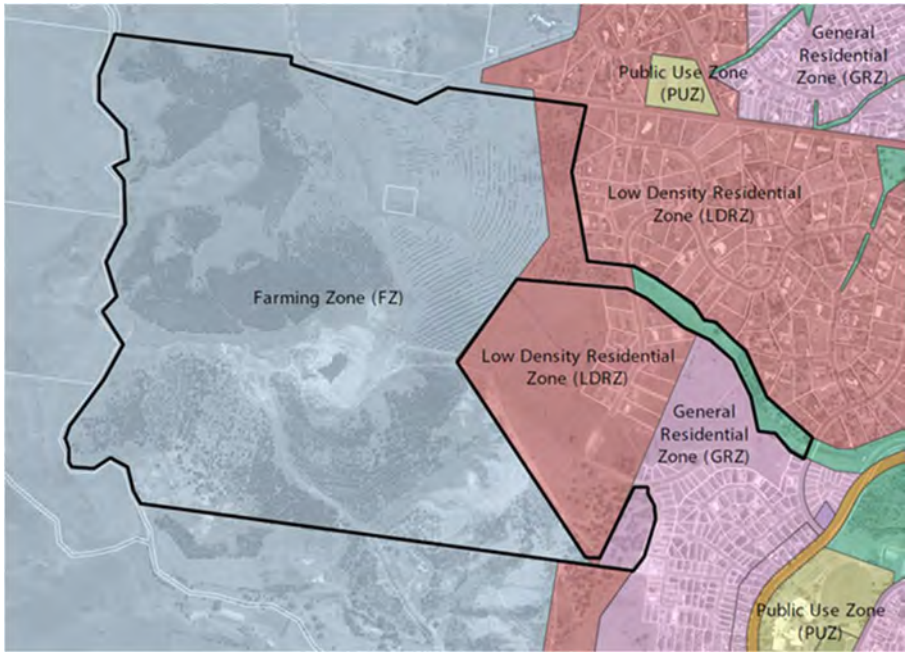
5.3. LAND OWNERSHIP

Bald Hill is owned by Council, who manage and maintain the southern portion (60 hectares) of the reserve. The northern section of the reserve (70 hectares) is leased to Sugar Gum Plantations until 2027.

5.4. ZONING

Bald Hill is within the Farming Zone (FZ). Bald Hill is surrounded by the Farming Zone (FZ) to the north, south and west and the Low Density Residential Zone (LDRZ) and General Residential Zone (GRZ) to the east. Development at Bald Hill should consider any potential land use conflicts with these surrounding zones.

F13. ZONING MAP



Source: Urban Enterprise, 2019.

The purpose of the Farming Zone is to:

- To provide for the use of land for agriculture.
- To encourage the retention of productive agricultural land.
- To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.
- To encourage the retention of employment and population to support rural communities.
- To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.
- To provide for the use and development of land for the specific purposes identified in a schedule to this zone.

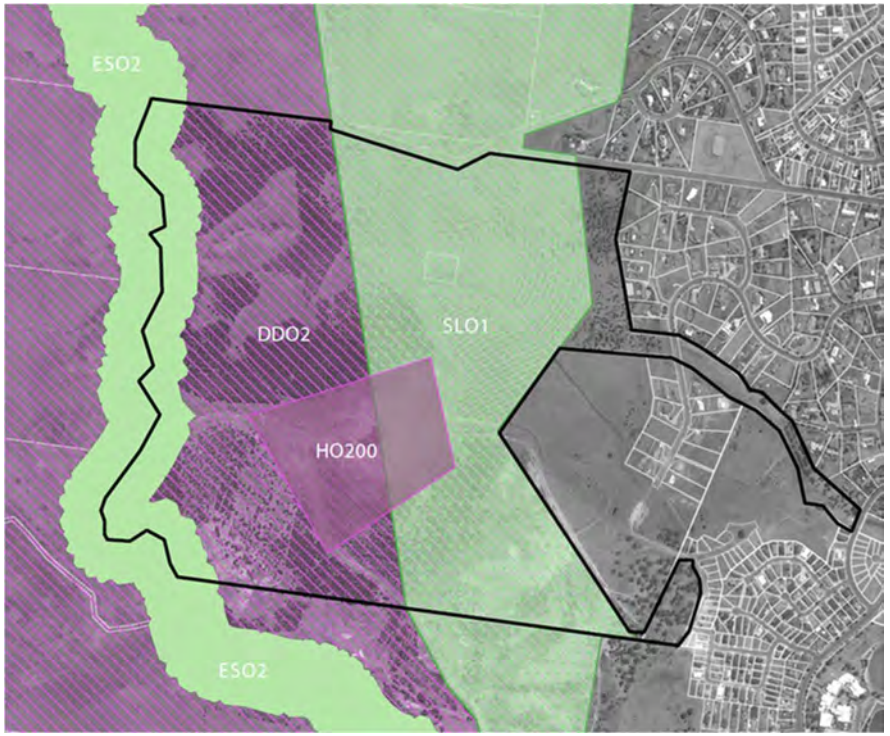
The Bald Hill site is situated within a large area of Farming Zone, however the site itself, is not currently used nor has been previously used for agricultural uses, and has limited potential to be utilised in this capacity in the future.

A permit will be required for building and works, earthworks, and the use of the site under the Farming Zone.

5.4.1. OVERLAYS

A number of planning overlays apply to sections or the entire Bald Hill site. A summary of these overlays is provided below.

F14. OVERLAY MAP



Source: Urban Enterprise, 2019.

DESIGN AND DEVELOPMENT OVERLAY

The Design and Development Overlay (DD02) applies to the majority of Bald Hill and has the intent to improve the visual amenity of Moorabool Shire. Prior to development, consideration must be given to the construction materials used to ensure appropriate materials are used (such as non-reflective materials).

The purpose of the Design and Development Overlay is to identify areas which are affected by specific requirements relating to the design and built form of new development.

Schedule 2 relates to Visual Amenity and Building Design, with design objectives:

- To enhance visual amenity in rural, township and vegetated areas of the Moorabool Shire.
- To encourage the use of external cladding, such as non-reflective materials for building construction.
- To discourage the use of materials, such as reflective cladding for building construction, which could have a detrimental effect on amenity.

ENVIRONMENTAL SIGNIFICANCE OVERLAY

The western section of Bald Hill is subject to Environmental Significance Overlay (ESO2), recognising the significance of the waterway which runs north south at the western edge of the site. The intent of the overlay is to protect the waterway from works which will have adverse impacts upon the health of waterway.

Prior to any development occurring within the overlay evidence is required to demonstrate the proposed works will have no negative impact upon the health of the waterway including surrounding vegetation.

The purpose of the Environmental Significance Overlay is to:

- To identify areas where the development of land may be affected by environmental constraints.
- To ensure that development is compatible with identified environmental values

Schedule 2 relates to waterway protection, with the following environmental objectives to be achieved:

- To protect the habitat significance of vegetation.
- To provide for appropriate development of land within 100 metres of either side of a waterway.
- To prevent pollution and increased turbidity of water in natural waterways.
- To prevent increased surface runoff or concentration of surface water runoff leading to erosion
- or siltation of waterways.
- To conserve existing flora and fauna habitats close to waterways and to encourage generation and regeneration of habitats.

HERITAGE OVERLAY

The Heritage Overlay (HO200) applies to the quarry at Bald Hill. The quarry is located at the end of Tramway Lane is recognised for its significance in producing stone utilised in buildings in and around Melbourne including Treasury Building (1857-62), Parliament House Library (1860) and possibly the Flinders Street Customs House.

The Heritage Overlay does not prevent future development for other uses however it must be considered as part of any future proposal. In addition to the Heritage Overlay, the quarry is listed on the Victorian Heritage Register and therefore must comply with the Heritage Act 2007.

The purpose of the Heritage Overlay is to:

- To conserve and enhance heritage places of natural or cultural significance.
- To conserve and enhance those elements which contribute to the significance of heritage places.
- To ensure that development does not adversely affect the significance of heritage places.
- To conserve specified heritage places by allowing a use that would otherwise be prohibited if this will demonstrably assist with the conservation of the significance of the heritage place.

SIGNIFICANT LANDSCAPE OVERLAY

The eastern section of Bald Hill is subject to the Significant Landscape Overlay (SLO1). The overlay outlines the need to protect and maintain the views to the escarpment edge surrounding Bacchus Marsh.

The overlay does prevent development however proposed works must not have adverse impact upon the landscape character or the views to / from Bald Hill.

The purpose of the Significant Landscape Overlay is to:

- To identify significant landscapes.
- To conserve and enhance the character of significant landscapes

Schedule 1 relates to Scenic Hilltops and Ridge Line Area.

5.5. GEOGRAPHICAL AND ECOLOGICAL CONSIDERATIONS

5.5.1. TOPOGRAPHY

Bald Hill is a steep environment, particularly at the cliffs, gullies and slopes throughout the site. The summit of Bald Hill is 340 metres above sea level. The topography of the site is suitable for activities such as walking, cycling and horse riding.

5.5.2. EROSION

Due to a combination of natural processes and historical clearance of vegetation and importation of loose soils, Bald Hill has been affected by severe erosion in areas. While erosion at the site will not preclude future development, geotechnical assessments will need to be undertaken to prevent further erosion at the site into the future.

5.5.3. PEST SPECIES

Bald Hill is affected by several pest species, including weeds such as African Boxthorn and Patterson's Curse and animals such as rabbits and foxes. The infestations of pest species has led to the environmental values of the site to be downgraded. Council budget currently allows for minimal control of pest species at the site however if development was to occur at the site further ongoing pest species

5.6. AREAS OF SENSITIVITY ANALYSIS

Urban Enterprise commissioned Biosis Pty Ltd on behalf of Moorabool Shire Council to undertake a preliminary biodiversity constraints assessment and Aboriginal and historical heritage constraints assessment for the proposed development of a mountain bike trail network and associated facilities at Bald Hill.

The purpose of these assessments is to inform the final trail design by identifying biodiversity and heritage constraints that may be present within the study area, and the associated legislative context and requirements.

A summary of each of these assessments and their findings is provided below, with each preliminary report included in full in Appendix A.

5.6.1. BIODIVERSITY ASSESSMENT

Biosis' biodiversity assessment outlines the ecological values, opportunities and constraints of the study area and includes:

- The project context relating to the ecological values and the methodology undertaken to make the assessment;
- A description of the relevant ecological legislation and policy;
- The key ecological findings;
- The implications of legislation and policies on the project based on the key findings; and
- The actions required based on the findings of the report.

Key findings in the assessment include:

- The key areas of ecological value within the study area that may be impacted upon by the project are:

- Scattered remnant Grey Box and Yellow Gum trees; and
- Potential patches of native understorey dominated by native perennial grass species (further detailed assessment is needed to determine size and extent of potential patches once design plan is finalised).

- The removal of native vegetation on site may require offsets if the removal includes remnant scattered trees, or forms part of a patch as classified in the Guidelines for the removal, destruction or lopping of native vegetation ('the Guidelines') (DELWP 2017).
- The proposed works associated with development of the study site are unlikely to impact on any listed threatened species or threatened communities, which are matters of national environmental significance; and
- 1.9 ha offset site at the south east boundary of the site contains remnant Grey-Box woodland (grey box woodland) and cannot be developed and therefore should be avoided.

Biosis identified the following next steps and recommendations in regards to further development of the site:

- The primary measure to reduce impacts on biodiversity values within the study area is to avoid and minimise removal of native vegetation and fauna habitat. The results of this assessment should be incorporated into the project design.
- Once a project design has been completed the next stage of the assessment process will involve detailed mapping of native vegetation, to assess the extent of Ecological Vegetation Classes (EVCs) within the study area, and to determine the presence/absence of threatened species and ecological communities within the study area (EPBC Act and FFG Act listed).
- It is recommended that future design plans are created with the aim to avoid native vegetation within the study area if possible. Design plans should be particularly sensitive to impacting native remnant trees within the study area, especially Grey Box trees, as patches of these trees may form part of the nationally threatened Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived native Grasslands of Southeastern Australia community.

Ecological Vegetation Class (EVC) and Flora and Fauna Guarantee Act 1988 (FFG) species/communities modelled to occur have been included in the constraints mapping, however these have been identified as an overestimate and unlikely to occur respectively, and should be the subject of further detailed assessment.

5.6.2. CULTURAL HERITAGE ASSESSMENT

Biosis developed the cultural heritage due diligence assessment in line with a number of objectives, including, but not limited to:

- Undertake background research and literature review to determine known and potential cultural heritage values;
- Examine, collate and analyse any previously undertaken heritage or archaeological assessments;
- Build a history of land use and identify possible significant ground disturbance (SGD);
- Provide an analysis of the type and level of Aboriginal cultural heritage and European cultural heritage constraints present across the sites and identify the most suitable locations for trail development;
- Advise on the potential for historic heritage to be present within the study area; and
- Development of an Aboriginal heritage place prediction model based on data analysis

Key findings in the assessment include:

- The geology of Bald Hill is recognised as being a site of International geological significance;
- The study area encompasses three landforms that are listed as being 'Sites of Geological and Geomorphological Significance': Korkuperrimul Creek (International Significance) Mortons Quarry, Main Quarry (International Significance); Bald Hill (Bacchus Marsh) (Regional Significance);
- There are 44 recorded Aboriginal places within the geographic region, two of which have been recorded within the study area Hallets 1 VAHR 7722-0129 and Bacchus Marsh Hill 1 VAHR 7722-0201;
- There is one recorded historical site within the current study area Bald Hill Quarry (HO200) which is a is a former sandstone quarry and is a protected

under the Planning and Environmental Act 1987. The site also has scientific significance for its archaeological research potential. The listing associated with HO200 suggests that modern disturbances within the site boundary have impacted the site and as such remains are unlikely to have survived.

- Predictive modelling identified Korkuperrimul Creek as having the highest archaeological potential for Aboriginal cultural heritage material to be identified.
- Despite previous land use of the study area, the entirety of the area covered by the cultural heritage sensitivity layer cannot be shown to have had a high level of probability to have been subject to Significant Ground Disturbance (SGD).
- The study area for the proposed Bald Hill Mountain Bike Trail is not exempt from a mandatory CHMP.

Biosis identified the following next steps and recommendations in regards to further development of the site:

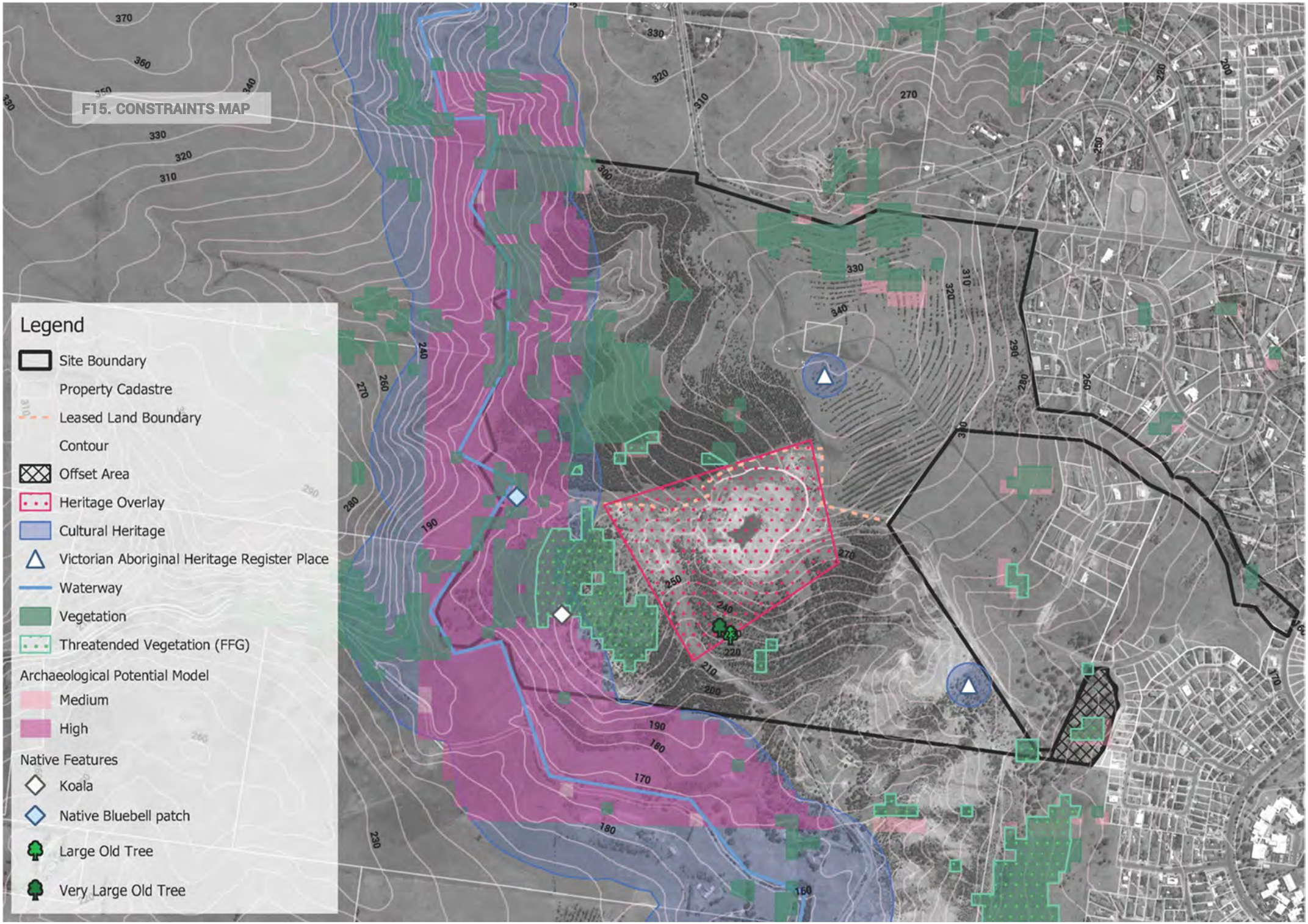
- There is a requirement that a mandatory CHMP be undertaken before council issues statutory approval for the proposed Bald Hill Mountain Bike Trail as the proposed works are 'high impact' and within an area of Cultural Heritage Sensitivity; and
- A historic heritage assessment report is recommended to be completed prior to undertaking any works, due to the limited information available for the historic heritage of the study area. A heritage assessment would be best practice to minimise risk to the project through unintended harm occurring to heritage places.

Areas of cultural heritage sensitivity, existing historic places, and areas of archaeological potential as mapped through the aboriginal place prediction model have been included in the constraints mapping below.

5.7. CONSTRAINTS SUMMARY

The following figure provides an overview of constraints to be considered for the masterplanning of the site. These include:

- Heritage overlay over the quarry area;
- Locations of potential cultural significance;
- Remnant vegetation;
- Threatened vegetation;
- Site access.


F15. CONSTRAINTS MAP
Legend
Site Boundary
Property Cadastre
Leased Land Boundary
Contour
Offset Area
Heritage Overlay
Cultural Heritage
Victorian Aboriginal Heritage Register Place
Waterway
Vegetation
Threatended Vegetation (FFG)
Archaeological Potential Model
Medium
High
Native Features
Koala
Native Bluebell patch
Large Old Tree
Very Large Old Tree

6. PROPOSED RECREATIONAL AND COMMERCIAL USE ANALYSIS

6.1. INTRODUCTION

This section outlines the existing supply of the following categories, as well as the demand for them. The categories that have been analysed include:

- Destination Mountain Bike Parks;
- Formal Open space;
- Destination Walking Trails;
- All abilities trails;
- Adventure Playspace;
- Open Air events spaces;
- Conference and events centres; and
- Destination Dining and Social Events Spaces.

Most of these concepts were identified as concepts to explore in the Bald Hill Activation Project Background and Scoping Report completed in 2018.

Table T9 shows the different types of parks and facilities. Please note, local scale facilities have not been included in this analysis as they are considered to be a different product.

T9. SPORT AND LEISURE FACILITY HIERARCHY

Type of Facility	Description	Target Market
National	Facilities with the capacity for the highest level of sporting competitions which may include International events, competitions and National Leagues. Often provides as a Headquarters for State or National Sporting Organisation administration.	Attracts visitors from across Australia, as well as international visitors.
State	Facilities are of national or international significance and assist to promote the state as a sports destination and provides access and pathway opportunities for participants.	Attracts visitors from across Victoria.
Regional	These facilities serve as a regular venue for recreational activities, training state teams and hosting elite level competitions. Facilities are maintained at a premier standard. Often serve a core role or function in hosting specialised sporting events venue or sport specific services that attracts visitors from across the state.	Attracts mainly Victorian visitors, particularly residents from the surrounding region, generally within an approximate 100km radius.
Local	Integrates competition and recreational activities as well as providing a broad range of programs for a large number of participants. Typically serves a city-wide catchment, across multiple municipalities.	Attracts mainly local residents within a 20-30km radius of the facility i.e. generally residents from the LGA or neighbouring LGA's.

Source: Urban Enterprise, desktop research, 2019.

Bald Hill has been identified as a regional scale facility, which will be able to attract a large number of people and will include both natural and landscaped elements.

6.2. KEY FINDINGS

Bald Hill provides a unique opportunity to establish a formal outdoor recreation and open space facility in proximity to Bacchus Marsh. Urban Enterprise has undertaken a gap analysis of relevant facility options for Bald Hill. The following provides a summary of this assessment:

MOUNTAIN BIKE PARK

There are a number of destination mountain bike parks in Victoria, however there is a clear gap in gravity and slopestyle mountain bike trails in Victoria and within proximity to Melbourne. This has previously been identified as an opportunity for the site in the Grampians RDA region Cycle Masterplan.

Bald Hill has history with mountain biking, having hosted some of the earliest downhill mountain bike races during the late 1980s and early 1990s.

Given the lack of downhill mountain bike parks in Melbourne and the relative accessibility of the site, the draw from Melbourne is likely to be strong. In addition the mountain bike park will attract visitors from across Australia for slopestyle events due to the limited competition in this field.

FORMAL OPEN SPACE

There is a significant supply of informal open space (State and National Parks) in the primary and secondary catchments, however there is a clear gap in the supply of formalised open space, such as the metropolitan parklands.

A regional park type facility, with formalised trails, adventure spaces and maintained parklands is evidently lacking in the primary catchment. The development of formal open space at Bald Hill will be targeted towards residents of the primary and secondary catchment.

DESTINATION WALKING TRAILS (E.G: 1000 STEPS)

There are no destination walking trails within the catchment, nor in the Western of Melbourne. As the east is being serviced by the 1000 Steps, and the south east will be serviced by the proposed 1001 Steps, there will be a significant opportunity to develop a destination walking trail for Melbourne's West.

The current trails are 'bushwalking' trails, however a destination trail such as a 1000 steps concept will have a broader appeal in the market.

ALL ABILITIES TRAIL

There are no all abilities trails identified within defined primary catchment for Bald Hill. The large and growing resident population including aging residents and young families have limited access to suitable all abilities trails. There is potential to attract visitors from metropolitan Melbourne for an all abilities experience, given the lack of outdoor product that is suited to all abilities.

ADVENTURE PARK/PLAYSPACE

Whilst there are large playgrounds in the catchment there are no formalised Adventure Playspaces in the primary or secondary catchment. The growing family demographic in the region would provide the primary market for a PlaySpace, however it may also service a wider catchment.

There may be opportunity to establish a commercial adventure zipline or adventure park on the site, creating a destination activity for Bald Hill.

OPEN AIR EVENTS SPACE

There are a number of large open areas in Bacchus Marsh such as Maddingley Park, Masons Lane Park and the Bacchus Marsh Racecourse that can host large open air events.

Bald Hill however provides a unique proposition for an open air events space, with expansive views in a nature based setting.

Its uniqueness will make it a greater proposition for event organisers wishing to access interesting sites to host events. It may be suited to music concerts, car

shows, adventure races (e.g: Tough Mudder) and for staging for multi-sport events.

CONFERENCING

There are no large scale conference and events centres within Moorabool Shire, however there are a few significant and mid-quality facilities in Melton Shire. Furthermore, there are a large number of conference and events centres in surrounding LGA's, providing sufficient access to these facilities for both the primary and secondary residential catchments.

One of the keys to conferencing is the need to provide accommodation and supporting visitor experiences. Given the competition from destination such as the Macedon Ranges, Mornington Peninsula and Geelong and the Bellarine which are well advanced in providing accommodation and complimentary product, it is unlikely to see opportunity for conferencing at Bald Hill. There may be smaller opportunities for Bald Hill to host team building events.

DESTINATION DINING AND EVENTS

There is a clear gap in destination dining facilities in the Bacchus Marsh catchment. Only 33% of visitors to the Bacchus Marsh catchment dined out at a café/restaurant, compared to 54% of visitors in Regional Victoria. This indicates a significant lack of quality food destinations.

There is a shortage in destination dining in the primary catchment, and is a clear opportunity for the site as it will complement other user experiences such as the proposed MTB park, destination walking trail and all abilities trail.

Hire facilities for social events is likely to be popular with a dining establishment at Bald Hill, there are limited unique social events venues in Bacchus Marsh and the broader outer west when compared with Melbourne's east, north and south east.

PICNIC/BBQS

There are a number of picnic and BBQ facilities within small-scale recreation reserves in Moorabool Shire, however they are of limited appeal to users as they are not part of a broader user experience. There is a clear opportunity for the development of picnic and BBQ facilities at Bald Hill, as it would complement the range of other user experiences and would provide a reason to extend the length of visit to the site by users.

6.3. MOUNTAIN BIKE PARKS

6.3.1. INTRODUCTION

A mountain bike park (MTB) is a well-developed network of mountain bike trails that primarily include well-formed single track specially for mountain bikes. A mountain bike park was identified as a potential development for Bald Hill in the Grampians RDA Cycle Masterplan and Business Case, and confirmed by the Bald Hill Activation Project Background and Scoping Study.

The MTB parks that have been included in this assessment are destination mountain bike parks, which are high quality mountain bike parks with a range of trails and that attract visitors from more than just the local area. Therefore, this excludes small-scale low quality MTB parks.

The MTB park concept proposed for Bald Hill would be suitable for a wide range of target markets, including residents of both the primary and secondary catchments, and visitors from Melbourne, Victoria and Australia wide during special events.

The MTB park is suitable for a wider visitor market, due to the unique downhill slopestyle trails that can only be found in one other MTB park in Victoria. Furthermore, development of the site as a complex with dining and other formalised recreation spaces will establish Bald Hill as a unique attraction for MTB visitors.

6.3.2. SUPPLY – EXISTING MTB TRAILS

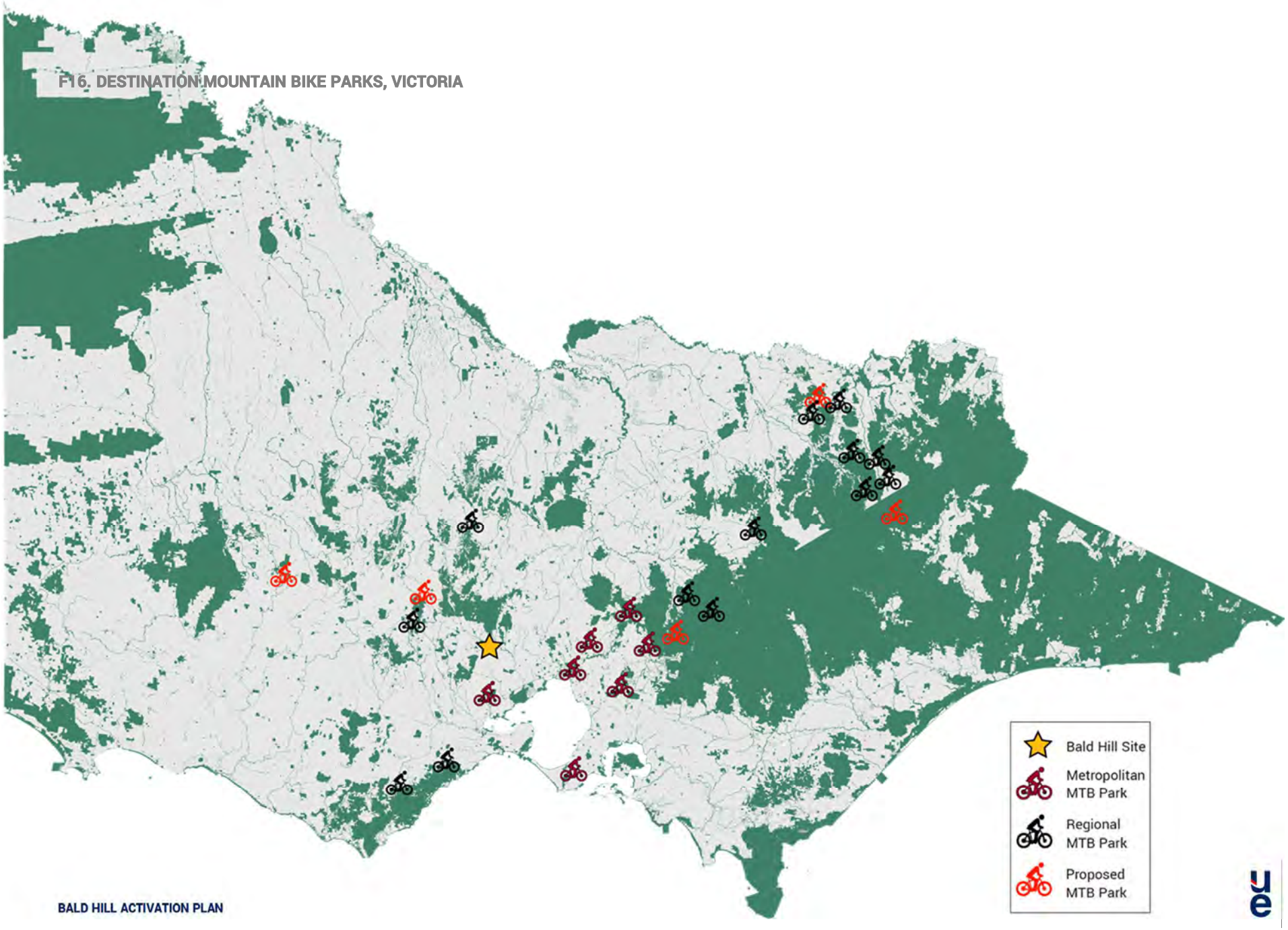
Figure F16 shows the Destination MTB parks across Victoria, and the context of Bald Hill amongst these parks. The MTB Parks closest to the Bald Hill site include Black Hill Reserve MTB Park in Ballarat, and You Yangs MTB Park in You Yangs Regional Park, highlighting a gap in the inner-west region of Melbourne. These MTB parks are further detailed in Table T10.

T10. STATE SIGNIFICANT MOUNTAIN BIKE PARKS VICTORIA

Location	Name	Cross Country	Gravity	Downhill	Length (km)
REGIONAL VICTORIAN MTB PARKS					
Ballarat	Black Hill Reserve	✓		✓	14
Forrest	Forrest	✓	-		32
Anglesea	Anglesea MTB Trails	✓	-		30
Harcourt	La Larr Ba Gauwa Park	✓	✓		35
Buxton	Buxton MTB Park	✓	✓		24
Mt Buller	Mt Buller	✓	✓		109
Falls Creek	Falls Creek	✓	✓		45
Beechworth	Beechworth	✓			25
Bright	Mystic Park	✓	✓		30
Mount Beauty	Big Hill		✓		55
Lake Mountain / Marysville	Lake Mountain MTB Trails		✓		14
Yackandandah	Yack Tracks	✓			67
Dinner Plain	Dinner Plain	✓			20
METROPOLITAN MELBOURNE MTB PARKS					
You Yangs	You Yangs	✓	✓		51
Kinglake	Bowden Spur MTB Area		✓		12
Smiths Gully	Smiths Gully	✓			50
Greensborough	Plenty Gorge	✓			100
Lysterfield	Lysterfield Park	✓			37
Melbourne	Yarra Trails	✓			50
Arthurs Seat	Arthurs Seat MTB Park	✓	✓		23

Source: Urban Enterprise, desktop research, 2019.

F16. DESTINATION MOUNTAIN BIKE PARKS, VICTORIA



6.3.3. PROPOSED MTB PARKS IN VICTORIA

There are also a number of significant proposed Mountain Bike Parks in Victoria, all of which are located in Regional Victoria. These are predominately Cross Country trails with some Gravity trails. There are, however, no downhill flow trails which presents a significant opportunity for downhill mountain biking at Bald Hill.

T11. PROPOSED MOUNTAIN BIKE PARKS VICTORIA

Location	Cross Country	Gravity
Ararat	✓	
Creswick	✓	
Warburton	✓	✓
Omeo	✓	✓
Beechworth to Yackandandah	✓	

Source: Urban Enterprise, desktop research, 2019.

6.3.4. CASE STUDIES

Outlined below are two examples of high quality MTB parks which have been successful and have developed as destination MTB parks.

Derby, Tasmania

Derby has developed into a mountain bike mecca over a very short period. The project originally identified in the Dorset Council Tourism Strategy in 2011 has attracted over $3.5 million in Government and stakeholder funding. The park has 80 kilometres of world class trail. The quality of the trail system designed by World Trail and the high amenity country side has created a must ride destination.

Investment in the township has followed with new tour operators, food and beverage businesses and accommodation businesses attracted to the town.

Source: www.ridebluederby.com.au

Beechworth, Victoria

Beechworth Mountain Bike Park on the edge of Beechworth is a formalised signed trail network of around 15 kilometres. It is a short and technical circuit however it is of great importance to the town in terms of providing a high-quality mountain bike experience for visitors. Its proximity to the township means that visitors can stay in town and ride to the park. It is a strong asset for visitors and for locals.

Since the development of the Beechworth Mountain Bike Park, Beechworth has developed a strong cycling culture and in some ways the mountain bike park has become part of the township's identity.

Source: Flow Mountain Bike

Christchurch Adventure Park

Christchurch Adventure Park (CAP) is located in the Port Hills of Christchurch, New Zealand. CAP was built by Canadian developer Select Contracts and is currently owned by partnership group Leisure Investments NZ. Upon opening, the park was the largest bike park in the Southern Hemisphere, featuring a 1.8 kilometre chairlift and 50 kilometres of downhill tracks catering to riders of all skill levels from beginners to experts.

The total cost of the CAP was approximately NZ$25 million – including NZ$2 million in funding from the New Zealand government and NZ$2 million investment from the Christchurch City Council.

The outdoor adventure park covers 880 hectares of land and comprises two valleys that are used for mountain biking, zip lines, adventure and hiking trails and a café. The park also offers other experiences including bike coaching, sightseeing, catering, corporate functions and events. The park is open 6 days a week (closed on Tuesdays) from 10am to 5pm. Night rides are available seasonally from 12pm to 8pm.

Source: Christchurch Adventure Park

6.3.5. CONCLUSION

There are a number of destination mountain bike parks in Victoria, however there is a clear gap in slope style mountain bike trails in Victoria. This has previously been identified as an opportunity for the site in the Grampians RDA region Cycle Masterplan. The suitability of the site to support downhill MTB trails was confirmed in the Bald Hill Activation Project Background and Scoping study.

As previously identified, the mountain bike park would service the regional residential catchment, as well as servicing visitors from Metropolitan Melbourne and Victoria. The MTB park has significant opportunity to attract visitors from Australia, provided the site is developed holistically with purpose-designed events and dining spaces, to complement the MTB park and provide a unique visitor experience.

6.4. FORMAL OPEN SPACE

6.4.1. INTRODUCTION

Formal open space is identified as a natural recreation area which has formalised tracks and other facilities, allowing for informal recreation activities such as bushwalking, cycling and running.. The Bald Hill Activation Project Background and Scoping study identified the opportunity to deliver a facility which provides formalised recreation for local residents.

6.4.2. PRODUCT POSITIONING

The formal open space concept proposed for Bald Hill would be suitable for residents within the primary catchment including Bacchus Marsh and Melton as well as broader secondary catchments. This formal open space would be developed particularly with the primary catchment in mind, as it is currently lacking a regional park for formal recreation and social purposes.

6.4.3. SUPPLY OF FORMAL OPEN SPACE

There is no formal open space in the primary catchment of a regional scale. There are a few formal open spaces in the catchment that are of local scale.

There is, however, a significant amount of informal open space in the primary catchment, including Werribee Gorge and Lerderderg State Parks in Moorabool Shire. These state parks provide the opportunity for recreation, through the use of the open space for informal bushwalking, outdoor sports, outdoor exercise and picnics.

F17. PUBLIC RECREATION LAND NATIONAL, STATE AND REGIONAL PARKS

Source: Urban Enterprise, based on information from Parks Victoria, 2018.

Table T13 below shows the range of regional, state and national parks within the secondary catchment. There are a significant number of regional parks in the secondary catchment, however none in the primary catchment. Hence, the development of a regional scale park/facility at the Bald Hill site would be ideal to attract visitation from the primary catchment, as well as providing a regional facility for residents to use.

T12. INFORMAL OPEN SPACE IN SECONDARY CATCHMENT

Name	LGA	National Park
Enfield State Park	Golden Plains	State Park
Woowookarung Regional Park	Ballarat	Regional Park
Macedon Regional Park	Macedon Ranges	Regional Park
Hepburn Regional Park	Hepburn	Regional Park
Creswick Regional Park	Hepburn	Regional Park
Organ Pipes National Park	Brimbank	National Park
Brisbane Ranges National Park	Golden Plains	National Park
You Yangs Regional Park	Greater Geelong	Regional Park

Source: Urban Enterprise, desktop research, 2019.

6.4.4. CASE STUDIES: SUCCESSFUL OPEN SPACE

Below are outlined two metropolitan park examples with a range of features that are well suited to the Bald Hill site.

Westerfolds Park

Situated beside the Yarra River in Templestowe, Westerfolds Park offers over 120 hectares of parkland for picnicking, cycling, walking and canoeing. The Yarra Trail forms part of the 6km of sealed trails throughout the park. There is also a range of play spaces for children.

Source: Parks Victoria, 2019.

Brimbank Park

Brimbank Park is part of the Maribyrnong Valley Parklands. The parklands offer ideal settings for picnics, walks along the extensive network of trails, fishing, canoeing and bird watching, all set within peaceful parklands surrounded by prolific birdlife.

Source: Parks Victoria, 2019.

6.4.5. CONCLUSION

There is a significant supply of informal open space in the primary and secondary catchments, however there is a clear gap in the supply of formalised open space, such as the metropolitan parklands previously assessed.

The informal open spaces in the regional catchment are suited to outdoor and nature based enthusiasts. There remains a gap in formalised trails that are accessible to a wide market.

This regional park type facility, with formalised tracks, play spaces and maintained parklands is evidently lacking in the primary catchment. The development of formal open space at Bald Hill will be targeted towards residents of the primary and secondary catchment.

6.5. DESTINATION WALKING TRAILS (1000 STEPS CONCEPT)

6.5.1. INTRODUCTION

Destination walking trails refer to a formalised, iconic track, usually requiring an intermediate level of fitness. One of the main destination walking trails in Melbourne is the 1000 Steps, which is a formal track of stone steps, popular for training for specific events such as Kokoda Track and Everest Base Camp.

This type of walking trail will attract not only residents from the primary and secondary catchments, but also visitors from a wider catchment across Melbourne.

6.5.2. SUPPLY OF DESTINATION WALKING TRAILS

The only formalised product in the region surrounding Bald Hill is the Whipstick Loop Walk in Blackwood and Flinders Peak Walk in the You Yangs Regional Park. The Whipstick Loop Walk is a 2 hour return circuit of 5km, with formal tracks. Flinders Peak Walk is a 2.5 hour return hike, with defined walking trails and 450 steps. Neither of these trails has any complementary tourism product, and lack proper signage and complete formalisation of tracks.

The popular 1000 steps concept in the Dandenong Ranges is suited to a catchment that includes Eastern, Southern Eastern and North Eastern Melbourne. There is no 1000 steps type walk product in the West of Melbourne.

6.5.3. CASE STUDIES

1000 Steps (Kokoda Track Memorial Walk)

The key competing product in Victoria is the 1000 Steps (a.k.a. Kokoda Track Memorial Walk) in the Dandenong Ranges. This intermediate level walk is a formalised track of approximately 700-800 steps, with a length of 3 km circuit, taking 1.5 hours return. The 1000 steps is part of a network of other connecting trails, and features a complementary tourism product, The 1000 Steps Café.

1001 Steps, Narre Warren (underway)

A similar concept to the 1000 steps has been proposed in Narre Warren on a derelict parkland site with views of the city. The project would include a similar formalised step trail, as well as landscaping and viewing platforms, with a possible café to come.

Unlike its Thousand Steps name-sake in the Dandenongs, the walk is hoped to cater for different fitness levels and abilities. Although this is a similar product to what is envisaged for the Bald Hill site, the visitor catchment is vastly different as Narre Warren will be catering to Melbourne's outer south-east region. Therefore, this product would not compete with the Bald Hill site, as it would be servicing Melbourne's Inner and Inner-West regions.

6.5.4. CONCLUSION

There are no destination walking trails within the catchment, nor in the Western side of Melbourne. As the east is being serviced by the 1000 Steps, and the south east will be serviced by the proposed 1001 Steps, there will be a significant opportunity to develop a destination walking trail for Melbourne's West.

6.6. ALL ABILITIES TRAILS WITH SCULPTURE TRAIL

6.6.1. INTRODUCTION

A key opportunity for the site is the delivery of trail facilities providing the opportunity for informal recreation activities such as bushwalking, cycling and running; in particular, the development of an all abilities trail.

All abilities trails refer to cycling and walking trails that service a range of physical abilities and are accessible to all members of the community, in that they only require low physical involvement and are well-designed to provide access to people who require assistance.

All abilities trails are generally most utilised by residents, meaning the target markets for this product would include both the primary and secondary catchments.

6.6.2. SUPPLY

There are no purpose-designed, all abilities trails in Bacchus Marsh, the surrounding region or across the state, as indicated through desktop research and analysis. Development of an all abilities trail at Bald Hill will create a new destination for the region and drive significant visitation.

6.6.3. CASE STUDIES – SCULPTURE TRAIL

The following case studies highlight best practice examples of sculpture trails developed within park grounds. It will be important to maintain a clear view line to the site, as high visibility of these sculptures allows them to become landmarks and act as attractors to viewers from afar.

Yorkshire Sculpture Park – Yorkshire, UK

The Yorkshire Sculpture Park (YSP), founded in 1977, was the first sculpture park in the United Kingdom. The park is situated on the 500-acre Bretton Hall estate in West Yorkshire. It is an independent charitable trust with year-round, free admission.

The art selection comprises a variety of permanent displays and that are scattered throughout the grounds and periodic exhibitions hosted in the indoor galleries. The park has pieces by many internationally famous artists, including Elisabeth Frink, Barbara Hepworth and Antony Gormley. It gives a perfect overview of British sculpture in the 20th century and is set in lovely scenery with sweeping views towards the lake and sheep grazing around the plinths of huge Henry Moore sculptures.

The park is open every day from 10pm to 6pm and has toilets, cafe, shop and parking facilities.

Potential for local artists to be showcased

Source: Yorkshire Sculpture Park

DeCordova Sculpture Park and Museum - Massachusetts, USA

The DeCordova Sculpture Park and Museum is located 24 km west of Boston, Massachusetts. Established in 1950, DeCordova Sculpture Park and Museum is the largest sculpture park in New England encompassing 30 acres.

The park is open year-round and the hosts a constantly changing landscape of large-scale, outdoor, modern and contemporary sculpture and site-specific

installations. There are more than 60 works on site, primarily by New England artists, and are a mixture of commissioned pieces and works on loan.

Visitors of DeCordova can enjoy year round activities in the Sculpture Park and Museum, including snowshoe tours, yoga in the park, nature tours, curator and artist conversations, and many special talks, screenings, and events. Other facilities and activities offered include a café, school and groups visits, event rentals (i.e. weddings) and ceramic workshops.

Source: deCordova Sculpture Park and Museum

6.6.4. CONCLUSION

There are no all abilities trails identified within defined primary catchment for Bald Hill. The large and growing resident population including aging residents and young families have limited access to suitable all abilities trails.

6.7. ADVENTURE PLAYSPACE

6.7.1. INTRODUCTION

An outdoor adventure park which utilises the sites rugged topography and landscape, and caters to a range of age groups. Tree top rope and zipline courses have become increasingly popular in recent years. Further investigation would be required to determine a suitable location on the site which has trees to support tree top activities.

The concept would need to be at an appropriate scale to align with the environmental and landscape values of Bald Hill, and be viable over the long term. The concepts discussed in this section generally require limited major built assets and have lower capital costs.

A variety of concepts could be considered which target different age and fitness levels. Major markets would include:

- Family groups;
- Millennials;
- Adult Couples; and
- Groups (schools, sporting, community, corporate).

6.7.2. SUPPLY

There is a shortage of outdoor activities and family friendly attractions in Moorabool Shire, including a lack of compelling tourism product to draw visitors from Melbourne, particularly West Melbourne.

Bald Hill would support a new attraction based on its proximity to Melbourne and exposure to the Western Freeway, large land area, and environmental features.

6.7.3. CASE STUDIES

Enchanted Adventure Garden, Mornington Peninsula, Victoria

The Enchanted Adventure Garden is a natural fun park, just one hour from Melbourne at Arthurs Seat. It is on a 4ha site. It features a range of attractions targeted a different age groups including:

- Large hedgemaze;
- Giant tube slides;
- Themed gardens;
- Outdoor sculpture park;
- A tree surfing experience including high ropes course, zipline, and swinging rope bridge; and
- A lolly shop and café.

F18. EXAMPLE ADVENTURE/THEME PARKS

Source: http://www.enchantedmaze.com.au/

Livewire Park, Lorne, Victoria

A treetop canopy circuit located in Victoria's Otway Ranges. The park is targeted primarily at teenagers and adults as most of the obstacles are for persons over the age of 15 years. There is a specially designed circuit for children under 15 years. Although people of most fitness levels can participate, there are exclusions for special medical conditions (pregnancy, pre-existing injury etc.).

F19. LIVEWIRE PARK, LORNE VIC

Mega Adventure, West Beach, South Australia

An aerial playground which is constructed using modular components up to 26 metres high. The park includes over 70 obstacles including free-fall jumps, suspensions bridges, swings, and aerial surfboards.

F20. EXAMPLE WIRE ROPE ADVENTURE PARK

6.7.4. CONCLUSION

There are no formalised Adventure Playspaces in the primary or secondary catchment. The growing family demographic in the region would provide the primary market for a Playspace, however it may also service a wider catchment.

There may be opportunity to establish a commercial adventure zipline or adventure park on the site, creating a destination activity for Bald Hill.

6.8. OPEN AIR EVENTS SPACES

6.8.1. INTRODUCTION

Open Air Events Spaces are purpose designed outdoor events spaces with capacity to hold both large scale and community events.

This product is well suited to both residents and visitors, particularly visitors from Melbourne, Victoria and across Australia for large-scale events.

Open Air events spaces will provide purpose designed open outdoor events spaces to accommodate large festivals, community events and sporting events.

6.8.2. SUPPLY

There are no facilities in Moorabool Shire purpose designed for hosting large scale events.

Although there are a range of sports, events and festival spaces in the secondary catchment, there is a gap in events spaces catered to mountain biking and non-ball sport events.

Bacchus Marsh Racecourse And Recreation Reserve

Bacchus Marsh Racecourse provides a training ground for horse racing. The course and facilities are largely undeveloped, however it may be suited to host larger events if infrastructure was improved.

$200,000 State Government funding was received in 2018 to upgrade the Recreation Reserve into a community sporting hub, delivering a new BMX circuit, cricket pitch and two soccer ovals.

Masons Lane Recreation Reserve

The park contains the following facilities:

- 2 full sized ovals suitable for cricket, Australian rules football, soccer and other activities;
- Outdoor turf athletics facility;
- 1 baseball field; and
- 3 practice cricket nets.

The reserve provides a large amount of open space, suited for large community events or festivals, however given the role of the facility in active recreation, there would be limitations on the facility to accommodate a regular calendar of events.

Maddingley Park

Maddingley Park has a number of active recreation uses and an adventure playground. It includes the following facilities:

- 1 full size oval suitable for cricket, Australian rules football, soccer and other activities;
- 1 oval suitable for junior cricket, Australian rules football, soccer and other activities;
- 2 tennis / 1 netball court with shelter (public);
- 5 practice cricket nets;
- Bacchus Marsh Lawn Tennis Club.

Maddingley Park does support large community events with capacity for over 1000 people.

6.8.3. CASE STUDIES

Detailed below are a range of sites where Open Air Events can be hold, similar to the proposed concepts for Bald Hill.

Hanging Rock, Macedon Ranges

Hanging Rock is an open air events space that caters for large scale events and concerts, with a scenic natural backdrop.

Events at Hanging Rock support music concerts with audiences of up to 12,000 people.

Urban Enterprise has undertaken a number of economic impact assessments for music concerts at Hanging Rock. The venue is unique in that it provides a natural amphitheatre for concerts.

Hanging Rock is also used for other open air events such as car shows and races. With similar proximity to Melbourne as Bald Hill, Hanging Rock provides an example of the potential to draw visitors to out of Melbourne. Accommodation provision remains an issue. With limited supply the opportunity to drive overnight visitation is limited.

An area for temporary accommodation may also be considered for Bald Hill to support multi day events.

Bendigo Showgrounds, Bendigo

Bendigo Showgrounds is the largest showgrounds in regional Victoria. It includes:

- A large grass arena;
- 2 indoor exhibition centres;
- Regular market Precinct (including 3 buildings)
- Range of other showcase buildings which support the agricultural show.

The Showgrounds has capacity for over 20,000 visitors and supports major events such as Groovin' the Moo.

VICTORIA PARK, BALLARAT

Victoria Park is a large recreational space in central Ballarat, with 130 ha of recreation parkland, catering for sporting events, festivals and car rallies. With 13 ovals with 10 cricket wickets, this park caters to a range of ball and track sporting events.

The precinct is suitable for large format open air events such as concerts. Its regular use by the local community and its proximity to residential areas places constraints on its use.

6.8.4. CONCLUSION

There are a number of large open areas in Bacchus Marsh such as Maddingley Park, Masons Lane Park and the Bacchus Marsh Racecourse that can host events.

Bald Hill however provides a unique proposition for an events space, with expansive views in a nature based setting.

6.9. CONFERENCE AND EVENTS CENTRES

6.9.1. INTRODUCTION

The development of a purpose built conference and events centre has been identified as an opportunity for the Bald Hill site. This type of facility would be able to host larger scale business, corporate, public and social events.

This product is aimed at both the residential catchments (primary and secondary) as well as visitors from Melbourne and across Victoria for larger scale events.

6.9.2. SUPPLY

There are a significant number of conference and events centres in Macedon Ranges Shire, Hepburn Shire and Melton City Council (particularly in Caroline Springs). There are, however, no quality, large-scale conference and events facilities located within in Moorabool Shire.

There are two local scale facilities in Moorabool Shire:

- Darley Civic Hub Pavilion, with a capacity of 50 people.
- Mechanics' Institute Reserve, which can accommodate approximately 350 people.

Both facilities are very outdated and have low quality facilities, therefore would not be a drawcard for attracting significant events. There are a number of other small scale community halls and community centres available for hire, however these are also low quality, outdated and unattractive.

There are three significant conference venues in the City of Melton. These are detailed in Table T13 below. Although these three facilities have significant capacity for conferences and events, they do not provide an attractive and unique destination as Bald Hill would, as they are held within hotels.

T13. CONFERENCE VENUES, CITY OF MELTON

Name	LGA	Conference Rooms	Capacity	Accommodation Rooms
Quality Hotel Tabcorp Park	Melton	6	900	41
Quest Caroline Springs	Melton	2	90	80
Mercure Melbourne Caroline Springs	Melton	3	585	98

Source: Urban Enterprise, desktop research, 2019.

In the secondary catchment, there are a large number of conference and events centres, found mainly in the hubs of Ballarat and Daylesford. These two products are quite different, as the Daylesford conferencing product is a boutique wellness experience, and Ballarat is a regional city servicing smaller surrounding towns.

6.9.3. CONCLUSION

There are no large scale conference and events centres within Moorabool Shire, however there are a few significant and mid-quality facilities in Melton Shire. Furthermore, there are a large number of conference and events centres in surrounding LGA's, providing sufficient access to these facilities for both the primary and secondary residential catchments.

Therefore, it is identified that the development of a conference and events centre is not a suitable or viable option for the Bald Hill Site. Whilst there is not demand for a traditional conference centre, the proposed restaurant and event space would operate as a multi-use space which could cater for small-to-mid-scale events of this nature.

6.10. DESTINATION DINING AND EVENTS

6.10.1. INTRODUCTION

For the purposes of this report, destination dining is defined as a dining experience that is complementary to an existing visitor experience e.g. MTB park, walking trail. These spaces are often multipurpose, and are used for private indoor events such as birthdays, weddings and other social events.

This product is tailored to both residential catchments, as it would service users of the site for both dining and casual hire for social events. There is little supply of quality dining spaces that can be hired for events such as birthdays, engagements, weddings etc., therefore a destination dining facility would fulfil these needs for residents.

This product will also service visitors from Melbourne, Victoria and Australia. A dining facility will be utilised by any users of the facilities at Bald Hill, both visitors and residents alike, as it is complementary to the other visitor experiences to be developed on the site, such as a destination walking trail and MTB park.

6.10.2. SUPPLY

There is no destination dining in the primary catchment, and a very limited range of destination in the wider secondary catchment, which is suited to more of an upmarket, fine-dining target market. This is not considered to be part of the proposed concept for Bald Hill, as dining for recreation users is generally more casual and relaxed, although still high quality.

This provides an opportunity for destination dining to be developed at the Bald Hill site.

6.10.3. CASE STUDIES

Detailed below are a range of successful case studies showing destination dining on sites with similar characteristics to the proposed concepts for Bald Hill.

SkyHigh, Mount Dandenong

SkyHigh bistro, at the peak of Mount Dandenong, offers fantastic natural views and operates for breakfast, lunch and dinner year round. SkyHigh also boasts a function room to accommodate weddings, engagements, birthdays and other events.

The Summit, Maydena Bike Park, Tasmania

Located in Tasmania, the Maydena Bike Park hosts The Summit restaurant and café. The Summit is complementary to the MTB experience, capitalising on the natural views, as well as providing an additional attraction for visitors to the Park. The Summit is also available to be booked for private events.

Ohana, Wyndham

OHANA Pizza located on the seawall at Wyndham Marina in Werribee South. The pizza restaurant was designed by BEST. Design Group in conjunction with Resolutions Property Group, Mr Portables and Shape Landscape. The pop-up project was commissioned by Wyndham Marina Developments whose aim was to deliver more food choices for the growing local population.

This is an excellent example of the development potential of a low cost, low impact pop-up dining experience at Bald Hill.

The low impact design of the building retains uninterrupted views of the marina whilst protecting diners from the harsh environmental elements it is exposed to. The restaurant is primarily constructed using recycled materials including second-hand shipping containers for the walls, reclaimed wood and recycled

scaffolding poles for the restaurant furniture. The building was completed in under 12 weeks and has the capacity to be relocated within a number of hours with the majority of fixtures removable or fixed to the shipping container shell.

The project received the silver award at the DrivenxDesign Melbourne Design Awards in 2019. As of June 2019, the restaurant has been closed.

Source: BEST. Design Group

Garden Hotpot Restaurant – Sansheng, China

In 2018, MUDA Architects were commissioned to design the Garden Hotpot Restaurant in Sansheng Township, Chengdu. The restaurants location is in the hinterlands of the township, surrounding a lotus pond and eucalyptus forest.

The small scale and low-cost architecture uses no walls and weaves between the forest and the lake. Tall thin supporting columns mimic the surrounding trees and delineates the shape of the lake, achieving a seamless visual effect. This creates an immersive experience for diners who can appreciate the surrounding natural environment from any position within the restaurant.

This is an example of a restaurant design which is well-integrated with the surrounding site, and enhances the landscape rather than drawing attention away from it.

Source: Arch-Exist

6.10.4. CONCLUSION

There is a clear gap in destination dining facilities in the Bacchus Marsh catchment. Only 33% of visitors to the Bacchus Marsh catchment said they dined out at a café/restaurant, compared to 54% of visitors in Regional Victoria. This indicates a significant lack of quality food destinations.

There is a shortage in destination dining in the primary catchment, and is a clear opportunity for the site as it will complement other user experiences such as the proposed MTB park, destination walking trail and all abilities trail. This will be an attraction for both residents and visitors alike, and will provide an opportunity to be hired for social events also.

6.11. PICNICS/BBQS

6.11.1. INTRODUCTION

Picnic and BBQ areas are a key feature of a regional park facility, and would be complementary to the visitor experience at Bald Hill, encouraging visitors to stay longer at the site.

6.11.2. SUPPLY

Although there is a reasonable number of BBQ facilities throughout the Moorabool Shire, these all tend to be found within flat, basic recreation reserves. There is no visitor experience associated with these recreation reserves that would draw visitors to use the BBQ and picnic facilities.

Examples of the BBQ and picnic facilities are detailed below, which are mainly recreation reserves. There are picnic table facilities found in the Lerderderg and Werribee Gorge State Parks in the Shire, however very limited BBQ facilities. Only one of five the picnic grounds in Lerderderg State Park has BBQ facilities, whilst none of the picnic grounds in Werribee Gorge State Park have any picnic grounds.

Darley Park Recreation Reserve

Darley Park has a small number of BBQ and picnic facilities, alongside a range of sporting uses including AFL oval, tennnis courts and cricket pitches.

Moorabool Shire, 2019.

Darley Civic & Community Hub Recreation Reserve

There is a small scale BBQ and picnic table facility, however this only caters for a few small groups and is likely to be completely utilised during a sporting or community event.

6.11.3. CONCLUSION

The majority of BBQ and picnic facilities are found within the smaller scale recreation reserves within the Shire. These are quite limited in scale and do not provide the natural amenity or user experience that would be found in the proposed Bald Hill site.

7. DEMAND ASSESSMENT

7.1. INTRODUCTION

The demand assessment includes economic modelling for key uses identified for Bald Hill. The demand assessment considers market demand from residents within primary and secondary catchments and also by visitors from outside of the local catchment.

7.2. KEY FINDINGS

The proposed uses for Bald Hill including cycle trails, walking trails, events, adventure park, picnics and dining are estimated to generate 347,199 site visitors, including 195,088 visitors from outside of the residential catchment and 152,111 users from within the residential catchment.

Proposed Use	Residents	Visitors	Total
Cycling	27,676	40,197	67,873
Walking	66,805	83,377	150,182
Events		31,250	31,250
Adventure Park/Playspace	57,630*	17,217	74,847
BBQs/ Picnics		23,047	23,047
Dining**	31,179	40,779	77,958*
Total Site Visitors	152,111	195,088	347,199

*includes users of the site for social events (6,000 as detailed in Table T23).

**based on existing site users – not included in total.

7.3. CYCLING

7.3.1. INTRODUCTION

This section outlines the demand for cycling in Bacchus Marsh, as indicated by modelling of cycling, mountain bike and recreation cycling markets. Projected cycling participation by residents of the primary catchment has been modelled below.

CYCLING MARKETS

Table T14 provides an outline of the number of persons in the key markets of NSW, Victoria, South Australia and Queensland who have ridden a bike in the past 12 months by type of riding in the key domestic markets. 2.2 million people have undertaken road cycling, 1.2 million have undertaken mountain biking and 750,000 have ridden on a rail trail.

A further 17% of the key market population have ridden a bike on a bike path in the past 12 months (3.3 million).

Table T15 shows that there is a large amount of cross over between cycling types, including:

- 46% of mountain bikers have also undertaken road cycling;
- 25% of road cyclists have also ridden a mountain bike;
- 49% of rail trail riders have ridden a road bike.

The crossover between cycling typologies is important as it highlights the need for establishing a variety of cycling trail typologies to support cycling enthusiasts.

T14. NUMBER OF PERSONS WHO HAVE RIDDEN A BIKE IN THE PAST 12 MONTHS [QLD, VIC, SA, NSW]

Type of Cycling	Proportion of Population	Total Number of Cyclists in Key Domestic Markets (Vic, NSW, Qld, SA)
Road Cycling	11.4%	2.2 Million
Mountain Biking	6.2%	1.2 Million
Rail Trail Cycling	3.9%	750,000
Bike Path Cycling	17%	3.3 Million

Source: BDA Marketing Planning

T15. CROSSOVER OF CYCLING TYPES (%)

	Mountain Biking	Road Cycling	Rail Trail Riding
Mountain Biking		25	45
Road Cycling	46		49
Rail Trail Riding	28	17	
Bike Path Cycling	54	59	62

Source BDA Marketing Planning

MOUNTAIN BIKE MARKET

There are an estimated 1.2 million residents across the key domestic markets in Australia that have ridden a mountain bike in the past 12 months.

Segments include:

- Low Involvement – 24% of participants, 6% of kilometres ridden;
- Endurance Riders – 27% of participants, 37% of kilometres ridden;
- Technical Riders – 17% of participants, 15% of kilometres ridden;
- High Involvement All-rounders – 33% of participants, 42% of kilometres ridden.

RECREATION CYCLING MARKET

The recreational cycling market, with people cycling for leisure, mainly on tracks and trails is the largest market of the three. 3.3 million people have ridden on a bike path each year.

This market has the potential to undertake cycling whilst in the region, however for most it will not be the key motivator of visit. This market includes:

- Family groups including adults and children;
- Adult couples;
- Friendship groups;
- Riding groups such as BUGs (Bicycle User Groups)

7.3.2. RESIDENTIAL CYCLING DEMAND MODELLING

To estimate the number of residents who engage and participate in cycling for both exercise, recreation and commuting purposes, a range of indicators have been assessed including:

- VicHealth's Indicator Survey, VicHealth 2015;
- Participation in Sport and Physical Recreation, Australian Bureau of Statistics (ABS) 2014;
- Victorian Cycling Strategy 2018 - 2028, Transport for Victoria 2018;
- Cycling Participation by State, Roy Morgan 2015.

Based on the adopted primary catchment for the site, Table T16 provides an estimated range for the number of locals participating in cycling.

Due to the limited data and research that is available, the purpose for undertaking these activities (i.e. exercise, recreation, commuting) is not specified, but are considered to be undertaken on a regular basis (i.e. at least once a week).

According to the various sources, between 12% and 17% of Victorians participate in cycling and between 19% and 51% of Victorians participate in walking on a regular basis.

Applying these participation rates to the primary catchment it is estimated that between 22,905 and 32,448 residents would like to engage in cycling on a regular basis. **Using the midpoint scenario it is expected that Bald Hill would generate at minimum 27,676 cycle visitors from the local catchment who cycle regularly.**

T16. ESTIMATED DEMAND FOR CYCLING BY RESIDENTS

Population of Primary Catchment	Cycling		
	Low	Mid	High
Current (2018)	22,905	27,676	32,448

Source: Urban Enterprise 2019, derived from VicHealth's Indicator Survey, VicHealth 2015; Participation in Sport and Physical Recreation, Australian Bureau of Statistics (ABS) 2014; Victorian Cycling Strategy 2018 - 2028, Transport for Victoria 2018; Cycling Participation by State, Roy Morgan 2015.

7.3.3. VISITOR MOUNTAIN BIKE DEMAND MODELLING

Urban Enterprise has access to market demand data for mountain bikers in Australia, undertaken by market research team BDA. The data is taken from a detailed market assessment into mountain bike typologies tested with mountain bike market segments including Endurance Riders, High Involvement All Rounders, Low Involvement and Technical Riders.

The proposed mountain bike facilities at Bald Hill is proposed to deliver cross country, downhill/slopestyle and flow trail.

The table below provides an outline of market demand likely to be generated from each of the Australia wide market segments for Bald Hill.

The demand assessment below estimates projected visitation of 40,000 mountain bikers to Bald Hill per annum. This is likely to be conservative as it does not include visitors generated from mountain bike events, which are likely to be a key feature of Bald Hill given the uniqueness of the facility.

T17. BALD HILL MOUNTAIN BIKE MARKET DEMAND

	Intention to visit in 2 yrs	Market Size	Total Potential Market Size	Proportion Interested in Cross Country	Proportion Interested in Down Hill/Slopestyle	Proportion Interested in Gravity Trails	Total Proportion of Market	Annual Projected Visitation
Endurance Riders	14%	279,000	39,060	24%	5%	12%	41%	16,015
High Involvement All Rounders	12%	340,000	40,800	18%	7%	7%	32%	13,056
Low Involvement	4%	248,000	9,920	14%	5%	23%	42%	4,166
Technical Riders	10%	174,000	17,400	11%	10%	19%	40%	6,960
Total		1,041,000	107,180					40,197

7.4. WALKING DEMAND

7.4.1. INTRODUCTION

This section outlines the demand for walking in Bacchus Marsh, as indicated by current walking activities for visitors, modelling of projected walking visitors, as well as modelling of walking demand for residents.

Due to a lack of research or data available, walking is unable to be differentiated by trail type, therefore no specific analysis of demand for all abilities walking trails has been undertaken. However, this type of walking trail is accessible to the largest cross-section of the population and therefore is expected to appeal to most markets who would participate in walking for recreation and exercise purposes.

MARKET BEHAVIOUR & TRENDS

The Victorian Trails strategy (Trails Strategy) identified that a visitor study undertaken by Parks Victoria in 2001 showed that sightseeing and walking were the most popular activities undertaken by visitors to National and State Parks. Trails were identified as having a strong appeal with domestic and international travellers who are seeking nature-based and adventure tourism experiences.

Victoria's Nature-Based Tourism Strategy (Nature-Based Strategy) identified that the Roy Morgan values segments which were associated with nature-based tourism products 'adventure tourism' and 'native wildlife' included Socially Aware, visible achievement, traditional family life and Young Optimism.

At a National level, the ERASS Report identified that bushwalking was ranked eighth in physical activities by participation, with a 6% growth between 2001 and 2010 in bushwalking as an activity.

7.4.2. WALKING DEMAND: RESIDENTS

Walking, fitness and gym, and jogging or running are the top three categories that make up 44% of all recorded sport and recreation activity in Victoria in 2017 (DHHS, 2017). This shows a significant demand for this type of all abilities trail that will enable people with a range of fitness levels to use a variety of trails for walking, jogging and/or running.

To estimate the number of residents who engage and participate in walking for both exercise, recreation and commuting purposes, a range of indicators have been assessed including:

- VicHealth's Indicator Survey, VicHealth 2015;
- Participation in Sport and Physical Recreation, Australian Bureau of Statistics (ABS) 2014;
- Victorian Cycling Strategy 2018 - 2028, Transport for Victoria 2018;
- Cycling Participation by State, Roy Morgan 2015.

Based on the adopted primary catchment for the site, Table T18 provides an estimated range for the number of locals participating in walking.

Due to the limited data and research that is available, the purpose for undertaking these activities (i.e. exercise, recreation, commuting) is not specified, but are considered to be undertaken on a regular basis (i.e. at least once a week).

According to the various sources between 19% and 51% of Victorians participate in walking on a regular basis. The 19% of walking participation is sourced from the Australian Bureau of Statistics. This is deemed to be understated as it only relates to persons engaging in walking for exercise only. Therefore, the higher rate (51%) is assumed to be more accurate.

Applying these participation rates to the primary catchment area it is estimated that in 2018, between 36,265 and 97,344 residents would like to participate in walking for exercise only and on a regular basis. **It is envisaged that Bald Hill**

would attract at minimum the midpoint scenario for walking participation – 66,805.

T18. ESTIMATED DEMAND FOR WALKING BY RESIDENTS

Population of Primary Catchment	Walking		
	Low	Mid	High
Current (2018)	36,265	66,805	97,344

Source: Urban Enterprise 2019, derived from VicHealth's Indicator Survey, VicHealth 2015; Participation in Sport and Physical Recreation, Australian Bureau of Statistics (ABS) 2014; Victorian Cycling Strategy 2018 - 2028, Transport for Victoria 2018; Cycling Participation by State, Roy Morgan 2015.

7.4.3. WALKING DEMAND: VISITORS

Table T19 shows that 12% of visitors to the catchment undertake bushwalking/rainforest walks, which is significantly lower than most benchmarked regions. 'Bushwalking/rainforest walks' category is used to categorise all forms of walking, including formalised trails and tourist walking product.

It is unlikely that the Bacchus Marsh catchment will replicate the Grampians in terms of walking trail product, given the evident differences in location, environment and product mix. Bacchus Marsh catchment could more closely replicate the walking product found in the Yarra Valley & Dandenong Ranges and Great Ocean Road region given the similarities in proximity to Melbourne.

T19. WALKING ACTIVITIES

Bushwalking/ Coastal Walking	Catchment	Yarra Valley & Dandenong Ranges	Great Ocean Road	Grampians
Day trip Visitors	11%	14%	25%	30%
Overnight trip Visitors	17%	19%	34%	53%

Source: TRA. NVS Daytrip and Overnight, 2018.

To forecast the estimated number of visitors using the proposed walking trails, the average proportion of walkers in the benchmarked regions has been applied. An average proportion of 23% of daytrip visitors and 35% of overnight visitors has been applied to the current visitor numbers to Bacchus Marsh catchment.

Applying these bushwalking visitor proportions, it is forecast that a total of 83,377 domestic visitors would use the walking trails at Bald Hill, comprised of 63,790 daytrip visitors and 19,587 overnight visitors.

T20. PROJECTED USE OF BALD HILL FOR VISITORS UNDERTAKING WALKING

Visitors	Walking Visitors
Daytrips	63,790
Overnight trips	19,587
Total Domestic Visitors	83,377

Source: Urban Enterprise, 2019.

7.5. EVENTS DEMAND

7.5.1. INTRODUCTION

This section outlines the demand for events spaces in Bacchus Marsh, including open air events spaces, dining facilities and social events spaces.

7.5.2. OPEN AIR EVENTS SPACE DEMAND

It is proposed that the Open Air Events space will be located at the highest point of the site, with a size of approximately 2.1 ha. This is shown in figure F21 below.

F21. PROPOSED OPEN AIR EVENTS SPACE

Source: Urban Enterprise, 2019

The Open Air events space would be collocated with the destination dining facility.

EVENTS SPACE MODELLING

Based on previous case studies of other open air events spaces including Bendigo Showgrounds, Hanging Rock and Ballarat's Victoria Park, Urban Enterprise estimates an average of 31 events and 31,250 event visitors could be generated by the open air events space per annum. This will depend on the amount of activation achieved by the manager of Bald Hill, however given the uniqueness of the facility and ability to attract various event types this is considered to be a reasonable estimate.

T21. ESTIMATED VISITORS TO OPENAIR EVENTS SPACE

Event Type	Usage p.a.	Av. visitors per event	No. of visitors p.a.
Market	12	1,000	12,000
Music Event	3	5,000	15,000
MTB event	2	1,000	2,000
Other community events	15	150	2,250
Total	31		31,250

Source: Urban Enterprise, based on visitation and total event numbers at Bendigo Showgrounds Arena facility, 2019.

Additionally, it is assumed that the open air events space will be utilised casually and informally by existing users of the site. This will provide an informal meeting space for events visitors.

7.5.3. DESTINATION DINING AND SOCIAL EVENTS SPACE DEMAND

The proportion of total visitors dining out in the Bacchus Marsh catchment is 33% (TRA, 2019). This proportion has been applied to the total users of the site, both residents and visitors, to determine the number of people using the dining space.

Applying these proportions, **it is expected that 71,958 people will use the proposed dining facility at Bald Hill**. It is likely that this figure is understated, as the proportion of visitors dining out in the catchment is much lower than all

benchmarked regions, due to a lack of food and beverage product in the catchment. Therefore, it is likely that users of the dining space may be significantly higher than this estimated figure.

T22. DINING FACILITY DEMAND

	Site Users	Users of Dining Space
Visitors	123,574	40,779
Residents	94,481	31,179
Total Users of Dining Space	218,055	71,958

Source: Urban Enterprise, 2019.

It is expected that 6,000 people will use the social events space, based on a proposed capacity of 100 patrons and an estimated hire number of 60 times per year.

T23. SOCIAL EVENTS SPACE DEMAND

	Capacity	Usage p.a. (no of times.)	Total Users
Social Events Space	100	60	6,000

Source: Urban Enterprise, 2019

7.6. ADVENTURE PARK/ PLAYSPACE DEMAND ANALYSIS

7.6.1. INTRODUCTION

This section outlines the demand for an Adventure Playspace in Bacchus Marsh, targeted towards a range of markets including both children and adults.

7.6.2. ADVENTURE PLAYSPACE VISITOR DEMAND

RESIDENTIAL CATCHMENT

The Adventure Playspace has been assumed to have a penetration rate of 20% of the secondary residential catchment aged 0-14. As shown in Table T24, the population of the secondary catchment aged 0-14 is 288,149 people, or 17% of the secondary catchment.

Applying these proportions, **it is expected that 57,630 children will use the proposed Adventure Playspace facility at Bald Hill**. This is likely to be understated, as it does not include school, sporting and community groups from the primary and secondary catchment using the proposed Playspace.

T24. PROPORTION OF POPULATION AGED 0-14 USING PLAYSPACE

	Secondary Catchment
Population aged 0-14	288,149
Penetration Rate (20%)	57,630

Source: Urban Enterprise, 2019.

VISITORS

Strong population growth in the primary and secondary catchments, and an influx of young families will drive local demand for family friendly and recreation experiences. The significant level of passing traffic from along the Western Freeway, as well as the proximity and accessibility from Melbourne, provides a large potential market for new tourism attractions and parks.

Table T25 shows the average proportion of visitors engaging in other outdoor activities in Bacchus Marsh, benchmarked against Grampians and High Country regions.

T25. PROPORTION OF VISITORS ENGAGING IN OTHER OUTDOOR ACTIVITIES

Visitors	Bacchus Marsh Catchment	Grampians	High Country	Average
Daytrip	5%	5%	4%	5%
Overnight	5%	7%	11%	8%

Source: TRA, 2019.

Based on applying the average proportions of visitors engaging in other outdoor activities to current Bacchus Marsh visitors, it has been estimated that:

- 12,958 daytrip visitors to the site would use the Adventure Playspace; and
- 4,260 overnight visitors to the site would use the Adventure Playspace.

It is estimated that a total of 17,217 visitors will use the Adventure Playspace.

7.6.3. BBQ AND PICNIC SPACES

Demand modelling has been undertaken for the use of BBQs/picnic facilities at Bald Hill. Table T26 shows the proportion of visitors to the Bacchus Marsh catchment using picnics and BBQ's Bacchus, compared to the Grampians, Great Ocean Road and Yarra Valley and the Dandenong Ranges regions.

T26. USE OF BBG/PICNIC FACILITIES, BENCHMARKING

	Bacchus Marsh Catchment	Grampians	Great Ocean Road	Yarra Valley & the Dandenong Ranges
Visitors having Picnics/BBQs	188,223	156,215	323,671	354,256
Proportion using Picnics and BBQ's	5.7%	7.0%	8.3%	5.4%

Applying the average utilisation of picnic/BBQ facilities across the benchmarked regions (6.9%), **it is estimated that 23,047 visitors will use the proposed BBQ and picnic facilities at Bald Hill.**

8. CONCEPT

8.1. INTRODUCTION

The concept provided draws on an analysis of the market assessment and, previous scoping study and an understanding of site attributes.

The concept includes a vision, objectives, and detail on land use within the Bald Hill Precinct.

Broad costs are identified for land use elements which would need to be verified following further detailed master planning and design work.

An implementation plan follows this section, which identifies the staging of works.

8.2. KEY FINDINGS

The Concept Plan for Bald Hill has been prepared to drive greater levels of recreation activity to residents of Moorabool Shire and the surrounding region, as well as drive visitation to Bacchus Marsh. This will achieve economic growth and enhance Bacchus Marsh as a destination. Key uses include:

- Gravity Mountain Bike Park;
- Cross Country Mountain Bike Course
- 1001 Steps
- All Abilities Trail
- Restaurant/Café/Function Centre
- Open Air Events Space

8.3. VISION

Bald Hill will become a Destination Regional Park, which provides organised and active recreation uses servicing the local community of Moorabool Shire and attracting visitors from the Melbourne, regional Victoria and interstate.

Bald Hill will accommodate unique active recreation activities including mountain biking, trail walking and running and outdoor adventure uses that are not currently accessible West of Melbourne.

Activating Bald Hill will greatly encourage resident participation in recreation and drive economic growth to Bacchus Marsh through destination land uses such as a Gravity Mountain Bike Park and 1001 Steps concept.

8.4. CONCEPT OBJECTIVES

- Provide for much needed organised and active recreation open space which services the western growth areas of Melbourne and Bacchus Marsh;
- Deliver world-leading, innovative design;
- Develop destination recreation and tourism uses that attract visitors to Bacchus Marsh;
- Deliver open space that can support community and tourism events;
- Maintain and enhance views to the site, ensuring the site retains highway presence as an important form of advertising.
- Strike a balance between delivering environmental, recreation and economic outcomes;
- Ensure that all abilities access is delivered; and
- Meet a State wide and Melbourne gap in the provision of Gravity Mountain Biking.

8.5. CONCEPT USES

Figure F22 provides an a concept Plan for Bald Hill. The key elements of which are described in detail below.

GRAVITY MOUNTAIN BIKE PARK

The Bald Hill Gravity Mountain Bike Park will be a destination mountain bike facility on the southern side of Bald Hill, including the former quarry land. The gravity mountain bike park will be unique in the context of Victoria, forming the first masterplanned gravity and slopestyle park in close proximity to Melbourne. The disturbed nature of the site will allow for the establishment of high end slopestyle, traditional downhill and flow trails from the summit of Bald Hill.

The site lends itself to gravity events due to the amphitheatre nature of the quarry area and has potential to hold national and international level gravity competitions.

The Gravity Park will be suitable for all levels including easy flow trails and competitive slopestyle, and expert downhill.

A shuttle bus operator will be encouraged to service the Gravity Mountain Bike Park with pick up and drop off services linking to the proposed food establishment at the peak of Bald Hill.

There will be links through the cross country trails to support events such as Enduro and also allow cross country riders to utilise flow trails located within the Gravity Park.

CROSS COUNTRY MOUNTAIN BIKE COURSE

The mountain bike cross country course will deliver up to 15 kms of flowing single track at beginner and intermediate standard. The course will include land north west of the Gravity Park. The cross country course is intended to be a regional level facility to support local and regional riders. The course will include undulating downhill and switchbacks with uphill climbing limited to 3%. The aim of the cross country course is to support growth in the mountain biking sector. As skills improve cyclists can transition to include circuits of the Gravity Park as well.

1001 STEPS

The establishment of a 1001 steps walk that links Halletts Way at the base of Bald Hill with the peak of Bald Hill, similar to the experience of the 1000 steps in the Dandenong Ranges. Landscaping and vegetation plantings are required to create a sheltered and quality experience. The delivery of a themed 1001 steps, potentially with an indigenous interpretive experience, will set the walk aside from others offered in Melbourne.

The 1001 steps will service a large regional catchment that includes all of Western Melbourne and regional areas between Melbourne and Ballarat. The 1001 steps will finish at the proposed food and beverage facility at the peak of Bald Hill.

ALL ABILITIES TRAIL

An all abilities trail will be delivered on top of Bald Hill which provides an open and largely level site for easy walking, cycling and other activities. The all abilities trail is proposed to be a sealed trail, three metres in width and up to 2 kilometres in length. It is proposed that the trail will include a sculptural element to add to the visitor experience. Views along the trail will extend across the Moorabool Valley towards Melbourne.

The all abilities trail will commence from the car park and link to the proposed food and beverage facility to drive custom.

RESTAURANT/CAFÉ FUNCTION CENTRE

A restaurant /café/ function centre is proposed for the south east side of Bald Hill, allowing extensive views from the facility over the Moorabool Valley towards the You Yangs and Melbourne.

The restaurant / café function centre will provide for a high quality local food experience servicing a variety of site users and destination food visitors. It is envisaged that the restaurant be delivered by the private sector, with services and parking delivered by the public sector.

There is opportunity for the restaurant /café also to act as a cycling hub, servicing the mountain biking on site, including bike hire, tour guides and other cycle related retail.

The facility can also provide a regional events function, and is likely to be popular for social events such as weddings and birthdays.

OPEN AIR EVENTS SPACE

An open air events space will be delivered on the top of Bald Hill providing a scenic high amenity events space for festivals, markets, car clubs. The events space will cater for up to 5000 people during peak events. This will also serve as a staging ground for other outdoor focused events such as mountain biking events, orienteering etc.

Infrastructure should be delivered within the events site including power and water to support bumping in of event facilities.

BBQ/PICNIC AREAS

Picnic and BBQ areas will be provided throughout the site. This will attract visitors to the site specifically for this purposes and may also be utilised by those visiting the site for a specific purpose.

ADVENTURE PLAY SPACE/ ADVENTURE PARK

An Adventure Playspace will be delivered on site in proximity to the restaurant/café. It is envisaged that this will be a destination in its own right and strengthen the family market visitation to the site. There is potential to investigate the delivery of adventure activity by the private sector on site.

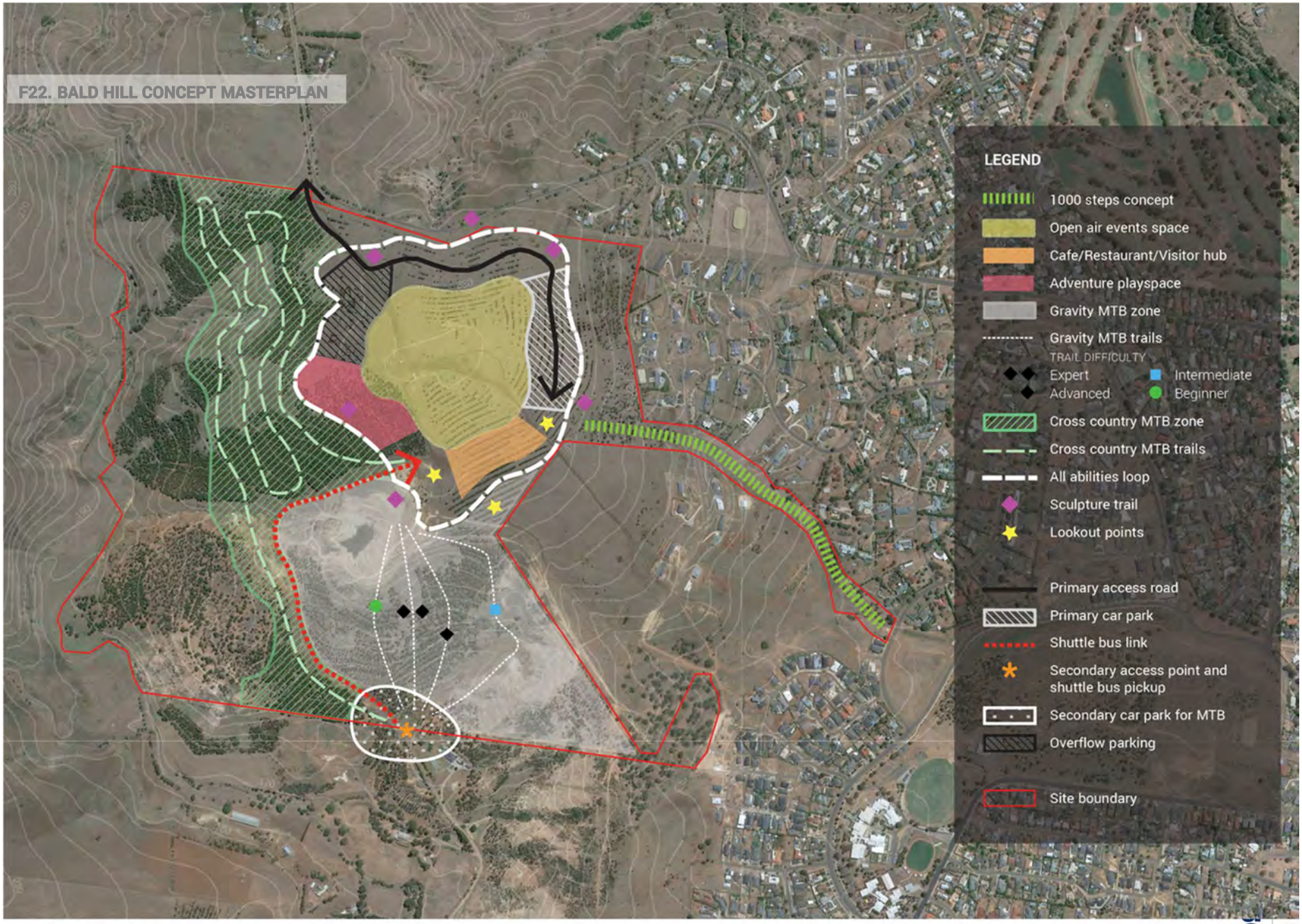
8.6. CONCEPT DETAIL

The table below provides an outline of the concept components and estimates for delivery of the uses and infrastructure on site. These costs are based on similar facilities elsewhere and benchmarked construction cost rates sourced from Rawlinson's Australian Construction Handbook. Following the preparation of a detailed site masterplan by Landscape Architects cost estimates can be further refined.

T27. CONCEPT DETAIL AND PRELIMINARY COST ESTIMATES

Key Land Use	Details	Cost estimate
Bald Hill Mountain Bike Gravity Park: 2 Flow trails 2 Slopestyle trails 3 Downhill trails (intermediate, advanced, expert)	Up to 7 trails with an average of 1km per trail 7 Km of trail in total	$1,050,000
Bald Hill Mountain Bike Cross Country Trail	15 km trail in total	$750,000
1001 Steps	1.5 km of steps	TBC.
	Interpretive signage	$280,000
All Abilities Trail	2 km sealed 3m wide trail	$300,000
	8 sculptures	$800,000
Restaurant	Restaurant/café 400m2 (80 patrons) Events space 400m2 Bike hub/visitor hub 200m2	$3.8 million
Open air events space	750 m2	$1,500,000
Lookout Points	3 lookout points	$900,000
Other Site Infrastructure		$3 million
Total		$12.38 million

F22. BALD HILL CONCEPT MASTERPLAN



9. ECONOMIC AND SOCIAL BENEFIT ASSESSMENT

9.1. INTRODUCTION

This section estimates the potential economic benefits that the Bald Hill recreation precinct could generate for Moorabool Shire. More specifically, this considers the net flow-on effects from additional visitation to the site (detailed in Section 7), which is likely to result in additional visitor expenditure in the region. *Please note the figures detailed in this section are indicative only and subject to further investigation and market testing.*

9.2. KEY FINDINGS

The development of the Bald Hill recreation precinct is likely to generate significant economic benefits to Council, resulting from: the construction of the precinct and the ongoing impact from operation (manifested through increases in visitation and additional visitor expenditure).

The table below demonstrates the potential economic benefits during the short-term construction and ongoing operation of the precinct. This is based on estimated construction costs of $12.4 million; and additional visitor expenditure of $4.2 million per annum.

T28. BALD HILL PRECINCT ECONOMIC IMPACT (DIRECT AND INDIRECT)

	Output	Employment	Wages	Value-added
Construction phase	$23,277,000	50	$4,539,000	$8,715,000
Operational phase (ongoing) annual	$6,770,000	43	$1,938,000	$3,317,000

9.3. ECONOMIC BENEFIT ASSESSMENT

9.3.1. TYPES OF ECONOMIC BENEFITS

This project is likely to be of a size, scale and function to deliver the following (direct and indirect) economic benefits for the Local Government Area:

- Economic output;
- Value-added; and
- Number of jobs created and subsequent increase in wages.

The impacts are calculated using the input-output method[1]. Definitions for key economic terms are provided in Appendix B. The economic benefits listed above can be attributed to a combination of increases in recreational users of the site, increases in visitor spend along Main Street and Darley neighbourhood activity centre, an uplift in commercial property values, as well as flow-on impacts from construction.

These benefits are quantified over two distinct phases as follows:

- **The construction phase.** This includes the following short-term direct and indirect impacts occurring during the construction of the proposal:
  - The *direct* effect of the construction phase is defined by the development costs (e.g. construction costs, land acquisition, etc.); and
  - The *indirect* effect of this phase is typified by the subsequent flow-on impacts on other sectors of the economy, particularly the supply-chain.

[1] Developed by REMPLAN and applied by Urban Enterprise

- **The ongoing operational phase.** This considers the annual (i.e. ongoing) economic impact from additional visitation to the site. The ongoing direct and indirect impacts are defined as follows:
  - The direct effect is represented by additional visitor expenditure on the site; and
  - The indirect effect reflects the additional, flow-on output generated by other sectors of the economy, particularly the supply-chain.

9.3.2. ECONOMIC IMPACT – CONSTRUCTION PHASE

To project the potential economic impact from the development of the precinct, Urban Enterprise estimated the development costs of the land use precincts. This was based on a combination of case studies, desktop research and industry knowledge. *These estimates are considered high-level only and additional analysis is required to confirm project costs.*

CONTRUCTION COST ESTIMATES

The development of the precinct is estimated to cost **$12.4 million**. The costs for each concept element, including key assumptions, is detailed in Table T29.

T29. BALD HILL RECREATION PRECINCT CONSTRUCTION COST ESTIMATES

Concept	Estimated development costs	Key assumptions
1,000 steps	$280,000	• 3 km trail at $100k per km
Open air events space	$1,500,000	• 750 sqm area at $2k per sqm

Dining facility	$2,800,000	• 800 sqm area at $3.5k per sqm
		  ○ Restaurant/café 400m2 (80 patrons)
		  ○ Events space 400m2

Visitor hub	$1,000,000	• 200 sqm area at $3.5k per sqm
		• Amenity block costing $300k
Gravity MTB zone	$1,050,000	• 7 km trail at $150k per km
Cross country MTB zone	$750,000	• 15 km trail at $50k per km
All abilities loop	$300,000	• 2 km trail at $150k per km
Sculpture trail*	$800,000	• 8 sculptures at $100,000 each
Lookout points	$900,000	• 3 amenity blocks at $300,000 each
Site infrastructure[2]	$3,000,000	
Total	**$12,380,000**	

Source: Urban Enterprise, 2019

*Based on assumption of purchasing each sculpture. There is opportunity to explore the development of a sculpture competition at Bald Hill, such as the Montalto sculpture acquisition competition, whereby the winner receives a $40,000 prize and the sculpture is owned by Montalto.

ECONOMIC BENEFIT

The total capital expenditure of $12.4 million is expected to generate the following economic benefits (direct and indirect) during the short-term construction phase (see T30T30):

- Total output of $23.3 million;
- 50 jobs, resulting in an increase in wages of $4.5 million; and
- $8.7 million in value-added.

Refer to Appendix B for further detail on economic terms.

T30. SHORT-TERM ECONOMIC IMPACT – CONSTRUCTION PHASE

	Output	Employment	Wages	Value-added
Direct Effect	$12,380,000	15	$2,071,000	$4,070,000
Indirect Effect	$10,897,000	35	$2,468,000	$4,645,000
Total Effect	**$23,277,000**	**50**	**$4,539,000**	**$8,715,000**

Source: Urban Enterprise, 2019

[2] Supporting infrastructure such as access roads, carparks, etc.

9.3.3. ECONOMIC IMPACT – OPERATIONAL PHASE (ONGOING)

In order to isolate the *net benefits* of operation, the ongoing economic impact is derived from visitation to the site (from outside the residential catchment) and excludes residents. This is because visitors to the site generate *additional* expenditure within the council area, whereas resident expenditure is not considered an additional (i.e. net) impact. As such, all visitors to the site are:

- Assumed to be **new** visitors to the region; and
- Assumed to be **daytrips**, as the precinct is not expected to generate overnight visitation.

VISITOR EXPENDITURE

The ongoing (i.e. annual) benefits from the operation of the site is calculated by applying total additional visitor expenditure to the input-output model. Therefore, the following estimates the additional visitor expenditure generated by visitation to the site, using the information provided in the demand assessment.

As shown in Table T31, the ongoing additional expenditure from the proposed uses by visitors is estimated at **$4.2 million**. This is based on the following assumptions:

- Expenditure estimates are based on average daytrip expenditure of $25 for 'food services' and 'retail trade' within Moorabool Shire. This assumes that a visitor to the site will, on average, also make a food/retail purchase at a local business during their visit.
- Expenditure on food services includes purchases at the dining facility;
- It is assumed that 'BBQ/Picnic' users are self-sufficient and will bring their own supplies. Therefore, they are not expected to generate any additional expenditure; and
- Expenditure estimates are assumed to be an average only, as it is based on a midpoint visitation scenario.

[3] Total average daytrip expenditure for Moorabool Shire is $57. However, spend on food and retail is assumed to comprise 43 cents in the tourist dollar.

T31. ADDITIONAL VISITOR EXPENDITURE

Proposed Use	Visitors	Total Ave Expenditure (per person)[3]	Total Additional Expenditure
Cycling	40,197	$25	$985,228
Walking	83,377	$25	$2,043,570
Events	31,250	$25	$765,938
Adventure Park/Playspace	17,217	$25	$421,989
BBQs/Picnics	23,047	$0	$0
Total Site Visitors	**195,088**		**$4,216,725**

Source: Urban Enterprise, 2019; REMPLAN tourism estimates based on ABS 2016-17 Tourism Satellite Account.

Due to lack of data for cycling expenditure for Moorabool Shire, the total average expenditure for visitors to Moorabool Shire was used Although this is a conservative estimate, cycling expenditure for regional Victoria is an average of $71 per person and would therefore overinflate expenditure.

ECONOMIC BENEFIT

With an estimated expenditure impact of $4.2 million, the Bald Hill precinct is expected to generate the following direct and indirect economic benefits for Moorabool Shire (see Table T32)

- Total output of $6.7 million;
- 43 jobs, resulting in an increase in wages of $1.9 million and
- $3.3 million in value-added.

T32. ONGOING ECONOMIC IMPACT – OPERATIONAL PHASE (ANNUAL)

	Output	Employment	Wages	Value-added
Direct Effect	$4,217,000	34	$1,366,000	$2,065,000
Indirect Effect	$2,553,000	9	$572,000	$1,252,000
Total Effect	**$6,770,000**	**43**	**$1,938,000**	**$3,317,000**

Source: Urban Enterprise, 2019

9.4. SOCIAL BENEFITS

There are significant benefits associated with increased levels of walking and cycling. Various studies have been conducted into the health, environmental and economic benefits associated with walking and cycling. Benefits include:

- Health and health cost savings through an increase in activity (or reduction in inactivity);
- Reduced traffic congestion, road provision costs, vehicle ownership, operating and parking costs;
- Reduced environmental pollution and traffic noise;
- Improved physical and cognitive health for children and seniors in particular; and
- Increase in social connection and civic pride.

Activation of Bald Hill will strengthen Moorabool Shire's recreational assets, in which locals and visitors can utilise the precinct for exercise and leisure purposes.

It has been acknowledged that greater access to recreation and leisure infrastructure results in improved physical health and wellbeing. Regular physical activity has been shown to improve overall health and reduce the risk of a wide range of diseases, including cardiovascular diseases, hypertension, diabetes and some types of cancers. This is a result of an increase in activity (or reduction in inactivity).

10. IMPLEMENTATION PLAN

10.1. INTRODUCTION

The implementation plan considers the potential staging of works for the Bald Hill Activation Project. This includes both infrastructure and planning works.

PHASE 1: PROMOTION AND FUNDING	DETAIL	TIMEFRAME	COST
1. Preparation of a communication plan	Council communications team to prepare a communication plan for Bald Hill. This will consider the language, promotion and process for communicating and engaging with the community in relation to Bald Hill.	October/November 2019	
2. Preparation of a pitch document	Preparation of a five page pitch document that can be used to promote the project and its benefits to the community and funding agencies. This should also include consideration of a project title and brand for Bald Hill. This will draw on the work undertaken in the Activation Plan document.	October/November 2019	$8,000+GST
3. Review and identification of funding opportunities	The Bald Hill Activation Project will require Government funding support. The project should seek funding support from Regional Development Victoria, Sport and Recreation Victoria as a starting point. It aligns well with State Government policy.	2019/2020	
4. Project pitch to Government	It is recommended that the project be pitched to State Government ministers. This should include an outline of the concept and social and economic benefits of the project.	2019	
PHASE 2: PLANNING AND DESIGN			
5. Preparation of an expression of interest for Masterplanning	A detailed masterplan will need to be prepared for the site. Led by an experienced Landscape Architecture and Planning Consultancy. This will also need to include the following specialist sub consultants: • Transport and traffic; • Flora and Fauna; • Heritage; • Economists;	2019/2020	$450,000+GST

	• Statutory and Strategic Planners; • Mountain bike trail designers; • Quantity Surveyors. • Architects. • Artists/Sculpturists.		
6. Preparation of a detailed business Case	A detailed business case will need to be prepared that aligns with Treasury's Long Form Business Case in order to access Grant Funding from the State and Federal Governments. This will draw in elements of the Masterplan.	2020	$50,000+GST
7. Negotiate purchase of the site leasehold	A large part of the site is under leasehold with a plantation. It is recommended that Council seek to purchase the leasehold including the plantation in order to maintain amenity on the site. The cost to revegetate the site and the length of time it will take to achieve revegetation needs to be considered as part of the argument to purchase the planation.	2020	TBC.
8. Planning Scheme Amendment	Prepare a Planning Scheme Amendment to support proposed uses and activity. Public Park and Recreation Zone may be the most applicable Zone for the uses specified. Amendment to be prepared internally by Council.	2020	
9. Seek planning permits	If works trigger the need for a planning permit under the new Zone, Council to prepare a planning application.	2020	
10. Activation and events strategy	Following preparation of the masterplan Council should prepare an activation and events strategy for the site.	2020	$20,000+GST
PHASE 3: STAGE 1 PREPARATORY WORKS			
11. Prepare an Expression of Interest for Preparatory Works	Council procurement area to prepare an Expression of Interest for stage 1 works.	2020	
12. Undertake Stage 1 infrastructure works	Infrastructure works are required to open up accessibility to the site. This includes: • Water, power and sewer; • Access road to the site and internal road network; • Car parking nodes;	2021	$2,500,000

13. Undertake Stage 1 landscape and vegetation works	• Deliver revegetation works to the site. This is needed to improve site amenity and to create shade where required.	2021	$500,000
14. Undertake Stage 1 open air events space	• Deliver open air events space as part of stage 1 as it includes mainly Civil works aligned to site preparation.		
PHASE 4: DELIVERY OF STAGE 2 KEY RECREATION ASSETS			
15. Prepare Expression of Interest for Stage 2 works	Council to prepare an Expression of Interest for Stage 2 works and appoint contractors.	2021	
16. Undertake Stage 2 Delivery of Mountain Bike Assets	Undertake construction of mountain bike trails	2022/23	
17. Undertake Stage 2 Delivery of 1001 Steps	Undertake construction of 1001 steps	2022/23	
18. Undertake Stage 2 Delivery of All abilities Trail, sculpture and lookouts	Undertake construction of All abilities trail	2022/23	
PHASE 5: DELIVERY OF STAGE 3 COMMERCIAL USES			
19. Seek a private sector partner to establish the restaurant/ function centre	Council to prepare an Expression of Interest for a Private/Public partnership for a restaurant/function centre on site.		
20. Seek a private sector partner to operate a bike hub and shuttle services	Council to seek Expression of Interest for private sector delivery of shuttle services and bike hub.		

APPENDICES

APPENDIX A ECOLOGY AND HERITAGE REPORTS

Preliminary biodiversity constraints assessment: Bald Hill

DRAFT REPORT

Prepared for Urban Enterprise

1 May 2019

Biosis offices

NEW SOUTH WALES

Albury
Phone: (02) 6069 9200
Email: albury@biosis.com.au

Newcastle
Phone: (02) 4911 4040
Email: newcastle@biosis.com.au

Sydney
Phone: (02) 9101 8700
Email: sydney@biosis.com.au

Wollongong
Phone: (02) 4201 1090
Email: wollongong@biosis.com.au

VICTORIA

Ballarat
Phone: (03) 5304 4250
Email: ballarat@biosis.com.au

Melbourne (Head Office)
Phone: (03) 8686 4800
Email: melbourne@biosis.com.au

Wangaratta
Phone: (03) 5718 6900
Email: wangaratta@biosis.com.au

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- Department of Environment, Land, Water and Planning for access to the Victorian Biodiversity Atlas and Native Vegetation Information Tools
- Department of the Environment and Energy for access to the Protected Matters Search Tool of the Australian Government

Biosis staff involved in this project were:

- Dave Kazemi (Collector set up).
- Matt Gibson & Josh Howard (inception meeting & site inspection)

Contents

Tables

Figures

1. Introduction

1.1 Purpose

Biosis Pty Ltd was commissioned by Urban Enterprise on behalf of Moorabool Shire Council to undertake a preliminary ecological constraints assessment for a proposed development site at Bald Hill, Darley, Victoria. This report aims to identify the ecological values, opportunities and constraints within the investigation area, in order to inform Urban Enterprise and Moorabool shire council of potential development options for the site.

1.2 Scope of this report

This report outlines the ecological values, opportunities and constraints of the study area and includes:

- The project context relating to the ecological values and the methodology undertaken to make the assessment.
- A description of the relevant ecological legislation and policy.
- The key ecological findings.
- The implications of legislation and policies on the project based on the key findings.
- The actions required based on the findings of the report.

1.3 Methodology

A desktop assessment was undertaken to identify and highlight ecological values and any associated potential risks or constraints for the project. The data has been collated into a series of figures to assist with viewing the ecological values within the study area.

The following methodology was used for the development of this report:

- Review of the following databases and tools:
  - The Department of Environment, Land, Water and Planning (DELWP) Victorian Biodiversity Atlas.
  - DELWP NatureKit mapping tool.
  - Protected Matters Search Tool of the Australian Government Department of the Environment and Energy (DoEE) for matters of national environmental significance protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
  - DELWP Native Vegetation Information Management (NVIM) system.

Previous reports relevant to the study area were also reviewed:

- Moorabool Shire Council 2018. *Bald Hill Activation Project: Background and Scoping Report*. Moorabool Shire Council, Bacchus Marsh.

A preliminary site inspection was undertaken on the 27/03/2019 to provide an overview of the study area and determine areas that could provide potential habitat for nationally threatened species (listed on EPBC Act).

2. Project Description

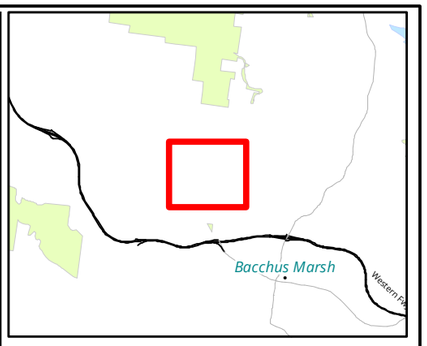
2.1 Project Context

Urban Enterprise is currently working with Moorabool Shire Council to develop a concept masterplan for Bald Hill activation project in Darley, Victoria. The Bald Hill Background and scooping report has identified that Bald Hill reserve could be developed as a regional recreation area through the development of a shared trails network and mountain bike facility.

An ecological constraints assessment is required to identify areas within the site that have potential to be developed and areas that should be avoided or managed via future design processes.

2.2 Project Area

Bald Hill reserve is located on the western edge of Darley, Victoria, and is approximately 120 ha in size (Figure 1). Roughly 50 hectares of the reserve is managed by Moorabool Shire Council and the other 70 hectares is leased to reduce management costs. The majority of leased land is currently Sugar Gum *Eucalyptus cladocalyx* plantation with the rest of the reserve mainly consisting of revegetation areas (*Eucalyptus* spp.) with an understorey dominated by exotic species. However, there is some small areas within the study area which contain remnant native vegetation.



Legend

Study area

Figure 1 Extent of the study area

0 70 140 210 280 350

Metres
Scale: 1:7,000 @ A3
Coordinate System: GDA 1994 VICGRID94

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3. Findings

3.1 Site Context

The study area is located along the western edge of Darley, Victoria and is approximately 4 km north-west of Bacchus Marsh Central Business District (CBD). The southern boundary of the study area is approximately 1.5 km north of the Western Freeway.

The ecological values within 5 km of the study area are varied. The landscape to the immediate east, north-east, and south-east is highly developed and forms part of the residential area of Bacchus Marsh. Approximately 2 km north of the study area is the southern extent of Lerderderg State Park and roughly 4 km south-west of the study area is the Werribee Gorge State Park. However, the majority of the landscape is agricultural land that has been heavily cleared of remnant vegetation with the exception of small patches of vegetation to the south near the Werribee River and north-east near the Lederderg State Park.

Werribee River lies roughly 3.5 km to the south of the study area and the Lerderderg River is approximately 3.5 km east of the study area. These two rivers area the only significant waterways in the region.

3.2 Assessment of Existing Environmental Values

Native vegetation

The study area is within the Central Victorian Uplands Bioregion.

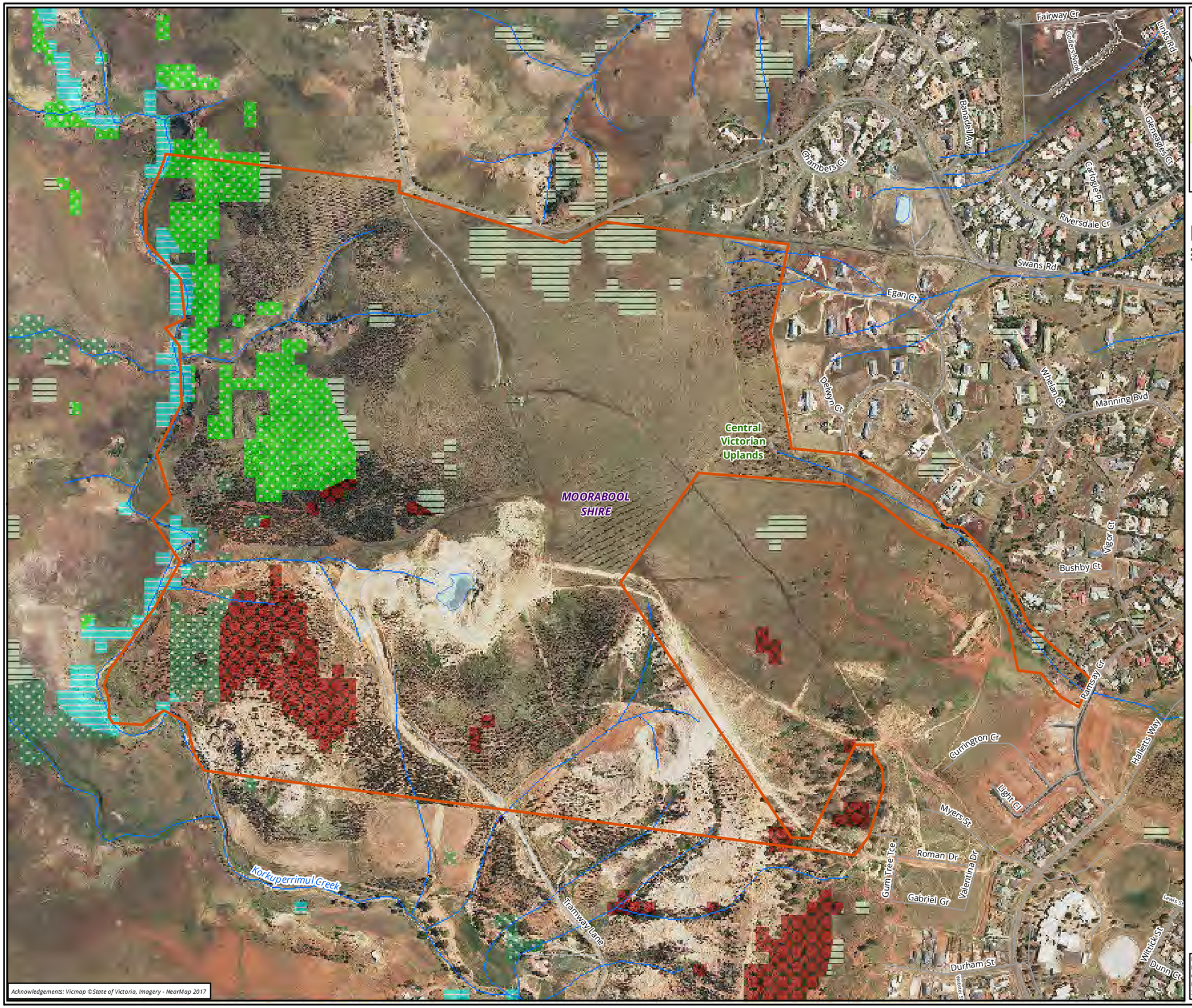
Four Ecological Vegetation Classes (EVCs) are modelled within the study area (Figure 2):

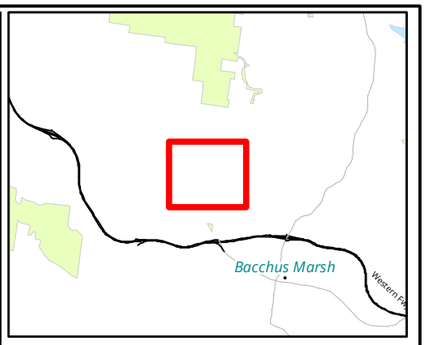
- 47 Valley Grassy Forest
- 64 Rocky Chenopod Woodland
- 175 Grassy Woodland
- 851 Stream Bank Shrubland
- 895 Escarpment Shrubland

The site inspection revealed that the vast majority of the vegetation within the study area consists of planted species which were either planted as re-vegetation or form part of the Sugar Gum *Eucalyptus cladocalyx* plantation within the leased area (northern section) of the reserve.

Due to the large amount of planted and exotic vegetation present on site it is likely that the modelled EVCs in Figure 2 are an over-estimate of the actual remnant vegetation present within the study area. However, further detailed site assessments and vegetation mapping will be required once design plans have been finalised to determine the actual extent of native vegetation present. It is also understood that there are a few remnant scattered trees are present within the southern section of the study area and including Grey Box *Eucalyptus microcarpa* and Yellow Gum *Eucalyptus leucoxylon* (Moorabool Shire Council 2018). Impacts to these trees should be avoided during the design process if possible.

There is also a relatively small (1.9 ha) offset site located in the south east boundary of the study area. This offset site was established for a sub-division in the area and contains remnant Grey-Box woodland. This area cannot be developed and therefore should be avoided.





Legend

- Study area
- Bioregions

Ecological vegetation class

- 175 Grassy Woodland
- 47 Valley Grassy Forest
- 64 Rocky Chenopod Woodland
- 851 Stream Bank Shrubland
- 895 Escarpment Shrubland

Figure 2 Ecological Vegetation Classes near the study area

0 70 140 210 280 350

Metres
Scale: 1:7,000 @ A3
Coordinate System: GDA 1994 VICGRID94

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Matters of National Environmental Significance

The EPBC Act Protected Matters search lists six threatened ecological communities with the potential to occur within 5 km of the study area:

- **Grassy Eucalypt Woodland of the Victorian Volcanic Plain**
  This community is known to occur within 5 km of the study area.
- **Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived native Grasslands of South-eastern Australia**
  This community may occur within 5 km of the study area.
- **Natural Temperate Grassland of the Victorian Volcanic Plain**
  This community is likely to occur within 5 km of the study area.
- **White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland**
  This community is likely to occur within 5 km of the study area.

Due to the majority of the study site being highly modified (i.e. containing large amount of exotic vegetation and planted vegetation), it is unlikely that any of these communities occur on site or would be directly impacted by potential development. However, patches of understory vegetation and remnant Grey Box trees will have to be assessed in more detail to determine whether they form part of the Natural Temperate Grassland of the Victorian Volcanic Plain community, and Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived native Grasslands of South-eastern Australia community. The offset site in the south-east corner of the study area could potentially form part of the Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived native Grasslands of South-eastern Australia community.

The EPBC Act Protected Matters search also indicates the relatively close proximity of Port Phillip Bay (western shoreline) and Bellarine Peninsula (20- 30 km upstream) Ramsar site. Proposed development at Bald Hill is unlikely to significantly impact on this Ramsar area.

There are 16 EPBC Act listed flora species and 17 EPBC Act listed fauna species recorded or predicted to occur within 5 km of the study area. Of these species, the desktop assessment considered the following EPBC Act listed species with the greatest potential to occur within the study area:

- Spiny Rice-flower *Pimelea spinescens* subsp. *Spinescens*
- Swift Parrot *Lathamus discolor*
- Grey-headed Flying-fox *Pteropus poliocephalus*

Spiny Rice-flower is known to occur throughout the region in areas of native and introduced grassland. Further detailed surveys will be needed to determine the presence or absence of this species from the study area. However, based on the initial site inspection it is unlikely that the study area contains a large amount of suitable grassland habitat and if specimens were present it is likely that design plans could be altered to avoid any impacts to this species.

Both the Swift Parrot and Grey-headed Flying-fox are mobile fauna species which have the potential to forage on the remnant flowering eucalypts located within the study area on occasion. Although the extent of the proposed development and potential removal of these eucalypts are not determined at this stage, a significant impact on these species is unlikely as this is not important resident habitat for these two species and the removal of native Eucalypt trees would be minimal (if any removal is needed at all).

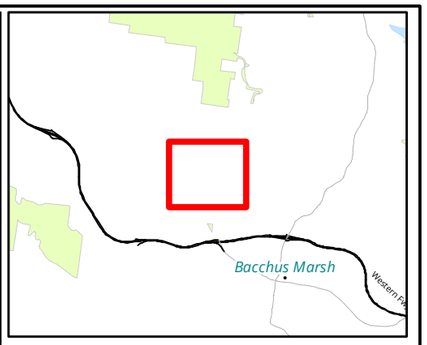
Flora and Fauna Guarantee Act 1988

There are four FFG Act listed flora species and nine FFG Act listed fauna species recorded or predicted to occur within 5 km of the study area. The likelihood of these species being present within the study area is provided in Appendix 1 for flora and Appendix 2 for fauna. Most of these species are unlikely to be present within the study area.

One threatened ecological community listed under the FFG Act is modelled to occur within the study area (Figure 3):

- Rocky Chenopod Open-Scrub Community.

After the initial site inspection it appears unlikely that this community is present within the study area. However, the presence/absence of this community cannot be completely ruled out until a detailed ecological assessment of the site is complete.



Legend

Study area

FFG communities (NV2005)

Rocky Chenopod Open-Scrub

Figure 3 FFG communities near the study area

0 70 140 210 280 350

Metres
Scale: 1:7,000 @ A3
Coordinate System: GDA 1994 VICGRID94

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4. Summary and Recommendations

4.1 Summary of Assessment

The key areas of ecological value within the study area that may be impacted upon by the project are:

- Scattered remnant Grey Box and Yellow Gum trees.
- Potential patches of native understorey dominated by native perennial grass species (further detailed assessment is needed to determine size and extent of potential patches once design plan is finalised).

4.2 Potential Approvals and Legislative Requirements

Native vegetation

Depending on a final design plan the development of the study area may impact on some native vegetation. The extent of this potential impact will need be determined by a site inspection and detailed mapping once design plans have been finalised. Where impacts on native vegetation cannot be avoided, Clause 52.17 (Native Vegetation) requires a planning permit (or planning scheme amendment) to remove, destroy or lop native vegetation including dead native vegetation. Permits and additional requirements may also be relevant under the Heritage Overlay (HO200), Significant Landscape Overlay (SLO1), Environmental Significance Overlay (ESO2), Design and Development Overlay (DDO2) and Bushfire Management Overlay (BMO).

The removal of native vegetation on site may require offsets if the removal includes remnant scattered trees, or forms part of a patch as classified in the Guidelines for the removal, destruction or lopping of native vegetation ('the Guidelines') (DELWP 2017). According to the Guidelines a patch of native vegetation can be defined as:

- An area of vegetation where at least 25 per cent of the total perennial understory plant cover is native, or;
- Any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy, or;
- Any mapped wetland included in the *current wetlands map*, available in DELWP systems and tools.

The site contains no wetlands which are defined as current wetlands. However, clearing of scattered trees or other patch vegetation (as defined above) will require compensatory offsets. Third party offsets can be purchased from the Victorian native vegetation credit register.

Matters of National Environmental Significance

The EPBC Act applies to developments and associated activities (actions) that have the potential to significantly impact on matters of national environmental significance protected under the Act.

The proposed works associated with development of the study site are unlikely to impact on any listed threatened species or threatened communities, which are matters of national environmental significance.

Table 1 Overview of Matters of National Environmental Significance

Matter of NES	Project specifics	Assessment against significant impact guidelines
Threatened species	Three species are considered as having potential to occur: Spiny Rice-flower, Swift Parrot and Grey-headed Flying Fox.	Impacts to these species are unlikely to be significant, although this cannot be fully determined until detailed habitat assessment and further design work is completed.
Threatened communities	Natural Temperate Grassland of the Victorian Volcanic Plain Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived native Grasslands of South-eastern Australia	The presence of these two communities on site cannot be fully determined until further detailed mapping is undertaken. However, from the preliminary site inspection it appears unlikely that native grassland on site will qualify as the threatened community. Although unlikely, scattered remnant Grey Box trees within the study area may form part of the Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived native Grasslands of South-eastern Australia community and will need to be considered further if any scattered Grey Box trees are to be impacted once a detailed design is known.

4.3 Next Steps/Recommendations

The primary measure to reduce impacts on biodiversity values within the study area is to avoid and minimise removal of native vegetation and fauna habitat. The results of this assessment should be incorporated into the project design.

Once a project design has been completed the next stage of the assessment process will involve detailed mapping of native vegetation, to assess the extent of Ecological Vegetation Classes (EVCs) within the study area, and to determine the presence/absence of threatened species and ecological communities within the study area (EPBC Act and FFG Act listed).

It is recommended that future design plans are created with the aim to avoid native vegetation within the study area if possible. Design plans should be particularly sensitive to impacting native remnant trees within the study area, especially Grey Box trees, as patches of these trees may form part of the nationally threatened Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived native Grasslands of South-eastern Australia community.

References

DELWP 2017. *Guidelines for the removal, destruction or lopping of native vegetation.* Victorian Government Department of Land, Water and Planning, Melbourne (December 2017).

Moorabool Shire Council 2018. *Bald Hill Activation Project: Background and Scoping Report*. Moorabool Shire Council, Bacchus Marsh.

Appendix 1 Flora

Notes to tables:

EPBC Act: CR - Critically Endangered EN - Endangered VU - Vulnerable PMST – Protected Matters Search Tool	**DEPI 2014:** e - endangered v - vulnerable r - rare k - poorly known
FFG Act: L - listed as threatened under FFG Act P - protected under the FFG Act (public land only)	**Noxious weed status:** SP - State prohibited species RP - Regionally prohibited species RC - Regionally controlled species R - Restricted species # - Native species outside natural range

A1.1 Listed flora species

The following table includes the listed flora species that have potential to occur within the study area. The list of species is sourced from the Victorian Biodiversity Atlas and the Protected Matters Search Tool (DoEE; accessed on 25.03.2019).

Table A1.1 Listed flora species recorded / predicted to occur within 5 km of the study area

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
National significance									
Amphibromus fluitans	River Swamp Wallaby-grass	VU		I		PMST	Swampy areas, mainly along the Murray River between Wodonga and Echuca with scattered records from southern Victoria.	**Negligible**	No suitable habitat.
Caladenia ornata	Ornate Pink-fingers	VU	v	L		PMST	Heathy and grassy woodlands.	**Negligible**	No suitable habitat.
Dianella amoena	Matted Flax-lily	EN	e	L		PMST	Lowland grassland and grassy woodland, on well-drained to seasonally waterlogged fertile sandy loam soils to heavy cracking clays.	**Low**	Limited suitable habitat.
Diuris basaltica	Small Golden Moths	EN	e	L		PMST	Plains Grassland dominated by tussock-forming perennial grasses (including Kangaroo Grass); often with embedded surface basalt.	**Low**	Limited suitable habitat.
Diuris fragrantissima	Sunshine Diuris	EN	e	L	1770	Native	Grassland dominated by Themeda trianda, on plains with heavy basalt soils and embedded boulders; only known naturally occurring population is in Sunshine.	**Low**	Limited suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Dodonaea procumbens	Trailing Hop-bush	VU	v			PMST	Sandy or clay soils in low-lying, winter-wet areas in grasslands, woodlands, and low-open forest.	**Low**	Limited suitable habitat.
Eucalyptus aggregata	Black Gum	VU	e	L		PMST	Riparian woodland, primarily on floodplains but occasionally extending up adjacent lower slopes.	**Negligible**	No suitable habitat.
Glycine latrobeana	Clover Glycine	VU	v	L		PMST	Grasslands and grassy woodlands, particularly those dominated by Kangaroo Grass.	**Low**	Limited suitable habitat.
Lachnagrostis adamsonii	Adamson's Blown-grass	EN	v	L		PMST	Low-lying, seasonally wet or swampy areas of plains communities, often in slightly saline conditions.	**Low**	Limited suitable habitat.
Leucochrysum albicans subsp. *tricolor*	White Sunray	EN	e	L		PMST	Grasslands of the Victorian Volcanic Plains, primarily on acidic clay soils derived from basalt, with occasional occurrences on adjacent sedimentary, sandy-clay soils.	**Low**	Limited suitable habitat.
Pimelea spinescens subsp. *spinescens*	Spiny Rice-flower	CR	e	L	2003	PMST	Primarily grasslands featuring a moderate diversity of other native species and inter-tussock spaces, although also recorded in grassland dominated by introduced perennial grasses.	**Medium**	Potentially small areas of suitable habitat within study area, known to occur within region.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Prasophyllum frenchii	Maroon Leek-orchid	EN	e	L		PMST	Grassland and grassy woodland environments on sandy or black clay loam soils that are generally damp but well drained.	**Low**	Limited suitable habitat.
Rutidosis leptorhynchoides	Button Wrinklewort	EN	e	L		PMST	Higher quality Plains Grassland and Grassy Woodland in Western Victoria, particularly those with fertile soil and light timber cover.	**Low**	Limited suitable habitat.
Senecio macrocarpus	Large-headed Fireweed	VU	e	L		PMST	Grassland, shrubland and woodland habitats on heavy soils subject to waterlogging and/or drought conditions in summer.	**Low**	Limited suitable habitat.
Thelymitra matthewsii	Spiral Sun-orchid	VU	v	L		PMST	Typically on well-drained soils on slightly elevated sites, but also on coastal sandy flats. Often in open situations following disturbance.	**Low**	Limited suitable habitat.
Xerochrysum palustre	Swamp Everlasting	VU	v	L		PMST	Sedge-swamps and shallow freshwater marshes and swamps in lowlands, on black cracking clay soils.	**Low**	Limited suitable habitat.
State significance									
Acacia aspera subsp. *parviceps*	Rough Wattle		r		1995	Native	Open eucalyptus dominated forest.	**Low**	Limited suitable habitat.
Acacia rostriformis	Bacchus Marsh Wattle		v	L	2014	Native	Occurs in low hilly areas in Eucalyptus woodland.	**Medium**	Potentially small areas of suitable habitat within study area,

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					known to occur within region.
Allocasuarina luehmannii	Buloke		e	L	2009	Native	Non-calcareous soils in drier areas on slopes and plains; often in woodlands associated with Grey Box.	**Negligible**	No suitable habitat.
Austrostipa breviglumis	Cane Spear-grass		r		1970	Native	Dry areas on skeletal soils; central and mid-western Victoria, with disjunct occurrences in Bacchus Marsh.	**Low**	Limited suitable habitat.
Austrostipa exilis	Heath Spear-grass		r		2008	Native	Drier plains grassland and grassy woodlands; most records are from the Bacchus Marsh area.	**Medium**	Potentially small areas of suitable habitat within study area, known to occur within region.
Boronia anemonifolia subsp. *aurifodina*	Goldfield Boronia		r		1917	Native	Woodlands and heath on stony or rocky soils.	**Low**	Limited suitable habitat.
Calotis lappulacea	Yellow Burr-daisy		r		1910	Native	Dry rocky country, open woodland, and fertile, loam or clay soils.	**Low**	Limited suitable habitat.
Cullen tenax	Tough Scurf-pea		e	L	1853	Native	Lowland grasslands, including pastures and occasionally in otherwise disturbed grassy areas.	**Low**	Limited suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Dianella longifolia var. *grandis*	Flax-lily		v		2011	Native	The habitat requirements of this species are poorly known.	**Low**	Limited suitable habitat.
Eucalyptus leucoxylon subsp. *connata*	Melbourne Yellow-gum		v	I	2008	Native	Well-drained slopes in a restricted area around Melbourne and Geelong.	**Low**	Limited suitable habitat.
Leucopogon microphyllus var. *pilibundus*	Hairy Beard-heath		r		1959	Native	Open-forests and woodlands in elevated, dry and often rocky sites.	**Medium**	Potentially small areas of suitable habitat within study area.
Myoporum montanum	Waterbush		r		1853	Native	Mallee and riparian woodlands, and rocky gorges.	**Low**	Limited suitable habitat.
Nicotiana suaveolens	Austral Tobacco		r		2012	Native	Areas of sandy or gravelly soil typically associated with streams, gullies and other drainage lines; also grasslands and escarpment shrublands.	**Medium**	Potentially small areas of suitable habitat within study area, known to occur within region.
Olearia minor	Satin Daisy-bush		r		1929	Native	Loamy soils in the mallee and dry forests in the northern Brisbane Ranges and Werribee Gorge.	**Low**	Limited suitable habitat.
Paspalidium flavidum	Yellow Watercrown Grass		e		1927	Introduced	Woodlands and scrub on poor soils.	**Low**	Limited suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Pimelea hewardiana	Forked Rice-flower		r		1977	Native	Rocky ground in gullies and mallee shrubland; only recorded in the western half of the State.	**Medium**	Potentially small areas of suitable habitat within study area, known to occur within region.
Podolepis linearifolia	Basalt Podolepis		e		1936	Native	Grasslands and grassy woodlands.	**Low**	Limited suitable habitat.
Pseudanthus orbicularis	Tangled Pseudanthus		r		1991	Native	Mostly in eastern Victoria but with a western outlier near Bacchus Marsh and pre-1900 collections from Mount Macedon and Bendigo, rare, often on rocky sites.	**Low**	Limited suitable habitat.
Pterostylis truncata	Brittle Greenhood		e	L	2007	Native	Grassland and grassy woodland habitats, largely to the west of Melbourne.	**Low**	Limited suitable habitat.
Pultenaea reflexifolia	Wombat Bush-pea		r		1959	Native	Restricted to a few small areas of dry forest west of Melbourne in Gisborne, Barkstead and Lerderderg areas with an isolated, very old record from Apollo Bay.	**Low**	Limited suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Rhagodia parabolica	Fragrant Saltbush		r		2015	Native	Plains and escarpment grassland, shrubland and woodland.	**Medium**	Potentially small areas of suitable habitat within study area, known to occur within region.
Senecio cunninghamii var. *cunninghamii*	Branching Groundsel		r		2008	Native	Heavy soils that are sometimes winter-wet, or dry rocky soils; often on embankments or escarpments.	**Low**	Limited suitable habitat.
Westringia glabra	Violet Westringia		r		1904	Native	Skeletal soils in woodlands and on steep rocky slopes; often associated with river gorges.	**Medium**	Potentially small areas of suitable habitat within study area.

Appendix 2 Fauna

Notes to tables:

EPBC Act:	**DSE 2009, DSE 2013:**
EX - Extinct CR - Critically Endangered EN - Endangered VU - Vulnerable CD - Conservation dependent	ex - extinct cr - critically endangered en - endangered vu - vulnerable nt - near threatened dd - data deficient rx - regionally extinct
FFG Act:	**Introduced species**
L - listed as threatened under FFG Act N - nominated for listing as threatened I - determined ineligible for listing	PS - pest species listed under the CaLP Act * - introduced species
Most recent database records are from the Victorian Biodiversity Atlas unless otherwise specified as follows PMST – Protected Matters Search Tool BA – Birds Australia	

A2.1 Listed fauna species

The following table includes a list of the listed fauna species that have potential to occur within the study area. The list of species is sourced from the Victorian Biodiversity Atlas and the Protected Matters Search Tool (DoEE; accessed on 25.03.2019).

Table A2.1 Listed fauna species recorded, or predicted to occur, within 5 km of the study area

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
National significance									
Pedionomus torquatus	Plains-wanderer	CR	e	L		PMST	Native grassland with a sparse, open structure.	**Negligible**	No suitable habitat.
Rostratula australis	Australian Painted-snipe	EN	e	L		PMST	Shallows of well-vegetated freshwater wetlands.	**Negligible**	No suitable habitat.
Botaurus poiciloptilus	Australasian Bittern	EN	e	L		PMST	Shallow freshwater and brackish wetlands with abundant emergent aquatic vegetation.	**Negligible**	No suitable habitat.
Polytelis swainsonii	Superb Parrot	VU	e	L	1898		Red-gum and box-dominated forests and woodlands.	**Low**	Limited suitable habitat.
Lathamus discolor	Swift Parrot	CR	e	L	2006	PMST	A range of forests and woodlands, especially those supporting nectar-producing tree species. Also well-treed urban areas.	**Medium**	Remnant Grey Box trees could provide suitable foraging habitat.
Numenius madagascariensis	Eastern Curlew	CR	v			PMST	Large intertidal sandflats, banks, mudflats, estuaries, inlets, sewage farms, saltworks, harbours, coastal lagoons and bays.	**Negligible**	No suitable habitat.
Calidris ferruginea	Curlew Sandpiper	CR	e			PMST	Large intertidal sandflats, banks, mudflats, estuaries, inlets, sewage farms, saltworks, harbours, coastal lagoons and bays.	**Negligible**	No suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Grantiella picta	Painted Honeyeater	VU	v	L		PMST	Dry open woodlands and forests. Typically forages for fruit and nectar in mistletoes and in tree canopies.	**Low**	Limited suitable habitat.
Anthochaera phrygia	Regent Honeyeater	CR	e	L		PMST	A range of dry woodlands and forests dominated by nectar-producing tree species.	**Low**	Limited suitable habitat.
Dasyurus maculatus maculatus	Spot-tailed Quoll	EN	e	L		PMST	Rainforest and wet and dry sclerophyll forests and woodlands.	**Negligible**	No suitable habitat.
Petauroides volans	Southern Greater Glider	VU	v	L		PMST	Wet and damp sclerophyll forest with large hollow-bearing trees.	**Negligible**	No suitable habitat.
Pseudomys fumeus	Smoky Mouse	EN	e	L		PMST	Coastal heath and heathy woodland, wet forest, sub-alpine heath and dry sclerophyll forest.	**Negligible**	No suitable habitat.
Pteropus poliocephalus	Grey-headed Flying-fox	VU	v	L		PMST	Rainforest, wet and dry sclerophyll forest, woodland and urban areas.	**Medium**	Remnant Grey Box and Yellow Gum trees could provide suitable habitat.
Aprasia parapulchella	Pink-tailed Worm-Lizard	VU	e	L		PMST	Woodland and grassland with partially buried rocks.	**Low**	Limited suitable habitat.
Delma impar	Striped Legless Lizard	VU	e	L		PMST	Natural temperate grassland, grassy woodland and exotic grassland.	**Low**	Limited suitable habitat.
Litoria raniformis	Growling Grass Frog	VU	e	L	2007	PMST	Still or slow-flowing waterbodies and surrounding terrestrial vegetation.	**Low**	Limited suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Synemon plana	Golden Sun Moth	CR	e	L	2012	PMST	Natural temperate grassland, grassy woodland and pasture supporting spear grasses and wallaby grasses and exotic grassland dominated by Chilean needle grass.	**Low**	Limited suitable habitat.
State significance									
Geopelia cuneata	Diamond Dove		nt	L	1905		Drier woodlands and scrub, spinifex and mulga.	**Low**	Limited suitable habitat.
Phalacrocorax varius	Pied Cormorant		nt		1988		Primarily marine environments and coastal waters including beaches, coastal lagoons, estuaries and rock platforms.	**Negligible**	No suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Gallinago hardwickii	Latham's Snipe		nt			PMST	A migrant to Australia from July to April occurring in a wide variety of permanent and ephemeral wetlands. Prefers open freshwater wetlands with nearby cover, but also recorded on the edges of creeks and rivers, river-pools and floodplains.	**Negligible**	No suitable habitat.
Circus assimilis	Spotted Harrier		nt		2008		Inhabits open and wooded country of inland and sub-inland Australia, where they hunt over flat or undulating country with low vegetation cover.	**Medium**	Remnant scattered trees could provide small areas of suitable habitat.
Falco subniger	Black Falcon		v	N	2009		Woodlands, open country and around terrestrial wetlands areas, including rivers and creeks. Mostly hunts over open plains and undulating land with large tracts of low vegetation. Primarily occurs in arid and semi-arid zones in the north, north-west and west of Victoria, though can be forced into more coastal areas by droughts and subsequent food shortages.	**Medium**	Remnant scattered trees could provide small areas of suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Ninox connivens	Barking Owl		e	L	1987		Open woodland forest habitats often where forests adjoin open land. Barking Owl is now considered rare in many areas of Victoria. North East Victoria is the remaining stronghold area for this species.	**Low**	Limited suitable habitat.
Ninox strenua	Powerful Owl		v	L	1987		Eucalypt forests and woodlands, well-treed urban areas.	**Medium**	Remnant scattered trees could provide small areas of suitable habitat.
Hirundapus caudacutus	White-throated Needletail		v			PMST	An almost exclusively aerial species within Australia, occurring over most types of habitat, particularly wooded areas.	**Low**	Limited suitable habitat.
Chrysococcyx osculans	Black-eared Cuckoo		nt		1990		Open vegetation communities such as open eucalypt woodlands and shrublands in lower rainfall areas. In Victoria, mainly found north of the Great Dividing Range and in Western Victoria.	**Low**	Limited suitable habitat.
Actitis hypoleucos	Common Sandpiper		v			PMST	Migrates to Australia from Eurasia in August where it inhabits a wide variety of coastal and inland wetlands with muddy margins before departing north in March.	**Negligible**	No suitable habitat.
Tringa nebularia	Common Greenshank		v			PMST	A variety of ephemeral and permanent inland wetlands and sheltered coastal wetlands.	**Negligible**	No suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Calidris melanotos	Pectoral Sandpiper		nt			PMST	A variety of wetland habitats with fringing mudflats including bays, coastal lagoons, lakes, swamps, creeks, inundated grasslands, saltmarshes and artificial wetlands.	**Negligible**	No suitable habitat.
Melanodryas cucullata	Hooded Robin		nt	L	1986		Woodlands of eucalypt, mallee, semi-cleared farmland.	**Low**	Limited suitable habitat.
Cinclosoma punctatum	Spotted Quail-thrush		nt		1988		Occurs in drier forests, woodlands and scrub of south eastern Australia. Prefers areas with leaf litter, branches, rocks and tussocks. Often found on the sunny side of dry ridges.	**Medium**	Remnant scattered trees could provide small areas of suitable habitat.
Chthonicola sagittatus	Speckled Warbler		v	L	2009		Eucalypt woodland with rocky gullies, ridges, tussock grasses and a sparse shrub understorey.	**Low**	Limited suitable habitat.
Stagonopleura guttata	Diamond Firetail		nt	L	2005		Open forests and woodlands with a grassy ground layer.	**Medium**	Remnant scattered trees could provide small areas of suitable habitat.
Climacteris picumnus	Brown Treecreeper		nt		2015		Often observed feeding on insects as it spirals up trees or when hopping along the ground or on fallen litter. Generally inhabits open eucalypt forests, woodlands and mallee, often where there are stands of dead trees.	**Medium**	Remnant scattered trees could provide small areas of suitable habitat.

Scientific name	Common name	Conservation status			Most recent database record	Other records	Habitat description	Likely occurrence in study area	Rationale for likelihood ranking
		EPBC	VIC	FFG					
Phascogale tapoatafa	Brush-tailed Phascogale		v	L	1976		Drier sclerophyll forests and woodlands.	**Low**	Limited suitable habitat.
Miniopterus schreibersii GROUP	Common Bent-wing Bat			L	1988		A variety of treed and treeless habitats. Roosts in caves and man-made structures.	**Medium**	Remnant scattered trees could provide small areas of suitable habitat.
Pseudophryne bibronii	Brown Toadlet		e	L	1990		A wide variety of woodland, forest and grassland habitats.	**Low**	Limited suitable habitat.

A2.2 Migratory species (EPBC Act listed)

Table A2.2 Migratory fauna species recorded or predicted to occur within 5 km of the study area

Scientific name	Common name	Most recent record
Migratory species		
Monarcha melanopsis	Black-faced Monarch	PMST
Gallinago hardwickii	Latham's Snipe	PMST
Ninox boobook	Southern Boobook	1990
Hirundapus caudacutus	White-throated Needletail	2009
Apus pacificus	Fork-tailed Swift	1988
Ninox novaeseelandiae	Morepork	2009
Numenius madagascariensis	Eastern Curlew	PMST
Actitis hypoleucos	Common Sandpiper	PMST
Tringa nebularia	Common Greenshank	PMST
Calidris ferruginea	Curlew Sandpiper	PMST
Calidris acuminata	Sharp-tailed Sandpiper	PMST
Calidris melanotos	Pectoral Sandpiper	PMST
Rhipidura rufifrons	Rufous Fantail	1987
Myiagra cyanoleuca	Satin Flycatcher	1998
Motacilla flava	Western Yellow Wagtail	PMST
Pandion haliaetus	Osprey	PMST

Appendix 3 Photos

Photo 1 Area of recent re-vegetation near Korkuperrimul Creek. Looking approximately south.

Photo 2 Old quarry site within the study area, vegetation within this area was predominantly exotic. Looking approximately south.

Photo 3 Area of revegetation within the study containing a mix of planted native and non-indigenous species. Looking approximately north-east.

Photo 4 Gully overrun by exotic species, predominantly African Boxthorn *Lycium ferocissimum* and Galenia *Galenia pubescens*. Looking approximately east.

Photo 5 Offset area containing Grey-box trees with a predominantly exotic understorey. Looking approximately west.

Photo 6 View from top of Bald Hill, with scattered shrubs and exotic understory vegetation in the foreground. Looking approximately west.

Bald Hill Activation Project:
Cultural Heritage Due Diligence Assessment

DRAFT REPORT

Prepared for Urban Enterprise and Moorabool Shire Council

5 September 2019

Biosis offices

NEW SOUTH WALES

Newcastle
Phone: (02) 4911 4040
Email: newcastle@biosis.com.au

Sydney
Phone: (02) 9101 8700
Email: sydney@biosis.com.au

Wollongong
Phone: (02) 4201 1090
Email: wollongong@biosis.com.au

Albury
Phone: (02) 6069 9200
Email: albury@biosis.com.au

VICTORIA

Melbourne
Phone: (03) 8686 4800
Email: melbourne@biosis.com.au

Ballarat
Phone: (03) 5304 4250
Email: ballarat@biosis.com.au

Wangaratta
Phone: (03) 5718 6900
Email: wangaratta@biosis.com.au

Document information

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Draft version 01	KO	29/04/2019
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Final version	KO	05/09/2019

Summary

This report has been commissioned in response to a request by Urban Enterprise and Moorabool Shire Council for further information relating to potential cultural heritage requirements for the proposed Bald Hill Activation Project, Darley, Victoria (the study area).

This report provides formal cultural heritage advice on the proposed Bald Hill Activation Project, with the main component of the project considered being a mountain bike trail. The report examines the requirements of the *Aboriginal Heritage Act 2006* (the Act) and the *Aboriginal Heritage Regulations 2018* (the Regulations), to determine whether a Cultural Heritage Management Plan (CHMP) needs to be undertaken for the study area prior to the proposed works.

Advice is also offered as to measures available to minimise the potential likelihood of infringement of the Act and Regulations.

Assessment is also undertaken of historical heritage liabilities under the Victorian *Heritage Act 2017* and the *Planning and Environmental Act* 1987.

This review was completed by Kym Oataway of Biosis. Kym is a qualified heritage advisor as specified in the requirements of the *Aboriginal Heritage Act*.

This report finds that there is a requirement for a mandatory CHMP.

There is one historic place currently listed on the Moorabool Planning Scheme: *Schedule to Clause 43.01 Heritage Overlay* within the current study area, Bald Hill Quarry (H0200).

A historic heritage assessment is recommended, if the place cannot be avoided. A historic heritage assessment report will assess the potential need for the preparation of a permit, or if the works are exempt.

Abbreviations

ACHRIS	Aboriginal Cultural Heritage Register Information System
AV	Aboriginal Victoria
HO	Heritage Overlay
SGD	Significant Ground Disturbance
VAHR	Victorian Aboriginal Heritage Register
WWCHAC	Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation

Contents

Figures

Maps

1. Introduction

Urban Enterprise and Moorabool Shire Council is proposing to develop a network of mountain bike trails and associated facilities on private and public land west of Darley in western Victoria (Figure 1) as part of the Bald Hill Activation Project. The overarching objective of the trail development is to establish Bald Hill as a positive asset for the community.

Biosis Pty Ltd was commissioned by Urban Enterprise and Moorabool Shire Council to undertake an Aboriginal and historical heritage constraints assessment of the land where the trail network is proposed (the Study Area) as part of a feasibility study for the project. The purpose of this assessment is to inform the final trail design by identifying heritage constraints that may be present within the study area and providing legislative context to trail development. This will allow Urban Enterprise and Moorabool Shire Council to design and construct a trail network that avoids sensitive areas and potential legislative constraints to development.

1.1 Location of the study area

The study area is located west of Darley and it encompasses approximately 120 hectares of private and public land (Map 1). Portions of the study area are covered by the following zones and overlays in the Moorabool Planning Scheme: Farming Zone (FZ), Low Density Residential Zone (LDRZ), Public Park and Recreational Zone (PPRZ), Neighbourhood Residential Zone (NRZ), Design and Development Overlay (DDO), Significant Landscape Overlay (SLO), Environmental Significance Overlay (ESO) and Heritage Overlay (HO). The extent of the study area, in addition to the cultural heritage sensitivity layer, is shown on Map 2.

The study area is within the:

- Central Victorian Uplands Bioregion
- Port Phillip and Westernport Catchment Management Authority
- Moorabool Shire Council

1.2 Objectives of the project

The objectives of the constraints assessment are to:

- Undertake background research and literature review to determine known and potential cultural heritage values on the following registers:
  - Victorian Heritage Register and Inventory on Heritage Victoria's HERMES database.
  - Council Heritage Overlays on Planning Schemes Online
  - Victorian Aboriginal Heritage Register (VAHR) via the Aboriginal Cultural Heritage Register and Information Services (ACHRIS), maintained by AV.
- Examine, collate and analyse any previously undertaken heritage or archaeological assessments.
- Examine historic map sources such as Parish survey plans and historic gold mining maps, as well as historical aerial and modern satellite imagery to build a history of land use and identify possible significant ground disturbance (SGD).

- Advise on whether historic heritage is present within the study area, and the required process under the *Heritage Act 2017* with regards to the proposed works.
- Advise on the potential for historic heritage to be present within the study area, and ways of managing this potential under the *Heritage Act 2017* with regards to the proposed works.
- A thorough review of past archaeological studies of the study area to identify landforms of Aboriginal cultural heritage potential, establish the location of recorded Aboriginal cultural heritage places and provide documentation relating to Aboriginal land use.
- Development of an Aboriginal heritage place prediction model based on data analysis.
- Provide an analysis of the type and level of European cultural heritage constraint present across the sites and identify the most suitable locations for trail development.
- Assess the implications of aboriginal heritage legislations including the *Aboriginal Heritage Regulations 2018* and the *Aboriginal Heritage Act 2006*.
- Assess the cultural heritage significance of the findings.
- Assess the impact of the intended development on the cultural heritage.
- Present recommendations for mitigation where required, in accordance with current conservation practice and the conservation principles contained within the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter.
- Provide an analysis of the type and level of aboriginal cultural heritage constraint present across the sites and identify the most suitable locations for trail development.

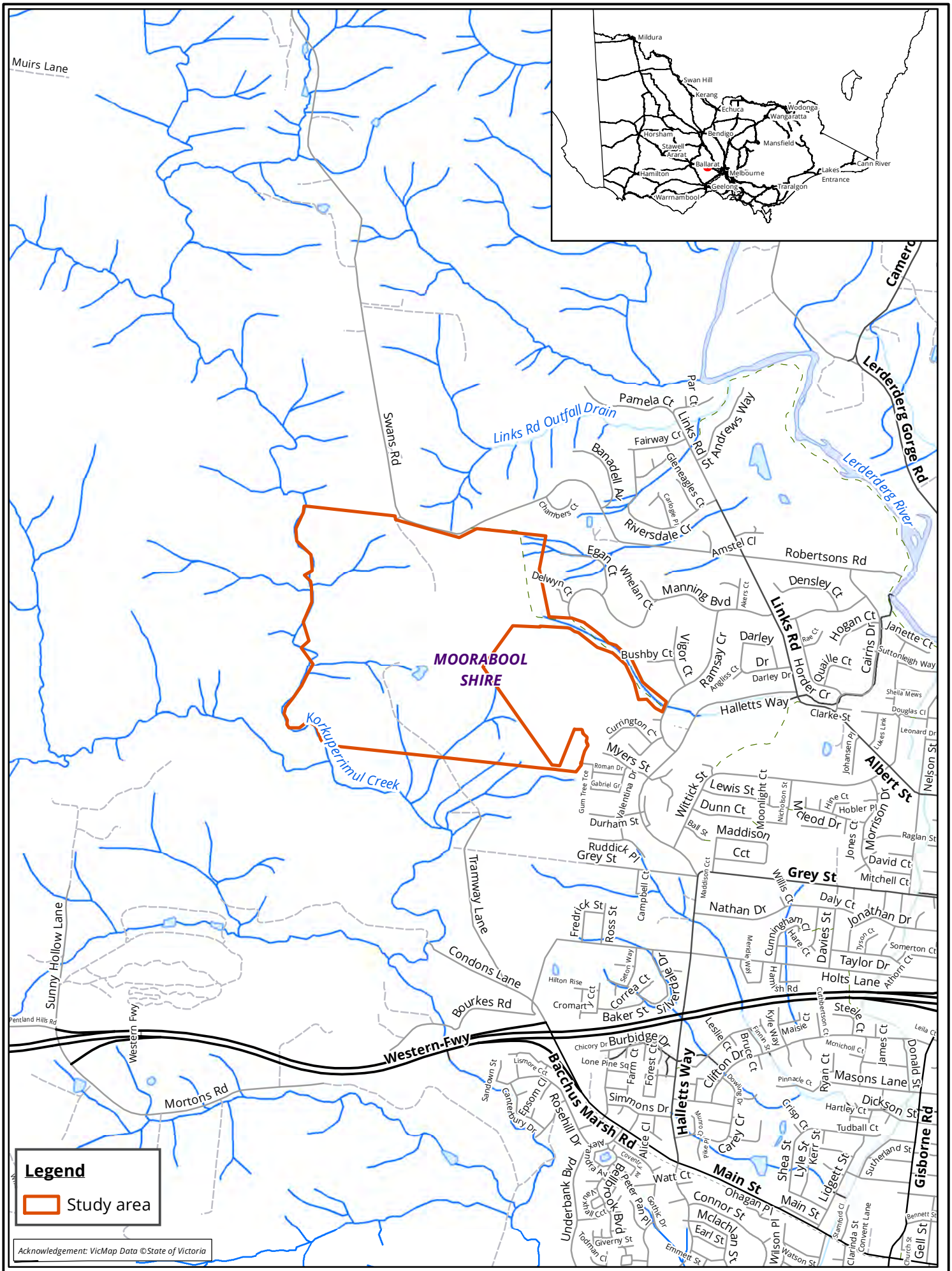
1.3 Aboriginal stakeholders

At the time of writing, the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation (WWCHAC) hold Registered Aboriginal Party (RAP) status for the study area. It is not within the remit of this report to undertake consultation with these or other local Traditional Owner groups. However, it is understood that Moorabool Shire Council have initiated discussion with Wurundjeri about the project.

1.4 Aboriginal and historical heritage

The assessment provides information on the archaeological and cultural heritage values of the study area to provide advice with regards to the Victorian *Aboriginal Heritage Act 2006*, Victorian *Aboriginal Heritage Regulations 2018*, and the Victorian *Heritage Act 2017*, specifically the statutory and non-statutory obligations under these Acts.

It must be emphasised, however, that the report is not intended to meet the requirements of a formal assessment under Aboriginal Victoria's (AV) guidelines.



Map 1 Location of the study area

0 250 500 750 1,000 Metres

Scale 1:25,000 @ A4, GDA 1994 MGA Zone 55

N

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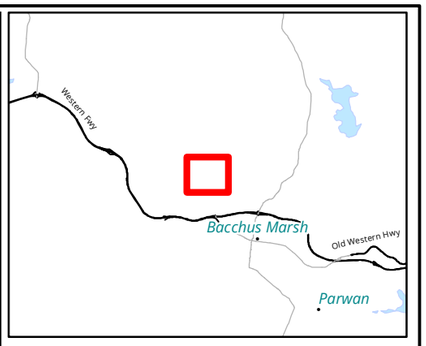
Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 29437,
Date: 23 April 2019,
Checked by: LG, Drawn by: JSP, Last edited by: jprasad
Location:P:\29400s\29437\Mapping\29437_M1_Locality



Legend

Activity Area

Cultural heritage sensitivity

Area of cultural heritage sensitivity

Registered Aboriginal place

Map 2 Extent of the study area showing areas of Aboriginal cultural heritage sensitivity

0 100 200 300

Metres
Scale: 1:6,000 @ A3
Coordinate System: GDA 1994 MGA Zone 55

N

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2. Background research

2.1 Geographic region of the study area

The geographic region for the study area has been selected to represent a range of landforms and resources that would be accessible from the study area.

For the purposes of this investigation, the geographic region has been defined by the waterways surrounding the study area. The geographic region is bounded by Lerderderg River to the east, Werribee River to the south and Myrniong Creek to the west. The northern boundary runs from the Myrniong Creek in an easterly direction until it meets the Lerderderg River. The geographic region covers the geomorphological units:

- GMU 2.1.1 - *Ridges, escarpments, mountains on non- granitic Palaeozoic rocks (Ararat Colbinabbin, Pyrenees, Tarrangower, Big Hill, Mt. Macedon)*
- GMU 2.1.2 - *Hills, valley slopes and plains on non- granitic Palaeozoic rocks (Daylesford, Maryborough, Bendigo)*
- GMU 2.1.6 - *Eruption points and volcanic plains (Creswick Ballarat plains, Mt. Franklin, Mt. Blackwood, Metcalfe)*

The waterway based geographic region covers a number of waterways including Cairns Drive Drain, Korkuperrimul Creek, Lerderderg River, Links Road Outfall Drain, Masons Lane Drain, Myrniong Creek, Rural Water Corporation Channel and Werribee River. All of which are located within the Port Phillip and Westernport Catchment Management Authority. The geographic region is shown on Map 3.

2.2 Geology and geomorphology of the geographic region

The geographic region is located on the *Western Uplands*, which extend westward from the Kilmore Gap to the Glenelg River of the Dundas Tableland. The *Western Uplands* terrain is characterised by residuals of a range of Palaeozoic bedrock formations, generally asymmetrical with gentle northern slopes and dissected southern slopes. The Western region of Melbourne is underlain by Palaeozoic marine sediments, comprising Ordovician and Silurian sandstone, siltstone, shale and slate. The rocks are well bedded and tightly folded, resulting in steeply dipping bedding plains with drainage systems oriented north-south, as in the Lerderderg Gorge, to the north of the current study area (Rosengren, 1986).

The *Western Upland* landscapes are low-lying, broad, elongated and dome-like east-west drainage divides of low relief, averaging an elevation of 300 metres. Stream dissection that has occurred recently has stripped regolith and produced alluvial deposits and colluvial aprons fringing the margins of the *Western Uplands* (State of Victoria (Agriculture Victoria) Department of Jobs, Precincts and Regions, 2019a). The gentle slopes of the Uplands are marked by lakes and swamps, sometimes the results of damming formed by lava (Birch, 2003).

At the eastern margin of the Western Uplands, intermittent movement of the Rowsley Fault has produced a 90-270 metre scarp, resulting in strong rejuvenation of the Lerderderg River, and also the Werribee River and Parwan Creek. Spectacular gorges were produced by the incising of resistant Palaeozoic sediments and granites (Birch, 2003). Of particular interest to this report are the Permian beds, which are mostly glacial in origin and can be found in the Lerderderg River valley around Darley and along Korkuperrimul Creek (alongside the current study area) (Rosengren, 1986). The Permian beds are known as *the Bacchus Marsh Formation* and are typically found along the downthrown block of faults.

The *Bacchus March Formation* consists of eight large areas of Permian rock outcrops as well as a number of smaller areas. One of the major areas is the Korkuperrimul Creek – Bald Hill outcrop. The Korkuperrimul Creek – Bald Hill area comprises the thickest section of the *Bacchus Marsh Formation,* which is up to 1100 metres in depth (Birch, 2003). This section comprises "nine major cycles of sedimentation", each of which (except the ninth cycle) comprises a thick diamictite component (Birch, 2003, p. 206). These cycles record a number of glacial advances and retreats (Webb & Spence, 2008). The *Bacchus Marsh Formation* at Bald Hill features Mortons Conglomerate Member (pebbly, red coarse sandstone and sandy pebbly conglomerate with abundant granule sized grains of white feldspar and an assortment of metamorphic and igneous pebbles) overlaying sandy yellow diamictite, deltaic sandstone and interbedded sandstone and siltstone (Birch, 2003). Additionally, a 60 metre wide and 50 metre deep sedimentary dyke intrudes into sandstone in the central part of Bald Hill. The southern slopes of Bald Hill also feature an east-west fault that brings Permian sediments into contact with Older Volcanics. A change in soil type and outcrop is the only discernible characteristic (Rosengren, 1986). A diagram showing the distribution of the *Bacchus Marsh Formation* on the southern slopes of Bald Hill is shown in Figure 1.

Within the geographic region, the *Western Uplands* are described as *Dissected Uplands*, or Midlands, which are characterised as a variety of interwoven landforms preserved by substantial uplift during the Palaeogene and late Neogene. Caps of Palaeogene gravels occur sporadically; remnant sands deposited during the Pliocene marine regression fringe the southern Palaeozoic rocks; volcanic eruptions during the Plio-Pleistocene filled the broad valleys forming elongate basalt plains and other volcanic landforms (State of Victoria (Agriculture Victoria) Department of Jobs, Precincts and Regions, 2019b). Across the Dissected Uplands, regolith development is widespread and irregular.

Geology and geomorphology of the study area

The Bald Hill study area is located on geomorphological units 2.1.1 *Ridges, escarpments, mountains on non-granitic Palaeozoic rocks (Ararat Colbinabbin, Pyrenees, Tarrangower, Big Hill, Mt. Macedon),* 2.1.2 *Hills, valley slopes and plains on non- granitic Palaeozoic rocks (Daylesford, Maryborough, Bendigo)* and 2.1.6 *Eruption points and volcanic plains (Creswick Ballarat plains, Mt. Franklin, Mt. Blackwood, Metcalfe).* A brief description of the geomorphological units located in the study area is included below:

- GMU 2.1.1 *Ridges, escarpments, mountains on non-granitic Palaeozoic rocks (Ararat Colbinabbin, Pyrenees, Tarrangower, Big Hill, Mt. Macedon)* –
- GMU 2.1.2 *Hills, valley slopes and plains on non- granitic Palaeozoic rocks (Daylesford, Maryborough, Bendigo)* –
- GMU 2.1.6 *Eruption points and volcanic plains (Creswick Ballarat plains, Mt. Franklin, Mt. Blackwood, Metcalfe)* -

It should also be noted that the geology of Bald Hill is recognised as being a site of International geological significance, as it features a "major exposure of the Permian deposits of the Bacchus Marsh district" (State of Victoria (Agriculture Victoria) Department of Jobs, Precincts and Regions, 2019c). The study area encompasses three landforms that are listed as being 'Sites of Geological and Geomorphological Significance' (as seen on Figure 2). They include:

- L5 - Korkuperrimul Creek - Glacial and Volcanic Rocks (International Significance)
- L6 - Mortons Quarry, Main Quarry - Permian Deposits (International Significance)
- L7 - Bald Hill (Bacchus Marsh) – Fault (Regional Significance).

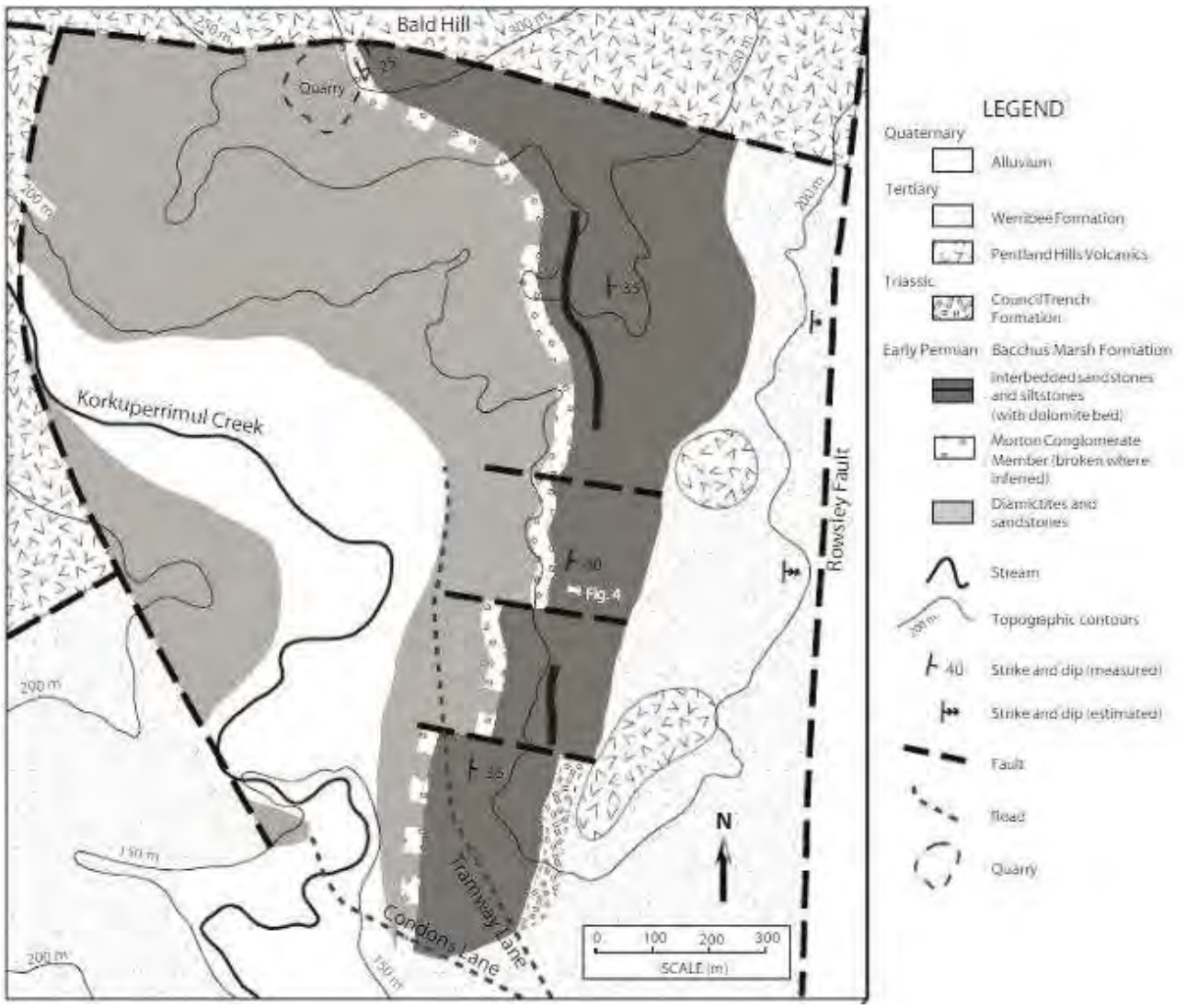
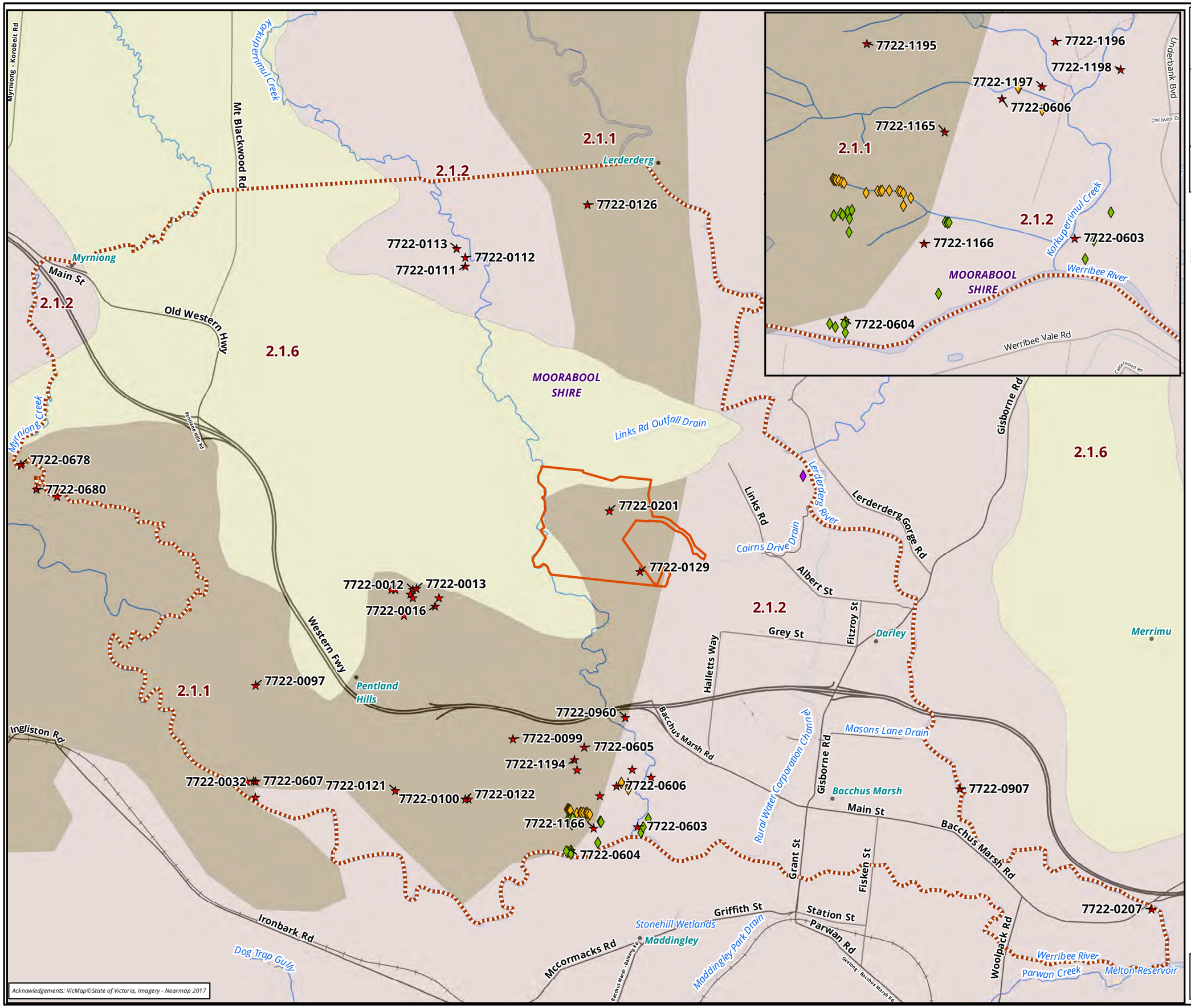
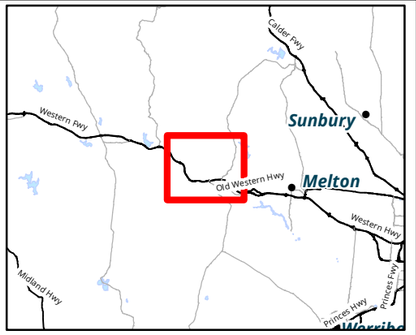


Figure 1. Detailed map of Bacchus Marsh Formation at Bald Hill (Webb & Spence, 2008, p. 375)

Figure 2 Map of sites of Geological and Geomorphological Significance near Bald Hill study area (in red) (State of Victoria (Agriculture Victoria) Department of Jobs, Precincts and Regions, 2019c)





Legend

- Activity Area
- Geographic Region
- VAHR Places

Low Density Artefact Distribution

- Bacchus Marsh Golf Club 1 7722-1092
- Pentland Hills LDAD 1 7722-1163
- Pentland Hills LDAD 2 7722-1164

Geomorphological units

- 2.1.1 Ridges escarpments mountains on non-granitic Palaeozoic rocks
- 2.1.2 Hills valley slopes and plains on non-granitic Palaeozoic rocks
- 2.1.6 Eruption points and volcanic plains

Map 3 Geographic region showing the study area, geomorphology and VAHR places

0 0.5 1 1.5 2

Kilometres
Scale: 1:11,645 @ A3
Coordinate System: GDA 1994 MGA Zone 55

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Newcastle, Sydney, Wangaratta & Wollongong

Matter: 29437,
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2.3 Aboriginal places recorded within the geographic region

The Victorian Aboriginal Heritage Register (VAHR) contains information on all recorded Aboriginal cultural heritage within Victoria. It is accessed via the ACHRIS, a web based tool with restricted access.

A search of the VAHR was undertaken by Kym Oataway on 3 April 2019. An access approval number 6854 was associated with this assessment on 3 April 2019.

Within the geographic region, there are 44 recorded Aboriginal places consisting of 100 place components. These places include three low density artefact distributions (LDADs), 38 artefact scatters, and three scarred trees. The majority of the Aboriginal places are recorded around Bacchus Marsh and Pentland Hills, to the south and south-west of the study area. These places are shown on Map 3.

There are two previously recorded Aboriginal places located within the proposed Bald Hill Activation Project study area. A summary of these Aboriginal places, and Aboriginal places recorded within two kilometres of the study area is included below.

Hallets 1 VAHR 7722-0129 is a surface artefact scatter that was located within the current study area during a Victoria Archaeological Survey (VAS) survey. The artefact scatter is approximately 500x300 metres (needs to be confirmed as the site card is illegible) in size and is located on a hill top. It was identified in an area of exposure that had been eroded by wind, in a red/reddish yellow soil. The raw materials identified in the artefact scatter included quartzite, quartz, chert and other fine grained materials. Artefact types found in the artefact scatter included retouched flakes, microliths and flakes. An artefact count was not recorded on the site card, and there are no reports associated with this Aboriginal place. The site card recommended that a detailed site recording was required, due to the very good exposure, the great density of material and the variety of stone and tool types identified at the Aboriginal place.

Bacchus Marsh Hill 1 VAHR 7722-0201 is a surface artefact scatter that was located within the current study area on the summit of Bald Hill (referred to as 'Bacchus Marsh Hill' in the report), during a survey undertaken prior to the construction of an Optus Communications tower (Murphy, 1994). The Aboriginal place consists of a single water worn quartz pebble hammerstone that was located amongst tussock grass. Murphy (1994) recommended that a professional archaeologist monitor geotechnical testing prior to the construction of the Optus Communications tower.

Bacchus Marsh Golf Club 1 VAHR 7722-1092 is a subsurface LDAD that was identified during geotechnical testing in the Standard Assessment for CHMP 12860. It is located approximately 1.4 kilometres east of the current study area, near the edge of the west escarpment of the Lerderderg River. The assemblage comprises one artefact, a silcrete bifacial core. It was found between 0-300 millimetres in a dry to moist, stiff, low plasticity, dark yellowish brown silt with a trace of sand, and coarse gravel throughout.

Lerderderg River Road VAHR 7722-0240 is a surface artefact scatter that is located approximately 1.6 kilometres from the current study area. The artefact scatter contains quartz, flint/chert, fine grained rocks and various forms of silcrete. Artefacts in the assemblage include worked flakes, cores, blade cores, microliths and various scrapers. European glass and ceramic artefacts are common in the locality, as are non artefactual coarse and fine grained chipped stone flakes. The Aboriginal place is located within a river terrace landscape (on the Lerderderg River), on a fine orange/brown clay loam soil, on the edge of a hill. Disturbance has occurred at the Aboriginal place, mainly in the form of ploughing, and from the construction of fences.

Sunny Hollow 3 VAHR 7722-0012 is a surface artefact scatter that is located approximately 1.4 kilometres south-west of the current study area. The artefact scatter comprises quartz, quartzite and chert material. The artefact assemblage consists of retouched flakes and a burin. A VAS survey in 1975 identified the Aboriginal place and noted that it was severely eroded. There is insufficient data for this Aboriginal place, and there is no associated report.

Sunny Hollow 4 VAHR 7722-0013 is a surface artefact scatter that is located approximately 1.35 kilometres south-west of the current study area. The artefact scatter is 10x20 metres in size. A VAS survey in 1975 identified the Aboriginal place and noted that it was severely eroded. There is insufficient data for this Aboriginal place, and there is no associated report.

Sunny Hollow 5 VAHR 7722-0014 is a surface artefact scatter that is 200x200 metres in size. It is located approximately 1.45 kilometres south-west of the current study area. The artefact scatter comprises quartz, quartzite and flint material. A VAS survey in 1975 identified the Aboriginal place and noted that it was severely eroded. There is insufficient data for this Aboriginal place, and there is no associated report.

Sunny Hollow 6 VAHR 7722-0015 is a surface artefact scatter that is 50x50 metres in size. It is located approximately 1.15 kilometres south-west of the current study area. The artefact scatter comprises quartz, quartzite, basalt and flint material. A VAS survey in 1975 identified the Aboriginal place and noted that it was severely eroded. There is insufficient data for this Aboriginal place, and there is no associated report.

Sunny Hollow 7 VAHR 7722-0016 is a surface artefact scatter that is 20x20 metres in size. It is located approximately 1.2 kilometres south-west of the current study area. The artefact scatter contains quartz, quartzite and flint material. A notched flake was recorded as part of the artefact assemblage during the VAS survey in 1975. There is insufficient data for this Aboriginal place, and there is no associated report.

Sunny Hollow 1 VAHR 7722-0018 is a surface artefact scatter that is 80x120 metres in size. It is located approximately 1.6 kilometres south-west of the current study area. The artefact scatter is made up of quartz (80%), quartzite (10%) and flint (10%), and comes in the form of worked flakes, a backed blade and an elouera. The area contains an almost continuous artefact scatter, however it has been separated based on exposures of soil along the slope and the edge of a gully, or by a separating drainage cut. The Aboriginal place has been severely eroded, but it was noted as being in a fair condition during a VAS survey in 1975. There is insufficient data for this Aboriginal place, and there is no associated report.

Sunny Hollow 2 VAHR 7722-0019 is a surface artefact scatter that is 20x20 metres in size. It is located approximately 1.65 kilometres south-west of the current study area. Quartz makes up 90% of the material in the artefact scatter, whilst the remainder of the assemblage is quartzite. A VAS survey in 1975 identified the Aboriginal place and noted that it was severely eroded. There is insufficient data for this Aboriginal place, and there is no associated report.

Sunny Hollow Creek VAHR 7722-0096 is a surface artefact scatter that is 300x50 metres in size. It is located approximately 1.4 kilometres south-west of the current study area. The Aboriginal place was recorded by du Cros (1989) during a survey for *The Western Region* report. It was found on a dark grey to reddish brown soil (red Miocene lake bed sediments), in a gully, on sloping land on the side of a hill. Raw materials found at the Aboriginal place included quartz, quartzite, silcrete and a material foreign to the area. The artefact assemblage contained 17 artefacts that consisted of flakes, cores, a scraper and a burin. The Aboriginal place was noted as being in a poor state of preservation.

Rose Hill Farm VAHR 7722-0098 is a surface artefact scatter that is 2x2 metres in size. It is located on a track on the side of a hill approximately 1.6 kilometres south-west of the current study area. The Aboriginal place was recorded by du Cros (1989) during a survey for *The Western Region* report. It was found on a red/reddish yellow sandy soil in an area of thin vegetation. Quartz and fine grained silcrete were the only materials found at the Aboriginal place, whilst flakes were the only artefact type to be found. At the time of recording, the Aboriginal place was noted as being in a very poor state of preservation.

Underbank Stud 1 VAHR 7722-0099 is a surface artefact scatter that is 20x10 metres in size. It was found on a bank/levee alongside Morton's Road in Bacchus Marsh, which is approximately 1.9 kilometres south of the current study area. The artefact assemblage is made up of seven artefacts (three flakes and four flaked pieces) that are made from quartz, quartzite and fine grained silcrete. The artefacts were located on a

red/reddish yellow sandy soil. The Aboriginal place was recorded by du Cros (1989) during a survey for *The Western Region* report, and was noted as being in a fair state of preservation.

Underbank Stud Farm IA 3 VAHR 7722-0605 is a surface artefact scatter that consists of one quartzite flake that was located on the bank of a major natural drainage line. The isolated artefact appears to have washed down the slope from the top of the ridge. It was recorded approximately 1.9 kilometres south of the current study area during an archaeological and cultural heritage assessment of Underbank Stud Farm (Griffin & Ward, 2007). The Aboriginal place was inspected during CHMP 15876 in 2018. The isolated artefact was not relocated during the inspection, and it was noted that there were several areas of erosion. Therefore, it was likely that the artefact had been washed into the gully.

Underbank Stud Farm 2 VAHR 7722-0960 is a surface artefact scatter that was located on a disturbed/unnatural mound of fill during the Standard Assessment for CHMP 11597 (Barker, 2011). The Aboriginal place is situated approximately 1.5 kilometres south of the current study area. The artefact assemblage consists of a single silcrete broken scraper. Ground disturbance has occurred in the locality, namely from the construction of the bordering freeway. The single artefact was collected as per the requirements stipulated in the CHMP, and it is currently in the possession of the WWCHAC awaiting reburial.

Summary

There are 44 recorded Aboriginal places within the geographic region, and **two places** have been recorded within the Bald Hill Activation Project study area (**Hallets 1 VAHR 7722-0129** and **Bacchus Marsh Hill 1 VAHR 7722-0201)**. The Aboriginal places within two kilometres are predominantly surface artefact scatters, with **Bacchus Marsh Golf Club 1** VAHR 7722-1092 (subsurface LDAD) being the exception. This is not to say that subsurface artefacts don't exist, it is more a reflection of the type of assessments (e.g. surveys) that have been undertaken within two kilometres of the study area. The places that have been recorded within two kilometres of the study area show that quartz, quartzite, silcrete, chert, basalt and flint materials are present. The type of artefacts that have been found includes flakes, flaked pieces, retouched flakes, microliths, a hammerstone, cores, blade cores, burins, various scrapers, a notched flake, a backed blade and an elouera.

2.4 Historic places recorded within the geographic region

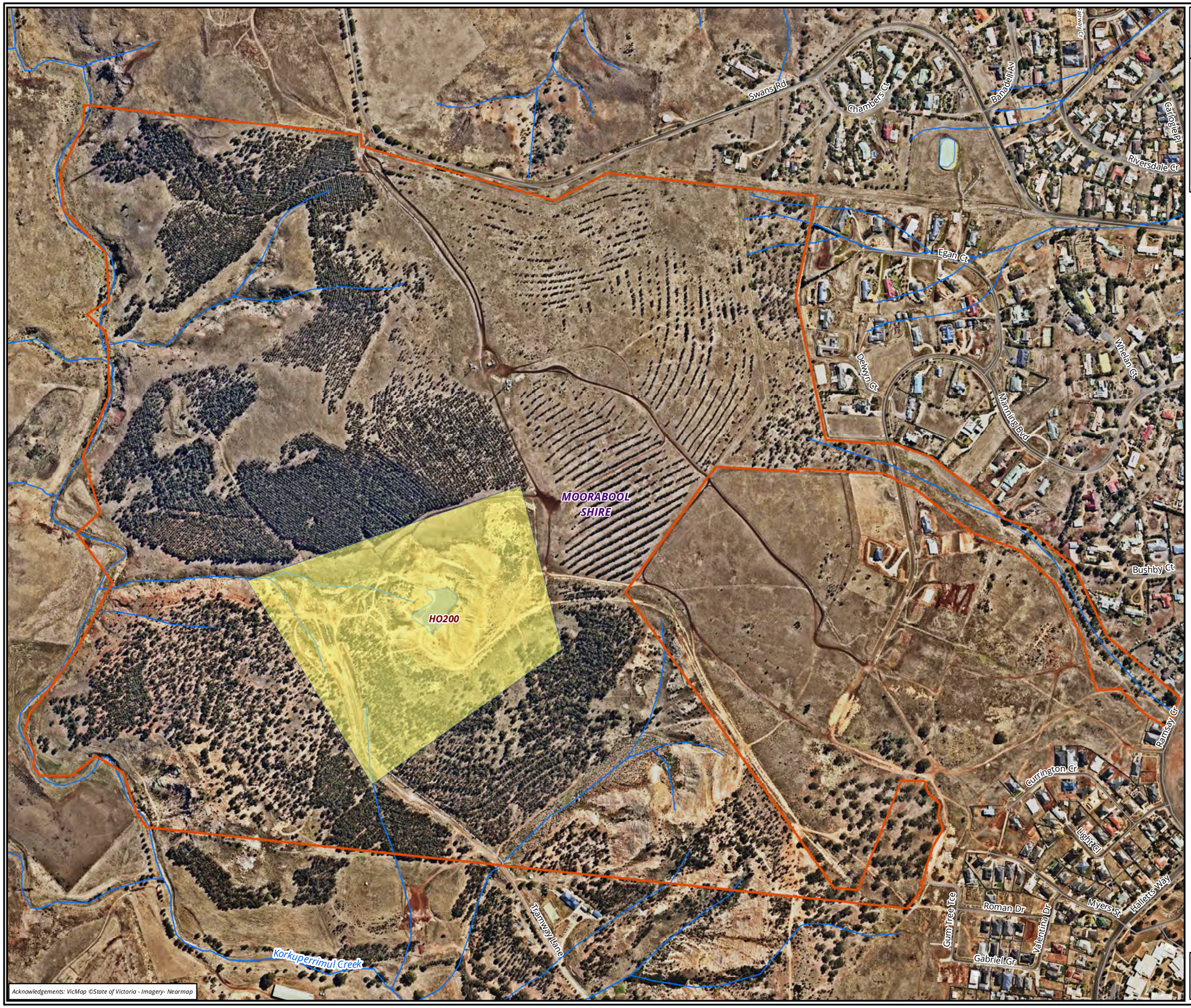
A search was undertaken on 3 April 2019 of recorded historical (non-Aboriginal) cultural heritage records in the vicinity of the study area. The search was undertaken via the Heritage Victoria HERMES online database (HERMES, 2019) which includes the following sources:

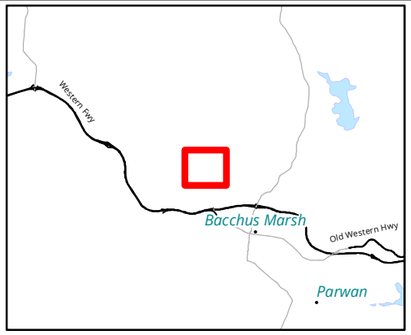
- Victorian Heritage Register and Inventory
- National Heritage List and Commonwealth Heritage List (Australian Government Department of Environment and Water Resources)
- Local Council Heritage Overlays and/or Planning Schemes
- Register of the National Estate (Australian Heritage Council)
- National Trust Register (National Trust Victoria)

There is one recorded historical site within the current study area, which is described below in section 2.4.1 and shown on Map 4. The historical site is located within the southern half of the current study area is the **Bald Hill Quarry (HO200).**

The historic site is a former sandstone quarry that supplied stone to local and metropolitan markets. The historic site is protected under the *Planning and Environmental Act 1987* (Local Planning Schemes) and may require permits to be approved prior to any construction for the Bald Hill Activation Project commencing.

In addition, it is an offence to damage or disturb unregistered relics and unregistered archaeological sites (e.g. unknown archaeological sites) under the *Heritage Act 2017*.





Legend

- Activity Area
- Heritage Overlay - Bald Hill Quarry (HO200)

Map 4 Historic places located within 500 metres of the study area

0 100 200 300

Metres
Scale: 1:6,000 @ A3
Coordinate System: GDA 1994 MGA Zone 55

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2.4.1 Bald Hill Quarry

HO number: HO200

Location: Tramway Lane, Pentland Hills, Moorabool Shire (listed as Pentland Hills, but it is actually located in Darley).

Details from the Victorian Heritage Database (Heritage Council of Victoria, 1995)**:** The Bald Hill Quarry was established in the 1840s as a sandstone (or freestone) quarry. Sandstone harvested from the quarry was used in the construction of the Manor House (1846-1847) in Bacchus Marsh, Old Treasury Building (1858-1862) on Spring Street, Customs House (1856) on Flinders Street and the Parliament House Library (1860) on Spring Street. Additionally, it was also used in the construction of the Bacchus Marsh (1858-1859) and Maddingley (1857-1858) Courthouses, and to dress the St. Andrews and Holy Trinity Churches in Bacchus Marsh (Anon., 1900). The sandstone from the quarry is said to be an attractive looking, even grained, soft, light brown stone that is not uniform in colour or hardness, and does not always weather well (Victoria Mines Department, 1937). A horse-drawn tramway from Condons Lane to Bald Hill Quarry is still visible. The quarry and tramway formation are of local historical significance for demonstrating an association with an important use and the effect of government action, in commissioning the use of the stone in two significant Melbourne public buildings. The site has scientific significance for its archaeological research potential.

It is unlikely that the mid-nineteenth century working face has survived, as the present abandoned quarry seems to have been greatly enlarged from its original form. The form of the horse-drawn tramway still survives, and can be traced along Tram Lane as far south as Condons Lane. It is possible that the tramway continued for some distance along the Bacchus Marsh Road, however this has not been confirmed.

2.5 Previously completed archaeological investigations within the geographic region

Few archaeological investigations have been completed in the immediate vicinity of Bald Hill to date, with no cultural heritage management plans (CHMPs) having been completed in the search area since the commencement of the Victorian *Aboriginal Heritage Act 2006*. However, the geographic region captures multiple CHMPs that have been undertaken to the south of the study area, particularly in the Bacchus Marsh area. The closest CHMP to be completed in the vicinity of the study area was located 880 metres north-east of the study area on the western bank of the Lerderderg River. There are two main archaeological investigations which have occurred within the geographic region which have bearing on the current study area. They are du Cros' (1989) report and Murphy's (1994) report. These will be discussed in depth below, along with additional reports that are relevant to the geographic region.

du Cros (1989) completed a major investigation of Melbourne's Western Region in which she divided the region into geographical boundaries such as major rivers and creeks, hills, mountain ranges and volcanic plains. She found that all geographical regions contained sites and that major rivers and creeks produced the highest number of Aboriginal places (n=42). Her research focused on developing an Aboriginal place prediction model for the location of unrecorded places, in which she stated that permanent water sources would have provided sustenance for large numbers of people moving between the hills and plains. Such areas would, therefore, feature a larger number of Aboriginal places. She also stated that rivers are likely to have subsurface archaeological material in their banks and terraces. Due to much poorer visibility on mountain ranges, du Cros only recorded one Aboriginal place in this geographic unit. Despite this, she considered the ridges and narrow river flats of these areas to yield archaeological deposits and to have some potential for caves and rock shelters. In contrast to the major water sources, the mountains were probably accessed by Aboriginal clans during the summer months when using ridges to travel (du Cros, 1989).

As a result of the Western Region archaeological investigation, a site prediction model was produced, which is appropriate to the present study area (du Cros, 1989). du Cros (1989) speculated that burials, artefact scatters, shell middens and scarred trees will be found near major water sources, such as volcanic plains, swamps or rivers and creeks, and that artefact scatters may be found on vantage points such as extinct volcanoes. Sources of silcrete for manufacturing tools which may have been used by Aboriginal people will occur at the juncture of the volcanic lava flows and sedimentary deposits. Ridge tops are likely to have been used to travel over ranges, while extensive subsurface deposits are most likely in sedimentary environments on major rivers (du Cros, 1989).

du Cros' model (1989) has been borne out by her subsequent investigations. Later she conducted a survey within a proposed sand and gravel extraction area on the ridge between the Wombat and Lerderderg State Forests at Coimadai North (du Cros, 1990). Within the proposed extraction area there were known outcrops of silcrete which could potentially have been used as stone sources by Aboriginal clans for tool manufacture. Sample areas were therefore selected at the juncture between lava flows and Ordovician sediments, where silcrete outcrops were likely to occur. Sample areas were also chosen along the margins of the Parwan and Korkuperrimul Creeks. A total of twelve Aboriginal places were recorded, the majority of which were surface artefact scatters.

In accordance with her site prediction model, du Cros (1989) found the majority of Aboriginal places on spurs 50-60 metres above Goodman Creek or gully sides, or 30-40 metres below the top of the ridge. Each of the sites was found where the lava flowed into Ordovician sediments and the creek had down-cut and caused erosion of these deposits. du Cros (1990) noted that utilised silcrete outcrops only occurred where the basalt and underlying sediment had been deeply incised by water erosion. She commented that no scarred trees were found in the study area. She attributed this to the logging which had previously been conducted around Coimadai and speculated that this site type could still be present in areas which had not been logged.

Murphy (1994) conducted an archaeological survey at five proposed Optus communication tower sites located in Melbourne's outer west and north-west regions. All of the proposed tower sites were located on the summits of mountains, with Bald Hill (referred to as Bacchus Marsh Hill in the report) being one of the proposed locations. The footprint of the tower covered an area 15x15 metres in size, and would impact deposits to a depth of three metres. Murphy (1994) noted that the general geology of the area surrounding Bald Hill consisted of undulating basalt plains that sloped gradually from the north. Soils in the area were most likely composed of "sodic duplex soil, grey clays, shallow gradational soil, and black clays" (Murphy, 1994). The summit of Bald Hill had been completely cleared for grazing, however Murphy (1994) could not determine if the hill had been ploughed.

Murphy's (1994) review of previously recorded Aboriginal places identified that numerous sites had been recorded within five kilometres of her study area, these included quarry/stone sources, surface artefact scatters, isolated artefacts, scarred trees and grinding grooves. In particular, surface artefact scatters were commonly found in hilly areas that were above, or close to creeks. The survey of the proposed sites only recorded one Aboriginal place (VAHR 7722-0201), and this was on the summit of Bald Hill. It consisted of a single quartz pebble hammerstone that was located amongst tussock grass in an area that was deemed as being moderately disturbed (from clearing and the construction of tracks). Following the survey, a recommendation for the works on Bald Hill was made. It recommended that a professional archaeologist be present and monitor the geotechnical works that were proceeding the construction of the Optus tower. Additionally, it was recommended that a consent to disturb or destroy be obtained from the Ballarat and District Aboriginal Community Ltd.

Vines (1994) conducted a preliminary archaeological survey of the proposed Western Freeway, from Melton to Bacchus Marsh. The survey recorded a total of 24 Aboriginal places. They comprised scarred trees, stone artefact scatters, isolated artefacts and stone sources/quarries. Vines identified that the number of formal tool types present in sites found on escarpments was relatively high, suggesting that they may have been used for hunting camps or tool maintenance. He noted that such sites afford views across the valley and adjacent grassland plain, and that vegetation such as acacias on outcrops may have provided shelter (Vines, 1994, p. 55). He predicted landforms of potential, such as escarpment edges, for surface artefact scatters, utilised stone sources, occupation sites or ceremonial sites may occur. In addition, river flats might be areas where artefact scatters, scarred trees and possible burials occur (Vines, 1994, p. 73).

Murphy (1995) prepared an assessment of the north-west Wurundjeri area, which assessed all areas within 250 metres of creeks and other water sources as being of high sensitivity for Aboriginal cultural heritage. It was noted that the distribution of Aboriginal places was not just restricted to major rivers and creeks, but places were as equally common near small creeks and their ephemeral tributaries. A distribution pattern which included smaller water sources reflected a land use model where a wide variety of resources within a dynamic system were important (Murphy, 1995, p. 17).

A further report for Stage 2 of the north-west Wurundjeri area heritage study was prepared by Murphy (1996), who presented a predictive model for the occurrence of sites within the north-western Wurundjeri region (rep. 925). Elements of this model that are applicable to the present study area are:

1. Stone artefact scatters will occur generally within 100 metres of water sources (both permanent and ephemeral) on level or gently sloping ground. They may also occur within 300 metres of watercourses above the break of slope. Raw materials used for artefacts will include quartz and silcrete, with smaller quantities of greenstone, quartzite and trachyte;
2. Scarred trees will occur along watercourses in areas of remnant native vegetation (scars will occur on mature red gums or on dead trees);
3. Freshwater shell middens may occur along the terraces of major streams and nearby swamps;

4. Sites with well-preserved and/or extensive subsurface archaeological deposits may exist in areas that have suffered little prior ground disturbance such as stream terraces (where sites have been covered by alluvium), areas of undisturbed native vegetation, caves and rockshelters;
5. Whilst sites will be most common in plains and undulating land they may also occur in mountainous areas, where small-scale artefact scatters are the most likely site type to occur.

Griffin and Ward (2007) conducted a survey and prepared a cultural heritage assessment for the Underbank Stud farm at Randwick Drive, Bacchus Marsh. No previously recorded Aboriginal places had been identified within the Activity Area prior to the survey, and the only area of archaeological potential identified was the area along the banks of the creek. A variety of sensitive landforms were identified, including the creek and river banks and escarpments, and ridges. Five Aboriginal places were recorded during the survey, as well as one non-site (a non-Indigenous scarred tree, recorded to prevent future confusion). These sites comprised isolated artefacts (VAHR 7722-0602, VAHR 7722-0603, VAHR 7722-0604, VAHR 7722-0605 and VAHR 7722-0606) including quartz, quartzite and silcrete flakes. Eight areas of high to moderate Aboriginal archaeological sensitivity were also identified along the Werribee River, Korkuperrimul Creek and along the ridge tops in between these drainage lines.

Kucera, et al., (2011) produced a Complex Assessment CHMP (11495) for the construction of the Bourkes Road, Western Interchange Road, Pentland Hills, west Bacchus Marsh. Korkuperrimul Creek ran directly through the Activity Area, which consists of a river valley terrace. The ground survey documented significant ground disturbance across much of the Activity Area and did not locate any Aboriginal archaeological remains. The Complex Assessment consisted of manual excavations of nine test holes and a controlled excavation of a 1x1 metre test pit and mechanical excavations in coordination with geotechnical testing. The work proved the extent of subsurface ground disturbance, showing that introduced fill reached depths of up to 3 metres close to the foot of the Western Highway embankment. The investigation found no Aboriginal places. Significant ground disturbance has occurred across the Activity Area and there is unlikely to be any part of the area in which there are intact archaeological deposits.

Barker (2011) completed a Complex Assessment CHMP (11597) for a 15.03 hectare residential subdivision at 5 Randwick Avenue, Bacchus Marsh, bordering the Korkuperrimul Creek and south of the Western Freeway. The Activity Area had previously been surveyed in 2007 (Griffin & Ward, 2007), but no Aboriginal places were recorded at that time. There were five previously recorded Aboriginal places on adjacent land. The Standard Assessment survey identified fill in one part of the Activity Area, and a steep escarpment was also present. Plains above flood level and floodplain made up the remainder of the Activity Area. The Complex Assessment consisted of two test pits and 146 shovel probes. Shallow soils were encountered, and the fill was confirmed in the north corner. One isolated surface artefact was identified during the Standard Assessment survey, Underbank Stud Farm 2 (VAHR 7722-0960).

James-Lee (2014) prepared a Standard Assessment CHMP (12860) for the upgrade of the Lerderderg River trail, required as a result of scouring from the 2011 flood event. There were five Aboriginal places within 2 kilometres of the Activity Area (two scarred trees, one surface context, isolated, quartz hammerstone artefact, two surface artefact scatters). Previously, relatively few Complex Assessment CHMPs had been undertaken within 200 metres of the Lerderderg River. A review of the history of Darley and the Lerderderg River indicated that parts of the river were particularly swampy and were drained in the second half of the 19th century to provide more convenient access to Ballarat. Geo-technical testing for disturbance and introduced fill was undertaken. The report on the results of the geotechnical testing identified areas of disturbance in all four transects; however the fourth transect had the least amount of disturbance. Transect three showed disturbance to 300 millimetres in nine of the fourteen auger probes; in the first transect four of the nine auger probes showed significant disturbance to approximately 300 millimetres, with some disturbance present in another four; the second transect indicated significant ground disturbance to approximately 300

millimetres in three of the six auger probes. One Aboriginal place, Bacchus Marsh Golf Club 1 (VAHR 7722-1092) was recorded during the Standard Assessment and is situated within their Activity Area, in the Bacchus Marsh Golf Club, approximately 25 metres south-east of a large stand of pine trees and a scoured part of the Lerderderg River escarpment from the 2011 floods. It is located in a sub-surface context in alluvial silt near the edge of the west escarpment above the Lerderderg River.

Due to the difficulty in testing the extent of the Aboriginal place within their narrow Activity Area, the activity involved covering the location of Bacchus Marsh Golf Club 1 (VAHR 7722-1092) with geofabric for 100 metres, centred on its primary grid co-ordinate (PCG). Therefore Bacchus Marsh Golf Club 1 (VAHR 7722-1092) was not be impacted by the activity.

2.6 Land use history of the geographic region and the study area

Regional history

In 1802, Charles Grimes, Surveyor General of New South Wales, explored the shores of Port Philip Bay with a small party. With instructions from Governor King to survey the bay and report on its suitability for settlement, they investigated the mouth of the Werribee River and ventured a few miles inland, looking for suitable agricultural land for the possible creation of a convict colony (Boyce, 2012). However it wasn't until the explorers Hamilton Hume and William Hovell travelled through Victoria to find an inland route from Sydney to Port Philip Bay that Victoria was assessed as having favourable conditions for agriculture and pastoralism (Hovell, et al., 1965).

In 1834 John Batman, a grazier and businessmen, arrived in Port Phillip from Van Diemen's Land. With John Fawkner, Batman formed the Port Philip Association to legitimise land claims in the district and in 1836, the district was proclaimed open to settlement (Brown, 1966). From 1839 to1846 grazing licenses for cattle and sheep were taken up and from 1847 new regulations were gazetted, allowing squatters to purchase pre-emptive rights to their household blocks (Boyce, 2012). In addition, in 1849 new regulations were applied in the settled areas of Victoria and run holders were permitted to buy a 640 acre block containing their homestead and other improvements (City of Melbourne, 2013).

After the initial gold rush and formalisation of the Colony of Victoria in 1851, a series of Government Acts encouraged closer settlement of land. Squatting licences were cancelled and many of the large pastoral leases were subdivided and sold at auction or made open for selection for farming and agricultural purposes (Serle, 1963).

Kenneth Scobie Clarke was the first documented white settler in the valley between the Werribee and Lerderderg Rivers, which is now occupied by the township of Bacchus Marsh. Clarke was manager of the Great Lake Company of Van Diemen's Land and arrived in the district in December 1836 to settle on the banks of the Lerderderg River, on land owned now by the Bacchus Marsh Golf Club. He grazed sheep in Bacchus Marsh for the company after arriving in Port Phillip with 2,386 sheep (Osborn, 1973).

In 1838 Clarke moved to the *Pentland Hills* above the valley, where he established the run out-stations, leaving the valley and all lands to the east of Korkuperrimul Creek to Captain William Henry Bacchus and his son. When informing his employees of the arrangement, Clarke named the locality 'Bacchus's Marsh'. Bacchus recorded in the *Australasian* on 17 June 1876, "Mr Clarke gave up the country about the Marsh to Captain Bacchus and son, who had brought sheep from Tasmania, and were then encamped at the Parete Creek" (in Osborn 1973: 13). When Captain Bacchus moved into the area he established a home station and a number of outstations that took in an area known as the 'Lardedark' run, or 'Lerderderg' run (Figure 3), which in 1845 covered 22 square miles and carried almost 3,000 sheep (Osborn, 1973).

The Bacchus family consolidated their position by placing their huts strategically so that they could control as much land as possible. Osborn (1973) notes that an area of three miles radius around a hut or station was considered to be the hutkeeper's. The Bacchus home station, together with the four outstations, took in the area of the Lardedark run. In total there were five huts on the Lardedark run. One was a slab hut, that was probably already erected by Clarke when Bacchus acquired it, in the lower part of the Pentland Hills known as Corrombong, later an outstation of the Bullengourouke run. Henry Bacchus lived in Clarke's hut on the west bank of the Lerderderg River. This hut was originally Clarke's station and later Bacchus's. A third hut was established at Coimadai, but Osborn notes that the tail waters of Lake Merrimu now submerge this site. A fourth hut was located on the north side of the Werribee River on the black soils of the Marsh, and a fifth hut is on the exact site of the present Manor house. This hut was the home station and was marked as such by Darke during his survey of 1839-1840 (Osborn, 1973).

In 1838, not long after the Bacchus family had arrived in Bacchus Marsh, Melbourne's Police Magistrates issued depasturing licenses for six months' duration. Although Bacchus is shown as having a license to depasture stock for Western Port and Portland Bay, from 1 July 1840 he took up another run at Ballan, set up his son in charge of the Bacchus Marsh run, and moved to Melbourne. He moved back to the home station at Bacchus Marsh in early 1841, and reportedly had eleven shepherds, three men to help with the stock and three domestic servants (Osborn, 1973).

The area was first surveyed by Mr W. W. Darke in 1839 (Williams, 1916), employed by the New South Wales Surveyor General to define and name Parishes within the Counties of Bourke and Grant (VPRS 15899/SYD D151839; (Osborn, 1973). On 19 July 1842, the Portions 1-24 were gazetted, and later put on sale on 19 October of the same year. However, the best portions of land in the area had been cherry-picked for certain retired naval and military personnel, which were selected before the sale (Osborn, 1973). In 1842 the lands around Bacchus Marsh, including Captain Bacchus's Lardedark run, were opened up for selection, to encourage closer settlement. Captain Bacchus had applied for Portions 11 and 12 in the Parish of Korkuperrimul on 31 August 1842, but his application was overlooked by Superintendent La Trobe; the 84 acres of riverside flats on which his hut was located were purchased by Frederick A. Jeffreys, an army subaltern and the remainder of the run was divvied up between a further six buyers, at £1 an acre (Osborn, 1973). Between 1845 and 1847, the Captain built the Georgian style Manor House, a two-story brick building on a gentle rise on flats of the Werribee River (Osborn, 1973). Although he intended to bide his time and purchase back his original run, by 1847 Captain Henry Bacchus had acquired the *Speeds* run. However, in 1849, selection was again to work against him, and the large landholder W.J.T. Clarke selected 901 acres of the *Speeds* run, 736 of which adjoined the Lerderderg River (Osborn, 1973). Captain William Henry Bacchus died on 24 February 1849, aged 67. In 1851, his son Henry Bacchus left Bacchus Marsh for his *Peerwur* run, with selection having impacted on most of his leasehold land.

The impact of selection on these early runs and runholders was intensified with the increase of population during the gold rushes from 1851; the *Speeds* run had been broken up by 1853, and the *Lardedark* run had been alienated for the Darley village reserve (Osborn, 1973).The Woolpack Inn was built in 1845 by J.E. Crook, on the main road named the Portland Road. Initially a slab building with 8 rooms, and stables, it was replaced by a brick and stone building; the site is recorded on the Heritage Inventory list.

The lower Lerderderg River around Woolpack Road, approximately 5 kilometres south-east of the present study area, was a swamp at the time that the proposed road between Kororoit Creek and the Pentland Hills was surveyed by W.S. Urquhart in 1847 (Howes, et al., 2009). The Lerderderg River petered out into the swamp close to the Woolpack Inn (6 Woolpack Road, on the corner with Bacchus Marsh Road). Urquhart's road largely skirted the swampy area.

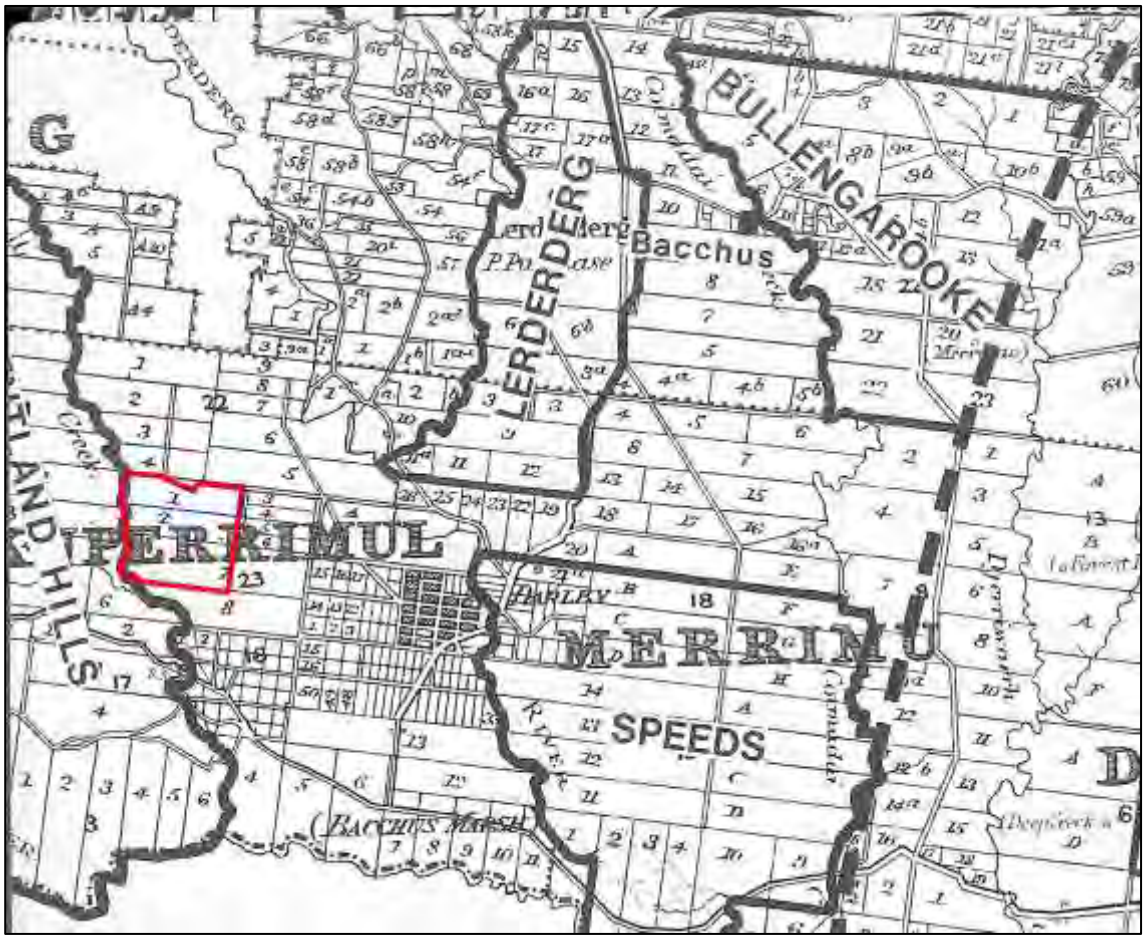


Figure 3. Runs in the Bacchus Marsh area (Bald Hill area shown in red) (Spreadborough & Anderson, 1983)

The start of the gold rush in Ballarat in 1851 resulted in diggers from Melbourne rushing to the goldfield, favouring a more direct route via Melton and Bacchus Marsh over the track recorded in Darke's 1839 survey map. The first main route to the diggings was the existing Portland Road, passing through Melton and Bacchus Marsh, later known as the Ballarat Road (Moloney, 2007; Lloyd, 1986).

Although the Government had officially surveyed two towns - a village reserve on the Lerderderg River named Darley, and the Maddingley township reserve on the Werribee River - the rush of people swarming to the diggings led to the private development of Bacchus Marsh on the Ballarat Road between Darley and Maddingley (Howes, et al., 2009; Lloyd, 1986; Petkov, et al., 2009; Phillips & McLean, 1930). The Portland (Ballarat Road) had a difficult crossing at Djerriwarrh Creek, only useable in the summer, which resulted in postal and supplies coaches using the route to Ballarat via Geelong instead (Howes, et al., 2009; Moloney, 2007).

On 1 July 1851, Henry Bacchus wrote from his *Peerwur* run, and was later published in *The Argus* and *The Sydney Morning Herald*:

> *From what I have heard and seen of the description of country where gold is found in this Colony (N.S.W.) I have no doubt that it can be obtained in Lerderderg and other creeks running from Mount Blackwood and Bulloncrook towards Bacchus Marsh*

This report resulted in people travelling to Bacchus Marsh in search of gold (Withers, 1887, pp. 24, 25). A report in *The Argus* on 29 August 1851 announced the presence of 'specimens of gold' having been identified at Bacchus Marsh, although the accompanying piece of quartz submitted to *The Argus* was observed not to

contain any gold (Anon., 1851). The name of the person who submitted the article was not supplied. Although gold was identified at Mount Blackwood in 1851, it was not until June 1855 that the news of gold discovered at Red Hill spread, with a large gold rush occurring along the Lerderderg River and its tributaries. In the 1850s, the alluvial mining mostly focused on the Lerderderg River bed, which was repeatedly sluiced with sluice boxes, pumps and water wheels. In the 1860s, almost annual droughts impacted on the Blackwood district's gold mining production, which relied on water for sluicing and quartz crushing. Many left the district between 1865 and 1867 due to the excessive dry period. The drought broke in 1868; there was a massive increase in gold production resulting in the only 'investment spree' of the Blackwood District. The spree dried up by the mid-1870s, resulting in a drop of gold production for the rest of the 1870s (Department of Natural Resources & Environment, 1999). It is likely that the sluicing in the upper waters of the Lerderderg River resulted in silting up of the lower reaches of the river, particularly in the swamp at Bacchus Marsh.

In 1854 the township of Darley was surveyed by William Gibbons, with the original street grid layout (bound by Clarke, Bourke, Grey and Nelson Streets) and names still remaining (VPRS 15899: OPR 55). Bacchus Marsh Gisborne Road was also roughly in its present position. However, the 1854 survey also indicated that the Lerderderg River was swampy at this time; its course has since changed (Petkov, et al., 2009).

The Bacchus Marsh Road District was established on the 27th of September 1856, taking over responsibility for road construction from a Local Committee (which received subsidies from the Central Road Board). The new Bacchus Marsh Road District board began constructing a link between Ballarat and Geelong Roads in 1858 (Lloyd, 1986; Petkov, et al., 2009). In 1862 the boundaries of the road district altered, as did its name, to the Bacchus Marsh and Maddingley Road District. In the same year, the road board began to plan for a bridge over the Lerderderg River at Darley for the Bacchus Marsh-Gisborne Road, which serviced rural Bullangarook properties and travellers on their way to the Blackwood gold field diggings (Lloyd, 1986). New farms being established within the district added impetus to the construction of the bridge. In 1871, the road board was superseded by the Shire of Bacchus Marsh (Petkov, et al., 2009).

Because of the difficulties traversing the Ballarat (Portland Road) near the swamp where the Lerderderg River petered out, near the Woolpack Inn, the Shire Council called for tenders to cut a channel through the swamp in order to define the course of the Lerderderg River (Bacchus Marsh & District Historical Society, 2003). The channel was cut between Holts Lane and the Avenue of Honour, between 1878 and 1890. The section of the river near the eastern end of the Avenue of Honour (east of the Woolpack Inn) was cut after 1933 (Bacchus Marsh & District Historical Society, 2003; Howes, et al., 2009).

By 1879 the district had been described as primarily agricultural, with some moderate pastoral and mining activity, by the Victorian Gazetteer (Whitworth, 1879). As the terrain was so steep, Bacchus Marsh was not connected to the railway network until 1887 (Victorian Signalling Histories, 2005). The line was extended to Ballan two years later, which can be seen in Figure 4.

Figure 4 Military survey showing study area (Australian Department of Defence Commonwealth Section Imperial General Staff, 1917).

History of Bald Hill and the associated quarry

In 1859 there is mention of a Mr Matson's sandstone quarry (Bald Hill Quarry) north-west of Darley, which was supplying stone for the construction of the Treasury Building in Melbourne, and for the Bacchus Marsh Court House and lock up (Anon., 1859). The quarry had been making great progress and employed approximately 60 men under the watch of Mr James Rice. A tramway had been constructed at the quarry, in order to remove the accumulating waste (Anon., 1859). The quarry also featured two Neilson's patent five-ton derrick cranes, both of which can be seen in Figure 5 and Figure 6. Additionally, Figure 5 shows that Bald Hill was mostly cleared in 1861, with very few trees remaining on the hill. In 1859, the working face of the quarry was 100 feet high, and the bottom had not been reached. It was also suggested that the tramway should be extended to connect the quarry with Werribee, in order to access the Melbourne and Geelong Railway (Anon., 1859).

In 1903, the sandstone at Bald Hill quarry was inspected to see if it would be suitable for use in the Flinders Street Railway Station building (Anon., 1903). However, this never came to pass. An article in *The Bacchus Marsh Express* (1910a) noted how the sandstone quarry on Bald Hill had been misrepresented for 50 years, and that local sleepiness had killed the prospects of a railway being constructed between the Bald Hill quarry and the Geelong line. Later that year, the property that encompassed Bald Hill quarry was primarily being used for grazing (Anon., 1910b). Moorabool Shire Council currently manages 60 hectares of the 120 hectare study area, most of which has been revegetated (as seen in Figure 7). Even though Bald Hill is in close proximity to the residential area in Darley, it is rarely used by the community. The site is utilised by a small

number of cyclists, horse riders and walkers. This is despite a lack of infrastructure (facilities, trails/tracks and signage) and the lack of advertising of Bald Hill as a public reserve (Moorabool Shire Council, 2018).

Various negative activities also plague Bald Hill, due to the low visitation and the limited associated passive surveillance. These negative activities include the dumping of household and building refuse (as seen in Figure 8), the dumping of vehicles, the illegal discharge of firearms, 4WDing and trail bike riding (Moorabool Shire Council, 2018). The northern half of the study area is currently being used as a Sugar Gum plantation, with the expected harvest commencing in 2026 (Moorabool Shire Council, 2018). Before the plantation could be established the site needed to be prepared. The preparation of a plantation site can include the use of a machine (bulldozer or excavator) to undertake activities such as chopper rolling, ripping, mounding, track rolling or heaping. The aforementioned activities, as well as pre-plant weed control and burning, are used to cultivate the soil (Hancock Victorian Plantations, 2014). An aerial photograph from 2004 (Figure 9) shows a bare Bald Hill with minimal vegetation. Subsequent aerial photographs from 2013 and 2018 show the gradual growth of the revegetated areas and the Sugar Gum plantation (Figure 10 and Figure 11).

Figure 5 Matson's quarry at Bald Hill with both cranes pictured (Daintree, 1861)

Figure 6 Neilson's patent five-ton derrick crane at Matson's quarry (Bald Hill Quarry) (Daintree, 1861)

Figure 7 Recent revegetation near Korkuperrimul Creek, looking approximately south.

Figure 8 Rubbish dumping at Bald Hill Quarry, looking south.

Figure 9 Aerial photograph of the study area in 2004 (GeoVic3, 2019).

Figure 10 Aerial photograph of the study area in 2013 (GeoVic3, 2019).

Figure 11 Aerial photograph of the study area in 2018 (GeoVic3, 2019).

2.7 Prediction Statements

2.7.1 Historic place prediction statement

The study area is known to contain a historic sandstone quarry with potential remnants including an associated horse-drawn tramway and archaeological deposits. It is unlikely that any of the early working face has survived, given that the 19th century quarry has been greatly enlarged (Heritage Council of Victoria, 1995). The listing associated with HO200 suggests that modern disturbances within the site boundary have impacted the site and as such remains are unlikely to have survived.

2.7.2 Aboriginal place prediction statement

Based on the above review of the geographic region, including its environment, recorded Aboriginal places, previous archaeological assessments and information on the activities of Aboriginal people, a place prediction statement has been developed. This utilises the existing regional information in order to target landforms which might have archaeological potential during the Standard Assessment. The place prediction statement acts as a guideline for designing the ground survey strategy and identifies key points for consideration.

Based on the predictive statements compiled by du Cros (1989) the following statements are likely to apply in the current study area:

- Statement 1: Artefact scatters, burials, isolated artefacts and scarred trees are likely to occur on creek or river flats, slopes or terraces within 100 metres of a major water course.
- Statement 2: Vantage points on the volcanic plains (extinct volcanoes, eruption points and rises) are likely to feature artefact scatters.
- Statement 3: Exposed silcrete and metamorphic stone outcrops have potentially been quarried by Aboriginal groups, if they have been exposed for at least 180 years.
- Statement 4: Sandstone areas that are dissected by creeks can potentially contain axe grinding grooves, as seen in the Werribee Gorge area.
- Statement 5: Ridge tops and saddles of mountain ranges enabled people to travel over the ranges, these areas will most likely comprise Aboriginal places.
- Statement 6: Water sources like creeks, local springs, major rivers and soaks are also areas that will most likely contain Aboriginal places.
- Statement 7: Disturbances to parts of the study area including the quarrying of sandstone, stock trampling, clearing of vegetation, fencing, revegetation, dumping of rubbish, vehicle tracks, chopper rolling, ripping, mounding, track rolling and heaping have potentially impacted Aboriginal cultural heritage. The aforementioned activities could have displaced Aboriginal cultural heritage material, meaning that it would no longer be *in situ.*

2.7.3 Aboriginal spatial prediction model

Method

Spatial modelling for Aboriginal cultural heritage potential in the study area is mapped in Map 5. To assess the potential of environmental features and landforms for Aboriginal cultural material, this spatial predictive modelling was undertaken in ArcGIS using Spatial Analyst tools to compare, analyse and overlay numerous environmental and topographic datasets. Four main datasets were considered during the modelling process. These include:

- Proximity to natural water sources
- Existence of remnant vegetation
- Local high points
- Slope classes.

All of these layers are weighted and ranked according to an equivalent but arbitrary scale of 0-3, with '3' being areas most likely to support Aboriginal places and '0' being very unlikely to support Aboriginal places. Once all of the 4 component layers are added together into a single layer, zones of high, moderate and low archaeological potential are developed. Areas of high potential scored between 6-10 (green on Map 5) moderate potential scores between 3-6 (yellow on Map 5) and low potential scored between 0-3 (blue on Map 5). In this map, areas with a low cumulative score have a lower likelihood of containing Aboriginal places, red being the lowest and green being the highest level of archaeological potential.

It is important to note that the purpose of this model is to make some broad predictions about the study area based on generalisations in order to inform more detailed and targeted investigations. It cannot account for more specific phenomena which might actively contribute or detract from the areas suitability for Aboriginal places, such as areas which had ceremonial significance.

Natural Water Sources

The model uses the VicMap Hydro 1:25,000 vector watercourse lines and waterbody polygons datasets and applied the following processes:

- The watercourses and waterbodies are filtered to remove any man-made waterways as designated by the 'Origin' field of the VicMap data
- The watercourses and waterbodies are buffered by 200 metres
- The watercourses and waterbodies are merged into a single dataset
- The water dataset is converted to a raster of grid size 25 metres x 25 metres
- The raster cells are reclassified to an overall 'hydro score' by assigning a score of 5 to rivers, swamps, lakes and sections of streams mapped as an area rather than a centre line; a score of 4 to streams, 3 to pondages and 0 to all other areas.

Modelled remnant vegetation

The model uses the Department of Environment and Primary Industries modelled Ecological Vegetation Classes polygon dataset from 2005 as displayed on the Biodiversity interactive mapper. The following processes are applied:

- The polygons are converted to a raster of 25 metres x 25 metres cell size
- The raster cells are reclassified to a 'Veg score' value by assigning a score 3 to all areas containing remnant vegetation and 0 to all other areas

Local high points

- The DEM described above is converted into a flow accumulation model, showing the total catchment area for water flow at each point in the landscape

- Areas of 0 flow are extracted into a separate layer. As they have no other land flowing into them, this means they stand above all other land in the immediate area
- The 0 flow areas model is filtered so only a significant amount of connected land is considered to represent hills and ridgelines.

Unsuitable slopes

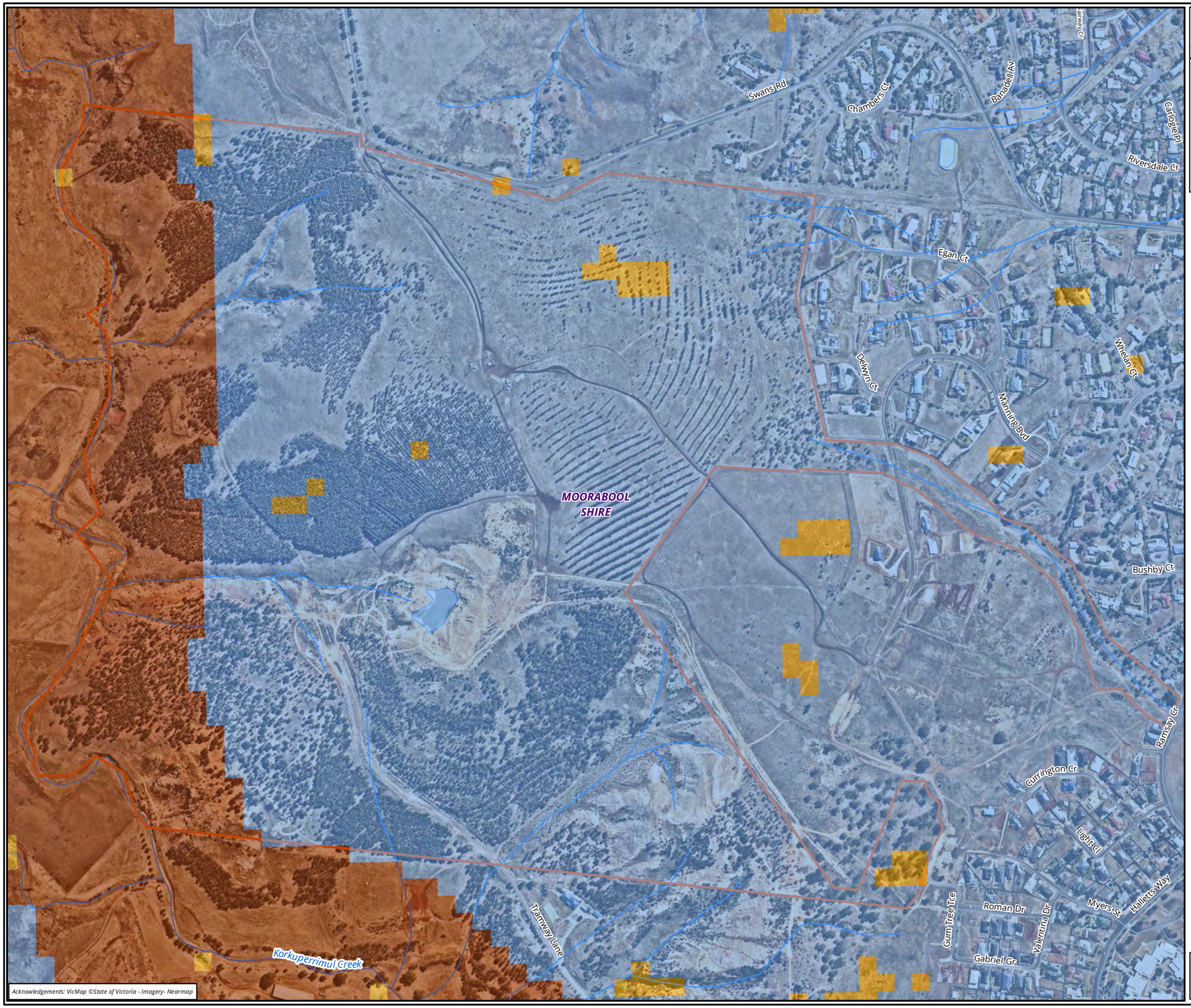
- A slope model was created using a 1 arc second (~30 metres x 30 metres cell size) Digital Elevation Model (DEM) acquired from Geoscience Australia
- The slope model is reclassified into slope categories according to Speight's slope classes
- Any slopes classified as being very steep or greater are assigned a negative value as these slopes are likely to be too steep to support Aboriginal places.

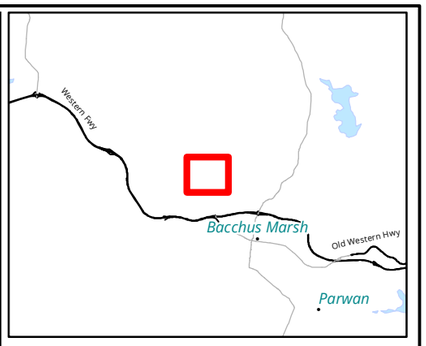
The prediction model acts as a guideline for designing further research strategies and identifies key points for consideration during future detailed assessments.

A spatial predictive model is shown on Map 5.

2.7.4 Prediction model interpretation

Utilising prediction information above in sections 2.7.2 and 2.7.3, spatial predictive modelling illustrates that the waterway, Korkuperrimul Creek has the highest archaeological potential for Aboriginal cultural heritage material to be identified. The most likely form of Aboriginal cultural heritage material to be identified in this location is small surface artefact scatters, however there is potential for subsurface deposits to be identified as the identification of subsurface material has yet to be tested thoroughly in the region.





Legend

Activity Area

Archaeological potential

Low.

Moderate

High

Map 5 Aboriginal place prediction model

0 100 200 300

Metres
Scale: 1:6,000 @ A3
Coordinate System: GDA 1994 MGA Zone 55

N

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Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

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3 Historical heritage – assessment

A review of previously recorded historic places in and around the proposed Bald Hill Activation Project study area in section 2.4 has identified previously recorded historic heritage within the study area. There is a moderate likelihood of further historic heritage material being located within the study area, relating to the quarrying of sandstone and its associated infrastructure.

Due to the limited information available for the historic heritage of the study area, is it recommended that a historic heritage assessment report be completed prior to undertaking any works. A heritage assessment would be best practice to minimise risk to the project through unintended harm occurring to heritage places.

A historic heritage assessment report will include a detailed background/desktop assessment, a physical survey and assessment of the impacts of the proposed works on the significance of each place. Whilst permits could be assessed and sourced separately, the risk of harming heritage is considered to be moderate. The historic heritage assessment would more appropriately and holistically inform the management of the recorded places likely to be impacted by the proposed works.

3.1 Mandatory requirements under the Victorian *Heritage Act 2017*

HO 200 (Bald Hill Quarry, Tramway Lane) is located within the current study area, and is currently registered on schedule 43.01 Moorabool Planning Scheme: *Schedule to Clause 43.01 Heritage Overlay* (see Appendix 1). There are no mandatory requirements for the historic place under the Victorian *Heritage Act 2017,* as it is not listed on the Victorian Heritage Register, as it does not meet the threshold for State Significance.

3.2 Mandatory requirements under the *Planning and Environmental Act 1987*

As **HO200** is registered on the Heritage Overlay, Moorabool Shire have statutory control over the impacts to the place through permit requirements or permit exemptions. If the place HO200 cannot be avoided, it is recommended that once the Activation Project design is finalised, a historic heritage assessment report is prepared. A historic heritage assessment report will assess the potential need for the preparation of a permit, or if the works are exempt as per schedule 43.01 Moorabool Planning Scheme: *Schedule to Clause 43.01 Heritage Overlay*. In addition the historic heritage assessment survey will identify any additional historic remains that may exist across the study area.

4 Aboriginal cultural heritage - assessment

4.1 Criteria

The following section examines in turn the three applicable criteria as to whether a CHMP needs to be undertaken at the study area. These are:

- Is the study area an area of cultural heritage sensitivity?
- Are the proposed works a high impact activity?
- Has there been significant ground disturbance to the study area?

4.2 Is the study area an area of cultural heritage sensitivity?

The following information and databases were reviewed on 3 April 2019:

- ACHRIS (2019), access number 6854
- Aerial imagery
- Geological and geomorphological databases and mapping (GeoVic3, 2019)
- Victorian Register of Geographic Names (VICNAMES, 2019).

The study area is within an area of cultural heritage sensitivity under Regulation 25:

25 Registered cultural heritage places

(1) A registered cultural heritage place is an area of cultural heritage sensitivity.

(2) Subject to subregulation (3), land within 50 metres of a registered cultural heritage place is an area of cultural heritage sensitivity.

(3) If part of the land within 50 metres of a registered cultural heritage place has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.

The study area is within an area of cultural heritage sensitivity under Regulation 26:

26 Waterways

(1) Subject to subregulation (2), a waterway or land within 200 metres of a waterway is an area of cultural heritage sensitivity.

(2) If part of a waterway or part of the land within 200 metres of a waterway has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.

Under Regulation 26, waterways listed on the Victorian Geographic Names Register are surrounded by a 200 metre area of cultural heritage sensitivity. The study area is partially within 200 metres of the following watercourses:

- Korkuperrimul Creek

Korkuperrimul Creek is listed on the Victorian Geographic Names Register (VICNAMES, 2019), and therefore has an associated 200 metre buffer of cultural heritage sensitivity.

4.3 Are the proposed works a high impact activity?

Yes, the proposed works for the proposed Bald Hill Activation Project (a mountain bike trail) are a high impact activity as defined in Regulation 47 (1) b:

> **47 Constructing specified items of infrastructure**
>
> (1) the construction of any one or more of the following is a high impact activity if the construction would result in significant ground disturbance -
> (b) a bicycle track with a length exceeding 500 metres

4.4 Has there been significant ground disturbance to the study area?

No, the study area has not undergone SGD to all of its surfaces.

Clause (2) of Regulation 23 stipulates that an area of cultural heritage sensitivity where SGD has taken place is no longer an area of cultural heritage sensitivity and is therefore exempt from a mandatory CHMP. In the Regulations, SGD is defined as:

> **4 Definitions**
>
> In these Regulations—
>
> ***significant ground disturbance*** means disturbance of—
>
> - the topsoil or surface rock layer of the ground; or
> - a waterway—
>
> by machinery in the course of grading, excavating, digging, dredging or deep ripping, but does not include ploughing other than deep ripping.

It is important to note that under this regulation, SGD is not chiefly defined by the extent or depth of any disturbance, but rather by the mechanical means through which it has been caused. The application of the significant ground disturbance exception is also unaffected by the relative likelihood of archaeological remains being preserved in the study area. Such likelihood of preservation may affect the advisability of a voluntary CHMP, but does not bear on the criteria for a mandatory CHMP.

A review of past land use practices for the study area has been conducted above in Section 2.6. This review has found that the study area cannot be shown to have undergone SGD through mechanical excavation across the entire study area.

4.5 Conclusions

The proposed Bald Hill Activation Project (a mountain bike trail) is a high impact activity and the study area is bounded on its western extent by an area of cultural heritage sensitivity, whilst it also contains two previously registered Aboriginal places. Despite previous land use of the study area, the entirety of the area covered by the cultural heritage sensitivity layer cannot be shown to a high level of probability to have been subject to SGD.

It is therefore concluded that the study area for the proposed Bald Hill Activation Project is not exempt from a mandatory CHMP.

4.6 Mandatory Requirements under the Victorian Aboriginal Heritage Act 2006

There is a requirement that a mandatory CHMP be undertaken before council issuing statutory approval for the proposed Bald Hill Mountain Bike Trail. The proposed works are 'high impact' and within an area of Cultural Heritage Sensitivity.

5 Recommendations

Recommendation 1. Victorian Aboriginal Heritage Act 2006 - Requirement for a mandatory CHMP

There is a requirement that a mandatory CHMP be undertaken before council issuing statutory approval for the proposed Bald Hill Activation Project.

Recommendation 2. Planning and Environment Act 1987 - Historic heritage requirements

The requirements for HO200 indicate a planning permit may be required to undertake works within the extent of the Bald Hill Quarry. If the place HO200 cannot be avoided, it is recommended that once the Activation Project design is finalised, a historic heritage assessment report is prepared. A historic heritage assessment report will assess the potential need for the preparation of a permit, or if the works are exempt as per schedule 43.01 Moorabool Planning Scheme: *Schedule to the Heritage Overlay*.

Disclaimer

This report provides expert opinion on the requirements for heritage management in the study area. It is authored by qualified heritage professionals with considerable experience working with heritage legislation, but who are not legal practitioners. The client is advised to seek qualified legal advice prior to acting on the recommendations contained in this report.

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Appendix 1

Moorabool Planning Scheme: *Schedule to Clause 43.01 Heritage Overlay* attached below.

28/02/2019
GC117

SCHEDULE TO CLAUSE 43.01 HERITAGE OVERLAY

1.0 Application requirements

28/02/2019
GC117

None specified.

2.0 Heritage places

28/02/2019
GC117

The requirements of this overlay apply to both the heritage place and its associated land.

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	Bacchus Marsh								
HO47	**Avenue of Honour** Bacchus Marsh Road	-	-	-	-	Yes Ref No H2238	Yes		No
HO204	**Elm Trees along Bacchus Marsh Road** Outside Avenue of Honour Bacchus Marsh Road	No	No	Yes	No	No	No		No
HO145	**House** 375 Bacchus Marsh Road (Avenue of Honour)	No	No	No	No	No	No		No
HO56	**Saint Patrick's House Broadlands Estate** 437 (Part Lot A TP6085), Bacchus Marsh Road (Avenue of Honour)	Yes	No	No	No	No	No		No
HO17	**Dwelling "Stone Villa"** 4 Bennett Street	Yes	No	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO58	**Dwelling** 12 Boyd Street	No	No	No	No	No	No		No
HO119	**Dwelling** 22 Candeloro Street	No	No	No	No	No	No		No
HO60	**Dwelling "Carisbrook"** 18 Crook Street	Yes	No	No	No	No	No		No
HO61	**Dwelling "Lorraine"** 4 Dugdale Street	Yes	No	No	No	No	No		No
HO11	**Ellerslie** 12 Ellerslie Court	-	-	-	-	Yes Ref No H592	Yes		No
HO2	**Residence** 6 Gisborne Road	-	-	-	-	Yes Ref No H503	Yes		No
HO3	**Bacchus Marsh Express Office and Printing Works** 8 Gisborne Road and 8 Church Street	-	-	-	-	Yes Ref No H504	Yes		No
HO4	**Dwelling** 10 Gisborne Road	-	-	-	-	Yes Ref No H505	Yes		No
HO63	**Saint Andrew's Uniting Church and Parish Centre halls** 12 Gisborne Road and 9 Lerderderg Street	Yes	Yes (church only)	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO64	**Holy Trinity Anglican Church, Parish Hall, Memorial Lawn and Garden** 21 Gisborne Road	Yes	Yes (church only)	Yes	No	No	No		No
HO71	**Dwelling, Webster Brothers Yard and the "Iron Church"** 14 Graham Street	No	No	No	No	No	Yes		No
HO72	**Dwelling** 21 Graham Street	No	No	No	No	No	No		No
HO73	**Dwelling** 22 Graham Street	No	No	No	No	No	No		No
HO74	**Former P.S. Carey Motors** 4 – 6 Grant Street	Yes	No	No	No	No	No		No
HO75	**Former Theatre** 5 Grant Street	Yes	No	No	No	No	No		No
HO76	**House and Shop** 8 and 8A Grant Street	Yes	No	No	No	No	No		No
HO77	**Shop and Dwelling** 10 and 10A Grant Street	Yes	No	No	No	No	No		No
HO78	**Former Hospital and Surgery "Ashley"** 18 Grant Street	Yes	No	No	No	No	No		No
HO79	**Bacchus Marsh & Melton Memorial Hospital**	No	No	Yes	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	29 – 35 Grant Street								
HO5	**Millbank** 37 Grant Street	-	-	-	-	Yes Ref No H263	Yes		No
HO80	**Former Shop and Dwelling** 48 and 48A Grant Street	Yes	No	No	No	No	No		No
HO81	**Shop and Office** 60 and 62 Grant Street	Yes	No	No	No	No	No		No
HO83	**Lerderderg River Engineering Works** Holts Lane to Whelans Road	No	No	No	No	No	No		No
HO85	**Dwelling** 14 and 16 Lerderderg Street	Yes	No	No	No	No	No		No
HO86	**Caroline Chisholm Society (former dwelling)** 15 Lerderderg Street	Yes	No	No	No	No	No		No
HO87	**Dwelling** 29 Lerderderg Street	No	No	No	No	No	No		No
HO88	**Dwelling** 42 Lerderderg Street	Yes	No	Yes	No	No	No		No
HO89	**Dwelling** **48 Lerderderg Street**	No	No	No	No	No	No		No
HO90	**Former Shire of Bacchus Marsh Community Services Centre (former Teachers' Residence)**	Yes	No	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	54 Lerderderg Street								
HO91	**Bacchus Marsh Primary School No. 28** 56 Lerderderg Street	Yes	No	No	No	No	No		No
HO92	**Saint Bernard's Church, Presbytery and Parish Centre** 63 Lerderderg Street	Yes	Yes (Church only)	Yes	No	No	No		No
HO93	**Dwelling** 69 Lerderderg Street	Yes	No	No	No	No	No		No
HO94	**Dwelling** 80 Lerderderg Street	Yes	No	No	No	No	No		No
HO95	**"Riverton"** Lot 2 TP328565 Lerderderg Street	Yes	No	No	No	No	No		No
HO96	**Former AMF Officers Shed** 89 Lerderderg Street	No	No	No	No	No	No		No
HO97	**Pioneer Women's Avenue (Part of road reserve)** Main Street (between Clarinda Street and Water Tank reserve)	No	No	Yes	No	No	No		No
HO98	**Dwelling "Banool"** 51 Main Street	Yes	No	No	No	No	No		No
HO99	**Dwelling, Garden and Former Office (Theo van Alkemade, Estate Agent)** 70 – 72 Main Street	Yes	No	Yes	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO100	**Dwelling "Pentland" and Garden** 85 and 87 Main Street	Yes	No	Yes	No	No	No		No
HO101	**Dwelling and Garden** 88 – 90 Main Street	Yes	No	Yes	No	No	No		No
HO103	**Shop (Former Motor Garage)** 97 Main Street	Yes	No	No	No	No	No		No
HO8	**Former Blacksmith's Cottage and Shop** 100 – 102 Main Street	-	-	-	-	Yes Ref No H462	Yes		No
HO104	**Shop and Dwelling (above)** 105 – 105A Main Street and 2 Grant Street (Lot 1 and 2 LP216877)	Yes	No	No	No	No	No		No
HO105	**Shops** 112 and 114 Main Street	Yes	No	No	No	No	No		No
HO106	**Hotel (Court House Hotel)** 116 Main Street	Yes	No	No	No	No	No		No
HO6	**Police Station and Old Lock Up** 119 Main Street	-	-	-	-	Yes Ref No H1546	Yes		No
HO7	**Court House** 123 Main Street	-	-	-	-	Yes Ref No H1461	Yes		No
HO13	**Former National Australia Bank and Dwelling** 127 Main Street	Yes	No	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO107	**Hotel (Flanagans Border Inn)** 139 Main Street	Yes	No	No	No	No	No		No
HO108	**Shops** 144 Main Street	Yes	No	No	No	No	No		No
HO109	**Former A.N.A Hall Branch 99** 154 Main Street	Yes	No	No	No	No	No		No
HO110	**South Africa War Memorial and Drinking Fountain** Outside 156 Main Street	Yes	No	No	No	No	No		No
HO113	**Hotel (Young & Main) and stables** 200 Main Street and 3 Young Street	Yes	No	No	No	No	No		No
HO112	**Soldiers Memorial Hall and Former Mechanics Institute** 203 and 207 Main Street	Yes	No	No	No	No	No		No
HO154	**Bacchus Marsh Adult Education Centre "Dunglass"** 229 Main Street	Yes	No	No	No	No	No		No
HO114	**Dwelling "Ivison"** 239 Main Street	Yes	No	No	No	No	No		No
HO115	**Conifer Hedge and Windbreak** 263 Main Street (Avenue of Honour)	No	No	Yes	No	No	No		No
HO116	**Dwelling "Waratah"** 267 Main Street (Avenue of Honour)	Yes	No	Yes	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO117	**Dwelling "Sunnyside"** 271 – 273 Main Street (Avenue of Honour)	Yes	No	Yes	No	No	No		No
HO9	**The Manor House** 28 – 32 Manor Street	-	-	-	-	Yes Ref No H264	Yes		No
HO118	**Former Kelvin Grove Private Hospital** 5B Millbank Street	No	No	No	No	No	No		No
HO84	**Saint Bernard's Parish Primary School, Chapel, Convent and garden** 9 Patterson Street	Yes	No	Yes	No	No	No		No
HO120	**Dwelling "Baronscourt"** 5 Pilmer Street	No	No	No	No	No	No		No
HO121	**Dwelling** 13 Sydney Street	No	No	No	No	No	No		No
HO57	**Former "Woolpack Inn" including former Stables and sign-writing** 6 Woolpack Road	Yes (old sign-writing only)	No	No	No	No	No		No
HO123	**Dwelling "The White Cottage"** 16 Young Street	Yes	No	No	No	No	No		No
HO125	**Dwelling** 28 Young Street	Yes	No	No	No	No	No		No
	Ballan								

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO18	**Railway Station** Atkinson Street	Yes	No	No	No	No	No		No
HO25	**"Ballanee" Homestead** Ballanee Road	Yes	No	No	No	No	No		No
HO22	**"Carween" Homestead** Carween Lane	Yes	No	Yes	No	No	No		No
HO19	**Post Office** 125 Inglis Street	Yes	No	No	No	No	No		No
HO24	**Dwelling** 140 Inglis Street	Yes	No	No	No	No	No		No
HO23	**Daly's Tea Rooms** 157 Inglis Street	Yes	No	No	No	No	No		No
HO20	**Former Court House** 47 Steiglitz Street	Yes	No	No	No	No	No		No
	Ballark								
HO26	**"Ballark" Homestead** Ballan-Meredith Road	Yes	No	Yes	No	No	No		No
	Balliang								
HO126	**Former Balliang Primary School** 1272 Bacchus Marsh-Balliang Road	Yes	No	Yes	No	No	No		No
HO127	**Saint George's Balliang Anglican Church**	Yes	Yes	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	1281 Bacchus Marsh-Balliang Road								
HO128	**"The Gables" Farmhouse** 1419 Bacchus Marsh-Balliang Road	Yes	No	No	No	No	No		No
HO130	**Farmhouse** 51 Dukelows Road	Yes	Yes	No	No	No	No		No
HO132	**Farmhouse** 99 McMahons Road	Yes	No	Yes	No	No	No		No
	Balliang East								
HO133	**Dwelling** 3105 Geelong-Bacchus Marsh Road	Yes	No	Yes	No	No	No		No
HO134	**Dry Stone Wall** Geelong-Bacchus Marsh Road	No	No	No	No	No	No		No
	Barry's Reef								
HO27	**Guggenheimer Historical Cottage** Greendale-Trentham Road	Yes	No	Yes	No	No	No		No
	Blackwood								
HO151	**Rock Cut Tunnel, ford and water race** Break Neck Gully, via Ambler Lane Track	No	No	No	No	No	No		No
HO28	**All Saints Anglican Church** Byers Road	Yes	No	Yes	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO29	**Former Royal Mail Hotel** Golden Point Road	Yes	No	Yes	No	No	No		No
HO152	**Broken Back Mine, via O'Briens Crossing** O'Briens Road	No	No	No	No	No	No		No
HO153	**Black Snake Mine, via O'Briens Crossing** O'Briens Road	No	No	No	No	No	No		No
HO51	**Garden of Saint Erth** Simmons Reef Road	Yes	No	Yes	No	No	No		No
HO30	**Mine Managers House** Simmons Reef Road	Yes	No	Yes	No	No	No		No
HO53	**Wheeler's Tramway** Wombat State Forest Lerderderg Road	-	-	-	-	Yes Ref No H2015	No		No
	Bungal								
HO31	**"Bungeel Tap" Homestead** Egerton-Bungeel Tap Road	Yes	No	Yes	No	No	No		No
HO32	**"Emily Park" Homestead**	Yes	No	Yes	No	No	No		No
	Coimadai								
HO135	**Antimony Mines** Antimony Mine Road	No	No	No	No	No	Yes		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO136	**Goodmans Creek gold sites and Darley Quarry** Bacchus Marsh-Gisborne Road	No	No	No	No	No	No		No
HO137	**Coimadai Primary School No 716** 86 Bennetts Lane	No	No	No	No	No	No		No
HO138	**Lime Kilns- Merrimu Reservoir** CA 75, 76, 76A 76B and 80, Parish Coimadai, Gisborne Road	No	No	No	No	No	No		No
	Darley								
HO140	**Darley Refractories Pty Ltd** 58 Grey Street	No	No	No	No	No	No		No
HO141	**Farmhouse** 70 Lerderderg Gorge Road	No	No	No	No	No	No		No
HO142	**Farmhouse "Morven" including garden and driveway avenue of trees** 325 Lerderderg Gorge Road	No	No	Yes	No	No	No		No
HO143	**Farmhouse** 377 Lerderderg Gorge Road	No	No	No	No	No	No		No
HO144	**Former Presbytery** 2 Wellington Street	No	No	No	No	No	No		No
	Dunnstown								
HO33	**Former Brind's Distillery** 2830 Old Melbourne Road	-	-	-	-	Yes Ref No H1013	Yes		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	Fiskville								
HO203	**Former Australian Beam Wireless Transmitting Station** 4549 Geelong Ballan Road	-	-	-	-	Yes Ref No H2277	Yes		No
	Glenmore								
HO54	**Lady Northcote Recreation Camp** 1273-1327 Glenmore Road	-	-	-	-	Yes Ref No H2167	Yes		No
	Gordon								
HO35	**Gordon Railway Station** Gordon-Egerton Road	-	-	-	-	Yes Ref No H1564	Yes		No
HO50	**Portland Flat Road Bridge** Portland Flat Road	-	-	-	-	Yes Ref No H2054	No		No
	Greendale								
HO39	**Shuters Cottage** LaCote Road	Yes	No	Yes	No	No	No		No
HO37	**“Glen Pedder” Homestead** Myrniong-Greendale Road	Yes	No	Yes	No	No	No		No
HO36	**Former State School No 918** Napoleon Street	Yes	No	Yes	No	No	No		No
HO38	**Anglican Church** Prince Street	Yes	No	Yes	No	No	Yes		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	Ingliston								
HO40	**"Ingliston" Homestead** Ingliston Road	Yes	No	Yes	No	No	No		No
HO149	**Railway Viaduct, Bridge and Embankment** Ingliston Road	No	No	No	No	No	No		No
HO164	**Ingliston Bank railway cutting and piles of remnant railway cutting construction basalt** Iron Bark Road	No	No	No	No	No	No		No
	Korobeit								
HO150	**Our Lady Help of Christians Church** 309 Myrniong-Korobeit Road	Yes	No	No	No	No	No		No
	Lal Lal								
HO41	**Lal Lal Railway Station and Water Tank** Eaglesons Road	Yes	No	No	No	No	Yes		No
HO46	**Lal Lal Iron Mine and Smelting Works** Iron Mine Road	-	-	-	-	Yes Ref No H1759	Yes		No
HO52	**Rothbury** 389 Yendon-Lal Lal Road	-	-	-	-	Yes Ref No H1697	Yes		No
	Long Forest								

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO55	**Baker House** 305 – 307 Long Forest Road	-	-	-	-	Yes Ref No H2118	Yes		No
HO12	**Bridge over Djerriwarrh Creek** Western Highway (Disused section)	-	-	-	-	Yes Ref No H1658	No		No
HO148	**Anthonys Cutting (surrounds of Djerriwarrh Bridge)** Western Highway	No	No	No	No	No	No		No
	Maddingley								
HO158	**Maddingley General Cemetery** Cemetery Road off Griffith Street	No	No	Yes	No	No	No		No
HO62	**Dethridge Irrigation Wheel and Water Channel** 20, 22 and 24 Fisken Street	No	No	No	No	No	No		No
HO160	**Dwelling "Naheehs"** 40 Fisken Street	Yes	No	No	No	No	No		No
HO15	**Brick Cottages** 13 – 17 Franklin Street	Yes	No	No	No	No	No		No
HO161	**Stoney's Bridge Inn Hotel** 59 Grant Street	No	No	No	No	No	No		No
HO162	**Bacchus Marsh Secondary College** 73 Grant Street	No	No	No	No	No	No		No
HO163	**Maddingley Park and Memorial Gates**	No	No	Yes	Yes (fence)	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	Corner of Grant and Station Streets								
HO167	**Former Maddingley No 1 Open Cut** 37 South Maddingley Road	No	No	No	No	No	No		No
HO168	**Bacchus Marsh Railway Station** Station Street	No	No	No	No	No	No		No
HO169	**Dwelling and Cowan Cottage** 18 Taverner Street	No	No	No	No	No	No		No
HO170	**Osage Orange Avenue** 22 Taverner Street	No	No	Yes	No	No	No		No
HO171	**Bacchus Marsh Lawn Tennis Club Inc** (Former Maddingley Courthouse) Taverner Street	No	No	No	No	No	No		No
HO14	**Chicory Kiln** 30 Taverner Street	-	-	-	-	Yes Ref No H2326	Yes		No
HO173	**Farmhouse "Blinkbonnie" and Dethridge Irrigation Wheel** 176 Werribee Vale Road	No	No	Yes	No	No	No		No
HO174	**Farmhouse "Vallence's Farm"** 289 Werribee Vale Road	No	No	No	No	No	No		No
HO175	**Farmhouse** 360 Werribee Vale Road	No	No	No	No	No	No		No
HO176	**Farmhouse "Errindale"**	No	No	Yes	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	520 Werribee Vale Road								
HO177	**Former Market Pavilion Building** 144 Woolpack Road	No	No	No	No	No	No		No
	Merrimu								
HO16	**Hopetoun Cemetery** Bacchus Marsh Road	-	-	-	-	Yes Ref No H2059	Yes		No
HO147	**Former W Symington House and Symington's Brewery Industrial Archaeological Site** 705 Bacchus Marsh Road	No	No	No	No	No	No		No
HO10	**Former Leahy's Residence** 735 Bacchus Marsh Road	-	-	-	-	Yes Ref No H907	Yes		No
HO178	**Bacchus Marsh-Gisborne Road Bridge** Bacchus Marsh-Gisborne Road	No	No	No	No	No	No		No
HO179	**Farmhouse "Lerderderg Park", concrete silo and concrete water tank** 20 Lerderderg Park Road	No	No	No	No	No	No		No
HO180	**Dwelling (former Djerriwarrh State School/ Djerriwarrh Creek School)** 21 Lerderderg Park Road	Yes	No	No	No	No	No		No
	Mount Doran								

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO34	**Rail Bridge and Embankment** Blue Bridge Road	-	-	-	-	Yes Ref No H1693	No		No
	Myrniong								
HO181	**Christ Church Anglican Church** CA 12/14 Sec B, Parish Myrniong Hardy Street	Yes	No	No	No	No	No		No
HO182	**Farmhouse "Woodlands", windmills and landscape** 229 Long Point Road	No	No	Yes	No	No	No	HO182 Woodlands 229 Long Point Road, Myrniong Incorporated Plan (July 2014)	No
HO183	**Avenue of Honour (WWI and WWII sections)** Main Road (Old Western Highway)	No	No	Yes	No	No	No		No
HO184	**Myrniong Road Bridge** Main Road (Old Western Highway)	No	No	No	No	No	No		No
HO185	**Plough Inn Hotel** 17 Main Road	Yes	No	No	No	No	No		No
HO186	**Dwelling (Former Police Station and Gaol)** 29 Main Street	Yes	No	No	No	No	No		No
HO187	**Dwelling "Girraween"** 45 Main Street	Yes	No	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
HO188	**Former Myrniong Hotel** **55 Main Street**	No	No	No	No	No	No		No
HO189	**Milk Factory and Dwelling-Dairymen's Cooperative** 61 Main Street	No	No	No	No	No	No		No
HO190	**Dwelling "Millside"** 90 Mt Blackwood Road	No	No	No	No	No	No		No
HO191	**Mt Blackwood Hotel Ruins (Drury's Hotel)** CA 36 Section 7 Parish Blackwood, Mt Blackwood Road	No	No	No	No	No	Yes		No
HO192	**Myrniong Primary School** 13 Muddy Lane	No	No	No	No	No	No		No
HO193	**Farmhouse "Clifton"** 61 Muddy Lane	No	No	No	No	No	No		No
HO21	**Uniting Church** Old Western Highway	Yes	No	No	No	No	No		No
HO43	**Slab Hut Rosehill** Pentland Hills Rd	Yes	No	Yes	No	No	No		No
HO42	**Former Hotel** Pykes Creek Road	Yes	No	No	No	No	Yes		No
	Navigators								
HO44	**Navigators Railway Bridge**	No	No	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	Geelong-Ballarat Line								
	Parwan								
HO194	**Dwelling** 75 Browns Lane	No	No	No	No	No	No		No
HO195	**"Nerowie" Outbuildings** 52 Bucklers Road	No	No	No	No	No	No		No
HO196	**Former Parwan South (Nerowie) State School No 4175 & Mechanics' Institute** Northeast corner of Parwan South and Nerowie Roads	Yes	No	Yes	No	No	Yes		No
HO197	**Former Thelma Ross Memorial Church** 70 Nerowie Road	Yes	No	No	No	No	No		No
	Pentland Hills								
HO198	**Farmhouse "Hilton"** 81 Condons Lane	No	No	Yes	No	No	No		No
HO199	**Werribee Gorge Quarry** Myers Road	No	No	No	No	No	No		No
HO200	**Bald Hill Quarry** Tramway Lane	No	No	No	No	No	No		No
	Rowsley								
HO201	**Melbourne – Ballarat Railway Bridge**	No	No	No	No	No	No		No

PS map ref	Heritage place	External paint controls apply?	Internal alteration controls apply?	Tree controls apply?	Outbuildings or fences not exempt under Clause 43.01-4	Included on the Victorian Heritage Register under the Heritage Act 2017?	Prohibited uses permitted?	Name of Incorporated Plan under Clause 43.01-2	Aboriginal heritage place?
	Balliang-Bacchus Marsh Road								
HO1	**Greystones Homestead and Outbuildings** 565 Glenmore Road	-	-	-	-	Yes Ref No H265	Yes		No
HO205	**Balance Greystones** 565 Glenmore Road	No	No	No	No	No	No		No
HO202	**Farmhouse "Willowbank"** 44 Paces Lane	Yes	No	No	No	No	No		No
	Warrenheip								
HO48	**"Killarney"** Old Melbourne Road	Yes	No	No	No	No	No		No
HO49	**Stables at Lal Lal House** Yendon-Egerton Road	Yes	No	No	No	No	No		No
	Yaloak								
HO45	**Yaloak Estate Homestead** Ballan-Geelong Road	Yes	No	Yes	No	No	No		No

APPENDIX B ECONOMIC TERMS AND DEFINITIONS

Output data represents the gross revenue generated by businesses/organisations in each of the industry sectors in a defined region. Gross revenue is also referred to as total sales or total income.

Employment data represents the number of people employed by businesses / organisations in each of the industry sectors in a defined region. Employment data presented in this report is destination of work data. That is, no inference is made as to where people in a defined region reside. This employment represents total numbers of employees without any conversions to full-time equivalence. Retail jobs for instance represent typical employment profiles for that sector, i.e. some full time, some part time and some casual.

The increase in direct and indirect output and the corresponding creation of jobs in the economy are expected to result in an increase in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy.

Value-Added data represents the marginal economic value that is added by each industry sector in a defined region. Value-Added can be calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry sector, or alternatively, by adding the Wages & Salaries paid to local employees, the gross operating surplus and taxes on products and production. Value-Added by industry sector is the major element in the calculation of Gross Regional Product / Gross State Product / Gross Domestic Product.

Gross State Product (GSP) is the total value of final goods and services produced in the region over the period of one year. This includes exports.

Impacts used in this assessment include the following terms:

- Direct effects – Direct output or value of development or construction activity.
- Indirect effects:
    - Supply-Chain effects - The increased output generated by servicing industry sectors in response to the direct change in output and demand; and
    - Consumption effects - As output increases, so too does employment and wages and salaries paid to local employees. Part of this additional income to households is used for consumption in the local economy which leads to further increases in demand and output region.

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