

REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Impact Assessment Unit (IAU) at the Department of Environment, Land, Water and Planning (DELWP) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once IAU is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
 - a brief description of potential changes or risks to environmental assets resulting from the project;
 - available information on the likelihood and significance of such changes;
 - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A USB copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB as they will be published on the Department's website.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

**Minister for Planning
PO Box 500
EAST MELBOURNE VIC 8002**

Couriers

**Minister for Planning
Level 16, 8 Nicholson Street
EAST MELBOURNE VIC 3002**

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@delwp.vic.gov.au is required. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	Yarra Ranges Council
Authorised person for proponent: Position: Postal address: Email address: Phone number: Facsimile number:	Matt Harrington Senior Project Manager - Warburton Mountain Bike Destination 15 Anderson Street, Lilydale, Victoria, 3140 M.Harrington@yarraranges.vic.gov.au 0419 875 263 N/A
Person who prepared Referral: Position: Organisation: Postal address: Email address: Phone number: Facsimile number:	Tegan Ridgeway Senior Environmental Consultant WSP Australia Pty Limited Level 15, 28 Freshwater Place, Southbank, 3006 Tegan.Ridgeway@wsp.com (03) 8662 6283 N/A
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	<p>WSP Australia Pty Limited (WSP) are utilising in-house expertise in the following areas for the project in preparation of this Referral:</p> <ul style="list-style-type: none"> — Air quality and Greenhouse Gas Emissions — Environmental Risk Assessment — Land Use Planning and Approvals — Noise. <p>Other firms engaged for input to this Referral include:</p> <ul style="list-style-type: none"> — Biosis Pty Ltd: Aboriginal and Historic Heritage, including the Cultural Heritage Management Plan — GHD Pty Ltd: Surface Water, Geotechnical and Hydrogeology investigations, Landscape and Visual Impact Assessment and Geotechnical Risk Assessment. — Practical Ecology: Biodiversity (ecology) and Bushfire Risk Statement — RM Consulting Group: Economic Assessment of Health and Recreation Benefits and Social Impacts Assessment — SALT3: Local movement and Transport Report and Traffic Impact Assessment — University of Melbourne: Mount Donna Buang Wingless Stone-fly Report <p>World Trail have been engaged by Yarra Ranges Council (YRC) to design and construct the project. World Trail have developed the Construction Environmental Management Plan (CEMP) and were integral in the development of the Environmental Protocols for the project.</p> <p>The YRC (the Proponent) developed the Communication and Engagement Strategy for the project. Altometer,</p>

	<p>engaged by YRC, completed the Community Engagement Report which summaries the stakeholder engagement activities and outcomes to date.</p> <p>This project is being developed in consultation with project partners Parks Victoria, the Department of Environment, Land, Water and Planning (DELWP) and Melbourne Water.</p>
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2. Project – brief outline

<p>Project title:</p> <p>Warburton Mountain Bike Destination (WMBD).</p>
<p>Project location</p> <p>The Warburton Mountain Bike Destination (WMBD) is approximately 70km east of Melbourne central business district. The project centres around the Warburton township, located in the Yarra Ranges. The proposed trails extend across Mt. Donna Buang, Mt. Little Joe and Mt. Tugwell.</p> <p>The trail network is in two main regions, Region 1 includes 61.5 km to the north of the Warburton township within the Yarra Ranges National Park. Region 1 includes 4 trails that lead off from Mt Donna Buang Road. The main trail runs from the Mount Donna Buang Summit in a westerly direction until it reaches the Ben Cairn section of the National Park and then heads south from Donna Buang Road and gradually descends through to the O'Shannassy Aqueduct Trail approximately 1km north of the Warburton Township. The other 3 trails descend from Donna Buang Road further east of the summit road with each of these heading towards the township in the vicinity of the Warburton Golf Course.</p> <p>Region 2 is to the south of the Warburton Highway and Rail Trail within the Yarra State Forest. This area includes Mount Little Joe and Mount Tugwell. A network of trails in the vicinity of Mt Little Joe Track link to the west with the existing Crusher Track towards Wesburn and to the east towards Mt Tugwell in the Cemetery Fireline and Mt Bride Road region.</p> <p><u>Trail heads</u></p> <p>A new Visitor's Hub (main trail head) is proposed at the Warburton Golf Course, with the existing carpark to be upgraded to accommodate a nominal 177 cars, a new shelter, and four or five wash bays to be used by mountain bike riders. Three other trail heads are proposed: a new area located on top of Mt Tugwell, off Mt Bride Road which will include a carpark, a bus turnaround bay, toilet and picnic area; another at the existing Mt Donna Buang trail head which will upgrade the carpark, toilet and picnic area, and the establishment of parking and connecting trails at Wesburn Park.</p> <p><u>Bridges</u></p> <p>Two bridges are proposed to be constructed for the project, with the ideal design including a bridge across the Warburton Hwy and Yarra River adjacent to the Mayer Bridge as well as a bridge to allow mountain bikers to safely cross over Old Warburton Road.</p> <p>Refer to Appendix A –for relevant mapping produced to support this EES Referral. Appendix B provides a summary of the trails.</p>
<p>Short project description (few sentences):</p> <p>The WMBD project is proposed as a world class mountain biking destination, where visitors can easily access the trails directly from their accommodation or parking facilities in Warburton town. It will include 44 new mountain bike trails totaling approximately 186km. The mountain bike trails will be cross country and all mountain experiences. The trails are not a loop and occur in groups located in slightly separate areas extending across the forested slopes of Mt. Donna Buang, Mt.</p>

Little Joe and Mt. Tugwell. The trails do not continue into the township, rather they connect to key sites at the Lilydale-Warburton Rail Trail, major roads or the proposed new trail head sites. Trail heads are proposed to be located at:

- Warburton Golf Course (Main trail head and Visitors Center)
- New facilities at Mt Tugwell, off Mt Bride Road
- Upgrades to existing Mt Donna Buang visitor services
- Additional parking and connecting trails at Wesburn Park

3. Project description

<p>Aim/objectives of the project (what is its purpose / intended to achieve?):</p> <ul style="list-style-type: none"> — Tourism growth within the region comprising an initiative which would support the township and the health and well-being of its residents — Create iconic trails eligible for International Mountain Bike Association Gold status — Create spectacular riding experiences that provide a competitive advantage over existing mountain bike destinations and leverages off Warburton's beautiful township, rural valley and forested sloped surrounds. — Improve health and recreation outcomes for the community — Positive economic growth for the region (refer to the Economic Impact Assessment in Appendix C)
<p>Background/rationale of project (describe the context / basis for the proposal, e.g. for siting):</p> <p>A significant network of informal mountain biking trails has developed over time in Warburton, used by local and visiting riders due to the well-suited local topography and environment lending itself to a great riding experience. This high degree of informal usage has led to conflicts with residents, forests and land managers. The YRC have identified an opportunity to establish Warburton as a tourist destination for mountain biking by formalising the activity in the area.</p> <p>The Economic Impact Assessment (Appendix C) determined that the project will generate substantial positive economic benefits for the region, during both construction and operation phases. It finds the WMBD could have an estimated annual direct economic benefit of \$20.4 million, attract 165,000 visitors per year and create up to 122 jobs in the Warburton area of approximately 23 during construction and 100 through secondary services such as accommodation, food and beverage and visitor services and retail (see Appendix C).</p> <p>The YRC has consulted widely with the community regarding the development of the Masterplan for the WMBD. Feedback has been sought from residents of Warburton and the Yarra Valley, businesses, community groups, government agencies and mountain bike riders. There has been positive community feedback about the proposed facility, with thousands of people showing strong interest and offering support and suggestions.</p> <p>The project is funded by the Federal Government's Building Better Regions Fund (\$3 million) and Regional Growth Fund (\$2.3 million), and Victorian Government's Growing Suburbs Fund (\$3 million). Locally the YRC is contributing \$2.7 million towards the project with the Warburton and Upper Yarra Community Bank also contributing \$300K. The total project is funded at \$11.3 million.</p>
<p>Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):</p> <p>Key project components include:</p> <ul style="list-style-type: none"> — Existing Mountain Bike Trails - Upgrade of approximately 15km (8% of project length) — Existing vehicle tracks - Upgrade approximately 7km (4% of project length) — Construction of new trails - Approximately 164km (88% of project length) — Visitor's Hub and trail head facilities (signage and wayfinding, carpark, ablutions, picnic spots). <p>The trails themselves comprise of 44 new mountain bike trails over approximately 186km. Of</p>

which, 22km are existing mountain bike trails and vehicle tracks, and 164km is of new mountain bike trails. Refer to Appendix A for relevant maps.

The bench width of the trails will be approximately 1.2 metres with a ride line of approximately 300-600mm. An upper limit of 2.0 metres in width (one metre for trail corridor and a trail buffer on each side of 0.5 metres) has been accounted for in the assessments as the development footprint (see Draft Construction Environmental Management Plan (CEMP) in Appendix D for preliminary designs). A head-height clearance of 2.5 metres has been required. The trail network will also include built form such as bridges, platforms, culverts, rock armour, and berms. Signage associated with the trail and trail heads is proposed to be minimal, consisting of small maps at strategic intersections and name signage. Design of the trails in sections will include installation of elevated structures and drainage works to avoid and minimise impacts to biodiversity values and waterways. Typically, the maximum trail grade will be less than 15%, with the majority of the trails under 10%, the trail grade will vary in sections depending on topography.

A set of Environmental Protocols were developed in consultation with land managers to provide guidance to the design alignment and construction of the trails (Appendix W). The aim is to have minimal environmental disturbance, and appropriately mitigate impacts where they cannot be avoided. The Environmental Protocols are to inform the development of a project specific CEMP (Appendix D) and an Operations Plan (Appendix E). In addition, significant trees and threatened species were also identified during ground truthing and opportunities recognised where micro-siting of trails could avoid or reduce impacts within the corridor.

Ancillary components of the project (e.g. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

The ancillary works of the project will involve upgrading existing trail head facilities at Mount Donna Buang carpark and picnic site and upgrading facilities at the Warburton Golf Club to form the main trail head and Visitor's Hub, which includes a carpark expansion and additional access to Dammans Road. A new trail head will be located on top of Mt Tugwell, off Mt Bride Road which will include a carpark, a bus turnaround bay, toilet and picnic area.

Key construction activities

Trail activities will include, but not limited to:

- Cut, fill and compaction of trails, dependant on terrain and slope
- Benching
- Trail edging
- Tree (limited) and vegetation removal
- Rock beaching/armouring or other reinforced surfaces
- Drainage and diversions (culverts)
- Switchback construction (sharp angled turns)
- Wooden, metal or formed bridges
- Jumps
- Elevated Structures.

The four types of basic trail construction method include:

- Standard Benching by machine – this type of construction is used when the trail traverses a cross slope and where the removal of native vegetation is involved. It's the standard technique for constructing new trails in reasonably undisturbed landscapes
- Standard Benching by hand – this is very similar to Standard Benching by machine except that it is used in situations where it may not be possible or desirable to use a mini-excavator
- Rock Armouring – is used to harden the trail surface, on steep gradients, where the soil would likely be displaced by water or trail users, leading to erosion, or crossing small streams or boggy sections. By hardening the base of the trail where it crosses the wet area, water can flow over the top of the rock armouring and users can still use the trail without becoming boggy or muddy
- Elevated Structures – the construction of bridges/elevated structures to enable a trail to cross over a waterway or area of soft or boggy ground. The structures will vary in height above the ground, with heights typically less than 1 m above the ground other than the major crossing locations.

Removal of vegetation will be to the minimum extent required to construct the trails, with trails

requiring between 1.2 metres wide and the upper limit of 2.0 metre width. Following a Pre-Start Trail Review, vegetation removal through the forested terrain will not extend more than 20 metres ahead of the construction team. Where steep slopes require cutting to bench, the maximum depth of excavation will be to 1200 millimetres. Minimal tree removal is proposed as part of the trail construction, with main vegetation removal occurring to groundcover and understorey vegetation.

Typically, construction materials will be transported to the site, within the existing footprint, via the recently constructed trails with the use of all-terrain vehicles (ATVs) and powered barrows, however construction of the trails may also include aerial transportation by helicopter of larger infrastructure (i.e. bridge components) to minimise environmental impact that may result from transporting larger components and materials through heavily vegetated areas.

Key operational activities:

The WMBD will cater for a broad range of visitors and varying cycling abilities and user groups:

- Family and leisure, people riding in a destination whilst on holiday or for new experience
- Enthusiasts and trail riders – popular sector where people seek adventure and outdoor experience for fun, and competitive racing
- Educational groups – school groups and clubs focussing on skills and development
- Competition riders – strong, technically competent riders. There will be opportunities for organised competitions and events, at the discretion of the land manager.

A new Visitor's Hub (main trail head) is proposed to be developed at the south of Warburton Golf Course, where the existing carpark is to be upgraded to accommodate 177 cars with room for future expansion if required, a new shelter, and four or five wash bays to be used by mountain bike riders will be constructed. Run-off from the wash bays will be captured by a sump and recirculated where practicable. All excess silt and soil will be captured via a silt retention system which also serves the car park. This system will be designed to meet Melbourne Water requirements. The Visitor's Hub will be the main trail head and will allow direct access to two different trails.

Three other trail heads are proposed, a new trailhead located on top of Mt Tugwell, off Mt Bride Road which will include a carpark, a bus turnaround bay, toilet and picnic area; another at the existing Mt Donna Buang trail head which will upgrade the car park, toilet and picnic area, and the establishment of parking and connecting trails at Wesburn Park. Drainage at these locations will also be upgraded to meet current Melbourne Water requirements.

It is envisioned that cyclists will travel to the main trail head via car, utilising the parking and services at the location, and use the shuttle bus service, of up to 30 services per day, to access the mountain biking trails that will be developed at Mt Donna Buang and Mt Tugwell.

The site will be managed by the YRC. An Operations Plan (Appendix E) is being developed and will provide for a clear, concise and practical framework for the trail's future management, use, development and maintenance. This will include a revegetation and weed/pest hygiene management plan and maintenance of trails and tracks. Recommendations to manage the current and future active and passive transport demands across the township and surrounding areas will be outlined in an Action Plan. Refer to the Traffic, Parking and Movement Report draft strategy at Appendix N.

Key decommissioning activities (if applicable):

Existing, informal trails will be rehabilitated by restricting access and providing a formal alternative, allowing naturally rehabilitation and regeneration.

Areas disturbed for the construction of the project, but not required for its operation, will be rehabilitated and allowed to naturally regenerate.

Is the project an element or stage in a larger project?

☒ No ☐ Yes If yes, please describe:

This EES Referral will cover all proposed trails, however construction may be staged to meet funding constraints.

Is the project related to any other past, current or mooted proposals in the region?

<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please identify related proposals.
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4. Project alternatives

Brief description of key alternatives considered to date (e.g. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

DESIGN DEVELOPMENT PROCESS

In 2013 World Trail were engaged to lead the delivery of a feasibility study for the development of mountain bike trails around the Warburton area. The feasibility study included a desk top flora and fauna report by Biosis that identified environmental considerations in planning the proposed network of trails. The feasibility study supported the development of a world class mountain bike destination in the hills surrounding Warburton and identified significant visitor economy stimulus opportunities. The feasibility study recommended the establishment of approximately 140km of trails in three zones surrounding Warburton township.

In 2016 Yarra Ranges Council established the Warburton Mountain Bike Destination master plan project. In recognition of the land tenure and complexity of the project a Project Reference Group (PRG) and formal project governance structure was established to oversee the design process. Membership of the PRG included land managers, key stakeholders and funding partners. The PRG includes representatives from:

- Yarra Ranges Council
- Department of Environment, Land, Water and Planning
- Parks Victoria
- Melbourne Water
- Wurundjeri Council
- Upper Yarra Community Enterprise

Each phase of the design development has been formally endorsed by the PRG. The final master plan will be presented to the PRG for approval prior to Yarra Ranges Council seeking formal planning approval. This EES referral details the maximum extent of trails that will be considered for inclusion in the master plan.

Over the past four years the design of the network of trails has seen a progressive development of concepts, designs and re-designs to ensure the project can be delivered in a manner that protects important environmental, heritage and social values of the area.

In 2016 Cox Architecture was appointed to lead the master planning process. Working with trail design, environmental and heritage consultants they presented an original concept design (Preliminary Master Plan 2016 in Appendix AA) to the PRG in October 2016. The concept design was based on the following principles:

- Providing a world class mountain bike destination that delivers economic, social and health benefits to the community.
- Desk top GIS assessment of all known environmental and heritage values to enable the siting of trails away from important areas.
- Consultation with land managers, key stakeholders and community to understand sensitive areas to avoid and opportunities to use existing features.

The Preliminary Master Plan identified opportunities for trails across Mt Little Joe, Mt Tugwell, Mt Bride and Mt Donna Buang. This was largely in line with the World Trail feasibility study, with the exception of the addition of a new trail descending from the summit of Mt Donna Buang.

Cox Architecture identified a descending trail from the Mt Donna Buang summit to Warburton township (Drop a K Trail) as a key opportunity to develop an experience unlike anything available in Australia. With over 1000 vertical meters of elevation difference and an opportunity to have a trail that is descent only, this unique product could be established as an international drawcard that would drive the visitor economy.

The Mt Donna Buang descending trail design in the Preliminary Master Plan was based on avoiding important environmental values including Cool Temperate Rainforest, Leadbeaters Possum and the Mt Donna Buang Wingless Stonefly. The desk top design provided for a 36km long trail from the summit of Mt Donna Buang to the township of Warburton.

In October 2016 the PRG endorsed the preliminary master plan and the next stage of planning was commenced. This involved “ground truthing” of the desk top alignments to ensure the trails can be built in accordance with project objectives with a minimum of impact on existing values.

Ground truthing is an extensive process that involves the on ground assessment of the proposed trail alignments with teams of trail designers, ecologists, heritage consultants, land managers, council officers, Wurundjeri and species experts. During the ground truthing process considerable care is taken to identify important values and plan for their protection. This results in many changes to alignments and contributes to the development of the Biodiversity Impact Assessment, Cultural Heritage Management Plan, Historic Heritage Report and construction methodologies. Examples of the changes that occurred between Preliminary Master Plan designs and ground truthed alignments can be found in Appendix AA.

The ground truthed corridor is 20m wide allowing for further refinement of the alignment at the time of construction to avoid impacts to important values. In sensitive areas this will be overseen by appropriate environmental, species or heritage experts.

Extensive ground truthing for the Drop a K Trail identified a greater extent of Cool Temperate Rainforest than had been previously mapped. This created challenges as it was identified that Cool Temperate Rainforest could not be completely avoided if the trail was to proceed. Known nest sites and high probability habitat for Leadbeaters Possum, known and potential habitat for the Mt Donna Buang Wingless Stonefly, along with issues involved in remaining clear of the Melbourne Water catchment boundary close to the summit made the Drop a K trail a technical challenge.

Significant collaboration with land managers, species experts and ecologists was involved in finalising the alignments and designing risk mitigation strategies for the Drop a K Trail that provided appropriate protection for important values.

In May 2018 Cox Architecture presented a Draft Master Plan with 110km of ground truthed trails based on their earlier Preliminary Master Plan. The plan included a network of trails in the Yarra State Forest, on Mt Little Joe and Mt Tugwell, and a network of trails on the north side of Warburton, including the Mt Donna Buang Descent (Drop a K) through Yarra Ranges National Park.

The PRG endorsed the Draft Master Plan in May 2018. This draft was used as a basis for community consultation through the following 18 months. The Community Engagement Report in Appendix Y details the feedback and response to that community engagement.

In March 2019 World Trail were appointed under an Early Contractor Involvement Tender to finalise the design of the trail network and construct the trails. World Trail’s extensive experience in design and construction of mountain bike trails, in particular in sensitive environments provided significant benefits in finalising the design.

World Trail carried out a design review with the following key directions:

- Ensuring the design provided mountain bike product mix that was contemporary and world class.
- Provide a design response to previous community engagement including:
 - Removing or redesigning several trails that were in close proximity to residences
 - Detailing the full scope of the project, including sufficient trail volume to achieve International Mountain Bike Association Gold Ride Centre status (160km)
 - Include additional challenging trails for advanced riders.
- Addressing several design challenges on the Drop a K Trail to protect important values.
- Reducing the number of, and designing a minimal impact construction technique for, water crossings to minimise the risk of water quality issues.

The design review and subsequent ground truthing has resulted in the trail alignment designs included in this referral. The following key changes have been made between the Draft Master Plan and the current designs:

- Removed trails in the vicinity of Merlino Ave in response to community concern and proximity to local residences.
- Redesigned trail Network around the settlement of Old Warburton to reduce proximity to residences and moved the Old Warburton Rd crossing point away from residences.
- Realign Drop a K trail to:
 - Completely avoid the physical Melbourne Water catchment at the summit of Mt Donna Buang
 - Avoid Mt Donna Buang wingless stonefly habitat
 - Further reduced the intersect with Cool Temperate Rainforest
 - Completely avoid an Australian National University Leadbeaters Possum monitoring site
 - Use existing disturbed footprint (old road cuttings) as much as possible.
 - Bring the trail as close as practicable to Mt Donna Buang Rd to leverage the existing impact area.
 - Decrease length from 36km to 28km
- Addition of two challenging trails and one beginner trail within the Yarra Ranges National Park. These trails were designed and ground truthed on the basis that key values such as Cool Temperate Rainforest, Wingless Stonefly and Leadbeaters Possum were not within the identified trail corridor and that important values could be adequately protected.
- Realignment of numerous sections of trail to avoid the need for waterway crossings.
- Identification of existing informal trails and tracks that can be used for additional trails to minimise impact by using already disturbed areas.
- Identification of opportunities for rehabilitation of existing informal trails not planned to be incorporated into the network

The current design of the trail network provides an opportunity to develop a truly world class tourism attraction that will provide significant community benefit, including the creation of over 100 jobs and the generation of over \$25M of economic activity. The land status, threatened species and other important ecological, cultural and social values in the area have provided many planning challenges. These challenges have been faced by collaborating widely, using a wide variety of specialist knowledge, applying new design and construction methodologies and evidence based risk management processes to avoid or minimise and impacts across the landscape. Some of the key determinants of the current design include:

- The trail network is now split between both sides of the river, with 37% of the trails on the North and 63% on the South. In the event of a bushfire or other emergency it is unlikely that the entire network will be impacted given the differing slope, aspect and vegetation. This provides resilience in a product that is likely to be critical to supporting the local community.
- The trails on Mt Donna Buang complete a network around the town, allowing a “ski village” type design that provided a ride in, ride out experience. It also allows for greater distribution of shuttle bus activity, providing more revenue generating opportunities for locals.

The area of the Yarra Ranges National Park that the trails traverse is a Recreation-Conservation Zone. The environment in the National Park is different to the State Forest. Sub alpine environment gives way to large fern gullies and tall mountain ashes providing riders an experience unique and truly beautiful environment, enhancing their connection to nature and desire to protect it.

Brief description of key alternatives to be further investigated (if known):

In addition to the trails assessed in support of this EES Referral an additional 30km are being investigated and will be assessed to the same level of detail.

The additional 30km is included in the total 186kms, however has only been desktop assessed at this point. The additional 30km includes an ascending and descending trail into Wesburn Park. This will allow for an additional/ overflow trail head, should the Golf Club trail head be full or have an event on.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

There are no ancillary activities or further stages that are excluded from the project scope.

6. Project implementation

Implementing organisation (ultimately responsible for project, i.e. not contractor):

Yarra Ranges Council

Implementation timeframe:

The Warburton Mountain Bike Destination project is currently in the preparation of the Master Plan stage, and the environmental and statutory planning approvals stage. The implementation timeline has not been confirmed and is subject to environmental and statutory planning approvals. Indicative implementation of construction is expected to commence in 2020, and operational and open to the public in 2021.

A draft construction timeline is provided in Appendix G.

Proposed staging (if applicable):

The opening of the trails is proposed to be staged as each trail is completed.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

☐ No ☒ Yes If no, please describe area for investigation.
If yes, please describe the preferred site in the next items (if practicable).

Refer to Appendix A for relevant mapping

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

The site includes trails located in the hills surrounding Warburton township (across Mt Donna Buang, Mt Tugwell and Mt Little Joe), connecting into the Warburton Golf Club carpark which will become a new Visitor's Centre and main trail head (shown in Appendix A). At-ground photographs of the trail networks and surrounding township can be found within the Preliminary Landscape and Visual Impact Assessment (Appendix H) and the Biodiversity Impact Assessment (Appendix I).

The trails to the north of Warburton on Mt Donna Buang up to an elevation of 1250 metres, run through moderate to very steep forest covered mountain terrain with narrow crests and well incised gully systems running north to south, feeding the Yarra River below. The northern face of Mt Donna Buang is within Melbourne Water's Yarra River Upper (Rural) sub-catchment. The area is dominated by tall Eucalypt forest of various age classes, with isolated areas north of Mt Donna Buang Road finding Cool Temperate Rainforest, where Eucalypt cover gives way to canopy species such as Southern Sassafras and Myrtle Beech.

The trails to the south of Warburton wind their way down from Mt Tugwell at an elevation of 790 metres and Mt Little Joe, through heavily forested, moderately to steeply sloping low hill topography, to the main trail head located at the Warburton Golf Course. The ridgelines in this area are broader with more rolling undulating hills.

The Visitor's Hub and main trail head site is located within the gently sloping to flat lying flood plain and lower terraces associated with the Yarra River and its tributaries. These low-lying areas comprise alluvium of sandy silt, clay and gravel deposits. The lower slopes and foot slopes of the steeper terrain to the north and south of Warburton generally comprise colluvial deposits of poorly sorted sand, gravel, silt, clay, and cobbles to boulder sized weathered rocks sourced from igneous and metamorphic rock, and residual soil.

Built structures in the surrounding area includes residential homes, the Warburton Golf Club, shops, restaurants, hotels and cafes in the town of Warburton. The road network surrounding the trail head includes Dammans Road, Mayer Bridge, Brett Road, the Warburton Highway and Blackwood Avenue.

Site area (if known):

The site area transverses approximately 5,930 hectares.

Route length (for linear infrastructure):

The project will consist of 44 new mountain bike trails over approximately 186km. The network trails will be of single direction. The largest trail width accounted for is 2.0 metres (likely to be 1.2 metres benched lower width limit with a completed ride line trail; width of 300-600mm), with a head clearance height of up to 2.5 metres to allow for the safe usability for riders.

Current land use and development:

The majority of the adjoining land use is associated with the Yarra State Forest (to the south), the Woiwurrung State Forest and the Yarra Ranges National Park (both to the north). The State Forests are managed by DELWP and the National Park is managed by Parks Victoria (under the Yarra Ranges National Park Management Plan).

The majority of the site is undeveloped with intact native vegetation, with isolated areas currently used for passive recreation: formal trails such as the Warburton-Lilydale rail trail, and informal mountain biking occurring on an unregulated basis throughout the site. The project will include the upgrade of 15km of existing mountain bike trails and 7km of existing vehicle tracks. The location of the proposed main trail head and proposed new Visitor's Hub is within the grounds of the existing Warburton Golf Course. The trails do not continue into the township, rather they connect to key sites at major roads (future trail head sites) and to the Lilydale-Warburton Rail Trail. The existing recreational area at the top of Mt Donna Buang is serviced by a toilet block, shelter and picnic areas. There is lighting supplied at this location, however this will not be extended to any part of the trails.

The preliminary project design intersects some areas of private property close to the Warburton township. YRC have engaged with all private landowners and their feedback has been considered in the design of the trails.

Description of local setting (e.g. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The town of Warburton is home to just over 2,000 people and supports a range of shops, cafes and other local businesses, and is already a popular destination for visitors to the Yarra Valley. Features like the scenic redwood forest close to the town and the Warburton-Lilydale rail trail draw tourists from within the region and further afield. The proposed new mountain bike trails will be located within the hills surrounding the town, placing Warburton at the epicentre of the project.

A small community of Warburton residents live to the south of the main town area, in the historic settlement of Old Warburton. These rural properties are on larger blocks of land between the slopes of Mt Little Joe and Mt Tugwell. The settlement of East Warburton has a population of 860, lacks the shops and amenities of its neighbour, and effectively operates as a 'bedroom community' for residents that work in the surrounding area and further afield. South of Warburton, in the Yarra State Forest, lies the small township of Powelltown, with a population of 217 people.

Access to the site is limited directly from the town of Warburton due to a belt of privately-owned land. Mt Donna Buang Road provides access to the proposed trails to the north of Warburton and

the Old Warburton Road to the south. The main access point to the trails will be from the main trail head located conveniently close to Warburton's town centre, at the Warburton Golf Course.

Planning context (e.g. strategic planning, zoning & overlays, management plans):

The project has been defined as "*Informal outdoor recreation*" under Clause 73.03 of the Victorian Planning Provisions (Land Use Term). This is defined as "*Land open to the public and used by non-paying persons for leisure or recreation, such as a cycle track, picnic or barbecue area, playground, and walking or jogging track*" and is also included within Clause 73.03 as a "*Minor sports and recreation facility*".

The project area is located within the YRC and is subject to the planning controls outlined in the Yarra Ranges Planning Scheme (the Planning Scheme).

The project and the process of refining the trail alignment is consistent with key strategic planning strategies, including the Central Highlands Forest Management Plan (DELWP) objectives for conservation, management and uses within the state forest. The Management Plan for the Yarra Ranges National Park establishes the long-term management framework to protect the outstanding conservation, water resource and recreation values of the park. The proposed WMBD is not in conflict with the Plan. It is recommended that Council adopts a Green Wedge Management Plan to establish a vision and set of objectives for the Yarra Ranges portion of the Yarra Valley and Yarra and Dandenong Ranges green wedge which is shared by all levels of government, land owners, land managers and the community.

The following planning controls (zones, overlays, general and particular provisions) apply:

- Clause 34.01 Commercial Zone – Schedule 1 (CZ1): for use of land (unlikely to be triggered by the project but dependent on final design)
- Clause 35.04 Green Wedge Zone – Schedule 4 (GWZ4): for building and works, and earthworks that exceed one metre in height or depth and change the rate of flow across a property boundary (earthworks).
- Clause 35.06 Rural Conservation Zone – Schedule 3 (RCZ3): for building and works, and earthworks.
- Clause 36.01 Public Use Zone – Schedule 1 (Service and Utility) and 5 (Cemetery and Crematorium) (PUZ1, PUZ5): for the use and development where land is not leased or licensed from Parks Victoria subject to conditions and where the works are not carried out by or on behalf of the public land manager.
- Clause 36.02 Public Park and Recreational Zone (PPRZ): planning approval is not required.
- Clause 36.03 Public Conservation and Resource Zone (PCRZ): for use of land, and buildings and works.
- Clause 37.01 Special Use Zone (SUZ): Major Tourist Facility: for building and works.
- Clause 42.01 Environmental Significance Overlay – Schedule 1 (ESO1Z18, ESO1Z19, ESO1Z31, ESO1Z38, ESO1B44, ESO1B45, ESO1B46): for buildings and works, to construct a fence, to construct a bicycle pathways and trails, and to remove, destroy or lop any vegetation, including dead vegetation and native vegetation.
- Clause 42.03 Significant Landscape Overlay – Schedule 3 (SLO3): specifically, for Donna Buang Range for buildings and works, and to remove, destroy or lop any vegetation
- Clause 43.01 Heritage Overlay – Schedule 140 and 342 (HO140 and HO214): for building and works that change the appearance of a heritage place and or in the heritage curtilage. Tree controls apply.
- Clause 44.01 Erosion Management Overlay (EMO): for building and works including roadworks, and to remove, destroy or lop any vegetation.
- Clause 44.06 Bushfire Management Overlay (BMO): for building and works
- Clause 51.03 Upper Yarra Valley and Dandenong Ranges Regional Strategy Plan: for building and works in the PUZ, PCRZ, and PPRZ; to remove, destroy or lop any vegetation, including dead and native vegetation (except where outlined within Clause 4.0 of the Schedule to Clause 51.03); and for buildings and works within 2.0 metres of any vegetation that is subject to a planning approval.
- Clause 52.17 Native Vegetation: to remove, destroy or lop native vegetation, including dead native vegetation.
- Clause 52.29 Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road: to create or alter access to a road in a Road Zone, Category 1 (such as at intersection points of the proposed trail and Mt Donna Buang Road, Archeron Way and

- potentially Warburton Highway).
- Clause 52.33 Post Boxes and Dry Stone Walls: A planning permit will be required if the project will impact on dry stone walls built prior to 1940.

Planning approval will be sought via a ministerial Section 20(4) planning scheme amendment to insert the project and specific requirements into the Yarra Ranges Planning Scheme in consultation with Council and relevant stakeholders. This approval pathway is considered the most appropriate response to streamline the delivery of the Federal and State funded project, enable transparent consultation and allows the ongoing and reasonable maintenance and operation of the future mountain bike trail and associated facilities.

Local government area(s):

Yarra Ranges Council

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity

(cf. general description of project site/study area under section 7):

Historic Cultural Heritage

A Historic Survey Report was completed by Biosis (Appendix J). There are five heritage places recorded as being intersected by or adjacent to the activity area:

- Victorian Heritage Inventory: O'Shannassy aqueduct sawmill and tramway site (H8022-0111): intersects activity area at Sussex Street
- Victorian Heritage Register: Maroondah Water Supply System (H2381): adjacent to the project area
- Yarra Ranges Heritage Overlay:
 - HO214 - Lilydale – Warburton Railway
 - HO140 - Mount Donna Buang-Bridle Tracks & Road.

There are an additional 11 places of archaeological potential that have been identified from historical sources. The field survey has not identified any archaeological remains at these locations, however it is noted that there is still potential for them to occur.

Aboriginal Cultural Heritage

The site is within the traditional lands of the Wurundjeri people, and falls in the Registered Aboriginal Party (RAP) area of the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation (WWWCHAC). There are five Aboriginal places within one kilometre of the Activity Area. These include three artefact scatters and a scarred tree. A voluntary Cultural Heritage Management Plan (CHMP) (Appendix R) is being developed for the project by Biosis. Preliminary findings of the CHMP No. 15276 have indicated (from the desktop, standard and complex assessments) that there were no previously registered, or newly discovered Aboriginal places identified within the Activity Area.

Social and Amenities

The Council has consulted widely with the community regarding the development of the Masterplan for the WMBD, with overall positive community feedback. The Economic Assessment of Health and Recreation Benefits (Appendix K) and the Social Impacts Assessment (Appendix L) highlights the range of potential impacts from the proposed WMBD. Assessment against noise pollution and privacy and security were limited in the assessments due to lack of comparative examples. A Qualitative Road Traffic Noise Assessment is included in Appendix U. Sensitive receptors identified to include:

- Six residential properties on Dammans Road southwest of the proposed trail head car park
- Eight residential properties to the south of the trail head on Warburton Highway
- Birchwood Manor Hotel and a residential property to the east on Martyr Road
- Alpine Retreat Hotel on Warburton Highway to the southeast.

Air Quality

The Air Quality Impact Assessment by WSP (Appendix M) states the area has an ambient air quality typical of a rural environment dominated by emissions from low volume traffic along Warburton Highway and the surrounding road network, with seasonal traffic peaks from tourist

visitors to the area. A review of the National Pollution Inventory (NPI) for 2017/2018 indicated no local industries reporting emissions in the Warburton area.

Traffic

Traffic volumes have been determined for the existing traffic network based on surveys conducted by Salt³ in Local Movement and Transport Report – Warburton and Surrounds (Appendix F) and Warburton Mountain Bike Destination Project Proposed Trail Head – Traffic Impact Assessment (Appendix N). The existing traffic numbers are detailed below. These traffic numbers were used to determine a baseline for traffic noise in order to predict potential noise level changes due to an increase in project attributable visitor traffic.

Table 1 Road traffic volumes in Warburton and surrounds

Location	Road Classification	2018 Traffic Volumes
Warburton Highway, Wesburn	Arterial	5,511
Mayer Bridge (Dammans Road), Warburton	Collector	1,041
Station Road	Local	145
Warburton Highway, Warburton	Arterial	6,713
Park Road, Warburton	Collector	1,079
Donna Buang Road, Warburton	Arterial	1,316
Woods Point Road, Warburton	Arterial	3,374
Woods Point Road, East Warburton	Arterial	1,454
Old Warburton Road, Wesburn	Collector	357
Old Warburton Road, Warburton (midpoint)	Collector	332
Old Warburton Road, Warburton	Collector	459

Native Vegetation and Flora

A Biodiversity Impact Assessment was undertaken by Practical Ecology (Appendix I). The site is within the Victorian Alps Bioregion and the Highlands Southern-fall Bioregion. Field surveys occurred over several months from October 2017 to October 2019. The surveys covered a 10 m area either side of the proposed trial centreline (20m wide corridor). This assessment identified a total of 190 plant species within the study area, including 171 indigenous species. A total of 1503 older trees were found with small to large hollows indicates high likelihood to support tree hollow-dependent fauna including Leadbeater's Possum, Greater Glider and forest Owls.

The assessment identified seven Environmental Vegetation Classes (EVCs) within the project area identified in the table below. A Habitat Hectare Assessment identified each zone as being high quality (i.e. between 60 and 90% of the optimum EVC benchmark).

Cool Temperate Mixed Forest Community and Cool Temperate Rainforest Community were both identified during the assessment. Both these FFG listed communities fall within the broader EVC description for Cool Temperate Rainforest and have been treated as such for this EES Referral including the application of mitigation measures.

Table 2 EVCs within the project area.

Ecological Vegetation Class (EVC)	Status	Hectares (desktop 30km)	Hectares (ground-truthed 151km)	Area of impact (ha)
Montane Wet Forest (EVC 38)	Least Concern	-	0.1	0.1
Cool Temperate Rainforest (EVC 31)	Endangered	-	1.06	1.06
Wet Forest (EVC 30)	Least Concern	1.51	7.89	9.4
Riparian Forest (EVC 18)	Least Concern	0.16	-	0.16
Damp Forest (EVC 29)	Least Concern	2.05	4.43	6.48
Shrubby Foothill Forest (EVC 45)	Least Concern	0.49	7.22	7.71
Herb-rich Foothill Forest (EVC 23)	Least Concern	-	0.3	0.3
Lowland Forest (EVC 16)	Least Concern	0.11	0.28	0.39
TOTAL		4.32	21.28	25.6

The newest alignment sections (approximately 30km) have only received a desktop assessment

and were assigned Habitat Zones based on modelled EVCs and vegetation quality scores.

Under the Biodiversity Assessment Guidelines in the context of Habitat Importance Maps, it has been determined possible that Powelltown Correa (*Correa reflexa* var. *lobata*) under the Victorian threatened flora species is likely to be present in the Mt Tugwell area. The presence of the following two rare Victorian threatened flora species were also confirmed:

- Tree Geebung (*Persoonia arborea*), numerous specimens recorded towards the summit, though none occur within the trail alignment or corridor.
- Long Pink Bells (*Tetratheca stenocarpa*), small population identified, these were flagged and direct impact to be avoided.

Five threatened flora species listed under the FFG Act were also recorded within 5km of the project site, Slender Tree-fern (*Cyathea cunninghamii*), Round-leaf Pomaderris (*Pomaderris vacciniifolia*), Fairy Lanterns (*Thysanotus rodwayi*), Purple Diuris (*Diuris punctata*) and Maroon Leek-orchid (*Prasophyllum frenchii*). None of these were observed during the field surveys.

The ecological assessment did not identify any individual flora species or communities listed as a matters of national environmental significance (MNES) under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) in the project area.

In addition to the above, the additional 30km desktop also identified potential habitat for:

- Brickmaker's Sedge (*Gahnia grandis*)
- Mountain Bird-orchid (*Chiloglottis jeanesii*)
- White Star-bush (*Asterolasia asteriscophora* subsp. *albiflora*)

Potential impacts to these species will be determined through detailed survey of the additional trails which is being undertaken in January 2020.

Native Fauna

Habitat modelling produced by DELWP includes 11 significant fauna species that potentially occur in the assessment area, of these the following threatened species as listed under the EPBC Act and are considered to have a moderate to high likelihood of occurring in the project area:

- Greater Glider (*Petauroides volans*) is a Vulnerable species under the EPBC Act, listed under the FFG, with a moderate likelihood to occur
- Grey-headed Flying-fox (*Pteropus poliocephalus*) is a Vulnerable species under the EPBC Act, listed under the FFG, with a moderate likelihood to occur
- Leadbeater's Possum (*Gymnobelideus leadbeateri*) is a Critically Endangered species under the EPBC Act, listed under the FFG Act, with a high likelihood of occurring and is recorded in the area
- Smokey Mouse (*Pseudomys fumeus*) is an Endangered species under the EPBC Act, listed under the FFG Act, with a moderate likelihood of occurring
- Southern Brown Bandicoot (*Isodon obesulus obesulus*) is an Endangered under the EPBC Act, listed under the FFG Act, with a high likelihood of occurring and is recorded in the area
- Swift Parrot (*Lathamus discolor*) is an Endangered species under the EPBC Act, listed under the FFG Act, with a moderate likelihood of occurring.

The project has consulted with the Department of Environment and Energy and is preparing an EPBC Referral for the project which will be submitted concurrently with this EES Referral.

In addition to the above, the following fauna species are listed under the FFG Act and have a high likelihood of occurring in the project area:

- Barking Owl (*Ninox connivens connivens*)
- Brush-tailed Phascogale (*Phascogale tapoatafa*)
- Common Bent-wing Bat (*Miniopterus schreibersii*)
- Eastern Horseshoe Bat (*Rhinolophus megaphyllus megaphyllus*)
- Grey Goshawk (*Accipiter novaehollandiae novaehollandiae*)
- Masked Owl (*Tyto novaehollandiae novaehollandiae*)
- Powerful Owl (*Ninox strenua*)
- Sooty Owl (*Tyto tenebricosa tenebricosa*)
- Square-tailed Kite (*Lophoictinia isura*)
- Lace Monitor (*Varanus varius*)

— Curve-tail Burrowing Crayfish (*Engaeus curvisuturus*)

There are also a number of species listed on the Victorian Threatened Species Advisory list, but not under the FFG or EPBC Acts, which may occur in the project area. These are listed in Appendix I.

The assessment mapped a total of 1503 trees that were considered potential habitat trees for Leadbeater's Possum, Greater Glider or for forest owls (such as the Sooty Owl and Powerful Owl) and other dependent fauna.

The project has sought to avoid impacts to the Mount Donna Buang Wingless Stonefly (not protected by the EPBC Act but listed as threatened under the FFG Act). Through mindful alignment of the trails, the project will not impact on any known Mount Donna Buang Stonefly habitat. Refer to section 12 of this Referral.

There are two threatened aquatic ecological species listed under the EPBC Act that have a low potential to be present in the waterways that intersect with the project: the Australian Grayling (*Prototroctes maraena*) a Vulnerable species, and Macquarie Perch (*Macquaria australasica*) an Endangered species. The project site is located in Melbourne Water's Yarra River Upper (Rural) sub-catchment. The key aquatic values within this sub-catchment include fish and platypus and macroinvertebrates. The current status of the native fish community is considered to be 'high', meaning that most native freshwater species recorded in the catchment are likely to be present. Platypus are rated 'high' and likely to be found in the waterways within the sub-catchment. Refer to the Surface Water and Geotechnical Assessment at Appendix O, and Geotechnical Risk Assessment at Appendix P for details.

Geology

The geology of the area is made up of six major units:

- Silurian to Devonian Humevale Siltstone: this unit is found underlying the south west portion of the site and comprises siltstone that has undergone contact metamorphism to produce hornfels as a result of baking from the adjacent igneous intrusion.
- Late Devonian Warburton Granodiorite: an igneous intrusion covering a large part of the southern section of the site and forming the hills in this area.
- Late Devonian Donna Buang Rhyodacite: a thick extrusive volcanic deposit which has formed the mountainous area north of Warburton.
- Silurian to Carboniferous Felsic Dykes: a series of linear feeder dykes occurring in parts of the Donna Buang Rhyodacite which are very similar in composition.
- Quaternary Colluvium and high level Alluvium: the deposits make up some of the lower slopes, larger scale landslips and high level river terraces adjacent to slopes.
- Alluvium: this unit makes up the floodplains and lower terraces of the Yarra River and its tributaries.

The presence of an Erosion Management Overlay of the Yarra Ranges Planning Scheme is applied over some areas of the project, indicating there are areas susceptible to landslip. The Preliminary Surface Water and Geotechnical Assessment (Appendix O) and the Geotechnical Risk Assessment (Appendix P) by GHD have identified areas of higher risk of instability based on several factors, which has assisted in informing the design ensuring additional measures are in place in these areas to manage this risk. Further field risk assessment by GHD will refine the preliminary assessment and provide further design advice to the project.

Surface Water

The Preliminary Surface Water and Geotechnical Impact Assessment by GHD (Appendix O) identified 164 waterway crossing points along the trail alignment. Waterways are classified by Stream Orders 1-5 (Stream Order 1 is smallest, and Stream Order 5 is the largest waterway classification). Stream Order 1 watercourses may only flow after heavy rainfall. However, due to the purpose these smaller streams serve in the surrounding catchments, any impacts at these points have the potential to lead to downstream impacts. The rating water crossings rated Stream Order 1-3 are emphasised to be of importance for the purposes of this project. Based on this assessment, the report identifies 114 waterway crossings may pose a high risk to downstream water quality, 49 waterway crossings are rated at a medium risk, and one waterway crossing is rated at a low risk.

The project site covers a large area with varying elevation (from 150 to 1250 metres) within Melbourne Water's Yarra River Upper (Rural) sub-catchment.

Water quality data is available for two sites near the proposed stream crossings:

- Yarra River at McKenzie-King Drive, Millgrove (Site ID: YAYAR0855)
- McMahons Creek at Woods Point Road, McMahons Creek (Site ID: YAMCM0059)

Data indicated turbidity is compliant with State Environment Protection Policy (SEPP) (Waters) requirements at both sites with copper and zinc levels not within Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC, 2000) parameters. To a lesser extent, phosphate, chromium and lead are also non-compliant with parameters. Urban and agricultural runoff is measured at stream gauges in the region. The tables below detail the history of data collection at these two sites and the percentage of compliance with ANZECC guidelines

Table 3 Water quality compliance at McMahons Creek

Parameter	Unit	Guideline	Sample Count	% data not compliant with ANZECC
Nitrogen - Ammonia as N	mg/L	0.9	106	0%
Nitrogen - Nitrate as N	mg/L	7.2	106	0%
Phosphorus - PO4 Filtered as P	mg/L	0.015	106	1%
Arsenic	mg/L	0.024	106	0%
Cadmium	mg/L	0.0002	106	0%
Chromium	mg/L	0.001	106	8%
Copper	mg/L	0.0014	106	24%
Lead	mg/L	0.0034	106	10%
Nickel	mg/L	0.011	106	0%
Zinc	mg/L	0.008	106	22%

Table 4 Water quality compliance at Yarra River at Millgrove

Parameter	Unit	Guideline	Sample Count	% data not compliant with ANZECC
Nitrogen - Ammonia as N	mg/L	0.9	131	0%
Nitrogen - Nitrate as N	mg/L	7.2	131	0%
Phosphorus - PO4 Filtered as P	mg/L	0.015	239	9%
Arsenic	mg/L	0.024	131	0%
Cadmium	mg/L	0.0002	131	0%
Chromium	mg/L	0.001	131	6%
Copper	mg/L	0.0014	131	27%
Lead	mg/L	0.0034	131	1%
Nickel	mg/L	0.011	131	0%
Zinc	mg/L	0.008	131	13%

Hydrogeology

The desktop Hydrogeology Assessment conducted by GHD (Appendix Q) was completed to provide an interpretation of the existing groundwater conditions for the project based on publicly available information.

Regional groundwater level information indicates a depth to groundwater of in excess of 50 m in the topographically elevated areas, e.g. Mount Donna Buang, but water levels shallow in the floodplains and lower elevations.

The assessment concluded that as the works will require only shallow excavation there is limited likelihood of direct interaction between the project and the groundwater environment.

Landscape and Visual

The Preliminary Landscape and Visual Impact Assessment (LVIA) by GHD (Appendix H) identified the following landscape character types (LCT) based on broadly homogenous environmental and cultural qualities and patterns in the landscape (i.e. topography, vegetation, hydrology, land use and settlement): LCT1: Township, LCT2: Residential, LCT3: Active Recreation, LCT4: Rural Valley, LCT5: Forested Slopes and LCT6: Yarra River and Floodplain.

Landscape values include those associated with Mt. Donna Buang, the Yarra Ranges National Park, the Yarra River, and heritage aspects including the Warburton swing bridge and Warburton to Lilydale Rail Trail. The Warburton valley is quite incised, with steep slopes and tall forested vegetation with a deep narrow valley floor. The town of Warburton blends into the surrounding landscape with an abundance of tall native and exotic canopy trees. Distant long open views from Warburton to the ranges are limited due to existing vegetation and a lack of large cleared areas. The project viewshed is largely confined to areas surrounding proposed bridge structures and trail heads where clearings within forested vegetation are present or within an urban context.

9. Land availability and control

Is the proposal on, or partly on, Crown land?

☐ No ☒ Yes If yes, please provide details.

The project is located within the Yarra State Forest (to the south), the Woiwurrung State Forest and the Yarra Ranges National Park (both to the north). Specifically, the project is situated in the Warburton Valley, with proposed trails extending across the forested slopes of Mt. Donna Buang, Mt. Little Joe and Mt. Tugwell, and connects to the township of Warburton.

Current land tenure (provide plan, if practicable):

The project is located on Crown Land (parkland) and private property. It is planned that a cooperative will be formed between the YRC, DELWP and Parks Victoria, which will be responsible for managing the operation and maintenance of the WMBD. Alternatively, YRC have committed to the maintenance of the project. The final arrangement is still in discussion with relevant parties.

Intended land tenure (tenure over or access to project land):

The YRC will seek to negotiate terms over private land rather than acquire private property.

Other interests in affected land (e.g. easements, native title claims):

There are no easements or native title claims over the affected land.

10. Required approvals

State and Commonwealth approvals required for project components (if known):

- Cultural Heritage Management Plan (in development) pursuant to the *Aboriginal Heritage Act 2006*
- Planning approval via a Planning Scheme Amendment pursuant to the *Planning and Environment Act 1987*
- Works on Waterways permit pursuant to the *Water Act 1989*
- Permit to Take protected flora from DELWP pursuant to the FFG Act.
- Referral under the *Environment Protection and Biodiversity Conservation Act 1999*.

Have any applications for approval been lodged?

☐ No ☒ Yes If yes, please provide details.

A voluntary Cultural Heritage Management Plan, the *Warburton Mountain Bike Hub Master Plan, Warburton Cultural Heritage Management Plan 15276* is currently in development. A Notice of Intent to Prepare a CHMP was submitted to the Secretary, Department of Premier and Cabinet (DPC) and the Wurundjeri Land and Compensation Cultural Heritage Council Aboriginal Corporation Registered Aboriginal Party (RAP) on 13 September 2017. A Draft of the CHMP has been supplied in Appendix R to this referral.

Approval agency consultation (agencies with whom the proposal has been discussed):

- Department of Environment, Land, Water and Planning (DELWP)
- Melbourne Water
- Parks Victoria
- YRC

— WWWCHAC

Other agencies consulted:

- Ambulance Victoria
- Country Fire Authority
- State Emergency Service (Victoria)
- Victoria Police
- Victorian National Parks Association
- Australian National University (Leadbeater's Possum)

For full list of consulted stakeholders refer to Appendix S (Community and Engagement Strategy).

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

In addition to the technical impact assessment reports attached to this Referral, a Qualitative Environmental Risk Assessment was undertaken and is available at Appendix T.

Aboriginal Cultural Heritage

The site is within the traditional lands of the Wurundjeri people, and falls in the Registered Aboriginal Party (RAP) area of the WWWWCHAC. The voluntary Cultural Heritage Management Plan No. 15276 (CHMP) (Appendix R) is currently being developed for the project by Biosis. No Aboriginal cultural heritage material was found during the Complex Assessments done to date within the Activity Area. The Complex Assessment done to date has determined that the Activity Area has very low archaeological potential for Aboriginal cultural heritage material due erosion profiles, prior land use and landform characteristics. The draft CHMP has determined that it is highly unlikely for unidentified Aboriginal cultural heritage material to exist within the Activity Area. As such, the proposed Activity will not impact on any registered Aboriginal cultural heritage places within the Activity Area, and therefore, the Activity will not have any cumulative impacts on the Aboriginal cultural heritage of the greater region.

Any future Aboriginal cultural heritage to be discovered will be managed in accordance with the contingency plan detailed within the CHMP.

Historic Heritage

An assessment of potential impacts to historical heritage places was undertaken by Biosis (Appendix J). The design of the trail alignments has considered the locations of heritage places and seeks to avoid places of historical significance without compromising safety of the riders.

Within the two Yarra Ranges Heritage Overlays (HO140 and HO214) the works will avoid harming the fabric of the places, and the trails have been designed in such a way that they minimise impact to the cultural significance of the place. As the form of construction is likely to only involve removal of vegetation along the narrow trail corridor within these zones, meeting this criteria and relevant tree controls will be met.

The Victorian Heritage Inventory site (H8022-0111) may involve works in the heritage curtilage, including excavation, construction of bridges, or other ground disturbance works. The construction will utilise existing road or track crossings of the site where possible. It is possible that the works around this place (if only removing vegetation was required) would be a low impact and may be exempted from approval (subject to consultation with Heritage Victoria).

Impacts to the Victorian Heritage Register place of the Maroondah Water Supply System or O'Shannassy aqueduct sawmill and tramway site (H2381) are considered to be minimal in nature and concern indirect effects to the land surrounding the asset where the trail may intersect the boundary, whilst no direct impact on the heritage asset is expected. It is possible that the works around this place may be exempted from approval (subject to consultation with Heritage Victoria).

At the 11 places of archaeological potential, it is unlikely these sites will be impacted, however there is a potential that the project could discover unknown remains. The project will implement management measures if archaeological remains are identified in accordance with Heritage Victoria's Guidelines.

Social and Amenities

An Economic Assessment of Health and Recreation Benefits (Appendix K) and a Social Impacts Assessment (Appendix L) finds that the project will largely have positive impacts in human benefits, recreational benefits, and economic benefits through job creation, increase in trade for local businesses and an increase in property values. However, it is noted that these benefits are not equally distributed across the community, and some negative impact have the potential to occur; such as a smaller percentage (16%) that rent may be impacted by increased rent, and

therefore reduced affordability.

Impacts of community amenity includes direct impacts relating to increased numbers of tourists, change in local businesses and a loss of tranquillity; and indirect impacts relating to the changing composition of the local community including a potential influx of new residents and an increase in second home ownership. Impacts on private land holders include impacts from riders using the trails themselves, riders in the areas surrounding the trails, and during events. It is indicated that the impacts by the riders on the trails themselves are likely to be low.

Traffic & Noise

Predicted future traffic volumes have been determined for the existing traffic network based on the Traffic Impact Assessment by SALT³ (Appendix N) based on the expected peak number of visitors to the WMBD. The predicted traffic volume increase of 472 daily vehicle trips, to the two roads with the greatest likelihood of being impacted, Dammans Road and Warburton Highway, will not cause an exceedance of capacity on these roads and is not considered to be significant.

Noise

The qualitative Road Traffic Noise Assessment undertaken by WSP (Appendix U) utilised the predicted traffic numbers detailed in the Traffic Impact Assessment (Appendix N) to understand potential increase in noise levels due to an increase in traffic generated by users of the WMBD. The assessment concluded that the project, and specifically the traffic contribution, would not have a significant impact on Noise in the area. Construction activities are unlikely to cause significant noise impacts for sensitive receptors and will be managed under the Construction Environmental Management Plan including requirements on timing of works.

Air Quality

A qualitative Air Quality Impact Assessment (Appendix M) was undertaken based on the predicted traffic volumes provided determined in the Traffic Impact Assessment (Appendix N). It was found that construction activities are unlikely to cause significant air quality impacts as these activities will be localised and short term and will be managed in accordance with SEPP (Air Quality Management) requirements and the Construction Environmental Management Plan.

The construction of the main trail head at the Warburton Golf Course, may create some short-term localised impacts to air quality from dust generation. These will be managed in accordance with relevant construction standards, SEPPs and Construction Environment Management Plans.

Air quality impacts during operation of the WMBD are likely to be highest during peak AM and PM weekend periods with vehicular traffic travelling on the Warburton Highway, Dammans Road and Mayer Bridge accessing the visitor's car park. The additional 472 daily vehicle trips associated with the WMBD are relatively low predicted increases in traffic volumes (27%), the short duration of peak emissions and its localised nature, air quality impacts are not expected to be of significance at the nearest sensitive receptors and should not exceed relevant ambient air quality standards.

Native Vegetation and Flora

The design refinement of trail alignments has sought to adhere to the principals of avoidance, and where avoidance is not possible, to minimise and offset impacts to native vegetation (and exotic vegetation as required) outlined in the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017) (the Guidelines), and in accordance with the WMBD Environmental Protocols governing the alignments and construction of the project.

Due to the location of the project being set largely in State Forest and National Park, the project will require removal of native and existing vegetation. A large amount of the vegetation is considered to be of high diversity and ecological condition, which supports significant habitat for common, State and Federally protected fauna species.

Based on the 151 km of trail alignment assessed so far, approximately 21.277 hectares of native understorey vegetation is expected to be removed, no large trees will be removed for the construction of the trails. An additional 30km has been subject to a desktop assessment only and will have detailed assessments undertaken during January 2020. This additional 30km is expected to include an additional (approximate) 4ha of understorey vegetation removal. The total removal of vegetation is expected to be less than the quoted number, as micro-siting of the trail

and trail width variation (in some instances narrower than the design estimate) will occur during construction and result in avoidance or less disturbance than predicted. These controls are stipulated in the WMBD Environmental Protocols and will be enforceable by the Construction Environment Management Plan.

Despite significant re-alignments to reduce incursions into Cool Temperate Rainforest, impact to this vegetation cannot be avoided. Approximately 1.06 ha of the Cool Temperate Rainforest EVG is expected to be impacted, this includes 3 sections that are close to Donna Buang Road, where rainforests dominate the surrounding landscape. The trail is constricted in this immediate area due to the avoidance and minimal use of land reserved as a water catchment area on the north side of Mt Donna Buang, to ensure there are no impacts to watercourses and smaller streams. However, raised platforms are proposed to be implemented where the trail passes through these sections and a range of other design and construction treatments will also be implemented.

While specimens of Tree Geebung *Persoonia (arborea)*, Long Pink Bells (*Tetratheca stenocarpa*) and Powelltown Correa (*Correa reflexa* var. *lobata*) were recorded or are likely to occur in the corridor, it is not expected that any populations will be impacted by the project as design has avoided known populations and Environmental Protocols will be in place.

In addition to the above, the additional 30km desktop also identified potential habitat for:

- Brickmaker's Sedge (*Gahnia grandis*)
- Mountain Bird-orchid (*Chiloglottis jeanesii*)
- White Star-bush (*Asterolasia asteriscophora* subsp. *albiflora*)

Potential impacts to these species will be determined through detailed survey of the additional trails which is being undertaken in January 2020.

The project is not expected to have a significant impact on:

- Slender Tree-fern (*Cyathea cunninghamii*),
- Round-leaf Pomaderris (*Pomaderris vacciniifolia*),
- Fairy Lanterns (*Thismia rodwayi*),
- Purple Diuris (*Diuris punctata*) and
- Maroon Leek-orchid (*Prasophyllum frenchii*)

Fauna

Leadbeater's Possum: There is known habitat for Leadbeater's Possum within the project area that has the potential to be impacted by the project. In accordance with Environmental Protocols, there will be no removal of the 1503 trees or sub-canopy species which may provide critical habitat for the species. The current alignment avoids all Australian National University Leadbeater's Possum monitoring plots and of the 23 nest box locations, only 2 occur within the trail alignment (within habitat zone 1 – see Map 1, Appendix I). The trail alignment will be set back at a minimum 10m from these two nest boxes. This 10m is considered adequate due to the position of these nest boxes next to Mount Donna Buang Road, with the trails having a less significant impact than the road.

Mount Donna Buang Wingless Stonefly: The construction corridor does not directly impact on known populations of Mount Donna Buang Wingless Stonefly. Nevertheless, particular care is to be taken during the design and construction process to minimise potential impacts. An assessment of the Mount Donna Buang Wingless Stonefly (Appendix V) was conducted in conjunction with the Biodiversity Impact Assessment (Appendix I).

The project is not expected to have significant impact on:

- Greater Glider (*Petauroides volans*)
- Grey-headed Flying-fox (*Pteropus poliocephalus*)
- Smokey Mouse (*Pseudomys fumeus*)
- Southern Brown Bandicoot (*Isodon obesulus obesulus*)
- Swift Parrot (*Lathamus discolor*)
- Barking Owl (*Ninox connivens connivens*)
- Brush-tailed Phascogale (*Phascogale tapoatafa*)
- Common Bent-wing Bat (*Miniopterus schreibersii*)
- Eastern Horseshoe Bat (*Rhinolophus megaphyllus megaphyllus*)
- Grey Goshawk (*Accipiter novaehollandiae novaehollandiae*)

- Masked Owl (*Tyto novaehollandiae novaehollandiae*)
- Powerful Owl (*Ninox strenua*)
- Sooty Owl (*Tyto tenebricosa tenebricosa*)
- Square-tailed Kite (*Lophoictinia isura*)
- Lace Monitor (*Varanus varius*)
- Australian Grayling (*Prototroctes maraena*)
- Macquarie Perch (*Macquaria australasica*)

Further assessment of impacts to Curve-tail Burrowing Crayfish (*Engaeus curvisutus*) and Tubercle Burrowing Crayfish (*Engaeus tuberculatus*) will be required as burrowing crayfish 'chimneys' were observed in the area and are both likely to occur within the trail alignment areas that have only currently had a desktop assessment.

Threatened aquatic ecology

The project is unlikely to have a significant impact on stream flows or water quality through the environmentally sensitive design of water way/drainage line crossings. It is unlikely that the project will have or has the potential to result in a significant impact to threatened fish species that may be present in watercourses intersecting with the project.

Geology

Information of historical landslides and instability suggest failures range from rock falls to rapid debris flows to very slow-moving large landslides incorporating whole hillsides. Triggers for these have been associated with historical heavy rainfall events and other natural and manmade causes (such as artificial concentrations of water).

The design and construction of the trails will be in accordance with the following guidelines:

- Australian Mountain Bike Trail Guidelines, Mountain Bike Australia, 2019
- Trail Solutions: IMBA's Guide to Building Sweet Singletrack, International Mountain Bicycling Association, 2004
- Guidelines for a Quality Trail Experience, International Mountain Bicycling Association, 2017

The project will be required to comply with requirements under the EMO. With mitigation in place, it is not expected that there will be significant exposure to geotechnical hazards.

The WMBD will be closed during periods of heavy rainfall as a requirement of the Operational Management Plan (Appendix E) and Emergency Management Plan.

Surface Water

The WMBD is located within the Little Yarra Water Supply Protection Area and the Don River Water Supply Protection Area. The proposed development is not likely to impact on provision of flows to these catchments but does have the potential to increase sediment input to waterways, which may impact downstream uses. The results have identified that 164 crossings intersect with the project. Most the stream crossings are located in areas of native vegetation.

It is not deemed likely that the project will impact on stream flows, as the Environmental Protocols and design of the WMBD to International Mountain Bicycling Association Standards will ensure that the crossing treatments do not impede the flows within waterways or drainage lines.

Landscape and Visual

The Preliminary Landscape and Visual Impact Assessment (Appendix H) identified a number of sensitive visual receptors for the project:

- View representative of visitors to Mt. Donna Buang Summit
- View representative of walkers and cyclists using the Lilydale to Warburton Rail Trail
- View representative of pedestrians and road users on Dammans Road / Mayer Bridge and Yarra River Walk
- View representative of pedestrians on the northern side of the Warburton swing bridge
- View representative of road users on Old Warburton Road
- View representative of road users on Mt. Bride Road.

Although the proposed trail network itself affects a large extent of land, the trail construction will aim to minimise tree removal with the majority of vegetation removal comprising of ground and understory vegetation. As such the trail network is not likely to have any visual effect on sensitive

visual receptors predominantly located at a distance within the Warburton township. The proposed trail network on the sloping tree-covered terrain surrounding Warburton is not likely to be visually noticeable from Warburton and surrounds.

The project will include a bridge crossing of the Yarra River adjacent to the Mayer Bridge. Any proposed development should be undertaken with respect to Yarra River environmental and landscape character values as identified within relevant policy and legislation. A bridge will also be constructed over Old Warburton Road and its design will aim to minimise the visual impact of the structure.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

☐ NYD ☐ No ☒ Yes If yes, answer the following questions and attach details.

Refer to section 11 of this referral.

What investigation of native vegetation in the project area has been done? (briefly describe)

Vegetation was assessed in terms of type (as defined by Ecological Vegetation Class) and its quality, by undertaking a Habitat Hectare assessment. DELWP EVC mapping was accessed to assess the EVCs likely to occur within the assessment areas. EVCs were then identified in the field according to observable attributes including dominant and characteristic species consistent with the benchmark descriptions.

In addition to the standard Ecological Vegetation Classes, FFG listed vegetation communities considered for this assessment includes Cool Temperate Mixed Forest Community and Cool Temperate Rainforest Community

The up to 20 m (10 m either side of the trail alignment) investigation corridor was defined to provide an adequate width for undertaking Habitat Hectare Assessments as a measure of vegetation quality across a representative area (including mapping of significant trees and assessments of understorey, recruitment, logs, etc); and investigate potential siting alternatives to minimise impacts, resulting in the alignment reroutes.

Habitat hectare assessments were applied to the entire 20 metre corridor to determine the condition and significance of the vegetation. This methodology is outlined in Vegetation Quality Assessment Manual-Guidelines for Applying the Habitat Hectares Scoring Method (DSE 2004). The habitat hectare method involves making visual and quantitative assessments on various characteristics of native vegetation according to established criteria that are set against an optimum benchmark.

Refer to Appendix I for additional details.

What is the maximum area of native vegetation that may need to be cleared?

☐ NYD Estimated area 25.6 hectares

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☒ N/A approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☐ NYD ☒ Detailed assessment completed. If assessed, please list.

Detailed assessment has been conducted on 151km of trails. An additional 30km have undergone a desktop assessment only. The EVCs likely to be impacted by the project are as follows:

Ecological Vegetation Class (EVC)	Status	Hectares (desktop 30km)	Hectares (ground-truthed 151km)	Area of impact (ha)

Montane Wet Forest (EVC 38)	Least Concern	-	0.1	0.1
Cool Temperate Rainforest (EVC 31)	Endangered	-	1.06	1.06
Wet Forest (EVC 30)	Least Concern	1.51	7.89	9.4
Riparian Forest (EVC 18)	Least Concern	0.16	-	0.16
Damp Forest (EVC 29)	Least Concern	2.05	4.43	6.48
Shrubby Foothill Forest (EVC 45)	Least Concern	0.49	7.22	7.71
Herb-rich Foothill Forest (EVC 23)	Least Concern	-	0.3	0.3
Lowland Forest (EVC 16)	Least Concern	0.11	0.28	0.39
TOTAL		4.32	21.28	25.6

Have potential vegetation offsets been identified as yet?

☒ NYD ☒ Yes If yes, please briefly describe.

YRC have started the process of investigating and identifying Offsets.

Native Vegetation Report (NVR) 'test scenario' utilising Ensymb software (the approved method provided by DELWP) was undertaken for the ground-truthed assessed trail (21.28 ha of loss).

This preliminary NVR report (Appendix I) indicates the following offset requirements:

Offset Type:	Species Offsets
Offset Amount:	14.386 SHU's Brickmaker' Sedge (<i>Gahnia grandis</i>) 14.552 SHU's Long Pink Bells (<i>Tetralochea stenocarpa</i>) 10.556 SHU's Fairy Lanterns (<i>Thysanotus Rodwayi</i>) 14.387 SHU's Powelltown Correa (<i>Correa reflexa</i> var. <i>lobata</i>) 7.591 SHU's White Star-bush (<i>Asterolasia asteriscophora</i> subsp. <i>albiflora</i>)

A report on available Species Habitat Units on the Native Vegetation Credit Register as of the 16/12/2019 indicated that all SHU requirements are available for purchase (Appendix I). This means that it is feasible for Third Party Offsetting to achieve the potential offset requirements for this project. The project team is also investigating suitable first party offset sites on either Crown Land or private land in the Warburton area and close to the proposed trail alignment.

It is important to note that a new Scenario Test will need to be run once the actual impacts of the additional 4.32ha have been refined through ground-truthing.

Other information/comments? (e.g. accuracy of information)

During ground-truthing works and site visit surveys, the following are key measures used:

- Flagging tape protocols:
 - Used flagging tape tied to trees/vegetation to mark the approximate centreline of the trail
 - Each piece of flagging tape should be visible from the adjacent piece. In dense vegetation use more flagging tape. In sparse vegetation, use less
 - Three pieces of tape attached to the same tree/branch indicates a sharp corner (either a switchback or a bermed corner)
 - The original Cox alignments are flagged with pink flagging tape
 - New trails ground-truthed by World Trail in 2019 are flagged with blue flagging tape.
- GPS protocols:
 - A high accuracy GPS was used to record the approximate centreline of all new trail alignments
 - Waypoints shall be captured at appropriate locations, including waterway crossings, designating the type of treatment to be used, views or possible lookouts, intersections with MVO tracks, switchback corners, rock features.

— Clinometer to measure gradient.

Flora and fauna

What investigations of flora and fauna in the project area have been done?

(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

A Biodiversity Impact Assessment (Appendix I) outlines in detail the following investigations that occurred to understand the project flora and fauna opportunities and constraints:

Flora

Desktop Assessment - Existing flora available through the Victorian Biodiversity Atlas (VBA) (2019 update) database was queried within a five-kilometre radius around the assessment areas to provide an indication of the potential occurrence of Victorian Rare and Threatened species.

Flora survey - During the assessment, the study area was inspected on foot. Flora surveys were undertaken over several stages based on the alignment and project brief spanning from October 2017 until November 2019. A species list (or defined area list) for indigenous or naturalised flora (i.e. not including planted species) over the entire study site was compiled.

The flora survey including mapping of rare flora and high threat weeds observed during site assessments.

Species that could not be identified in the field were recorded to the nearest possible family or genera. These were then collected as per the protocols associated with Practical Ecology's Flora and Fauna Guarantee (FFG) Act 1988 permit (No. 10004805) for the collection of plant material. In order to assist in the identification of some flora, major features of the specimens were collected where possible, including leaves, parts of branches, fruit and/or flowers.

Tree Habitat Assessment

Tree assessments and mapping were undertaken where significant habitat trees were observed within range of the trail alignment. Four classes of trees were mapped as described below:

Significant trees	Description
Pre-1900 living trees	Estimated to be greater than 120cm diameter of which all are considered to be suitable habitat for LBP and potentially forest owls where large hollows are present.
Smaller habitat trees	Defined as trees less than 120cm diameter with visible hollows that may provide nesting habitat for a range of fauna species including (where relevant): <ul style="list-style-type: none"> – Trees with visible hollows suitable for LPB and other hollow dependent fauna within areas of high probability LPB habitat. These include trees that meet the Large Old Tree Benchmark (equal to or greater than 90cm diameter) although numerous smaller trees with hollows were also identified as suitable habitat – Dead trees greater than 50cm within high probability LBP habitat as the species has a tendency to inhabit dead trees, providing they are a suitable height (>10 metres)
Other hollow bearing trees	various size classes in lower probability LBP habitat that exhibit hollows suitable for a range of owl species and other hollow dependent fauna
Large Trees	Sample areas of Large Trees were mapped for the purpose of: <ol style="list-style-type: none"> Assisting with Large Tree counts per hectare (based on the Large Tree benchmark) as a part of habitat hectare assessments. Identifying significant trees close to the indicative alignment so to allow for the alignment to be adjusted during the detailed design and construction phase

Sub-canopy Trees

While sub-canopy trees were not mapped for this project, observations of sub-canopy trees were a key component of assessments within High Probability LBP Habitat. For the purpose of this project, a sub-canopy tree is defined as any species of tree between 10-25 metres high that sits

below the mature Eucalypt canopy. This sub-canopy provides critical connectivity between canopy trees for the movement of LBP and other arboreal mammals.

Fauna

A brief incidental fauna survey was undertaken for this study. As it was undertaken in association with other tasks it is likely some species onsite were not observed. The main focus in regard to fauna was to undertake a habitat assessment. The habitat assessment relies upon making judgements on the suitability of habitat present within the study site for any significant species recorded on existing databases. Potential habitat values considered include:

- old hollow-bearing trees
- intact EVCs including the understorey strata
- connectivity to existing reserves and other patches of remnant vegetation
- water bodies, drainage lines, wetlands or wet depressions
- large fallen logs, especially hollow or concave-shaped logs
- rocks and rock outcrops
- leaf litter and grassy understorey vegetation
- vegetation that provides fruiting/feeding resources for birds and other fauna
- dense vegetation particularly in the mid-storey and understorey strata.

Likelihood Assessment

Existing information of Victorian Biodiversity Atlas (VBA) (2019 update) for fauna records within a five-kilometre radius around trail alignment were obtained to provide an indication of potentially occurring significant species.

VBA database information was used to determine likelihood of occurrence of rare or threatened species that occur or are predicted to occur within five kilometres of the study area. In determining this 'likelihood of occurrence' and utilisation of the study area by national or state significant flora and fauna, the following factors were considered:

- the conservation status of the species and its distribution
- previous recordings of species in the local area
- date of last record
- the habitat requirements of individual species
- the physical attributes of the assessment area, such as topography, geology, soils, aspect and habitat features such as trees with hollows, the presence of rocks or boulders, logs on the ground
- the history of land use at the study site
- the level of fragmentation and modification to the environment surrounding areas.

A description of the justification for the likelihood of occurrence is presented below.

Likelihood of occurrence	Criteria
Nil	Species known to be extinct in local area and/or absent from the region.
Low	Unsuitable habitat at study site; or habitat conditions intermediate and records very limited and dated; or if it were present, it is highly likely to have been observed on site.
Medium	Habitat conditions are intermediate, and/or optimal habitat conditions for species but local records limited or dated and/or if it were present, it is not likely to have been observed on site.
High	Optimal habitat conditions for species or species recorded at site, or intermediate habitat conditions but extensive local records and/or if it were present, it is not likely to have been observed on site.

The investigations and creation of the alignments were taken with great care due to the challenging terrain. One company marked out the alignment with pink flagging tape and mapped out the alignment with a GPS device. A second company (Practical Ecology) then walked the

alignment to undertake ecological investigations with the aid of the flagging and a GPS enabled tablet including the GPS track points for reference. Due to limitations of satellite reception in heavily forested environments, it is rare that GPS points are recorded within one metre accuracy. The GPS points taken in the field were generally between 2-5 metre accuracy. The same limitation applies to the trail alignment itself.

Additional Trails – Desktop only

The newest proposed trail alignments (approximately 30km of trail) underwent desktop assessment of ecological values.

The potential trail alignment is within 10 metres either side of the indicative trail centreline (though the actual trail construction zone will be 1.2m). However, the Assessment Area was not limited to a 20-metre corridor but also took in general observations adjacent to the corridor.

The assessment was undertaken in the steps as outlined below:

- EVCs and conservation significance (using modelled EVC datasets)
- Identification of any EPBC or FFG listed communities
- Vegetation Condition using modelled quality scores
- Locations of habitat importance for threatened flora and fauna species

Detailed mapping was also completed, illustrating the trail alignment and desktop biodiversity information. This is included in Appendix I.

Have any threatened or migratory species or listed communities been recorded from the local area?

☐ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

The following species have been recorded in the local area. For specific species details refer to the Biodiversity Impact Assessment (Appendix I).

- Tree Geebung (*Persoonia arborea*)
- Long Pink Bells (*Tetratheca stenocarpa*)
- Powelltown Correa (*Correa reflexa* var. *lobata*)
- Slender Tree-fern (*Cyathea cunninghamii*),
- Round-leaf Pomaderris (*Pomaderris vacciniifolia*),
- Fairy Lanterns (*Thismia rodwayi*),
- Purple Diuris (*Diuris punctata*) and
- Maroon Leek-orchid (*Prasophyllum frenchii*)
- Leadbeater's Possum (*Gymnobelideus leadbeateri*)
- Mount Donna Buang Wingless Stonefly (*Riekoperla darlingtonia*)
- Greater Glider (*Petauroides volans*)
- Grey-headed Flying-fox (*Pteropus poliocephalus*)
- Smokey Mouse (*Pseudomys fumeus*)
- Southern Brown Bandicoot (*Isodon obesulus obesulus*)
- Swift Parrot (*Lathamus discolor*)
- Barking Owl (*Ninox connivens connivens*)
- Brush-tailed Phascogale (*Phascogale tapoatafa*)
- Common Bent-wing Bat (*Miniopterus schreibersii*)
- Eastern Horseshoe Bat (*Rhinolophus megaphyllus megaphyllus*)
- Grey Goshawk (*Accipiter novaehollandiae novaehollandiae*)
- Masked Owl (*Tyto novaehollandiae novaehollandiae*)
- Powerful Owl (*Ninox strenua*)
- Sooty Owl (*Tyto tenebricosa tenebricosa*)
- Square-tailed Kite (*Lophoictinia isura*)
- Lace Monitor (*Varanus varius*)
- Australian Grayling (*Prototroctes maraena*)
- Macquarie Perch (*Macquaria australasica*)
- Curve-tail Burrowing Crayfish (*Engaeus curvisutus*)
- Tubercle Burrowing Crayfish (*Engaeus tuberculatus*)

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (e.g. loss or fragmentation of habitats) Please describe briefly.

There is an overall low likelihood of significant impacts to the Southern Brown bandicoot due to the removal of ground cover vegetation which forms their habitat, however a moderate residual risk may occur from invasive species becoming established (i.e. foxes) which are harmful to the Southern Brown Bandicoot.

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

☐ NYD ☐ No ☒ Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

The project is not expected to have a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) on any threatened or migratory species, other species of conservation significance or listed communities.

There is one community and one species listed under the FFG Act, and two Endangered species under the EPBC Act that the project that have the potential to be affected the project. These are discussed below. For further details and other species refer to Biodiversity Impact Assessment (Appendix I).

Cool Temperate Rainforest (listed community under the FFG Act):

- The trail alignment on Mt Donna Buang passes through Cool Temperate Rainforest and will require some removal.
- Cool Temperate Rainforest accounts for approximately 1.06ha of the 25.6ha of understory native vegetation likely to be removed. Despite significant re-alignments to reduce incursions into Cool Temperate Rainforest, impact to this vegetation cannot be avoided at the summit section of the Drop A-K trail on Mt Donna Buang as the trail cannot encroach into the Water Supply Catchment area.

Mount Donna Buang Wingless Stonefly is listed as threatened under the FFG Act. Consideration has been given to the protection of the Mt Donna Buang Wingless Stonefly as it has a very restricted geographic distribution, with a total estimated area of occupancy of just 2-4 km². An assessment of the Mount Donna Buang Wingless Stonefly (Appendix V) was conducted in conjunction with the Biodiversity Impact Assessment (Appendix I)

- The species has only been found between 1000-1200m above sea level, at two localities, both of which are located within the Yarra Ranges National Park. The first of these is situated within 1km of the summit of Mt Donna Buang at several separate sites. This is the stronghold for the local population, and considered to have the largest number of individuals
- The species has been found in and along the edges of temporary streams with cool, clear water. The immature stage is aquatic and as the adults are flightless, and the species is tied closely to riparian habitats
- The location closer to the summit, which forms the stronghold for the species, is potentially threatened by a variety of factors, primarily related to past development for tourism but none appear to constitute a direct threat to the species. The location 3km from the summit appears to have a low number of individuals, however is threatened by plant disease and changes in water quality. Similarly, there are no known direct threats to the species at this site.
- Further investigations by the University of Melbourne, involving testing additional waterways for DNA markers indicating utilisation by the species, identified an additional 2 locations, however the project will not impact these locations.
- The trails have been realigned to avoid any known habitat for the species, this along with additional mitigation measures, impact on the species is unlikely.

Leadbeater's Possum (*Gymnobelideus leadbeateri*), a Critically Endangered species under the EPBC Act and listed under the FFG Act:

- There are known locations for the species in proximity to the project area, and as a result key

constraints of locations housing Leadbeater's' Possum monitoring plots and the 23 nest box locations have informed the trail alignments. Only two nest box locations occur within immediate proximity of the trail alignment. To ensure that no significant impacts are likely to occur, the trail alignment will be set back at a minimum 10 metres from the two nest box sites.

- A total of 1503 Trees were mapped that are potential habitat trees for Leadbeater's' Possum and Greater Glider. The location, size category, condition (dead or alive) and species of each tree was recorded and is maintained within the project database. Hollows were noted for each tree where observed.

Southern Brown Bandicoot (*Isodon obesulus obesulus*) is listed as Endangered under the EPBC Act, listed under the FFG Act, with a high likelihood of occurring and is recorded in the area.

- It is found in forest, heath and shrub communities. It shelters in a nest of vegetation beneath dense cover; it eats fungi, tubers and arthropods. As the project is removing ground cover, some of the potential habitat could be removed, however this is not likely to significantly impact the species.

Is mitigation of potential effects on indigenous flora and fauna proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Detailed information regarding mitigation measures can be found in the Biodiversity Impact Assessment (Appendix I), and the Environmental Protocols (Appendix W). The following is an overview of the fauna and flora mitigation measures and protocols in place for the project:

Design Refinements

The project is designed in line with the International Mountain Bicycling Association's Guidelines for a Quality Trail Experience (2017), to achieve best management practices for the design and management of mountain bike trails. It utilises existing approaches to protecting natural resources while developing new guidance to design, plan, and manage high-quality mountain biking trails.

The alignment and design of the project has been undertaken to meet biodiversity principals to first avoid, and then mitigate and offset when avoidance is not practicable. The alignments of the trails have undergone a process seeking continuous improvement to achieve a balanced outcome for both the mountain bike trails and environmental values and features. Additionally, construction methodology has been developed to achieve biodiversity principals, and mitigate against species specific potential impacts. Refer to the Biodiversity Impact Assessment and associated mapping (Appendix I) in conjunction with the written explanations for detail of the design refinements.

WMBD Environment Protocols

A series of environmental protocols have been developed in consultation with land managers including DELWP and Parks Victoria to provide guidance for the design and construction of the project to ensure environmental values are protected and impact minimised. The protocols include standards to be met by the design and during construction, such as exclusion zones around nest boxes, hand construction only within 10m of a Myrtle Beech Tree and requirements for waterway crossings.

These protocols were developed in conjunction with species experts for Cool Temperate Rainforest, Leadbeater's Possum and Mt Donna Buang Wingless Stonefly and are the combined work of the following organisations:

- Yarra Ranges Council
- Department of Environment, Land, Water and Planning (DELWP)
- Parks Victoria
- Practical Ecology
- World Trail

The protocols include two levels of management. The 'protocols' are the ultimate standard the project aims to achieve in the construction and operation of the project. However, it is acknowledged that not all standards will be realistic throughout the landscape and 'mitigation measures' have been developed to minimise the impact to the values in these cases. There are some standards where no mitigation measures have been described and, in these cases, the risk to the value is considered so high, that the protocol must be implemented.

The endorsed Environmental Protocols are including in Appendix W to this referral

Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) (Appendix D) has been developed for the project and outlines how the construction of the project will avoid, minimise or mitigate effects on the environment and surrounding area. It will describe in detail all the mitigation measures that will be employed during the construction of the project and will define the details of who, what, where and when those environmental mitigation and management measures are to be implemented. It will consider the requirements and details in the above mentioned plans and processes to ensure a consistent approach across the project to ensure the project avoids, minimises and mitigates any environmental impacts from the project.

Key species and communities identified include the Leadbeater's Possum, Southern Brown Bandicoot, Mount Donna Buang Wingless Stonefly and Cool Temperate Rainforest community. Species specific mitigation measures are summarised below.

Leadbeater's Possum (*Gymnobelideus leadbeateri*), species specific mitigations:

- No canopy or sub-canopy species are proposed to be removed within High-probability habitat (e.g. Silver Wattle, Black Wattle and immature Eucalypts) to construct the trail as this vegetation layer provides a critical habitat component for the movement of the species.
- Supervision and guidance by an ecologist within Leadbeater's Possum habitats will be provided during the construction phase
- All large hollow bearing trees (dead and alive) are to be retained with no substantial works encroachment that would compromise the health and viability of such tree as they are potential nest trees. A 50-m buffer will ideally be applied, where this is not practicable, the project will be set back as far as practicable and no dense stands of Callistemon or Tea Tree species within potential or suitable habitat for Leadbeater's Possum will be removed.
- The alignment avoids the general vicinity of 21 of the 23 nest boxes within the trail alignment. The two nest boxes in proximity of the trail has been set at a buffer of 10 metres and is determined to be a low residual impact by the project due to their location next to Mount Donna Buang Road.
- Restrict access to the trails, with opening and closing hours clearly displayed on signage and in any marketing material. Any gates will be closed, and shuttle buses will not operate outside operating hours. No maintenance activities will take place out of hours.

Southern Brown Bandicoot (*Isodon obesulus obesulus*) (SBB) species specific mitigations:

- The trail footprint has been refined to minimise impacts to local SBB populations and habitat. The loss of a small amount of vegetation to allow for the trails will not reduce breeding, foraging and dispersal habitat opportunities for the species. Loss of breeding, foraging and dispersal habitat is unavoidable even with mitigation measures applied; however, it is less than 5% of the habitat in the regional patch, and the loss and long-term modification of suitable habitat is not a significant impact to the species
- Where practicable, timing of trail construction in areas of significant habitat will avoid the breeding period
- Minimising removal of native vegetation is in place, however, there will inevitably be the loss of some understorey vegetation in habitat areas for the SBB
- Identifying opportunities to avoid and minimise vegetation loss, such as using raised platform, especially at gully line crossings
- Minimising the construction footprint of the proposed trail to 2.0 m will have limited fragmentation of understorey habitat, and will not be a significant impact to the species
- The species is highly vulnerable to predation by feral species especially foxes. The creation of a linear path may allow foxes to access areas of SBB habitat around Mt Tugwell previously uninhabited by foxes. However, it is unlikely that construction of the trail will lead to an increase in fox populations. Monitoring of fox populations using camera trapping should be established to determine if a fox baiting program should be conducted. There is a medium residual risk of invasion species becoming established in the SBB habitat.

Mount Donna Buang Wingless Stonefly species specific mitigations:

- Avoidance through the implementation of buffer zones around known sites. These buffers were provided by DELWP and vary based on the site and availability of habitat. The project trail alignment does not intersect with any of the buffer areas. It is noted that a part of a buffer zone comes within 20 metres proximity to the buffer on Mt Donna Buang.
- The Operational Plan and the Construction Environment Management Plan for the project details measures to prevent the spread of weeds that may impact the species, as well as

measures to minimise changes to hydrology around watercourses with raised boardwalks and platforms, rather than excavating.

Cool Temperate Rainforests community specific mitigations:

- To minimise impacts to the protected community, raised boardwalks or platforms are proposed to be implemented where the trail passes through these sections.
- Myrtle Wilt is an uncommon occurrence in the region and will be controlled providing construction protocols are adhered to. Boardwalks or elevated platforms will minimise impacts to rainforest flora and further minimise soil disturbance that potentially leads to the spread of Myrtle Wilt. This approach ensures that any construction activity will not increase the likelihood of Myrtle Wilt spread. Best practise Myrtle Wilt Control during construction and once the trail is opened. Myrtle Beech trees to be identified with sufficient construction setback.

Operations Management Plan

The Operations Management Plan (Appendix E) provides a clear framework for the management, operation and maintenance of the proposed WMBD. It outlines the strategies for the protection and management of values of the trail including safety, heritage and environmental aspects and details the monitoring, reporting and evaluation requirements for the plan. The Trail Operations Plan is also the overarching document which details the specific aspect management plans over which it governs including the weed management and bushfire management plans (Appendix X). Under this plan YRC also intend to implement the following strategies to manage ongoing impact to Leadbeater's Possum

- Maintain and enhance fauna habitat through the control of potentially threatening processes, including pest plant and animal control.
- Communicate the policy of no feeding of wildlife on the trail network to visitors and prohibit the sale or distribution of birdseed within the area.
- Use signage to promote awareness in visitors and users of the trail network of the threatened species and the need to protect.

In addition to the above, YRC have committed to support research and monitoring of Leadbeater's Possum to ensure that the area continues to support viable populations of this endangered species.

Other information/comments? (e.g. accuracy of information)

13. Water environments

Will the project require significant volumes of fresh water (e.g. > 1 GL/yr)?

☒ NYD ☒ No ☐ Yes If yes, indicate approximate volume and likely source.

Will the project discharge waste water or runoff to water environments?

☒ NYD ☒ No ☐ Yes If yes, specify types of discharges and which environments.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

☒ NYD ☐ No ☒ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

The project site covers a large area with varying elevation (from 150 to 1250 metres) within Melbourne Water's Yarra River Upper (Rural) sub-catchment.

The Preliminary Surface Water and Geotechnical Assessment (Appendix O) identified a total of 164 waterway crossings which intersect with the project. The majority of the stream crossings are located in areas of native vegetation.

The assessment identified 114 waterway crossings which may pose a high risk to downstream water quality, 49 waterway crossings are rated at a medium risk, and one waterway crossing is rated at a low risk.

The project will also include a bridge crossing of the Yarra River adjacent to the Mayer Bridge

Are any of these water environments likely to support threatened or migratory species?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments.

The aquatic environment in the waterways in the vicinity of the proposed development are considered in good to excellent condition, largely meeting SEPP (Waters) water and environmental quality objectives. There are two aquatic species, protected under the EPBC Act, which have a low likelihood to be present in waterways in the vicinity of the project:

- Australian Grayling (*Prototroctes maraena*) Vulnerable under EPBC Act
- Macquarie Perch (*Macquaria australasica*) Endangered under EPBC Act.

The Mount Donna Buang Windless Stonefly has been recorded in the vicinity of the trails. To the best of available knowledge, the proposed trail would not directly cross any waterways where the Mount Donna Buang Wingless Stonefly is present or is likely to be present. However, due to high porosity of the soil, all springs in the area are well connected to their catchment. This means that any of the effluent generated during the building and usage of the trail is likely to affect the quality of water and habitat immediately downstream.

The project is committed to minimising impacts to water flow and quality and to minimise the spread of Myrtle Wilt as a result of the project. The project working group is continuing to work with Mount Donna Buang Stonefly experts to minimise potential impact to the species and their habitats.

Further assessment of impacts to Curve-tail Burrowing Crayfish (*Engaeus curvisutus*) and Tubercle Burrowing Crayfish (*Engaeus tuberculatus*) will be required as burrowing crayfish 'chimneys' were observed in the area and both are likely to occur within the trail alignment areas that have only currently had a desktop assessment.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

☐ NYD ☒ No ☐ Yes If yes, please specify.

Could the project affect streamflows?

☐ NYD ☐ No ☒ Yes If yes, briefly describe implications for streamflows.

The project has the potential to impact on 164 waterways which feed directly into tributaries of the Yarra River. The trail alignments have been designed to avoid and minimise impacts to watercourses.

Design and construction Environmental Protocols include requirements for the management of erosion and sedimentation to avoid and minimise potential impacts on watercourses (Appendix W) including the installation of appropriately design bridge crossings at all water crossings. Refer to Preliminary Surface Water and Geotechnical Assessment (Appendix O) for details of potential impacts.

Could regional groundwater resources be affected by the project?

☐ NYD ☒ No ☐ Yes If yes, describe in what way.

No impact expected to groundwater. See Appendix Q for Qualitative Hydrogeology Assessment

Could environmental values (beneficial uses) of water environments be affected?

☐ NYD ☐ No ☒ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Although this is unlikely with the proposed mitigation measures in place and functioning, the project has a low potential to impact on the Yarra River Upper (Rural) sub-catchment. Impacts at water crossings within the WMBD have the potential to lead to downstream impacts on sensitive water receptors (aquatic flora and fauna) and other downstream beneficial uses.

Beneficial uses	Note	Is beneficial use present
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Water dependant ecosystems	Melbourne Water Corporation (2018) measured ecosystem values in the Upper Yarra River (Rural) Subcatchment as part of the Co-Designed Catchment Program for the Yarra Catchment. The catchment scored high for platypus and very high for macroinvertebrates. Fish as well as birds scored moderate.	Yes
Human consumption (after appropriate treatment)	Melbourne Water harvests water from the mid Yarra River, downstream of Millgrove. Melbourne Water also harvests water from the Maroondah Reservoir water supply catchment.	Yes
Agriculture & Irrigation Aquaculture Human consumption of aquatic foods Industrial and commercial Water-based recreation (primary contact)	Aerial imagery show that water is extracted for irrigation and watering livestock on the Yarra and the tributaries. Inactive trout farm downstream of Warburton which is licensed to extract water from the Yarra River. Anglers may eat the fish they catch Industrial and commercial Several restaurants, cafes and bed and breakfasts are located on the banks of the Yarra in Millgrove. The Upper Yarra River is used for fishing, canoeing, kayaking and swimming. The tracks along the Yarra River are visited by bushwalks and bird watchers.	Yes
Water-based recreation (secondary contact) Water-based recreation (aesthetic enjoyment) Traditional Owner cultural values Cultural and spiritual values	The Yarra River (Birrarung) is of great importance to the Woi-wurrung people, as stated in the Yarra River Protection (Wilip-gin Birrarung murrn) Act 2017 Many of the tributaries are located within mapped areas of Aboriginal Cultural Heritage Sensitivity. Cultural and spiritual values Cultural events (e.g. Warburton River Folk Festival).	Yes

Could aquatic, estuarine or marine ecosystems be affected by the project?

☐ NYD ☐ No ☒ Yes If yes, describe in what way.

The waterway crossing assessment indicates that the majority of crossings are located within areas susceptible to erosion, with the grade of the current trail network in the vicinity of the waterway crossings likely to lead to sediment input to waterways if no mitigation measures are put in place.

Design and construction Environmental Protocols (Appendix W) include requirements for the management of erosion and sedimentation to avoid and minimise potential impacts on watercourses. The project is not considered to have adverse residual impacts to aquatic or riparian ecosystems. Refer to Preliminary Surface Water and Geotechnical Assessment (Appendix O) for details of potential impacts.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

☒ No ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

Is mitigation of potential effects on water environments proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

The following measures are recommended, incorporating those specified by Melbourne Water:

- Meet standards of Melbourne Water's Constructed Crossing Guidelines for new crossings (Melbourne Water, 2011)
- Follow DELWP guidelines (O'Connor et al., 2017) to allow for fish passage at new crossings

- Prepare an Environmental Management Plan that includes:
- Hygiene Protocols for both construction and operation phases to minimise spread of weeds and Phytophthora
- Regular inspection of erosion and sediment control measures, particularly following heavy rain, to maintain ongoing functionality
- Siting of stockpiles at least 20 metres from waterways
- No refuelling of equipment within 20 metres of waterways
- Construct adequate bunds for fuel/hazardous chemicals.
- Australian Mountain Bike Trail Guidelines, Mountain Bike Australia, 2019
- Trail Solutions: IMBA's Guide to Building Sweet Singletrack, International Mountain Bicycling Association, 2004
- Guidelines for a Quality Trail Experience, International Mountain Bicycling Association, 2017

Proposed waterway crossing techniques have been provided by World Trail based on ground-truthing of the trail network. The World Trail assessment has provided a range of crossing techniques however, the project has committed to a 'no wet wheels' approach to minimise erosion and the risk of spreading disease. As such bridges and elevated boardwalks will be installed at all water crossings.

Bridge crossings were recommended at 33 locations. This included 21 crossings identified by this assessment as high risk and 12 identified as medium risk.

Other information/comments? (e.g. accuracy of information)

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

☐ No ☒ Yes If yes, please attach.

See Appendix H for the project specific Preliminary Landscape and Visual Impact Assessment.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**

☐ NYD ☐ No ☒ Yes If yes, provide plan showing footprint relative to overlay.

The project area is within land applied with Environmental Significance Overlays (ESO) planning controls, including ESO1Z18, ESO1Z19, ESO1Z31, ESO1Z38, ESO1B44, ESO1B45 and ESO1B46. The purpose of the ESO's are to ensure the long term protection of wildlife habitat and other conservation values of sites of botanical and zoological significance and to ensure that any new development is sensitively designed and sited to reinforce the existing environmental characteristics of the area.

The project area is within land applied with Significant Landscape Overlay (SLO) planning controls, including (SLO3, SLO4, SLO17, and SLO22). The purpose of these are to preserve and enhance the special areas within the Yarra Ranges and ensure the retention of their unique character and appeal for residents, visitors and new businesses. The recognised values include spectacular mountain scenery, expansive rural plains, slopes and enclosed valleys with small townships where a harmonious balance of forest, farmland and development has been achieved

Pursuant to the Planning and Environment Act 1987, the project requires planning approval under Clause 42.01 (ESO) and Clause 42.03 (SLO) for buildings and works, and to remove, destroy or lop any vegetation.

Refer to Appendix A for Planning Overlay Overview Map. For detail of landscape character values refer to Preliminary Landscape and Visual Impact Assessment (Appendix H).

- **Identified as of regional or State significance in a reputable study of landscape values?**

☐ NYD ☒ No ☐ Yes If yes, please specify.

- **Within or adjoining land reserved under the *National Parks Act 1975* ?**

<input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify. The proposed works fall within the Yarra Ranges National Park. • Within or adjoining other public land used for conservation or recreational purposes ? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify. The project is within the Yarra State Forest south of Warburton and the Woiwurrung State Forest.
Is any clearing vegetation or alteration of landforms likely to affect landscape values? <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please briefly describe. The proposed trails are not expected to affect the key characteristics that define the landscape character of the area due to the proposed recommendations for a sensitive approach to construction provided by World Trail (see CEMP, Appendix D). Tree removal will be restricted to the minimal amount essential to safe trail design, construction and operation. The required removal of vegetation is not considered likely to adversely impact the existing landscape values.
Is there a potential for effects on landscape values of regional or State importance? <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Please briefly explain response.
Is mitigation of potential landscape effects proposed? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe. The trails have been designed to blend into the contours of the landscape and vegetation removal will be minimised through the use non-intrusive methods of construction including use of hand tools and small machinery. The Project intends limited tree removal only where essential.
Other information/comments? (e.g. accuracy of information)

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe. Information of historical landslides and instability suggest failures range from rock falls to rapid debris flows to very slow-moving large landslides incorporating whole hillsides. Triggers for these have been associated with historical heavy rainfall events and other natural and manmade causes (such as artificial concentrations of water). Although the project is not expected to significantly increase risk of land or soil stability, the use of the trails does introduce potential for greater disturbance of the land and soil erosion over time. This will be managed through on-site geotechnical assessment and design recommendations where the trails pass through areas of potential areas of high and medium risk of landslip identified in the preliminary geotechnical assessment, as well as through selection of construction materials, erosion controls and ongoing maintenance. There is no potential to impact on Acid Sulfate Soils.
Are there geotechnical hazards that may either affect the project or be affected by it? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe. The Preliminary Surface Water and Geotechnical Assessment (Appendix O) identifies the trails with potential areas of high and medium risk of landslip. Specific hazards and risks on the 44 trail alignments are detailed in Table 4 of the Preliminary Surface Water and Geotechnical Assessment. Key hazards across the project area are: — Reactivation of debris flow material due to natural or artificial factors (heavy rainfall/ earthworks/ alteration of drainage pathways) — Potential for development of small scale landslides in western portion of trail where slope grade >50% — Small scale failures associated with alteration of drainage pathways.
Other information/comments? (e.g. accuracy of information)

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

☐ NYC ☒ No ☐ Yes If yes, provide estimate of traffic volume(s) if practicable.

No significant impacts to road traffic expected as a result of the construction and operation of the project. Refer to Economic Assessment of Health and Recreation Benefits (Appendix K) and Social Impacts Assessment (Appendix L), Local Movement and Transport Report (Appendix F) and Traffic Impact Assessment (Appendix N)

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☐ NYC ☒ No ☐ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

No significant impacts to amenity of residents due to increased dust or odours, noise or traffic levels or visual impacts expected due to the project. Refer to Social Impacts Assessment (Appendix L), Qualitative Air Quality Assessment (Appendix M), and Road Traffic Noise Assessment (Appendix U) for complete assessments.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYC ☒ No ☐ Yes If yes, briefly describe the hazards and possible implications.

No potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport. Refer to Qualitative Air Quality Assessment (Appendix M) for complete assessment.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYC ☒ No ☐ Yes If yes, briefly describe potential effects.

No potential for displacement of residences or severance of residential access to community resources. Economic Assessment of Health and Recreation Benefits (Appendix K) and Social Impacts Assessment (Appendix L),

Are non-residential land use activities likely to be displaced as a result of the project?

☐ NYC ☒ No ☐ Yes If yes, briefly describe the likely effects.

No non-residential land use activities likely to be displaced as a result of the project. Economic Assessment of Health and Recreation Benefits (Appendix K) and Social Impacts Assessment (Appendix L),

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☐ NYC ☒ No ☐ Yes If yes, briefly describe the potential effects.

Changes in non-residential land use activities causing adverse effects on local residents/communities, social groups or industries is not expected. Economic Assessment of Health and Recreation Benefits (Appendix K) and Social Impacts Assessment (Appendix L),

Is mitigation of potential social effects proposed?

☐ NYC ☐ No ☒ Yes If yes, please briefly describe.

Based on feedback from initial community engagement activities, some trails have been relocated away from property boundaries to allay concerns of the residents regarding security, noise and dust impacts. Ongoing community consultation is taking place to ensure community impacts and concerns are identified and management measures implemented.

Other information/comments? (e.g. accuracy of information)

– Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

- ☐ No If no, list any organisations that it is proposed to consult.
☒ Yes If yes, list the organisations so far consulted.

Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation (WWWCHAC).

What investigations of cultural heritage in the project area have been done?

(attach details of method and results of any surveys for the project & describe their accuracy)

A voluntary CHMP No.15276 is being developed for the project (Appendix R).

Is any Aboriginal cultural heritage known from the project area?

- ☐ NYD ☒ No ☐ Yes If yes, briefly describe:
- Any sites listed on the AAV Site Register
 - Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
 - Sites or areas of sensitivity identified by representatives of Indigenous organisations

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

- ☐ NYD ☐ No ☒ Yes If yes, please list.

A Historic Survey Report was completed by Biosis (Appendix J). There are five heritage places recorded as being intersected by or adjacent to the activity area:

- Victorian Heritage Inventory: O'Shannassy aqueduct sawmill and tramway site (H8022-0111): intersects activity area at Sussex Street
- Victorian Heritage Register: Maroondah Water Supply System (H2381): adjacent to the project area
- Yarra Rangers Heritage Overlay:
 - HO214 - Lilydale – Warburton Railway
 - HO140 - Mount Donna Buang-Bridle Tracks & Road.

There are an additional 11 places of archaeological potential that have been identified from historical sources. The field survey has not identified any archaeological remains at these locations, however it is noted that there is still potential for them to occur.

- Places of archaeological potential (not listed):
 - Anderson Sawmill site - Warburton Golf course
 - MWC Hut site Donna Buang summit
 - SCV Hut site Donna Buang summit
 - Old Donna Buang Road
 - Henry (1907) and Slocumb & Walker (1907-12) mill and tramway site, Dee Rd
 - Henry (1906-07) and Walker (1912-13) mill and tramway site, Mckenzie King Drive
 - MMBW works site Dee Rd and O'Shannassy Aqueduct
 - Lady Hopetoun Mine
 - Old Warburton Cemetery (it is understood the alignment will be changed to avoid this site)
 - Old road
 - Laudehr (1900-10) tramway Old Warburton.

Is mitigation of potential cultural heritage effects proposed?

- ☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Management Conditions are proposed as part of the CHMP that directly mitigate potential cultural heritage effects that may be discovered, and will include:

- A copy of the approved CHMP must be held onsite at all times
- A cultural heritage induction must be conducted with all site workers/contractors by representatives of the Wurundjeri

- A day of cultural values recording must be undertaken within the Activity Area to discuss the wider cultural values of the Warburton landscape, including a visit to Mount Donna Buang, Mount Little Joe and Mount Tugwell
- A number of compliance inspections must be undertaken by Wurundjeri representatives during the constructions works in order to audit the works and ensure that they comply with the conditions and contingency plan contained within the CHMP
- Contingency Plan setting out requirements should Aboriginal cultural heritage material be encountered during construction and operation of the WMBD.

Refer to the Draft CHMP in Appendix R for more information.

Management protocols are proposed for Historic Heritage to ensure that project works minimise any impacts to potential archaeological and heritage places, and if any historic or archaeological features are encountered during works, these can be appropriately managed:

- Design works to minimise impacts
- Avoid cutting across tramway formations, water races or sluice banks
- Induction for contractors in how to recognise and manage historic features, when to stop works, who to contact
- Heritage advisor inspection during works in sensitive area
- Realign to avoid features if possible
- If not possible to avoid, record and obtain heritage approval
- Implement a regular process of inspection in case use of the trails reveals historical or archaeological remains which should then be managed appropriately.

Refer to the Historic Heritage Survey in Appendix J for more information.

Other information/comments? (e.g. accuracy of information)

An assessment of potential impacts to historical heritage places was undertaken by Biosis (Appendix J). The design of the trail alignments has considered the locations of heritage places and seeks to avoid places of historical significance without compromising safety of the riders.

Within the two Yarra Ranges Heritage Overlays (HO140 and HO214) the works will avoid harming the fabric of the places, and the trails have been designed in such a way that they minimise impact to the cultural significance of the place. As the form of construction is likely to only involve removal of vegetation along the narrow trail corridor within these zones, meeting this criteria and relevant tree controls will be met.

The Victorian Heritage Inventory site (H8022-0111) may involve works in the heritage curtilage, including excavation, construction of bridges, or other ground disturbance works. The construction will utilise existing road or track crossings of the site where possible. It is possible that the works around this place (if only removing vegetation was required) would be a low impact and may be exempted from approval (subject to consultation with Heritage Victoria).

Impacts to the Victorian Heritage Register place of the Maroondah Water Supply System (H2381) are considered to be minimal in nature and concern indirect effects to the land surrounding the asset where the trail may intersect the boundary, whilst no direct impact on the heritage asset is expected. It is possible that the works around this place may be exempted from approval (subject to consultation with Heritage Victoria).

At the 11 places of archaeological potential, it is unlikely these sites will be impacted, however there is a potential that the project could discover unknown remains. The project will implement management measures if archaeological remains are identified in accordance with Heritage Victoria's Guidelines.

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

- ☒ Electricity network. If possible, estimate power requirement/output
- ☐ Natural gas network. If possible, estimate gas requirement/output
- ☐ Generated on-site. If possible, estimate power capacity/output

<input checked="" type="checkbox"/> Other. Please describe. Please add any relevant additional information.
<p>What are the main forms of waste that would be generated by the project facility?</p> <input checked="" type="checkbox"/> Wastewater. Describe briefly. <input checked="" type="checkbox"/> Solid chemical wastes. Describe briefly. <input checked="" type="checkbox"/> Excavated material. Describe briefly.
<p>Excavated material will be reused onsite where appropriate or will be removed from site and disposed of appropriately. All waste will be managed under the conditions outlined in the project specific Construction Environmental Management Plan.</p> <p><input checked="" type="checkbox"/> Other. Describe briefly. General waste from users of the WMBD at trail heads.</p> <p>General waste from the trail heads will be managed in accordance with current council waste management and the Operations Management Plan.</p>
<p>What level of greenhouse gas emissions is expected to result directly from operation of the project facility?</p> <input checked="" type="checkbox"/> Less than 50,000 tonnes of CO ₂ equivalent per annum <input type="checkbox"/> Between 50,000 and 100,000 tonnes of CO ₂ equivalent per annum <input type="checkbox"/> Between 100,000 and 200,000 tonnes of CO ₂ equivalent per annum <input type="checkbox"/> More than 200,000 tonnes of CO ₂ equivalent per annum
<p>Based on the estimated traffic volumes to be generated by the project from visitors, the greenhouse gas emissions would remain less below 50,000 tonnes of CO₂ equivalent per annum.</p>

17. Other environmental issues

<p>Are there any other environmental issues arising from the proposed project?</p> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe.

18. Environmental management

<p>What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)</p> <input checked="" type="checkbox"/> Siting: Please describe briefly
<p>The alignment of the trails has undergone various modifications through altering and removing tracks to respond to the site's ecological and topographical constraints, to avoid and mitigate potential environmental impacts. These are described in the above sections.</p> <p>Some realignment of the trails on the southern slopes of Mount Donna Buang was also undertaken in response to community concerns regarding security and access to private properties by users of the trails.</p> <p>The Environmental Protocols (Appendix W) include the following mitigation measures which have guided the final trail alignments.</p> <p>NV M1 – The trail alignment is to be determined based on minimising the removal of vegetation, including mid-storey and ground cover.</p> <p>NV M2 - Rest stops and viewing areas along the trail are to use existing cleared areas and breaks in vegetation to minimise vegetation removal.</p> <p>NV M5 – Align the trail on the higher elevation side of large trees, especially on steeper side slopes as tree roots are likely to be closer to the surface on the lower side.</p> <p>NV M6 – Avoid removal of mid-storey vegetation within 10m of known or probable nesting sites of native fauna within National Park.</p> <p>NV M7 - Avoid removal of mid-storey vegetation within 10m of known nesting sites of listed (within</p>

VBA) fauna species within State Forest.

NV M10 – Apply an appropriate buffer to significant native flora species and communities identified, in consultation with the relevant public land manager.

CTR P1 – Prior to finalising the trail alignment, field surveys are required to identify the extent of Cool Temperate Mixed Forest within the area.

CTR P3 - No rest stops or viewing areas are to be located within Cool Temperate Rainforest or Cool Temperate Mixed Forest.

CTR M1 – Minimise the length of the alignment through Cool Temperate Rainforest and Cool Temperate Mixed Forest.

NF M1 – Apply an appropriate buffer to identified nesting sites of significant native fauna identified, including applying a 5m buffer to rocky outcrops with cracks and crevices.

NF M2 – Apply a 20m buffer to lyrebird display mounds.

NF M3 – Apply a 50m buffer to owl nesting sites.

NF M4 – Apply an appropriate buffer/visual buffer to all tree hollows.

NF M5 – Apply an appropriate buffer to identified nesting sites of significant native fauna identified, including applying a 5m buffer to rocky outcrops with cracks and crevices.

LBP P4 – Apply a 200m exclusion zone from the centre of all ANU monitoring plots.

LBP M1 - No removal of dense stands of Callistemon or Tea Tree species within potential or suitable habitat for Leadbeater's Possum.

LBP M2 - Where removal of vegetation cannot be avoided, the alignment must utilise existing cleared areas.

LBP M3 – The alignment of the trail cannot result in increased visibility to existing nest boxes or occupied tree hollows.

SF M1 – Align trail as close as possible to the verge of Mt Donna Buang Road or use existing tracks.

HV M1 – Minimise alignment through steep slopes to reduce the amount of excavation in National Park.

WQ P3 – Apply a 20m streamside buffer to minor waterways (<60ha catchment).

WQ P4 – Apply a 30m streamside buffer for larger waterways (>60ha catchment)

WQ P5 – No trails within Coranderrk Creek water supply drinking catchment.

The Draft CEMP (Appendix D) provides more detail on how these mitigation measures will be implemented.

–

X Design: Please describe briefly

In addition to the mitigation measures listed above, the below mitigation measures detailed in the Environmental Protocols (Appendix W) informed design.

NV M4 – Where the structural root zones (defined by AS) of trees cannot be avoided, then a design solution will need to be implemented to reduce impact on tree root zones.

NV M11 – Any removal of fallen timber must be to the minimum extent necessary and any material removed must be retained on site.

CTR M5 – Where soils are damp and boggy, trail must be elevated using boardwalk or another appropriate engineered/design solution.

CTR M6 – Trail construction is to be undertaken using hand tools only within Cool Temperate Rainforest and Cool Temperate Mixed Forest.

CTR M7 – A trail design approved by a suitably qualified professional should be used to reduce the potential for soil compaction and other impacts to surface hydrology over time.

SF M2 - Any work within the potential range of the species must minimise habitat disturbance and sedimentation by elevating the trail to cross waterways, bogs, damp areas or seasonal drainage lines within the mapped suitable habitat zone.

SF M3 – Any elevated trail must be constructed to minimise ground disturbance and maintain natural light levels.

WQ P6 - Implement Melbourne Water requirements for works on waterways and crossings.

WQ P7 – No ford crossings through waterway flow paths.

WQ M1 - Where waterway crossing is required, identify the narrowest practicable location.

WQ M2 - All waterway crossings are to be elevated (no rock armouring, no wheels crossing through the flow path).

WQ M3 – Span bridges are to be used in preference to culverts wherever practical.

WQ M4 – Where wet or boggy ground is present, use suitable rock armouring to harden and reinforce the trail

Detailed in Section 12 of this Referral and in greater detail in section 2 project background in the Preliminary Surface Water and Geotechnical Assessment (Appendix O).

☒ Environmental management: Please describe briefly.

Those mitigation measures detailed above from the Environmental Protocols (Appendix W) as well as those not listed above:

NV P8 – Prior to the trail alignment being finalised, detailed field surveys are required to identify the likely presence of significant species or communities.

NV M3 - In State Forest where there is a stand of single age Eucalyptus sp (i.e. regrowth following bushfire), trees of up to 20 cm DBH may be removed.

NV M8 – Undertake weed and pathogen control along the trail corridor during construction in accordance with an approved CEMP.

NV M9 – Any fill material introduced to the site must be certified clean and be weed and pathogen free and be of a similar pH to natural soils.

CTR M1 – Minimise the length of the alignment through Cool Temperate Rainforest and Cool Temperate Mixed Forest.

CTR M2 – Prior to finalising the trail alignment, undertake detailed mapping to clearly identify areas showing signs of Myrtle Wilt (Attach check list of Myrtle Wilt from DELWP as appendix).

CTR M3 - Where areas containing Myrtle Beech cannot be avoided, minimise disturbance within the drip line of all Myrtle Beech trees using a design/engineered solution.

CTR M4 – In the event of any disturbance within the root zone or to any part of Myrtle Beech trees occurs, fungicide must be immediately applied to prevent the spread of Myrtle Wilt.

WQ P1 - Apply Water Act definition to determine presence and extent of waterways – i.e. natural channel where water regularly flows whether or not the flow is continuous or lake, lagoon, swamp or marsh. (Vegetation class can be a good indicator of presence and extent of water on site and thus whether waterway exists or not.)

SF P6 – Construction of the trail is to be undertaken between December and February.

☐ Other: Please describe briefly

Add any relevant additional information.

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

☐ NYD ☒ No ☐ Yes If yes, briefly describe.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project?

☒ No ☐ Yes If yes, please list here and attach if relevant.

Has a program for future environmental studies been developed?

☐ No ☒ Yes If yes, briefly describe.

This is currently under development and is likely to include additional geotechnical investigations in areas of high risk and specific design requirements, Leadbeater's Possum habitat improvements, monitoring and research programs.

In addition to the trails assessed in support of this EES Referral an additional 30km are being investigated and will be assessed using the same methodologies as the investigations to date and to the same level of detail.

Consultation program

Has a consultation program conducted to date for the project?

☐ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

Engagement with the community and a wide number of stakeholders has been ongoing for over 10 years as the trail concepts have been evolving. A feasibility study was completed in 2013, paving the way for the current master-planning process. In 2018 the draft master plan was presented to the community and a comprehensive program of consultation occurred from April 2018 to October 2018 on the proposed alignments and project. During the seven month consultation period, Council Officers met with over 100 residents and community groups, responded to over 400 phone calls, letters and emails and conducted 5 drop in sessions. The feedback from which, will help to shape the final master plan.

YRC has been working with the community, Parks Victoria, Department of Environment, Land, Water and Planning, cycling groups and various state and commonwealth agencies. Support has been strong for the development of a world leading facility for mountain bike riders including the health, recreation, tourism and economic benefits for the region that come with it.

The Community Engagement Report and Communication and Engagement Strategy can be found in Appendix Y and Appendix S respectively. The engagement log has also been included in Appendix Z to demonstrate the level of consultation undertaken to date on the project.

Has a program for future consultation been developed?

☐ NYD ☐ No ☒ Yes If yes, briefly describe.

The WMBD Master Plan will be presented to the community in early 2020. This will involve a 4 week consultation period consisting of the master plan on public exhibition, invitation of feedback and information sessions.

Further consultation will depend on the outcome of the EES Referral process, however YRC will provide continued communication and engagement with community throughout the upcoming stages of the project including throughout the Planning Scheme Amendment process. These are likely to include information session and media releases.

Communication and Engagement Strategy can be found in Appendix S.

Authorised person for proponent:

I, Matthew Harrington, Project Manager, confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature



Date 17 December 2019

Person who prepared this referral:

I, Tegan Ridgeway, Senior Environmental Consultant, WSP Australia, confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature



Date 17 December 2019