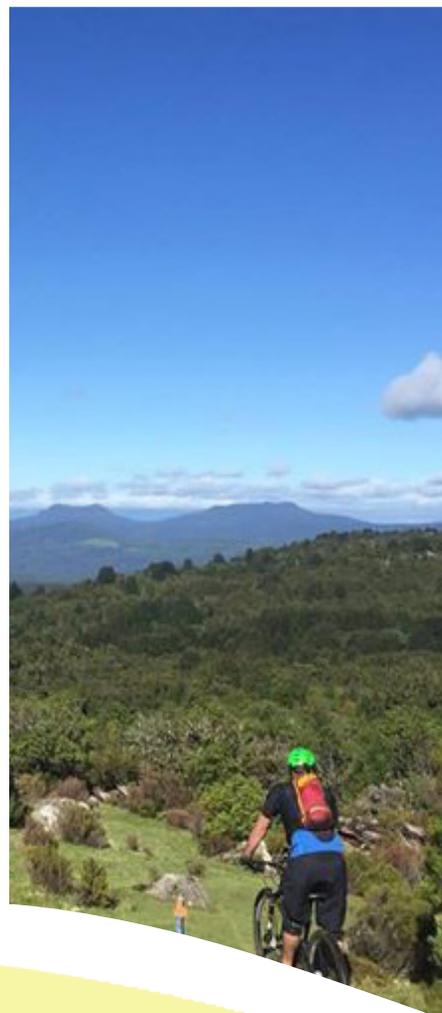


# Blue Derby Mountain Bike Trails Stage 2

*Growing economic and employment opportunities in north-east Tasmania through Tourism development*

## Snapshot:

- Opportunity to transform a disadvantaged region of north-east Tasmania
- Almost \$100,000 already invested to ensure project is 'shovel' ready for June 2016
- Tourism visitation already increasing in the area; January 2015 - December 2015 showed a 22.5% increase in St Helens and 15.5% for the East Coast (TVS)
- Mountain Bike visitor numbers to Tasmania have already increased by 49.5% (TVS)
- Increase in employment ranging from 85.8 - 154.3 FTE (TRC Tourism)
- Strategic alignment with State, Federal and Regional Tourism Authorities
- Increase in visitor expenditure range from \$18.2 - \$32.4 million (TRC Tourism)
- Potential for year round visitation and use due to coastal climate (World Trails)



## Introduction

The highly acclaimed Blue Derby Mountain Bike Trails are an ongoing, joint project of the Break O'Day (BODC) and Dorset Councils that is reshaping the nature of tourism in the north-east corner of Tasmania.

With both Council areas significantly affected by the restructuring of Tasmania's forest industry, it was necessary to shift focus in order to sustain these regional communities. This new focus is Soft Adventure Tourism.

Whilst working with the Dorset Council on the Blue Derby Mountain Bike Trails, both Councils recognised the area's potential for expanding the existing mountain bike trail network to the East Coast and include the internationally recognised Bay of Fires.

Stage 1 of the Blue Derby trails have been established for just over 12 months, yet they have resulted in a significant revitalisation of Derby, a small township in north-east Tasmania.

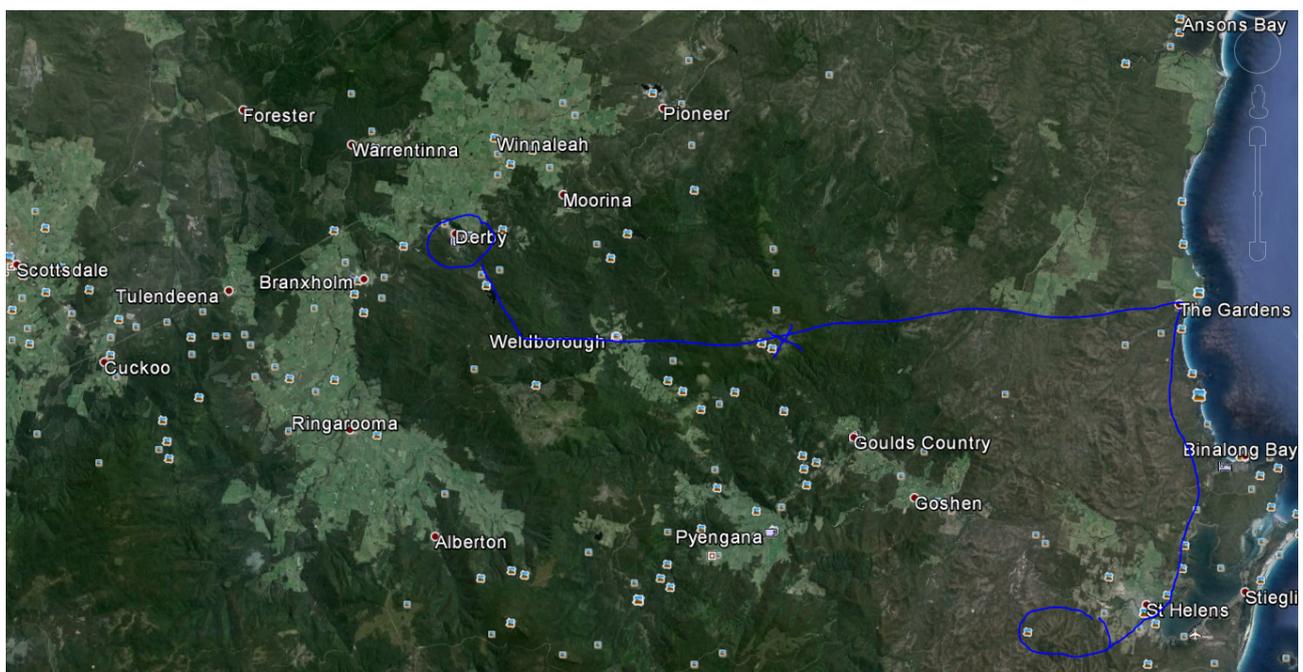
This is due to the National and growing International attraction of the trails which have featured prominently in mountain bike industry magazines such as Enduro, Flow and Mountain Biking Australia.

With the Big Chook Trail, the township of Weldborough is also experiencing the economic benefits of the trails as more and more visitors are drawn to the area to experience the Blue Tier trails off the back of the other trails. This growth will only continue to accelerate.

A Tasmanian visitor survey from July 2014 – July 2015 recorded an increase of mountain bike visitors to the state of 39.2%. This indicates a strong interest in Tasmania as a mountain bike trail destination. This is backed up by a recent study conducted by TRC Tourism on the economic potential of the Blue Derby Trails and proposed extensions.

This proposal will illustrate how this trail extension project will not only add value to existing mountain bike trails in the state, but will allow the north east to become a hub for mountain bike tourism.

*The below map shows the location and proximity of the Derby, Weldborough, Blue Tier (marked with an X), Binalong Bay and Lola Tier trails in relation to St Helens.*

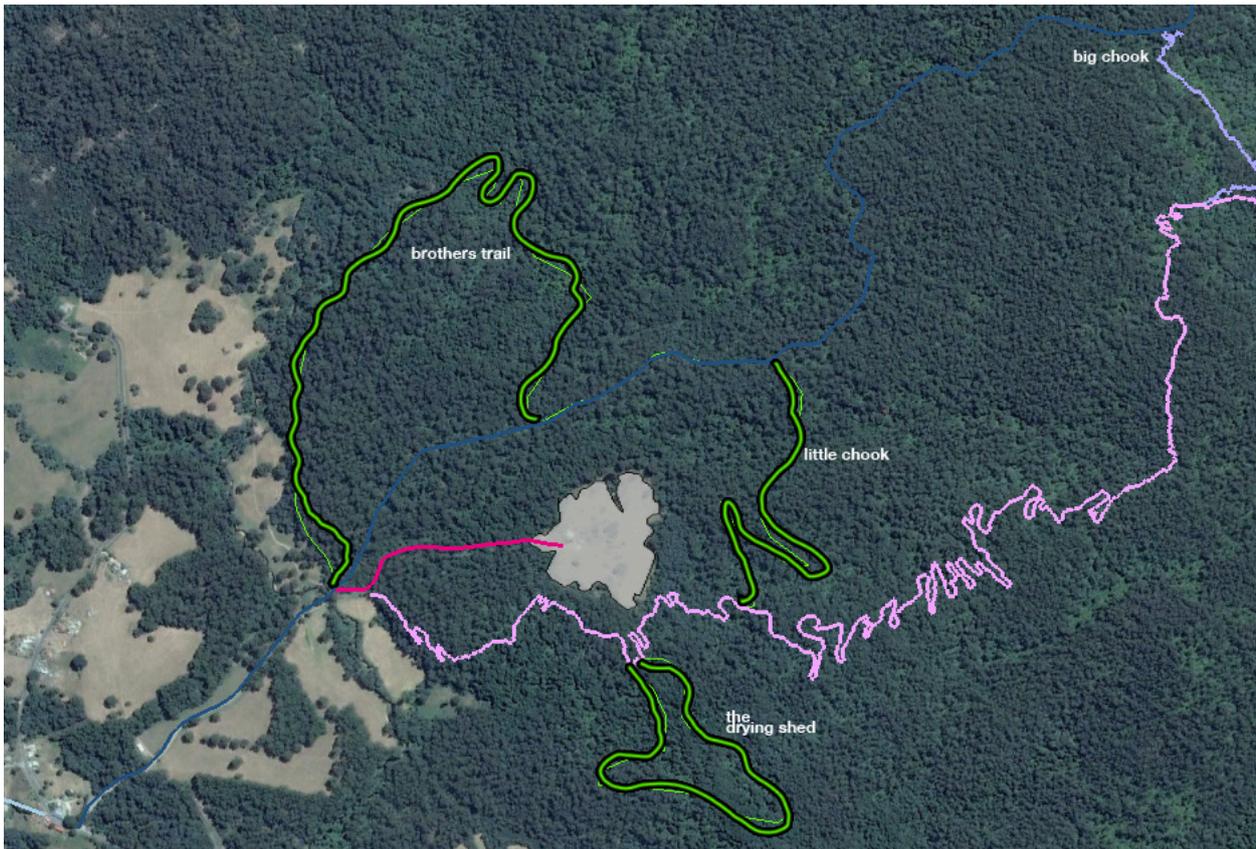


## Background

The first stage of the Blue Derby Mountain Bike Trails is nearing completion with the last trail, the iconic Blue Tier Descent from Poimena on the Blue Tier to Weldborough, currently under construction with completion anticipated in the second half of 2016. Early indications from experienced mountain bike riders are that this trail is likely to be the best single trail in Australia.

Another three short trails are now planned to enhance the Blue Tier experience and will be completed as part of the first stage.

*Below is a map outlining the three new trails in green and the popular Big Chook Trail.*



On March 4, 2016, The Big Chook opened and was received exceedingly well.

*Below is an image from Mountain Bike Shuttle Bus service Vertigo on Big Chook's open day and some comments from those that completed the ride.*



## Background continued.

Both Councils are keen to maintain the momentum that has been generated from Stage 1 and cement St Helens, located near the Bay of Fires, as the hub for mountain bike riding in Tasmania by offering some of the best trails in the Southern Hemisphere. This would enhance the reach and scale of economic benefits associated with this exciting initiative more evenly across Northern Tasmania with flow-on effects to the rest of the state's tourism industry

In 2015, World Trail (WT) met with BODC to discuss the potential of the St Helens area for mountain bike trail development and the process of designing and constructing a trail network. As a result, BODC engaged World Trails to undertake ground truthing of both proposed trail sites receiving the master plans in April 2016. These documents showed not only the viability of the trails but a cost effective methodology for construction and due to the coastal soil profile, trails that could be ridden all year round. For a region that experiences severe peaks and troughs in tourist visitation, this is a potential game changer for the north-east region.

## Project Definition:

The proposed Stage 2 will include two trail networks, one point-to-point trail, the Bay of Fires Descent, and the St Helens stacked loop network. These two trail networks will incorporate approximately 112km of trail.

- The key features of the design are:
- Caters for cross-country and gravity disciplines
- Caters for all ability levels, from beginner to expert
- Offers both looped trails and point-to-point trails
- Offers a mix of easily accessible short trails and more remote wilderness longer trails
- Proximity to the coast provides a unique backdrop to the trail network, with most mountain bike trails typically located in mountainous inland areas
- Coastal climate makes for a slightly drier and warmer environment than other parts of Tasmania, meaning St Helens could potentially be a 'year round' mountain biking destination. The abundance of gravelly, well-drained soils will also contribute to the potential year round capabilities of the trails
- Spreads the economic opportunities associated with mountain bike tourism across a broad region, encompassing the north-east and northern part of the east coast of Tasmania.

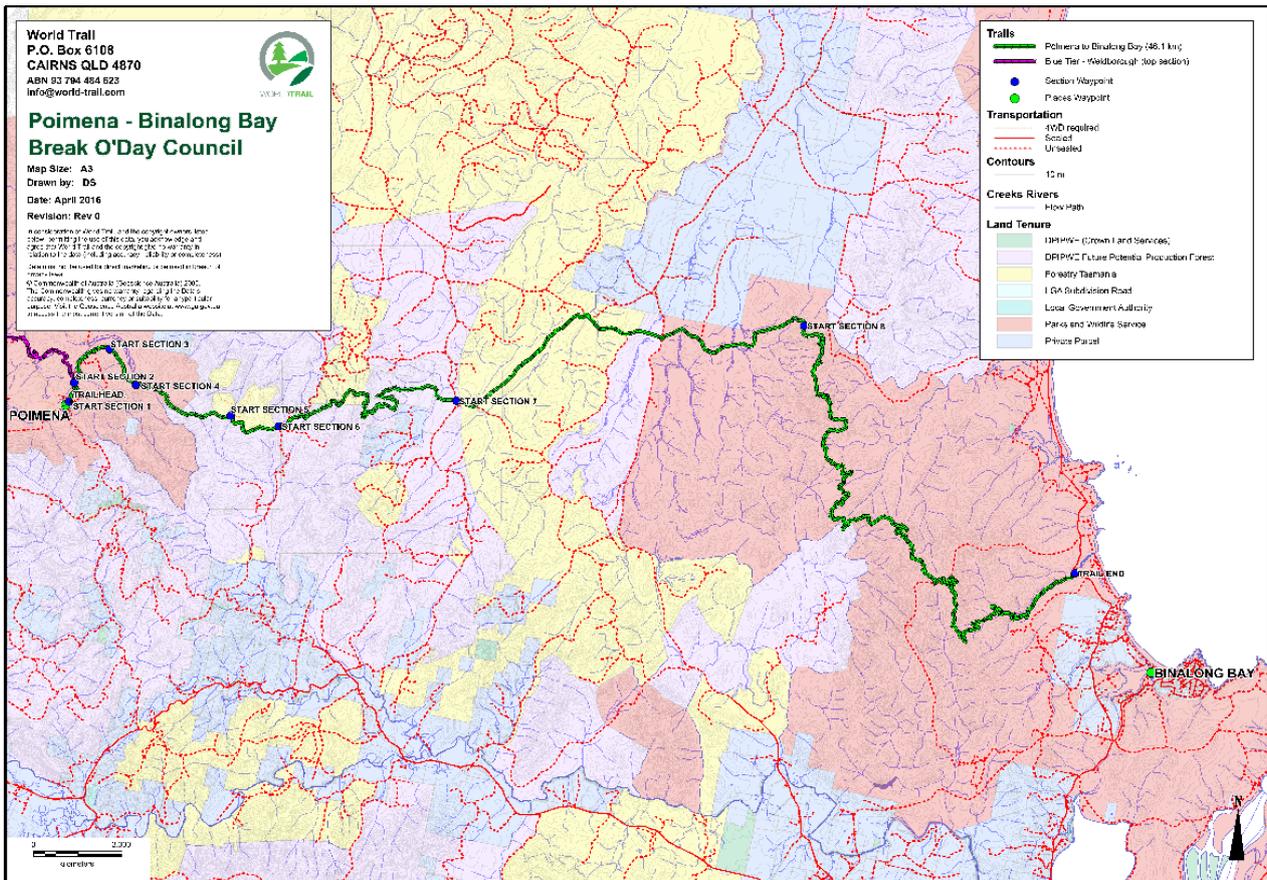


*Pictured is an image of the Vertigo Shuttle bus in front of the Blue Tier.*

# Bay of Fires Descent

Starting from and utilising the same trail head as the Blue Tier Descent at Poimena on the Blue Tier, the new trail, Bay of Fires Descent, will head east towards the iconic Bay of Fires. This trail will take riders from the stunning sub-alpine environment of the Blue Tier to the coastal environment, via spectacular forests and incorporating amazing views of the coast.

It would be a similar trail to that of the Blue Tier descent, being a point-to-point long distance descent suitable for a variety of riders, but it would also offer a very different experience in terms of the varying terrain and vistas. The trail starts at around 750m above sea level, descending to 20m and is anticipated to be around 46 kilometres and will be single direction. The trail will finish opposite popular Swimcart beach, part of the Bay Of Fires, which offers plenty of free camping.



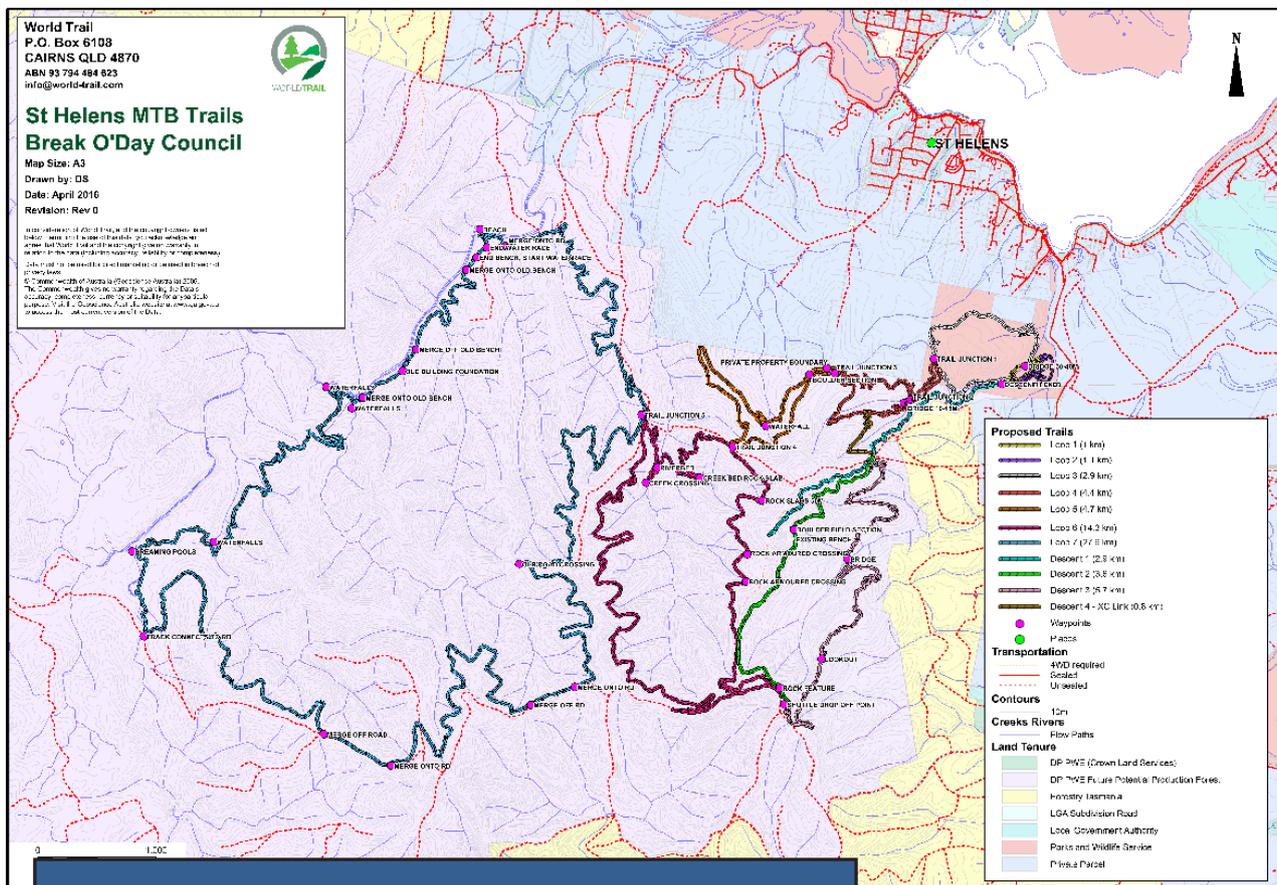
*Pictured above is a map of the proposed trail from World Trails and an image of the Swimcart Lagoon, near where the trail will end.*

# St Helens Trail Network

The trail network, just south of St Helens at Loila Tier on the other hand, would offer 11 trails in total including 7 Cross-Country stacked loops and four point-to-point gravity trails that have already been identified by World Trail as being of a potential international event level.

*“We had a fantastic trip down there (the East Coast) and we’re confident that the project has massive potential. The terrain throughout is amazing, and the gravity options are world class. We honestly believe that the St Helens trails could rival some of the biggest gravity destinations in the world (Whistler for example), and would be the ultimate compliment to Blue Derby.”* World Trails Dec 2015.

The total distance of these trails is 66km and offers a mix of Beginner, More Difficult and Very Difficult trails. The longest trail being Loop 7 which is categorised Difficult and traverses 27km. Through the design stage, World Trails ensured each trail ended with a descent which they said was crucial to rider satisfaction as well as ensuring multiple entry and exist points to the trails so riders can enjoy a different experience each ride.



*“Together the two trail networks would form the largest, purpose built trail Mountain Bike Trail network in Australia, capable of attracting mountain bike tourists from all over Australia and potentially overseas and becoming a nationally significant tourism attraction.”* World Trails April 2016

*Pictured above is a map of the proposed trails from World Trails.*

## Readiness to Proceed

The BODC, in partnership with World Trails, have already completed preliminary mapping and ground-truthing of possible trail networks in the area.

BODC plans to have Stage 2 of the Blue Derby Mountain Bike Trail shovel ready in the second half of 2016 with all necessary approvals in place. World Trail have prepared a Master Plan which includes:

- Detailed, accurate maps of all proposed trails
- Features of each trail including
  - Trail difficulty
  - Intended Users
  - Elevation profile
  - Construction challenges
  - Key infrastructure items required
- Realistic cost estimates

The Mountain Bike Trail Master Plan (and final GPS track logs for the proposed trails) will include all information required to obtain any necessary approvals or permits for trail construction and provide a sound basis for construction tendering.

Processes to obtain all necessary approvals will be undertaken based on experience with Stage 1 may take up to six months.

*Below image of Mountain Bikers about to tackle the Big Chook and Atlas trails. Courtesy of Vertigo MTB Tasmania*



## Project Budget & Funding

World Trails have provided indicative cost estimates of \$3,671,460 (at 2016 construction rates) for Stage 2 (excluding road access and car parking at the St Helens trail-head), based on their experience of more than ten years in the trail design and construction industry.

A broad project budget identifying the following key cost centres:

Cost Centre	Budget Estimate	Funding Source
Approvals Process, Flora & Fauna Assessment, Reserve Activity Assessment and Development approvals	\$20,000	BODC
Trail Construction for Bay of Fires Descent	\$1,268,100	Federal & State Government
Trail construction for St Helens network	\$2,592,100	Federal & State Government
St Helens Network access road & Tasman Highway access point	\$420,000	State Government & BODC
St Helens Network Trail-head car park and infrastructure	\$75,000	BODC
Stage 2 Marketing & Promotion (provision)	\$35,000	BODC
Project Management & Delivery	\$100,000	BODC
	\$4,510,200	

**The funding model is based on a partnership approach across three financial years**

	2016/17	2017/18	2018/19
Federal Government	\$500,000	\$2,000,000	\$500,000
State Government		\$500,000	\$500,000
Break O'Day Council	\$40,000	\$60,000	\$410,200
	\$540,000	\$2,560,000	\$1,410,200

The contribution sought from the Federal Government is \$3,000,000 and given the proposed construction time-frame funding could be provided as follows:

2016/17 Financial Year      \$500,000

2017/18 Financial Year      \$2,000,000

2018/19 Financial Year      \$500,000

This is based on a construction cost in the vicinity of \$3,855,000 allowing for a 5% increase in unit costs over the proposed construction period

All ongoing costs associated with the maintenance of the trail network will be the responsibility of BODC.

## Trail Construction

The conditions observed by World Trails at St Helens and the surrounding areas are good for trail construction and characterised by:

- Open vegetation
- Well-draining, rocky and gravelly soils
- Moderate to steep topography

This will translate to good productivity rates for trail building and hence competitive rates per metre for construction.

The Bay of Fires descent comprises a distance of approximately 33km of new single track with World Trail recommending the use of two construction teams of 3-4 people, a mini excavator, tools and equipment working simultaneously. This would enable the trail to be constructed in approximately 165 working days with a production rate of 100m of finished trail per day, the trail would be completed in one year allowing for potential weather shutdowns and the Christmas break. Construction would be carried out in the order of sections and there are eight (8) separate sections identified.

The St Helens trail network is described as a stacked loop network for cross country mountain biking, with a number of point-to-point gravity trails. When construction commences, it is important that trails are built and opened in the order that is most logical and efficient to achieve the best tourism outcomes possible. World Trail recommend the use of three construction teams working simultaneously over two years and taking in to account potential weather shutdowns and the Christmas break.

*Below is an image of a team working on Stage 1 of the Blue Tier Trail, courtesy of World Trails.*



## Partnerships

In order to progress this project, the BODC have worked in close collaboration with key partners who bring a range of expertise to the project

- Dorset Council and BODC are focused on the development and operation of the newly created Blue Derby trails and continue to work closely on development of events; marketing and promotional aspects; trail maintenance program and project management. Dorset Council also provide assistance with Flora and Fauna Assessment activities
- Parks & Wildlife Service (PWS) are the predominate land manager through which the trails will be located. BODC has worked closely with PWS from the very initial idea stage. BODC are very familiar with PWS approvals processes and have developed a very strong working partnership on land management activities
- East Coast Regional Tourism Organisation (ECRTO) provide an excellent connection with the tourism sector and provide valuable guidance around industry development planning and maximising the value to the local economy. They will supply the development of the industry infrastructure with the preparation of a Destination Action Plan for St Helens.
- World Trails provide the technical knowledge and experience in the building of world class trails and a vast network of contacts in the sector
- Forestry Tasmania are also a land manager through which the trails will be located. Break O'Day Council will work with Forestry Tasmania through their approval process.

World Trails are one of the largest and most experienced mountain bike trail companies in the world. They have built over 300 km of purpose built recreational trails in Australia and have designed every World Cup, World Championship and Olympic mountain bike course in Australia.

The Break O'Day Council have also engaged with a number of other organisations, businesses and individuals on various aspects of the project development

Regional Development Australia (Tasmania) (RDA Tas) Board received a presentation on the proposal recently and work with the Chief Executive Officer and RDA Tas team is ongoing.

Northern Tasmania Development (NTD) was one of the original proponents actively involved in establishing the North-east Mountain Bike Trails which Blue Derby is a key part. NTD will assist in advocating for this project.

Local businesses and operators such as Vertigo Mountain Bikes will also play a vital role in the support services for this project.

*Pictured is an image of the Blue Derby Trail Head.*



## Project Rationale

With the East Coast of Tasmania ranked sixth most dependent Australian region on tourism, and the Break O'Day area reported as one of the most disadvantaged in the state, the Break O'Day Council are committed to development that will grow the economy and employment opportunity in the area and believe this project to be a big step forward.

Developing this Soft Adventure tourism opportunity is a logical progression considering:

- The Blue Derby's success
- The East Coast experienced 16% tourism growth from March 2014 – 2015
- Tasmania's reputation as a mountain biking destination has grown by 39.2% in 12 months
- The Bay of Fires is listed by Lonely Planet as a must see location
- Tasmania's growing international status as a tourism destination

This project has been identified by the BODC with high potential as it would:

- Increase visitors to the region
- Encourage long term stays
- Could be utilised all year round
- Boost economic activity for local businesses
- Open up new business and employment opportunities
- Fit with the region's natural beauty and branding – *from the mountains to the sea*

*Picture below Morgan St Cycles on the Big Chook Trail. Image courtesy of Vertigo MTB Tasmania*



## Economic Benefits

**A key aim of this project is to offset the social and economic issues faced by communities in Tasmania's north-east region; to invest and rebuild upon the region's natural advantages, and to re-frame visitor perceptions and experience of the north-east through the development of world-class mountain bike infrastructure.**

A recent Review of the Economic Potential of Stage 2 Development of the Blue Derby Mountain Bike Trails – Extension to the East Coast, April 2016 conducted by TRC Tourism has found some staggering results in terms of return on investment.

Using Stage 1 as a model, the report examines length of stay, spend, employment and increased visitation.

The report found the proposed extension would increase the average stay in the area from 2.5 to 4 days, a conservative estimate considering some riders are already staying for over a week just to experience Blue Derby Stage 1.

The report also presented two case studies for visitation and spend based on an increase of mountain bike visitors of 35% and 60% over the base case. With the trails open just over 13 months and mountain bike visitation figures already at 39.2% these figures are reflective of growing interest in the trails.

The report then uses these projected visitor numbers to determine an average spend in the region. This is based on an average expenditure of \$120 - \$320 per day per visitor depending on whether they are intrastate, interstate and stay overnight.

Based on these projections, TRC Tourism anticipates an increased spend of between \$18 million and \$32 million per annum once Stage 2 is complete. Considering the hard data already collated including current visitation, spend and growth potential, these figures are not only promising, but BODC believes to be achievable.

In addition to visitor spend, the trails will also provide new employment opportunities to the region. This is of particular importance to BODC as there is high unemployment in the region which has become the sixth most dependent region on tourism in Australia.

Some of this employment will be created through the construction phase and maintenance of the trails but most notably, looking at Derby as an example, with increased stays and visitation comes increased demand for accommodation, food and beverage, recreation services and more.

The TRC Tourism report anticipates that between 85 -154 FTEs could be created through the extension of the trail, the majority in the accommodation and food and beverage sectors.

### Economic Snapshot:

- **Increase of visitors of 26,000**
- **Increase of average stay from 2.5 - 4 days**
- **Increase of spend in the region up by \$18m - \$32M**
- **Increase in employment opportunity of 85 -154 FTEs**

## Strategic Alignment

In 2011 Northern Tasmania Development identified a number of strategies for mountain bike trail development in their Mountain Bike Tourism Potential in Northern Tasmania report.

This project aligns with a number of these strategies including:

### **New Trail development:**

- Initial trail developments should look for quick wins, realistic and achievable projects in the shortest time possible.
- Initial effort should be directed to trail developments where there is already landowner and community support and some detailed planning completed.
- New trail development should be purpose built single track where possible.
- New trail developments targeting visitors should where possible focus on natural, wild, rugged and iconic locations the Tasmanian brand is built on.
- New trail developments targeting visitors should link with existing tourist attractions where possible.
- Where possible new trail developments should be concentrated around population centres to generate support and economic benefits for local communities.
- Initial trail developments should be concentrated around one or two central hubs and focus on areas with an existing profile and trail networks that can be built on.
- As the market share grows and the economic benefits are demonstrated, attempts should be made to spread trail development throughout the region and look for ways to link riding areas, ideally with off road links.
- Planning new trails should not be developed without detailed planning which clearly identifies the target market (including style of riding and technical difficulty), route alignment (including land ownership), method of construction, costs of development and ongoing maintenance, community support and potential funding sources.

The proposal also strongly aligns with the State Government's T21 Priorities including:

- Generate more demand for travel to Tasmania
- Invest in quality visitor infrastructure
- Building capability, capacity and community

And the Federal Government's Tourism 2020 strategy, which aims to grow tourism's economic contribution to Australia.

## Strategic Alignment:

### State Government's T21 Priorities including:

- Generate more demand for travel to Tasmania
- Invest in quality visitor infrastructure
- Building capability, capacity and community

### Federal Government's Tourism 2020 Priorities including:

- Build industry resilience, productivity and quality

### Trail Access:

- Work with land managers to identify trails and areas that can be opened up to mountain bike access.
- Work with PWS to develop a state wide policy on mountain bike access on reserved lands which clearly identifies where mountain bikes are allowed on reserved lands (including a review of the classification of mountain bikes as 'vehicles' under the Tasmanian National Parks and Reserves Management Act 2002).

### Trail construction:

- Adopt the sustainable trail construction methodology promoted by the International Mountain Bicycle Association as the minimum standard for trail construction across the region.
- Encourage the use of rock, compacted gravel or similar hard wearing surface finish on suitably designed and located trails to ensure trails are rideable year round in all weather conditions.
- Use professional trail builders with the support of volunteers where possible.
- Construct machine built trail where conditions allow suitable access for sustainable trail alignment.

## In Conclusion

Already, and before the trail network has been completed, Blue Derby is seeing an increase in mountain bike driven tourism. This project represents an opportunity to expand a successful, working model and distribute the consequential economic benefits wider.

After the fall of the forestry industry, communities in both the Dorset and Break O'Day regions were severely impacted particularly in employment opportunity.

This tourism initiative will see some of the most regional and disadvantaged areas in Tasmania benefit - not just from tourism dollars but in also attracting further economic development and hence forth, employment opportunity.

Initial estimates have placed the cost of this project at \$4.5 million.

The BODC are seeking funding at a state and federal level totalling 4.0 million to progress this project.

*The internationally renowned Bay of Fires.*



# Appendices

## Appendix A

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*Review of Economic Potential of Stage 2 Development of Blue Derby Trails – Extension to the East Coast*

Author, TRC Tourism

## Appendix B

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*Break O’Day Mountain Bike Trail Master Plan: Stage 2, Poimena to Binalong Bay*

Author, World Trail

## Appendix C

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*Break O’Day Mountain Bike Trail Master Plan: Stage 1, St Helens*

Author, World Trail

## Appendix D

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*Letter of Support*

Author, Ruth Dowty, Chief Executive Officer, East Coast Regional Tourism Authority





**Review of Economic Potential of  
Stage 2 Development of  
BLUE DERBY MTB TRAILS -  
EXTENSION TO THE EAST COAST**  
*April 2016*





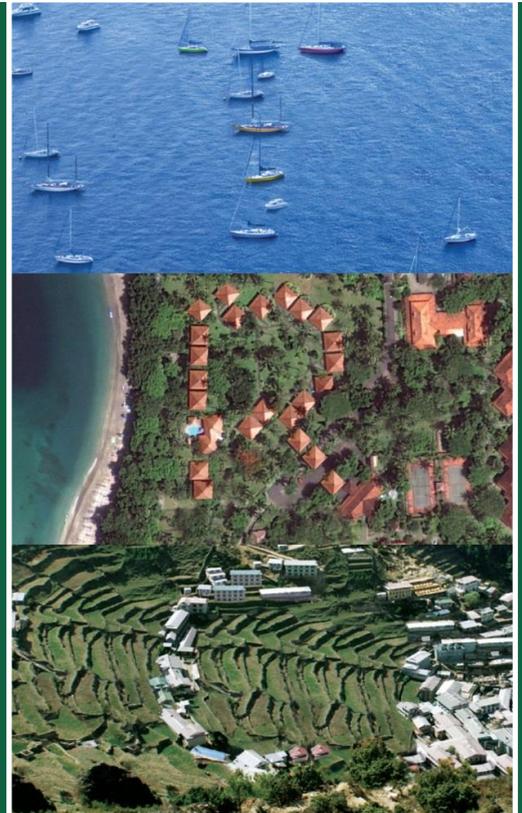
## Acknowledgements

The Review of Economic Potential of Stage 2 Development of Blue Derby MTB Trails – Extension to the East Coast has been prepared by TRC Tourism Pty Ltd ([www.trctourism.com](http://www.trctourism.com)) for

Break O’Day Council

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# Introduction

## THE TRAIL NETWORK

Blue Derby Mountain Bike Trails are a joint project of Dorset and Break O’Day Councils centred on the township of Derby and the Blue Tier/ Weldborough area to the north-east and St Helens on the East Coast.

Stage One of the trails (valued at \$3.1million) is nearing completion with the last trail, the 40 km Epic Blue Derby descent on the Blue Tier from Poimena to Weldborough, to Derby, currently under construction with completion anticipated spring 2016. Early indications from experienced mountain bike riders are that this trail is likely to be the best single trail in Australia.

Master planning is now under way for Stage Two which will see a new trail from the trailhead on the Blue Tier to the iconic Bay of Fires on the East Coast; and a large looped network south of St Helens on the East Coast. The estimated cost of this stage is approximately \$3.5 million.

Stage Two will include two trail networks, one point-to-point trail, the Bay of Fires Descent, and the St Helens stacked loop network. These combined stage two trail networks will achieve approximately 107km of trail. The key features of the concept are:

- » Caters for cross-country and gravity disciplines
- » Caters for all ability levels, from beginner to expert
- » Offers both looped trails and point-to-point trails
- » Offers a mix of easily accessible short trails and more remote longer trails
- » Proximity to the coast provides a unique backdrop to the trail network, with most mountain bike trails typically located in mountainous inland areas.

Stage One and Two combined will result in 187km of trails offering a range of experiences for different markets and ability levels.

## PURPOSE OF THIS REPORT

This report re-evaluates the likely economic benefits of the trail network based on the use of stage one of the trail network that has now been in operation for some thirteen months. The work builds on a number of earlier pieces of work that identified the opportunity for mountain biking in the region, most recently the *Potential for Mountain Biking in North Eastern Tasmania - Market Demand and Economic Assessment* (TRC Tourism 2013) and *Mountain Bike Tourism Potential in North Tasmania* (TRC Tourism 2011). Earlier reports included: *Mountain Biking in Tasmania: A Summary of Current Trends and Future Opportunities* (2005), *Mountain Bike Tourism Market Profile for Tasmania* (2008), *Tasmania Mountain Bike Plan* (2009).

## TARGET MARKETS

There are two distinct visitor markets that include more niche 'destination mountain bikers' and the much larger 'mountain bike while on holiday' market. The markets can also be assessed geographically: intrastate, interstate and international.

### Destination Mountain Bikers

These riders are typically male, 30-50 years old, well-educated and from high-income brackets<sup>10</sup>. This market largely mirrors the existing MTB event market in the North of Tasmania.

Destination Mountain Bikers have intermediate to more advanced riding skills and regularly travel to mountain bike and would likely have visited other Australian or international MTB destinations.

These riders seek high quality trails with good supporting infrastructure in scenic/natural locations.

### Mountain bike riding while on Holiday

This segment may include experienced mountain bikers but are generally categorised as beginner to intermediate. They view mountain biking as a secondary motivation for their visit, will bring their bikes on holidays or hire bikes, may place less emphasis on the trail and more on the setting and nearby attractions and amenities.

They include both adventure seekers visitors who have chosen Tasmania as the family holiday and planned to come to Derby whilst on the holiday.

The target markets for each particular trail can also be categorised by the experience level of the rider. Whilst the network as a whole will target all levels of mountain bike riders, a combination of different communication and strategies are required to reach beginner riders compared to advanced riders

Each of the trails is different. Some are more suited to beginners and others to intermediate-advanced riders. These differences need to be clearly communicated to consumers so that they can choose the most suitable mountain biking experience.



## DEVELOPMENT OF GROWTH SCENARIOS

This section provides projections of demand for mountain biking with the completion of the trail network. The analysis shows visitor estimates for two cases:

- » one based on completion of Stage One of the trail network (and user estimates for 2015)
- » second showing the potential increase with the completion of stage two of the trail network (with operations from 2019).

Tasmanian visitor data and other regional sources as well as mountain bike tourism and destination data have been used to develop these estimates.<sup>1</sup>

### CASE 1. CURRENT TRAILS

**Case 1** provides estimates of mountain bike use of the current trail. The projections are provided for two market groups for 2015:

- » Interstate Visitors to Northern Tasmania - this market has been calculated based on the Tasmania Visitor Survey (TVS) data
- » Intra-state visitors (MTB) - this market is based on the number of recreational cyclists in the Tasmanian population
- » Local users - an estimate was made of local users from the area in which the trail is located.

Note, in estimating the existing (and potential) markets for mountain biking in North Tasmania two types of mountain bike visitor have been identified.

1. **Destination MTB** visitors, who are motivated to travel to North Tasmania for mountain biking
2. **Visitors who mountain bike while visiting**, but were not motivated to visit by mountain biking.

Estimates were developed for the number of mountain bike visitors for 2015 based on growth in the overall MTB market and increased visits to Northern Tasmania, and information from the Blue Derby trail counters for 2015. This generated an estimate of 14,476 mountain bike visitors in Northern Tasmania (for the existing trail).<sup>2</sup>

#### Case 1 Existing Trail – Estimate of Annual Mountain Bike Trail Visitors by Category 2015

Case 1 : Existing Trail	Trail Users: Visitor Numbers 2015		
	Destination MTB	MTB while Visiting	Total
Interstate Visitors	984	3937	4921
Intra-state Visitors(MTB)	1251	3961	5212
Local Users	4343	0	4343
Total MTB Visitors	6578	7898	14,476

Source: MCA analysis April 2016

<sup>1</sup> This includes data from counters on the Dorset segment of the existing trail, and information on average spending provided by Break O' Day Council.

<sup>2</sup> This is an estimate of the first year of operations of the Dorset segment of the trail, visitor numbers to this segment of the trail will increase as the full network is developed.

## CASE 2. WITH TRAIL EXTENSION

The 'trail extension case' provides estimates of mountain bike visitation to the region assuming the completion of stage 2 of the trail network. The estimates for Case 2 Base Case show there would be **40,574** mountain bike visitors in Northern Tasmania in 2019, an increase of **26,098 over** the Case 1 Existing Trail result.<sup>3</sup> It would be expected that these numbers would growth substantially over time as the recognition of the trail network extends. To other cases are examined to illustrate this potential growth. Case 2.1 increases bike visitor numbers by 35% on top of Case 2 Base Case and Case 2.2 increases base case numbers by 60%.

Assumptions used to estimate visitor numbers are outlined below.

### Assumptions:

- » The trails are completed on schedule providing an additional 100km of mountain bike trails in the region.
- » Well marketed and maintained trails
- » Clear signage and easily accessible trails
- » Extensive community support for trail networks
- » Number of visitors biking while visiting Tasmania doubles over 5 years from 2.5% to 5%
- » North Tasmania captures a greater share of Tasmania's visitors that bike market (increases from 40% to 80%) because of the completed trail network.
- » The proportion of mountain bikers within the "bike while visiting Tasmania" segment increases from 32% to 60%. This occurs because prior to the opening of Blue Derby trails Tasmania did not have the product for mountain bikers to bike while visiting Tasmania.
  - Northern Tasmania attracts a greater (increases from 25% to 80 %) share of Intrastate mountain bikers from outside the region. Approximately 60% of these are destination MTB visitors and 40% are in the mountain biking while visiting category.
  - Local users are assumed to double when the trail network is completed.

### Case 2 Base Case Trail Extension - Estimate of Annual Mountain Bike Trail Visitors by Category 2019

Case 2 Base Case : Completion of Trail Network	Trail Users: Visitor Numbers 2019		
	Visitor Market	Destination MTB	MTB while Visiting
Interstate Visitors	8,020	5,347	13,367
Intra-state Visitors(MTB)	11,113	7,409	18,522
Local Users	8,686	-	8,686
<b>Total MTB Visitors</b>	<b>27,819</b>	<b>12,755</b>	<b>40,574</b>

Source: MCA analysis April 2016

The following table summarises the visitor/use numbers for the completed trail network. Three cases were modelled. Case 2: Base Case; Case 2.1 Increase Base Case Visitors by 35%; and Case2.1 Increase Base Case Visitors by 60%. Case 2.1 and Case 2.2 illustrate the potential for future growth following the promotion and broader recognition of completed trail network.

<sup>3</sup> This is based on construction of stage 2 of the trails in 2017/ 2018 and the completed trail network being operational from 2019.

## Summary of Cases - Estimate of Annual Mountain Bike Trail Visitors by Category 2019

Case 2 Base Case: Completion of Trail Network	Trail Users: Visitor Numbers 2019		
	Case 2: Base Case	Case 2.1 Increase Base Case Visitors by 35%	Case2.1 Increase Base Case Visitors by 60%
Visitor Market			
Interstate Visitors	13,367	18,045	21,387
Intra-state Visitors(MTB)	18,522	25,005	29,635
<b>Total MTB Visitors</b>	<b>31,889</b>	<b>43,050</b>	<b>51,022</b>
Local Users	8686	8,686	8,686
<b>Total MTB Users</b>	<b>40,574</b>	<b>51,735</b>	<b>59,707</b>

Source: MCA analysis April 2016

## AN ASSESSMENT OF SOCIO ECONOMIC BENEFITS

The development of the trail network will provide economic, environmental and social benefits for Tasmania. This section of the report provides assessment of these impacts. The Government funding sought will enable the completion of the trail network.<sup>4</sup>

The impact is shown for:

1. During the 24 month construction period of the trail (2017 & 2018)
2. During the operation of the trail in 2019.

### Assessment Overview

This assessment shows the impact of increased visitation to North Tasmania because of the presence of a mountain bike trail network in North East Tasmania. However much of these impacts (accommodation and other spending) will occur in proximity to the trails.

The impact of the trail development has been calculated based on estimates of the visitors/users of the current trail and the projected number of visitors to the completed trail network. The increase in visitation arises from: 1. New visitors to Tasmania (day and overnight) due to the trails; and 2. Existing visitors who extend the duration of their visit to Tasmania due to the trails.

Estimated additional mountain bike visitation to the region for the completed trail network as a result of the trails is provided below and based on comparing the differences between the two cases (current trail and completion of the trail network). It should be noted that the impacts modelled are "within region" - i.e. those occurring in the region where the trails are located.

### Estimated Increase in Visitors from Completion of Trail Network, 2019 (Comparison of 2015 Estimates and 2019 Estimates for Case 2 Base Case)

Difference : Existing Trail and Completed Trail Network	Increase Trail Users: Visitor Numbers 2019		
	Destination MTB	MTB while Visiting	Total
Visitor Market			
Interstate Visitors	5,067	3,378	8,445
Intra-state Visitors(MTB)	9,862	3,448	13,310
<b>Local users</b>	<b>4,343</b>	<b>-</b>	<b>4,343</b>
<b>Total MTB Users</b>	<b>19,272</b>	<b>6,826</b>	<b>26,098</b>

Source: MCA analysis April 2016

<sup>4</sup> Funding is being sought for the Blue Tier and St Helens elements.

## CONSTRUCTION PHASE IMPACTS

It is estimated that \$3.5 million would be spent (excludes \$300K marketing budget) to build the new trails to complete the network over two years (2017, 2018), and this would provide a significant economic boost during the period of construction to the region.

Construction phase impacts have been modelled based on this \$3.5 million construction budget. If the project was completed in 1 year it would require a direct on-site workforce of 13.4 persons (FTE). Based on a 2 year construction period, there would be continuous employment for an average of 6.7 on-site workers, over the entire period.

Once the indirect and material supply jobs are taken into account, total jobs associated with the project are 16.1 or an average of 8.0 continuous FTE jobs over the construction period (2 years).

### Construction Phase Jobs: Trails Construction 2017-2018

Construction Phase Jobs	Direct Jobs	Indirect Jobs	Total Jobs
<b>Total Jobs</b>			
Construction Jobs (Region)	10.5	2.1	12.6
Materials Supply Jobs (State-wide)	2.9	0.6	3.5
<b>Total Jobs - Construction Phase</b>	<b>13.4</b>	<b>2.7</b>	<b>16.1</b>
<b>Average Jobs (continuous over 2 years)</b>	<b>6.7</b>	<b>1.3</b>	<b>8.0</b>

Source: MCA analysis April 2016

## OPERATIONAL PHASE IMPACTS

The operational impacts of the trails were modelled and this shows the impact of visitors and their spending on employment in the region. This is assumed to be 2019, following construction of the additional trails in 2017 and 2018. Tourism expenditure is defined as any expenditure that has occurred as a result of visitation by tourists to the region. In modelling employment, direct jobs are those in the sectors where visitor spending is occurring and the regional impacts of the spending of additional employees are captured indirect jobs.

### Modelling Assumptions

A number of assumptions have been used in the modelling of the impacts of the trails. The key assumptions are outlined below:

- » Impacts of the trail extension/completion of the network are ongoing from 2019.
- » Visitor expenditure in the region per person by interstate visitors was estimated at \$320 per day.<sup>5</sup>
- » Visitor expenditure per person by intrastate visitors is \$230 per night and \$120 per day for day visitors.<sup>6</sup>
- » Interstate visitors to Tasmania, who go mountain biking on the trails, stay on average 4 nights in the region.<sup>7</sup>
- » Of the Tasmania people (intra-state visitors) using the trail, 70% stay on average 2 nights in Northern Tasmania and the other 30% are day visitors only.<sup>8</sup>
- » Local users are from the immediate area and are assumed to spend \$60 per day.

<sup>5</sup> Based on visitor spending information provided by Break O' Day Council, March 2016

<sup>6</sup> Based on visitor spending information provided by Break O' Day Council, March 2016

<sup>7</sup> Based on information provided by Break O' Day Council, March 2016

<sup>8</sup> Modelling assumption by MCA, March 2016

## Visitors and Spending

The estimated annual expenditure in North Tasmania as a result of the development of the trail network in 2019 is provided below. Based on the projected visitor numbers, length of stay and average spending per day, MTB visitor spending in the region would be \$5.8 million for the current trail (Case 1) and would total \$24.3 million with the completion of the trails network (Case 2: Base Case) - an increase of \$18.2 million. This is spending in the North Tasmania Region and does not take account of other spending in Tasmania during the rest of a visit (by interstate visitors). Spending by locals is also included and this is taken into account in the employment impacts of the trails.

### Visitor Expenditure 2019 - Current Trail and Completion of Trail Network - Tasmania North (Annual \$)

Total Cycle Visitors (Tasmania North) 2019	Total Visitors MTB	Ave Stay in Region	Total Ave Spend per visitor/day	Total Visitor Spend in Region
Visitor Market	(No)	(days)	(\$)	(\$)
<b>Case 1: Current Trail 2016</b>				
Interstate Visitors	4,921	2.5	320	3,937,004
Intra-state Visitors(MTB)	5,212			
-Overnight (70%)	3,648	2	230	1,678,246
-Day (30%)	1,564	1	120	187,630
<b>Total MTB Visitors</b>	<b>10,133</b>			<b>5,802,880</b>
Local Users	4343	1	60	260,568
<b>Total MTB Users/ Expenditure</b>	<b>14,476</b>			<b>6,063,448</b>
<b>Case 2 : Base Case Completion of Trail Network 2019</b>				
Interstate Visitors	13,367	4.0	320	17,109,262
Intra-state Visitors(MTB)	18,522			
-Overnight (70%)	12,965	2	230	5,964,084
- Day (30%)	5,557	1	120	666,792
<b>Total MTB Visitors</b>	<b>31,889</b>			<b>23,740,138</b>
Local Users	8686	1	60	521,136
<b>Total MTB Visitors/ Locals Expenditure</b>	<b>40,574</b>			<b>24,261,274</b>
<b>Difference : Case 1 &amp; Case 2 Base Case 2019</b>				
Interstate Visitors	8,445	2.5	320	13,172,258
Intra-state Visitors(MTB)	13,310			
-Overnight (70%)	9,317	2	230	4,285,838
-Day (30%)	3,993	1	120	479,162
<b>Total MTB Visitors</b>	<b>21,755</b>			<b>17,937,258</b>
Local Users	<b>4,343</b>	<b>1</b>	<b>60</b>	260,568
<b>Total MTB Users/ Expenditure</b>	<b>26,098</b>			<b>18,197,826</b>

Source: MCA analysis April 2016. Intrastate visitors were assumed to be 70% overnight visitors and 30% day visitors.

## Employment Impacts

The development of the trails will support a number of ongoing jobs in North Tasmania which are linked to the increase in MTB visitors in all categories including areas that have traditionally suffered from under employment. Jobs are measured as FTE's, and include both direct and indirect jobs generated by the trails.

The number of jobs in the region supported by the existing trail (Case 1) is estimated at 29.1 FTE's in 2015. With the completion of the full trail network the total jobs generated would be 114.7 FTE, or an additional 85.6 FTE jobs. This due to the major increase in user numbers and the extended stays in the region that the trail network generates. It is expected that many of these jobs would be in proximity to the trails, in Break O' Day and Dorset Local Government Areas.

### Employment Impacts of Trails 2019

Employment Impacts	Ongoing Jobs Generated in Region by MTB Visitor Spending
	Jobs FTE
<b>Case 1: Current Trail 2016</b>	
Direct Employment	24.8
Total Indirect Jobs (Employee Expenditure Impacts)	4.3
<b>Total Jobs</b>	<b>29.1</b>
<b>Case 2: Base Case Completion of Trail Network</b>	
Direct Employment	99.4
Total Indirect Jobs (Employee Expenditure Impacts)	15.3
<b>Total Jobs</b>	<b>114.7</b>
<b>Difference: Case 1 &amp; Case 2 Base Case 2019</b>	
Direct Employment	74.6
Total Indirect Jobs (Employee Expenditure Impacts)	11.0
<b>Total Jobs</b>	<b>85.6</b>

Source: MCA analysis April 2016

These jobs in the region are mainly concentrated in visitor related areas (accommodation, food services, recreation services and other services). There are also some indirect impacts on other regional industries. Many of these jobs would be generated within proximity of the trails.

### Regional Employment Generated by Industry Sector

Regional Employment Generated by MTB Visitors Total All Jobs (Direct & Indirect)	Case 1: Current Trail 2016	Case 2: Base Case Completion of Trail Network	Difference : Case 1 & Case 2: Base Case 2019
<b>Industry Sectors</b>			
Accommodation	8.2	32.7	24.5
Food & Beverage	10.8	43.2	32.4
Recreation Services/Other Services	6.5	25.4	18.9
Other Retail	1.5	5.5	4
Housing Services	0.3	1.0	0.7
Health	0.4	1.6	1.2
Transportation	0.7	2.7	2
Other Services	0.7	2.6	1.9
<b>Total Jobs</b>	<b>29.1</b>	<b>114.7</b>	<b>85.6</b>

Source: MCA analysis April 2016

## Future Growth

To illustrate the potential growth in visitors/users and economic impacts as the trails are promoted and are widely recognised, two alternative cases were developed, which build on the Case 2 Base Case.

- » Case 2.1 Increase Base Case Visitors by 35%
- » Case 2.2 Increase Base Case Visitors by 60%.
- » Case 2.1 Visitors and Spending
- » For Case 2.1 total estimated annual visitors/users would be 51,735 (an increase of 37,259) and visitor spending would be \$32.6 million, an increase of \$26.5 million on 2015.

### Case 2.1 Increase Visitor (interstate & intrastate) Numbers by 35% on Base Case

Total Cycle Visitors (Tasmania North) 2019 Increase visitors by 35% on Base Case	Total Visitors MTB	Ave Stay in Region	Total Ave Spend per visitor/day	Total Visitor Spend in Region
Visitor Market	(No)	(days)	(\$)	(\$)
<b>Case 1: Current Trail 2015</b>				
Interstate Visitors	4,921	2.5	320	3,937,004
Intra-state Visitors(MTB)	<b>5,212</b>			
-Overnight (70%)	3,648	2	230	1,678,246
-Day (30%)	1,564	1	120	187,630
<b>Total MTB Visitors</b>	<b>10,133</b>			<b>5,802,880</b>
Local Users	4343	1	60	260,568
<b>Total MTB Users/ Expenditure</b>	<b>14,476</b>			<b>6,063,448</b>
<b>Case 2.1 : Completion of Trail Network 2019 (Increase visitors 35% on Base Case)</b>				
Interstate Visitors	18,045	4.0	320	23,097,504
Intra-state Visitors(MTB)	<b>25,005</b>			
-Overnight (70%)	17,503	2	230	8,051,513
-Day (30%)	7,501	1	120	900,169
<b>Total MTB Visitors</b>	<b>43,050</b>			<b>32,049,187</b>
Local Users	8,686	1	60	521,136
<b>Total MTB Users/ Expenditure</b>	<b>51,735</b>			<b>32,570,323</b>
<b>Difference : Case 1 Current 2015 &amp; Case 2.2 (Increase visitors 35% on Base Case)</b>				
Interstate Visitors	13,124	4.0	320	19,160,500
Intra-state Visitors(MTB)	19,793			-
-Overnight (70%)	13,855	2	230	6,373,267
-Day (30%)	5,938	1	120	712,539
<b>Total MTB Visitors</b>	<b>32,916</b>			<b>26,246,306</b>
Local Users	4,343	1	60	260,568
<b>Total MTB Users/ Expenditure</b>	<b>37,259</b>			<b>26,506,874</b>

Source: MCA analysis April 2016

### Case 2.1 Jobs – Economic Impact

Under Case 2.1, regional jobs generated by the growth in visitors and trail users are estimated at 154, an increase of 125 as a result of the completion of the trail network.

#### Case 2.1 Increase Visitor (interstate & intrastate) Numbers by 35% on Base Case

Employment Impacts (Increase Base Case visitors by 35%)	Ongoing Jobs Generated in Region by MTB Visitor Spending
	Jobs FTE
<b>Case 1: Current Trail 2015</b>	
Direct Employment	24.8
Total Indirect Jobs (Employee Expenditure Impacts)	4.3
<b>Total Jobs</b>	<b>29.1</b>
<b>Case 2.1: Completion of Trail Network (Increase Base Case Visitors by 35%)</b>	
Direct Employment	133.5
Total Indirect Jobs (Employee Expenditure Impacts)	20.9
<b>Total Jobs</b>	<b>154.4</b>
<b>Difference: Case 1 &amp; Case 2.1 2019</b>	
Direct Employment	108.7
Total Indirect Jobs (Employee Expenditure Impacts)	16.6
<b>Total Jobs</b>	<b>125.3</b>

Source: MCA analysis April 2016



## Case 2.2 Visitors and Spending

For Case 2.2 total estimated annual visitors/users would be 59,707 (an increase of 45,231) and visitor spending would be \$38.5 million, an increase of \$26.5 million on 2015.

### Case 2.2 Increase Visitor (interstate & intrastate) Numbers by 60% on Base Case

Total Cycle Visitors (Tasmania North) 2019 Increase 60% on Base Case	Total Visitors MTB	Ave Stay in Region	Total Ave Spend per visitor/day	Total Visitor Spend in Region
Visitor Market	(No)	(days)	(\$)	(\$)
<b>Case 1: Current Trail 2015</b>				
Interstate Visitors	4,921	2.5	320	3,937,004
Intra-state Visitors(MTB)	<b>5,212</b>			
-Overnight (70%)	3,648	2	230	1,678,246
-Day (30%)	1,564	1	120	187,630
<b>Total MTB Visitors</b>	<b>10,133</b>			<b>5,802,880</b>
Local Users	4343	1	60	260,568
<b>Total MTB Users/ Expenditure</b>	<b>14,476</b>			<b>6,063,448</b>
<b>Case 2.2 : Completion of Trail Network 2019 (Increase visitors 60% on Base Case)</b>				
Interstate Visitors	21,387	4.0	320	27,374,820
Intra-state Visitors(MTB)	29,635			
-Overnight (70%)	20,745	2	230	9,542,534
-Day (30%)	8,891	1	120	1,066,867
<b>Total MTB Visitors</b>	<b>51,022</b>			<b>37,984,221</b>
Local Users	8,686	1	60	521,136
<b>Total MTB Users/ Expenditure</b>	<b>59,707</b>			<b>38,505,357</b>
<b>Difference : Case 1 Current &amp; Case 2.2 (Increase visitors 60% on Base Case)</b>				
Interstate Visitors	16,465	4.0	320	23,437,816
Intra-state Visitors(MTB)	24,423			-
-Overnight (70%)	17,096	2	230	7,864,288
-Day (30%)	7,327	1	120	879,237
<b>Total MTB Visitors</b>	<b>40,889</b>			<b>32,181,341</b>
Local Users	4,343	1	60	260,568
<b>Total MTB Users/ Expenditure</b>	<b>45,231</b>			<b>32,441,909</b>

Source: MCA analysis April 2016

## Case 2.2 Jobs – Economic Impact

Under Case 2.2, regional jobs generated by the growth in visitors and trail users are estimated at 183.5, an increase of 154 as a result of the completion of the trail network.

### Case 2.2 Increase Visitor (interstate & intrastate) Numbers by 60% on Base Case

Employment Impacts (Increase Base Case Visitors by 60%)	Ongoing Jobs Generated in Region by MTB Visitor Spending
	Jobs FTE
<b>Case 1: Current Trail 2015</b>	
Direct Employment	24.8
Total Indirect Jobs (Employee Expenditure Impacts)	4.3
<b>Total Jobs</b>	<b>29.1</b>
<b>Case 2.2: Completion of Trail Network (Increase Base Case Visitors by 60%)</b>	
Direct Employment	157.8
Total Indirect Jobs (Employee Expenditure Impacts)	25.7
<b>Total Jobs</b>	<b>183.5</b>
<b>Difference : Case 1 &amp; Case 2 2019</b>	
Direct Employment	133
Total Indirect Jobs (Employee Expenditure Impacts)	21.4
<b>Total Jobs</b>	<b>154.4</b>

Source: MCA analysis April 2016



## Summary of Cases

The following tables summarise the visitor and spending impacts and the jobs impacts of the cased modelled.

Case 1 is an estimate of the first year (2015) of operation of the existing trail. Case 2: Base Case is an estimated of activity in 2019 with the completion of the trail network. Case 2.1 and Case 2.2 illustrate the potential for further growth with recognition of the trails in the market.

### Summary Visitors and Spending

Total Cycle Visitors (Tasmania North)	Total Visitors MTB	Total Visitor Spend in Region
Visitor Market	(No)	(\$)
<b>Case 1: Current Trail 2015</b>		
Interstate Visitors	4,921	3,937,004
Intra-state Visitors(MTB)	<b>5,212</b>	
-Overnight (70%)	3,648	1,678,246
-Day (30%)	1,564	187,630
<b>Total MTB Visitors</b>	<b>10,133</b>	<b>5,802,880</b>
Local Users	4343	260,568
<b>Total MTB Users/ Expenditure</b>	<b>14,476</b>	<b>6,063,448</b>
<b>Case 2: Base Case Completion of Trail Network 2019</b>		
Interstate Visitors	13,367	17,109,262
Intra-state Visitors(MTB)	18,522	
-Overnight (70%)	12,965	5,964,084
- Day (30%)	5,557	666,792
<b>Total MTB Visitors</b>	<b>31,889</b>	<b>23,740,138</b>
Local Users	8686	521,136
<b>Total MTB Users/ Expenditure</b>	<b>40,574</b>	<b>24,261,274</b>
<b>Case 2.1: Completion of Trail Network 2019 (Increase visitors 35% on Base Case)</b>		
Interstate Visitors	18,045	23,097,504
Intra-state Visitors(MTB)	25,005	
-Overnight (70%)	17,503	8,051,513
-Day (30%)	7,501	900,169
<b>Total MTB Visitors</b>	<b>43,050</b>	<b>32,049,187</b>
Local Users	8,686	521,136
<b>Total MTB Users/ Expenditure</b>	<b>51,735</b>	<b>32,570,323</b>
<b>Case 2.2: Completion of Trail Network 2019 (Increase visitors 60% on Base Case)</b>		
Interstate Visitors	21,387	27,374,820
Intra-state Visitors(MTB)	29,635	
-Overnight (70%)	20,745	9,542,534
-Day (30%)	8,891	1,066,867
<b>Total MTB Visitors</b>	<b>51,022</b>	<b>37,984,221</b>
Local Users	8,686	521,136
<b>Total MTB Users/ Expenditure</b>	<b>59,707</b>	<b>38,505,357</b>

Source: MCA analysis April 2016

## Summary Job Impacts

The following table summarises the job impacts for each of the Cases examined. Case 1 shows the jobs linked with the initial year (2015) of operation of the existing trail.

The other Cases show the potential for a major increase in jobs in the region with the projected increase in visitor numbers (interstate and intra-state using the completed trail network from 2019). These jobs are mainly in accommodation, food service (cafes, restaurants etc.), recreation services (supporting mountain biking) and transport. Most of these jobs would be located in the LGAs in proximity to the trail network. (Break O' Day and Dorset).

Employment Impacts	Ongoing Jobs Generated in Region by MTB Visitor Spending
	Jobs FTE
<b>Case 1: Current Trail 2015</b>	
Direct Employment	24.8
Total Indirect Jobs (Employee Expenditure Impacts)	4.3
<b>Total Jobs</b>	<b>29.1</b>
<b>Case 2 : Base Case Completion of Trail Network</b>	
Direct Employment	99.4
Total Indirect Jobs (Employee Expenditure Impacts)	15.3
<b>Total Jobs</b>	<b>114.7</b>
<b>Case 2.1: Completion of Trail Network (Increase Base Case Visitors by 35%)</b>	
Direct Employment	133.5
Total Indirect Jobs (Employee Expenditure Impacts)	20.9
<b>Total Jobs</b>	<b>154.4</b>
<b>Case 2.2: Completion of Trail Network (Increase Base Case Visitors by 60%)</b>	
Direct Employment	157.8
Total Indirect Jobs (Employee Expenditure Impacts)	25.7
<b>Total Jobs</b>	<b>183.5</b>

Source: MCA analysis April 2016

## **INVESTMENT ATTRACTION AND REGIONAL STIMULUS**

Increased visitation and expenditure in the region as a result of the trail network is also likely to attract further investment within Northern Tasmania. As has been evidenced by the trails at Derby (see Case Study), additional new trails present an opportunity for entrepreneurs to develop products and services to meet the needs of visiting mountain bikers. This could include transport, merchandise, accommodation or provisioning and guiding services.

There are existing operators in the region that will also stand to benefit considerably from the increase in visitation. They are likely to capitalise on this opportunity and provide additional services, products and experiences for the mountain bike riders.

The increased expenditure will also provide significant stimulus to the regional communities of Northern Tasmania. There will be increased expenditure particularly within the accommodation and food services industry. An increased length of stay for existing markets and the new Destination MTB markets will improve the occupancy rate of accommodation facilities and may also result in investment in new accommodation infrastructure to meet market needs.

## **SOCIAL IMPACTS**

The proposed mountain bike trail developments will provide additional impacts to the communities of northern Tasmania than those described as economic. The increase in jobs in the region is a particular benefit that will create employment opportunities both in construction and the ongoing trail maintenance and provision of services for mountain bikers.

The trails will also provide enhanced lifestyle for the existing communities. It is envisaged that the participation rate in mountain biking in the North will increase with the development of mountain bike specific trails. This has the capacity to increase social morale as well as providing health benefits for the local population.

An increased profile for the East Coast as well as Northern Tasmania as a result of the trail developments will support further growth in tourism and, in turn, increase economic activity in the region through investment and development of service and support industries such as in hospitality.

# Case Study: Impact Study:

Stage One of the Blue Derby Mountain Bike Trails is nearing completion with the last trail, the 40km Blue Derby Epic, descending from Poimena on the Blue Tier to Weldborough and then on to Derby, currently under construction with anticipated opening in October 2016. The first part of Stage 1 was opened in February 2015, with a significant trail -Atlas opening in November 2015. Preceding the opening of the trails in Feb 2015, "Bike Ready" workshops were run for local tourism operators, profiling mountain bikers and offering specific advice on what operators should do to cater to this market.

Of 12 businesses and accommodation providers interviewed in February 2016, five are businesses that have been established in the last 12 months to cater specifically to mountain bike demand: a mountain bike shuttle service, and four accommodation providers. All of the new businesses said they were busier than they had anticipated. Businesses that had been in operation for more than twelve months all reported increases of varying degrees, most significant, on the year before.

## ACCOMMODATION BUSINESSES

All accommodation providers were reporting increasing trade, with a number operating at near full occupancy. When asked how much of their business was being generated by mountain bikers, accommodation operators estimated from 80% to 100%. Some of the new accommodation properties are homes that were rented permanently and have now been transferred to holiday letting, with one owner finding the return so attractive they are currently looking for another property to replicate the success of the first. Another holiday property owner said her cottage, which sleeps up to seven, had been full almost every night, which drastically exceeded her expectations of getting one booking a month.



*Derby Boutique accommodation with a bike theme*



*Accommodation operators took on board advice offered at council workshops and provide on-site secure storage for bikes, high quality bedding and bike washes.*

## FOOD BUSINESSES

All food businesses interviewed were reporting increased trade. When asked how much of their business was being generated by mountain bikers, food and beverage operators estimated from 15% to 80%. All businesses that had been in operation for more than a year were seeing an increase in their overall business. One food business had increased their staffing from one person each day (who would sometimes go consecutive days without a customer) to a minimum of two staff every day and up to 4 or 5 during peak periods. This business estimated 70-80% of customers were mountain bikers.

*"Best service, lunch and best coffee in Derby by far!"*

NEW

★★★★★ Reviewed 1 week ago

Perfect for our after ride lunch Great choices, excellent quality and far superior to the Corner Store (sorry Corner... we wanted to like you!)

Helpful?

👍 Thank Sally H

🚩 Report

*Most recent trip advisor review of number one rated food outlet in Derby – by a cyclist.*



★★★★★

*"Superb service all considered"*

Traveller photo by Nrm North J: "photo0.jpg" (Oct 2015)

Was this photo helpful?

Report

Helpful? 👍



*Traveller photo of Number 1 rated food business in Derby by a different reviewer – note bikes in front of shop and lycra clad customers at tables.*

## REAL ESTATE

Real estate demand is for the first time in 12 years, outstripping supply, with the local real estate agent selling five times more property in 2015 than he did in 2013, with a considerable increase in average sale price. These sorts of increases are not being seen across the board in Tasmania. There is a demand for properties that can be holiday let and a number of owners are considering converting from permanent rental to holiday rental, increasing the demand for cleaning services, laundry services and booking services.



**\$295,000**

Under Contract

18 Cascade Dam Road, Derby, Tas 726...

3 2 6

☆ Save Details >

*Property under contract at Derby – marketed in real estate advertising as “overlooking the start of the “Blue Derby Trails” only a short ride to “Flickety Sticks and 3.5km to Cascade Dam (both rides)”*

## BIKE BUSINESSES

Not surprisingly, businesses directly related to mountain biking were reporting some of the most significant increases. The bike shuttle business Vertigo has seen significant growth since opening, with 2 full time and four casual employees, with more positions expected to be created for spring/summer 2016.



*The Corner Store at the Tin Centre*

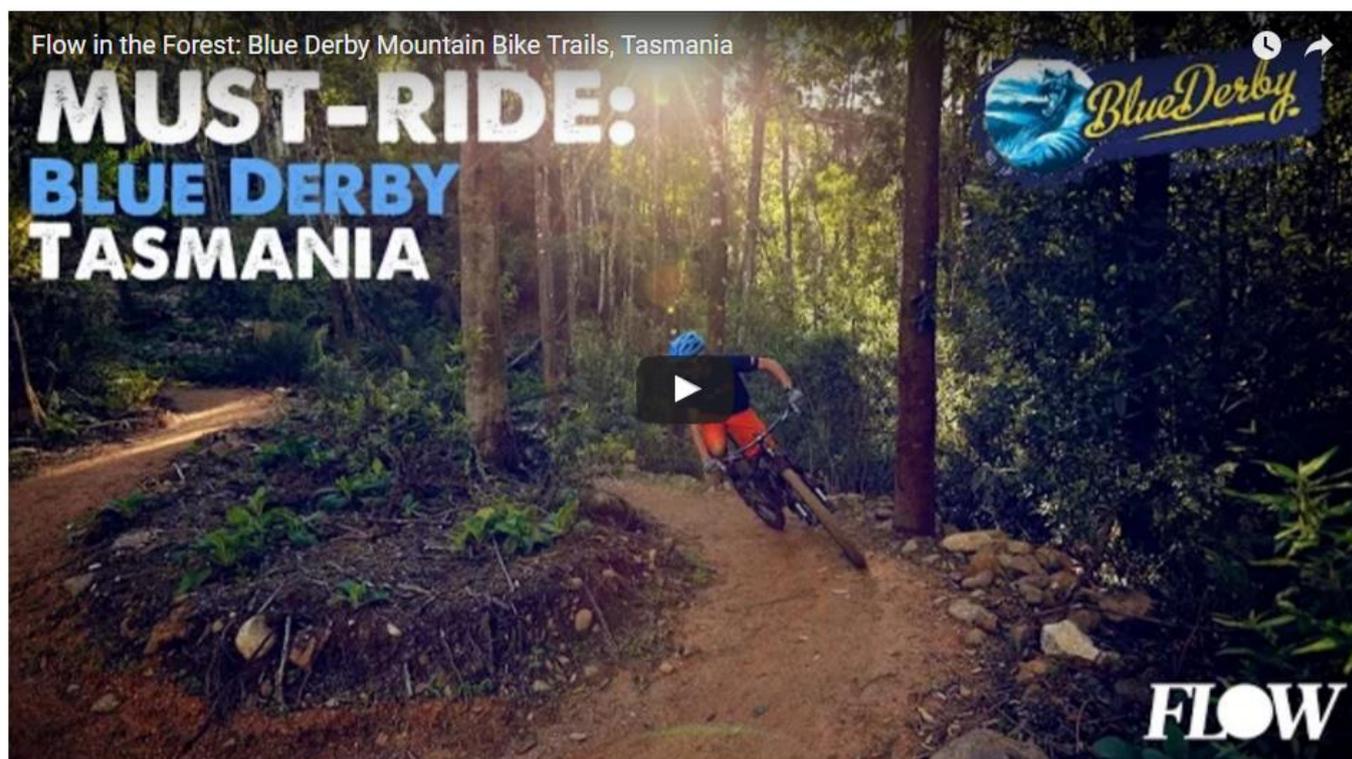
## EVENTS

The Australian Cross Country Marathon Mountain Bike Championships were held in Derby in 2015 and 2016 with over 250 competitors. The event is a two day event, and is a round of the World Mountain Bike Marathon series.

Events are also being built around the trails, such as the Tassie Trail Fest which was held from the 12<sup>th</sup> -14<sup>th</sup> March 2016. This three-day event that celebrates the trail running lifestyle attracted over 300 entrants. The festival is intended to be an annual event.

## THE GENERAL VIBE

Interviews with over 20 operators, business owners, event managers and locals in Derby painted an undeniably positive picture of the impact mountain biking has had in the town, which only has a population of 200. While it was frustrating that there was not always hard data to support anecdotal opinion, that opinion was overwhelming in itself. There is excitement about the change that people see mountain biking is bringing. One local summed up the sentiment: “I only have to look out the front door to the main street to see all the cars with bikes on them. You’d have to be blind not to see what’s happening.”



“They say them goat tracks they’re building up in them hills are world standard!,” barks Derek, the sole customer of the Dorset Hotel at lunch time on Wednesday. “World standard!,” he shouts with the enthusiasm of the half-deaf once again, “whaddaya think?!”

[flowmountainbike.com](http://flowmountainbike.com)’s very positive story on Blue Derby from August 2015: *Must Ride*

**BREAK O'DAY MOUNTAIN BIKE TRAIL MASTER PLAN:  
STAGE 2, POIMENA TO BINALONG BAY**

**draft**

**PREPARED BY WORLD TRAIL PTY LTD  
FOR BREAK O'DAY COUNCIL  
APRIL 2016**

**WORLD TRAIL**

**Disclaimer:**

This document, *Break O'Day Mountain Bike Trail Master Plan: Stage 2, Poimena to Binalong Bay*, has been prepared by World Trail Pty Ltd for Break O'Day Council. This document is the work of World Trail and does not necessarily reflect the final views or opinions of all stakeholders.



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# 1 INTRODUCTION

In November 2015, World Trail (WT) completed a concept plan for a network of proposed mountain bike trails in the St Helens area of northeast Tasmania, for Break O'Day Council (BODC). BODC's main objective in considering the development of a mountain bike trail network is to increase tourism visitation to the region. The concept plan outlined a potential network of trails that could be designed and constructed in the region and provided high-level cost estimates for construction. The concept plan, titled '*Break O'Day Mountain Bike Trail Concept Plan*', provides additional background to this project which is essential for a full understanding of this overall project.

In late 2015, BODC commissioned WT to undertake the next step in this process, being the ground-truthing of the proposed trails. Ground-truthing is the process by which the final proposed alignment of a trail is determined on the ground.

Ground-truthing works were undertaken throughout the months of December 2015 – March 2016.

This document, *Break O'Day Mountain Bike Trail Master Plan: Stage 2, Poimena to Binalong Bay*, presents the final ground-truthed alignments for the trails that are proposed to be built to the north of St Helens, in the Blue Tier, Doctor's Peak and Binalong Bay area.

A separate document, *Break O'Day Mountain Bike Trail Master Plan: Stage 1, St Helens*, addresses the other half of the proposed trail network to the south of St Helens.

The splitting of the trail network into two stages will allow the two portions of the trail network to be pushed forward as separate projects, without being tied to each other.

## 2 PROJECT BACKGROUND

BODC is currently involved in the Blue Derby project, which aims to develop a mountain bike trail network centred around the towns of Derby and Weldborough. Derby is located within the neighbouring municipality of Dorset, but Weldborough is located within Break O'Day (albeit at the western extent of the municipality). BODC and Dorset Council are effectively partners in the development of the Blue Derby trail network, due for completion in June 2016.

With Blue Derby already seeing a significant increase in mountain bike driven tourism visitation, despite the trail network being incomplete, this project represents an opportunity to capitalise on the momentum being generated by Blue Derby and to offer a complementary mountain bike product nearby in Break O'Day municipality. While this project presents a whole new trail network based around St Helens and Binalong Bay, it could also be considered as an extension of the Blue Derby trail network, as it would actually connect with the Blue Derby trail network via Poimena and utilise a small portion of the Blue Derby trail infrastructure.

When complete, the Blue Derby trails will offer about 80km of trails, requiring a visit of 3-5 days in order to ride the entire trail network (depending on experience and fitness). With the construction of a similar-sized mountain bike trail network in Break O'Day municipality, a 3-5 day visit would extend out to a 6-10 day visit, with the tourism spend being distributed more widely across northeast Tasmania. Together, the two trail networks would form the largest purpose-built mountain bike trail network in Australia, capable of attracting mountain bike tourists from all over Australia and potentially from overseas and becoming a nationally significant tourism attraction.

### 3 GROUND-TRUTHING METHODOLOGY

Ground-truthing is the process by which the final proposed alignment of a trail is determined on the ground. It assumes that the conceptual alignment of the proposed trail has already been determined and approved by the landholder.

Ground-truthing is done using a GPS and clinometer (to measure gradient) and keeping in mind the intended difficulty rating of the trail. It is at this point that local environmental conditions are assessed and the trail is designed accordingly. For example, if there is a creek to be crossed, the alignment is chosen so as to cross the creek at the narrowest point, or if there is a low-lying boggy area, the trail is aligned so as to avoid the boggy section. Once complete, the trail is mapped by GPS and marked in the field using coloured flagging tape.

Once ground-truthed, the GPS file of the track can be submitted to any relevant authorities for planning consent. In seeking approval to construct any of the trails proposed herein, World Trail advises that approval be sought for construction of the trail within a 20m wide corridor (i.e. 10m either side of the ground-truthed alignment). This 20m wide corridor is required to provide flexibility for the trail builders to respond to any unforeseen circumstances that may occur. For example, prior to construction, it may appear that the soil is deep and excavation will be easy, but once construction commences, it soon becomes apparent that there is a large slab of rock just beneath the surface.

All the trails discussed herein have been ground-truthed. Their alignments have been recorded as a 'track log' with a handheld GPS as well as any relevant points of interest. Each trail alignment has also been tagged in the field by tying small strips of brightly coloured (orange) flagging tape to trees/shrubs along the trail alignment.

When attempting to follow a trail alignment in the field, World Trail recommends:

- Loading the GPS file of the recorded 'track' into a handheld GPS and using it to follow the 'track' in the field;
- Taking a hard copy map, showing the proposed trail alignments;
- Looking for the coloured flagging tape in the field.

In relation to the flagging tape, the following protocols should be understood:

- The flagging tape indicates roughly the middle of the proposed trail alignment;
- Generally, each strip of flagging tape should be visible from the next/previous one, but this should not always be relied on as they can be removed by weather/animals. In thick vegetation, flagging tape will be placed more frequently and in sparse vegetation, tape will be used more sparingly;
- Where the trail performs a sharp turn or switchback, three pieces of tape tied around a single trunk or branch are generally used to indicate the apex of the turn (see Figure 1 on next page);
- Switchbacks are often used in close succession to each other to help a trail climb up or descend a steep slope. In these situations, there can be multiple 'legs' of the trail running roughly parallel to each other. Anyone attempting to follow the proposed trail alignment needs to be aware of where these switchbacks might be (using a GPS and map) and ensure that they look forward along the contour to locate the next piece of flagging tape;
- Where the trail is proposed to follow an existing road flagging may be sporadic.

While the length of the trail as recorded during ground-truthing is more accurate than any trail lengths estimated during the conceptual phase, it may still not be 100% accurate to the actual final

constructed trail. It is likely that the final constructed trail length may be up to 10% longer than the length recorded during ground-truthing. This is caused by the inability of handheld GPS devices to pick up small twists and turns and minor direction changes.

**Figure 1. Triple taping to indicate switchback corner**



## 4 STAGE 2, POIMENA TO BINALONG BAY TRAIL

### 4.1 SITE DESCRIPTION

Land tenures along the proposed Poimena to Binalong Bay trail are numerous, as shown in Figure 2 on the next page. Starting at the Blue Tier and travelling east towards the coast, land tenures include:

- Blue Tier Forest Reserve;
- State Forest;
- Doctors Peak Forest Reserve;
- Mt Pearson State Reserve.

The landforms, ecosystems, aspects, soils and scenery all vary widely too. Starting at Poimena at the Blue Tier, at an altitude of about 750m above sea level, the Blue Tier Forest Reserve is characterised by a sub-alpine type environment, with numerous remnants of its past tin mining operations still evident. Vegetation is characterised by stunted, sub-alpine heathland species at higher altitudes. Heading east and losing altitude, there are increasing pockets of tea-tree, myrtle beech and Eucalypt forests.

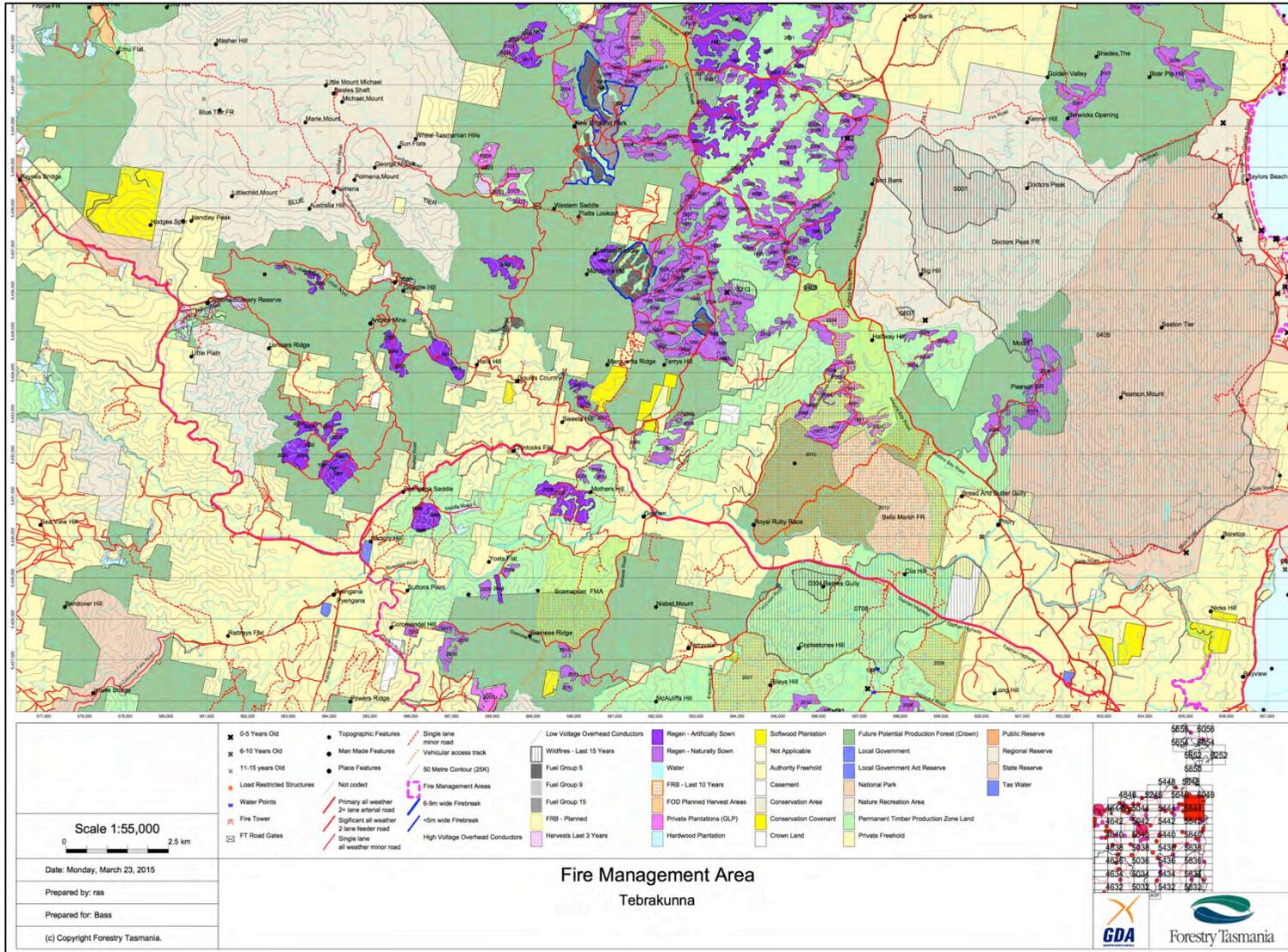
The State Forest is characterised by a tall Eucalypt canopy and a moderately dense understorey of shrubs and tree ferns. It ranges in altitude from about 500m down to 100m above sea level. The trail alignment was designed to avoid any areas of current forestry harvesting operations.

Doctors Peak Forest Reserve and Mt Pearson State Reserve both appear to share fairly similar characteristics:

- Both are part of the same coastal mountain range, running in a roughly north-south direction;
- Very rocky, with numerous and frequent large granitic boulders and outcrops;
- Soils are predominantly granitic sands;
- Vegetation is characterised by tall Eucalypt canopy with very sparse/minimal understorey;
- Generally steep side slopes.

The photos on the following pages provide an indication of the open vegetation and steep side slopes typical of the area.

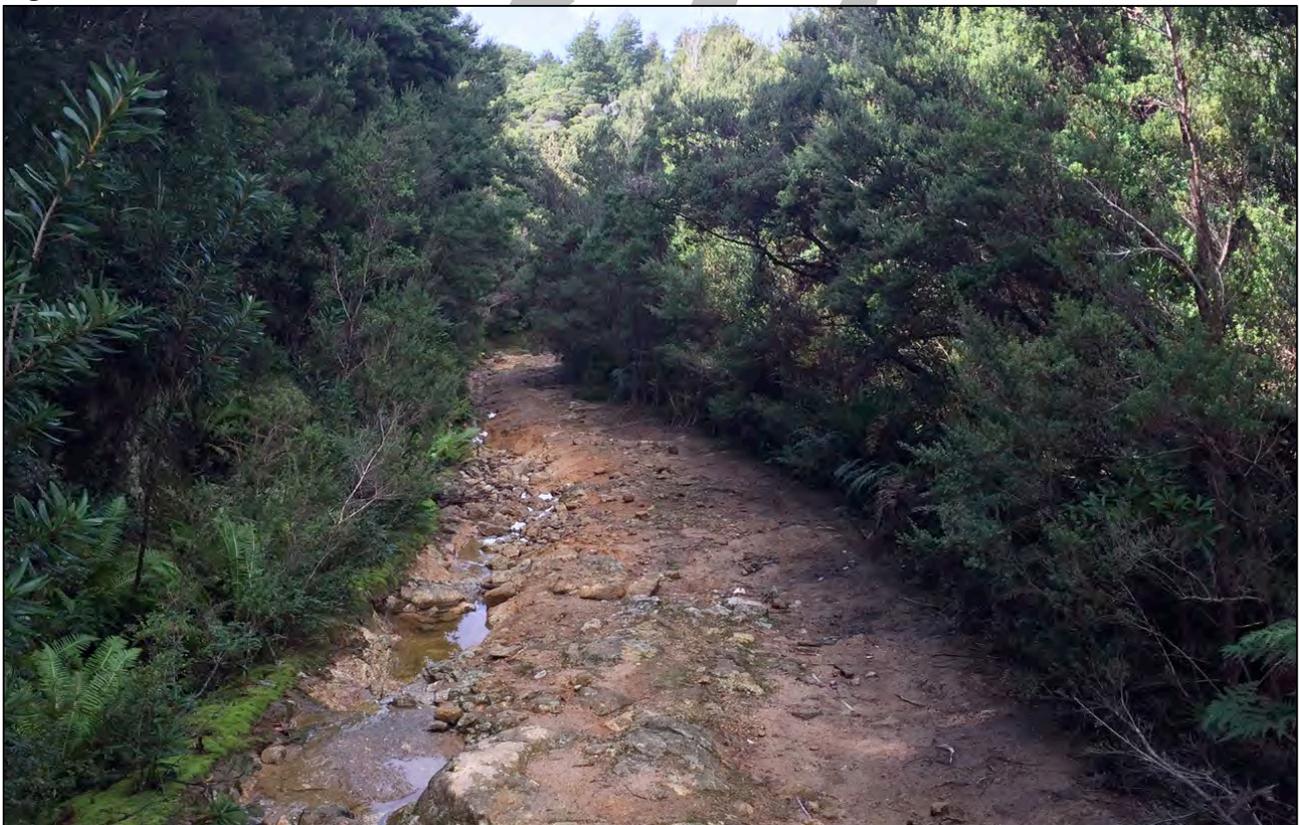
Figure 2. Forestry Tasmania map showing land tenures



**Figure 3. Lower section of Sun Flats Rd in the Blue Tier Forest Reserve**



**Figure 4. Lower section of Sun Flats Rd in the Blue Tier Forest Reserve**



**Figure 5. Views over Binalong Bay from Mt Pearson State Reserve**



**Figure 6. Typical scenery in Doctors Peak Forest Reserve and Mt Pearson State Reserve**



**Figure 7. Small waterfall in Mt Pearson State Reserve**



**Figure 8. Granite boulders in Mt Pearson State Reserve**



## 4.2 TRAIL OVERVIEW

The Poimena to Binalong Bay trail can be described as a point-to-point mountain biking trail. The key features of the Stage 2, Poimena to Binalong Bay trail are:

- It is approximately 46km long;
- It is single direction only, starting at Poimena and finishing at Binalong Bay (west to east, downhill);
- While it does include some climbing sections, the majority of the trail is descending, starting at about 750m above sea level and finishing at about 20m above sea level – see elevation profile in Figure 9 below;
- It will appeal to cross-country and some gravity/enduro riders;
- It is rated More Difficult;
- It offers spectacular scenery, including a mix of different ecological communities;
- Coastal proximity provides a unique backdrop to the trail network. Furthermore, the coastal climate makes for a slightly drier and warmer environment than other parts of Tasmania, meaning the Poimena to Binalong Bay trail could potentially be a 'year round' mountain biking destination;
- Gravelly well-drained soils in the lower sections near to the coast will also contribute to the potential year round capabilities of the trails;
- The trail starts at Poimena, following the new Blue Tier descent (currently under construction as part of the Blue Derby project). It turns off this trail after about 500m. By starting the proposed Poimena to Binalong Bay trail at Poimena, several benefits are realized: better utilization of the trailhead at Poimena and linkage of the Blue Derby and proposed Break O'Day trail networks;
- The trail finishes at Binalong Bay, on the Gardens Rd, directly opposite an existing popular campsite at Swimcart Beach. There are a multitude of campsites along the coast nearby and other accommodation options in nearby Binalong Bay and St Helens;
- While the areas through which the trail traverses are fairly remote bushland, there are numerous and frequent roads all throughout. Many of the roads in the state forests are in excellent condition, having been constructed for hauling timber out during timber harvesting. The exception to this is the Doctors Peak Forest Reserve and Mt Pearson State Reserve, which have very few roads or tracks throughout.

**Figure 9. Elevation Profile for Poimena to Bay of Fires Trail<sup>1</sup>**

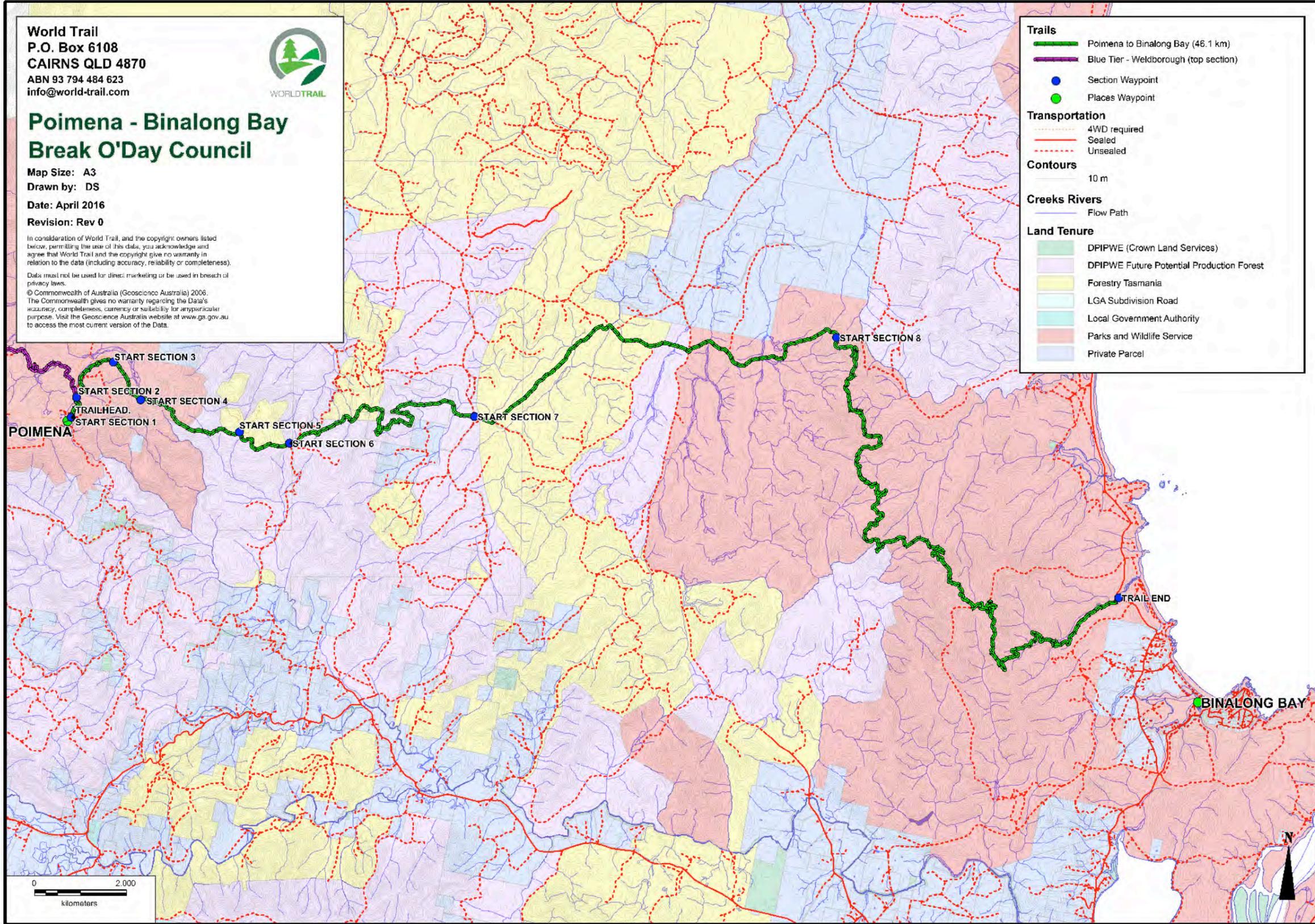


The following pages show a series of maps of the ground-truthed trail alignment:

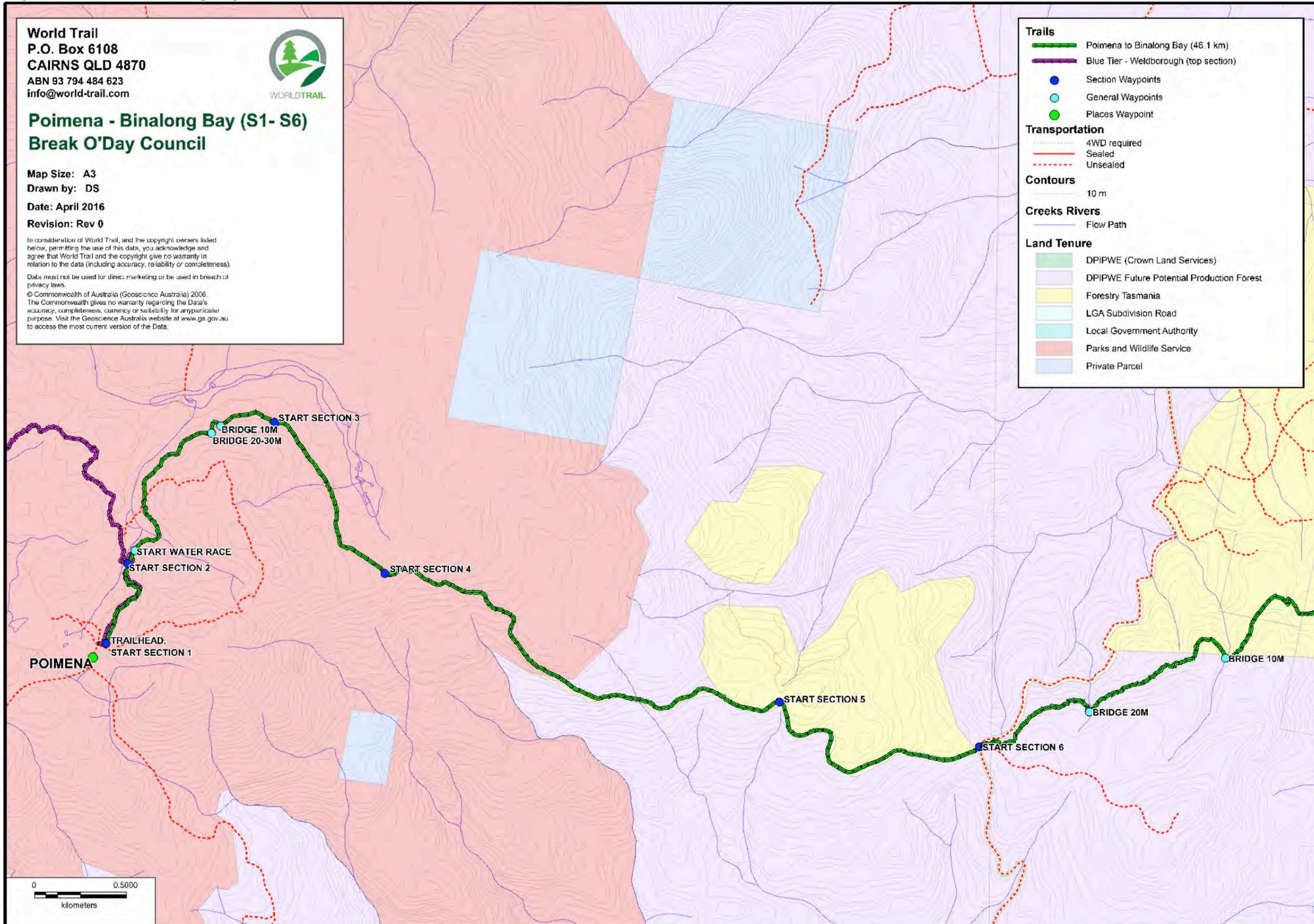
- Map 1 provides an overview of the entire trail;
- Map 2, Map 3, Map 4, Map 5 and Map 6 provide zoomed in views of the various sections of the trail, as described in the following section of this report;
- Map 7 provides an alternate alignment that affects section 7 and 8 and is discussed later in this report.

<sup>1</sup> The elevation profile shown was generated using a digital elevation model rather than the actual elevations recorded during ground-truthing. As such, it is not entirely accurate and should be used as a guide only.

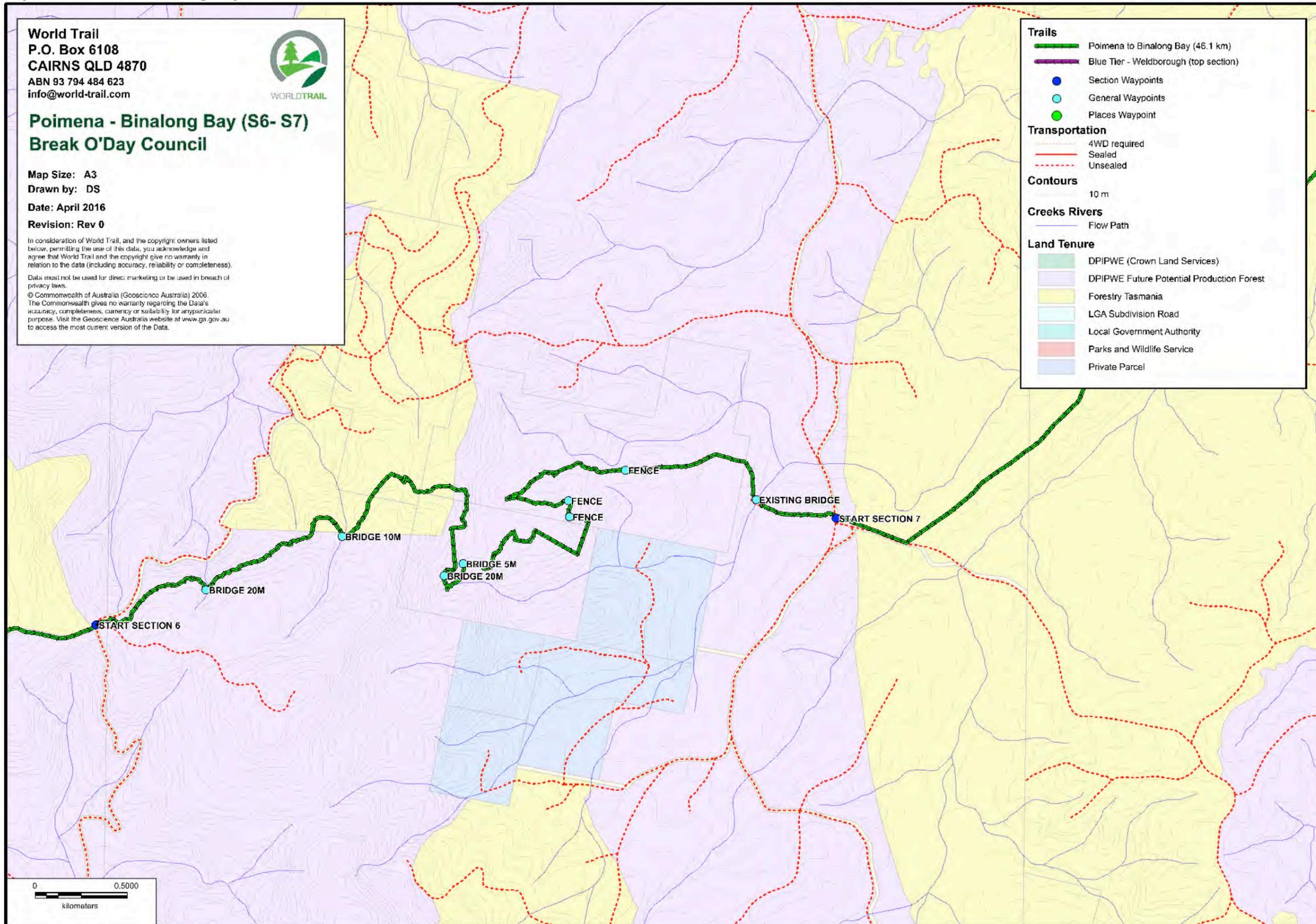
Map 1. Poimena to Binalong Bay Trail



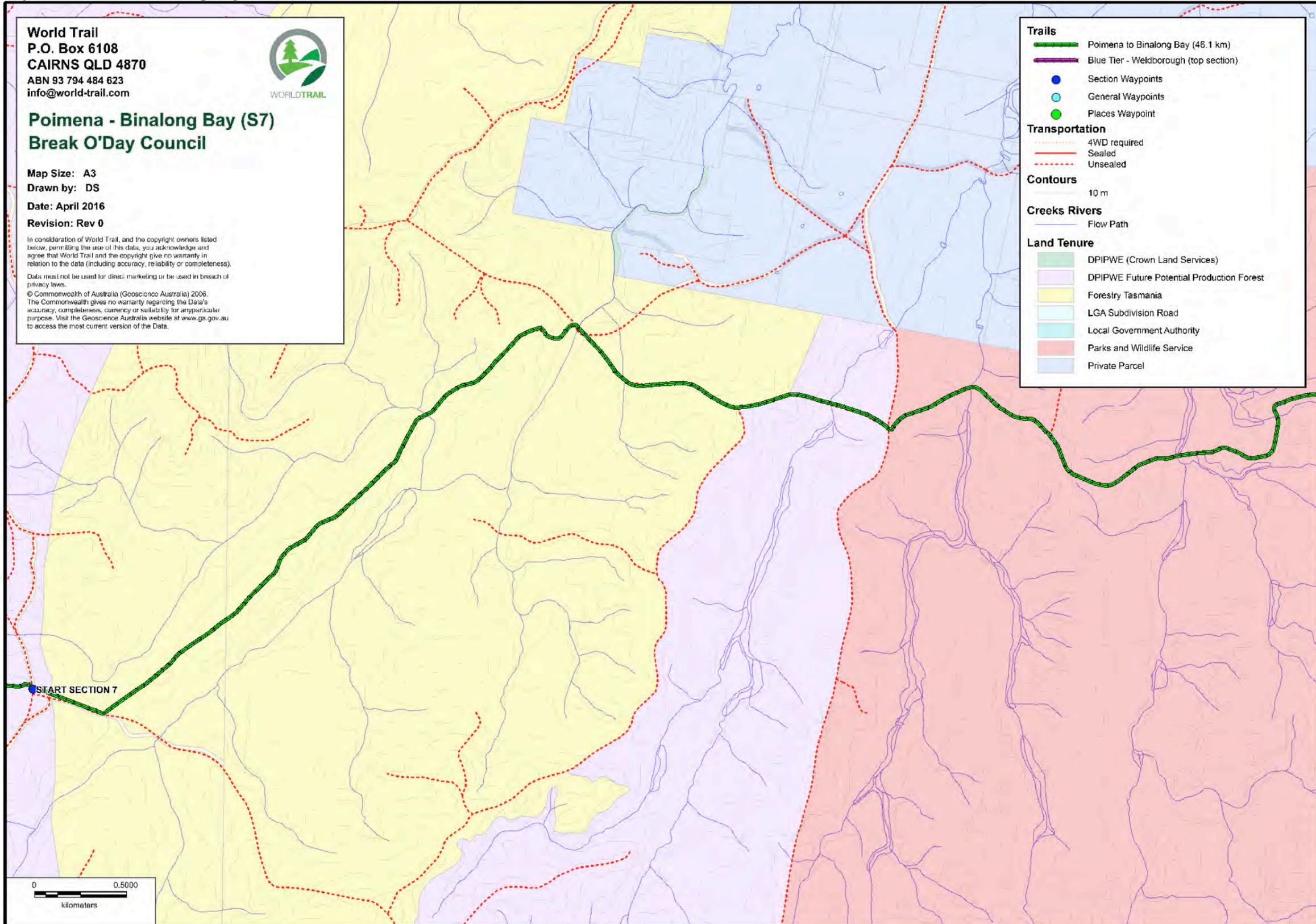
Map 2. Poimena to Binalong Bay Trail, Section 1-6



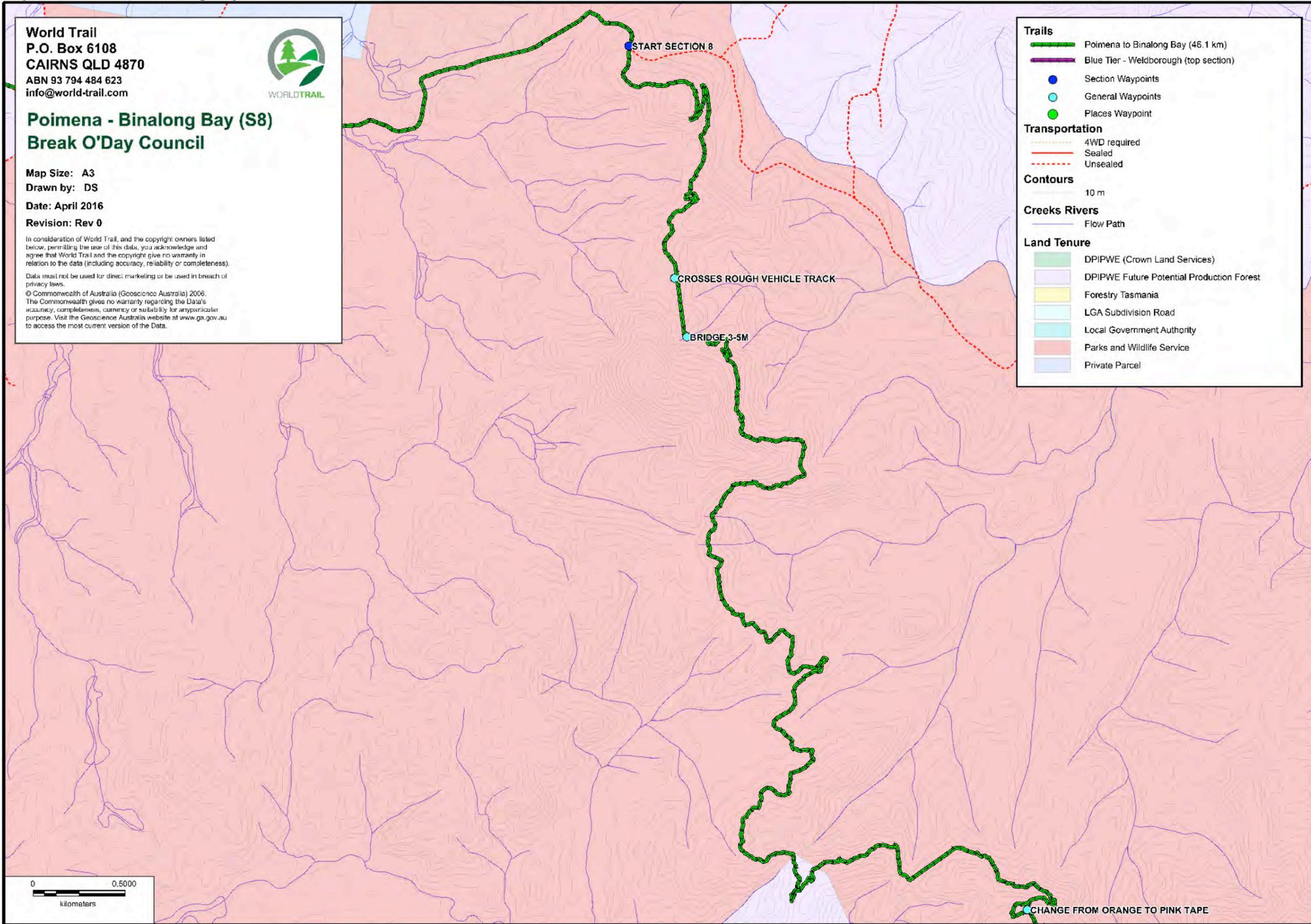
Map 3. Poimena to Binalong Bay Trail, Section 6-7



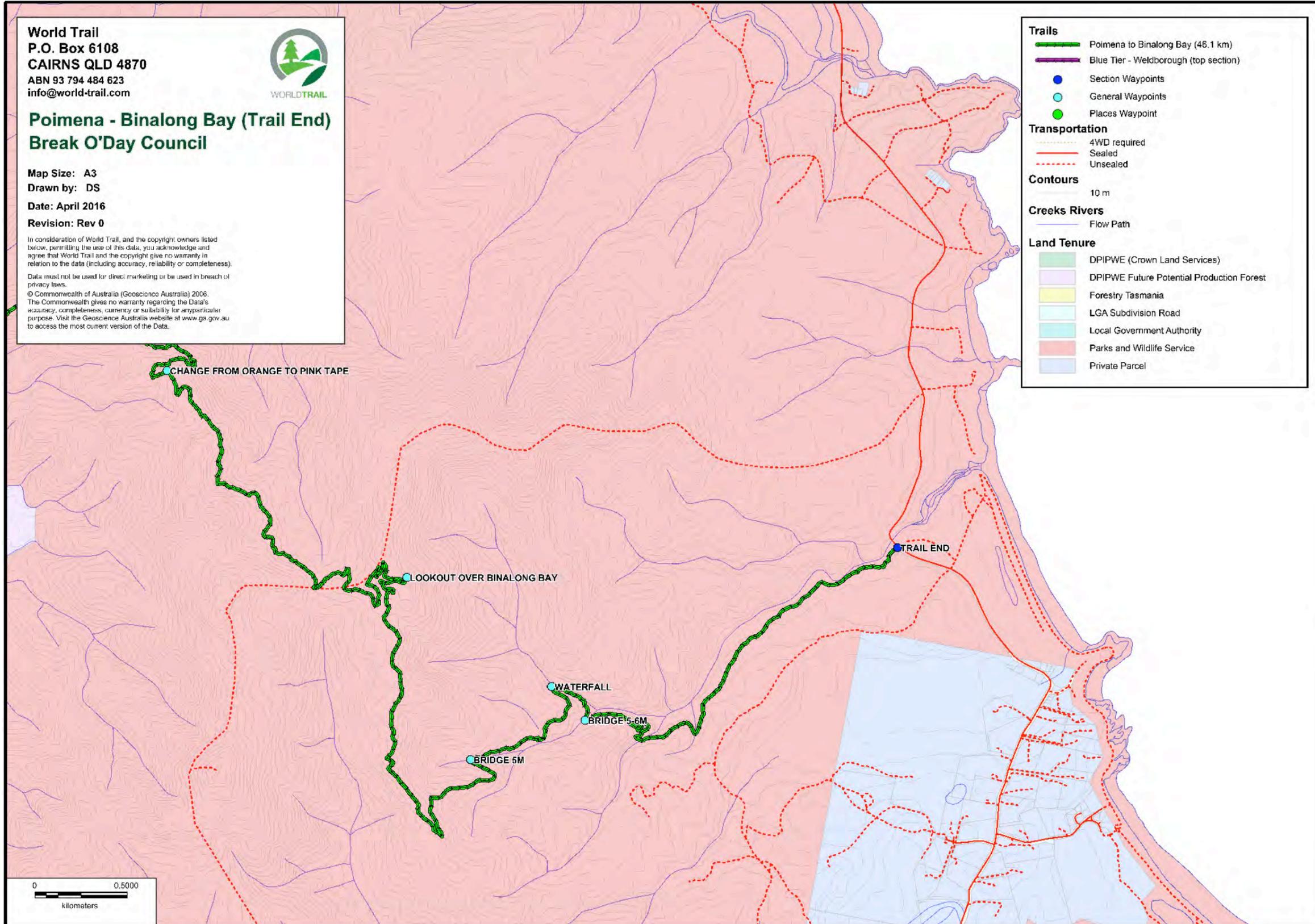
Map 4. Poimena to Binalong Bay Trail, Section 7



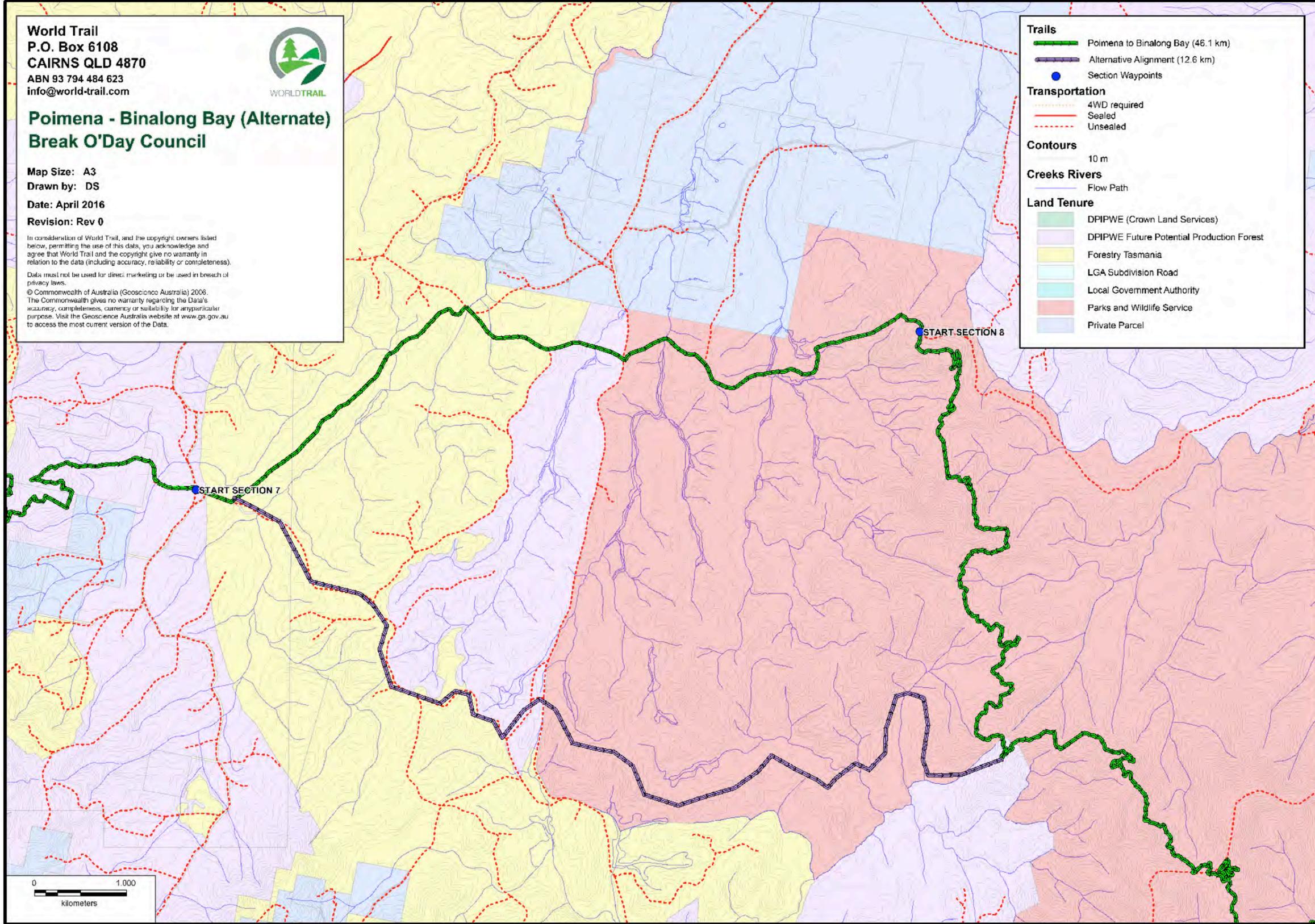
Map 5. Poimena to Binalong Bay Trail, Section 8



Map 6. Poimena to Binalong Bay Trail, Section 8 - End



Map 7. Poimena to Binalong Bay Trail, Alternate Alignment



### **4.3 TRAIL DESCRIPTION**

The proposed Poimena to Binalong Bay trail has been broken down into eight sections, for ease of explanation and costing. These sections are described in more detail on the following pages.

Please note:

1. Distances shown are from the track logs recorded by GPS. The completed track length may vary from this by up to 10% due to a range of factors;
2. The estimates of trail construction difficulty are a subjective internal assessment used by World Trail to try to classify how difficult the construction will be. It attempts to consider factors like vegetation density, rockiness, steepness, remoteness and the nature of the trail to be built. It ranges from 1 (easiest) to 10 (hardest).

draft

### 4.3.1 Section 1

Section 1 Summary Information	
<b>Overview:</b>	Section 1 begins at the trailhead at Poimena. It follows the new Blue Tier mountain bike trail (currently under construction – name to be finalised) for 500m. No works required.
<b>Reference Map:</b>	See Map 2.
<b>Estimated Length:</b>	0.5km
<b>Composition:</b>	New singletrack: 0.0km (0%) Existing singletrack: 0.5km (100%) Existing vehicle access track: 0km (0%)
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> NA</li> <li>• <b>Side slopes:</b> NA</li> <li>• <b>Rock:</b> NA</li> <li>• <b>Technical Trail Features:</b> NA</li> <li>• <b>Bridges:</b> NA</li> <li>• <b>Construction difficulty (1-10):</b> NA</li> <li>• <b>Construction access:</b> NA</li> <li>• <b>Notes:</b> NA</li> </ul>

draft

### 4.3.2 Section 2

Section 2 Summary Information	
<b>Overview:</b>	Section 2 is a section of new singletrack, starting at the end of Section 1. Within the first 50-100m of trail, the alignment merges onto an existing water race, which is then followed for the entire remainder of this section. The water race is in moderately good condition in most areas, although it is very overgrown. The outer wall of the water race would be used as a 'raised causeway' on which the trail would be placed.
<b>Reference Map:</b>	See Map 2.
<b>Estimated Length:</b>	1.6km
<b>Composition:</b>	New singletrack: 1.6km (100%) Existing singletrack: 0.0km (0%) Existing vehicle access track: 0km (0%)
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Moderate</li> <li>• <b>Rock:</b> Minimal</li> <li>• <b>Technical Trail Features:</b> Minimal/none</li> <li>• <b>Bridges:</b> 2 x bridges – 20-30m and 10m in length</li> <li>• <b>Construction difficulty (1-10):</b> 4</li> <li>• <b>Construction access:</b> via trailhead or Sun Flats Rd</li> <li>• <b>Notes:</b> The water race should provide for relatively easy construction.</li> </ul>

### 4.3.3 Section 3

Section 3 Summary Information	
Overview:	Section 3 follows the existing Sun Flats Rd. No works required.
Reference Map:	See Map 2.
Estimated Length:	1.1km
Composition:	New singletrack: 0.0km (0%) Existing singletrack: 0.0km (0%) Existing vehicle access track: 1.1km (100%)
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> NA</li> <li>• <b>Side slopes:</b> NA</li> <li>• <b>Rock:</b> NA</li> <li>• <b>Technical Trail Features:</b> NA</li> <li>• <b>Bridges:</b> NA</li> <li>• <b>Construction difficulty (1-10):</b> NA</li> <li>• <b>Construction access:</b> NA</li> <li>• <b>Notes:</b> NA</li> </ul>

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#### 4.3.4 Section 4

Section 4 Summary Information	
<b>Overview:</b>	Section 4 continues to follow the old Sun Flats Rd, however this section is in very poor condition (see Figure 3 and Figure 4). It is proposed to follow this section of Sun Flats Rd, but to re-build a dedicated mountain bike trail of approximately 1m width within the existing 3-4m road corridor, reinstating drainage and using excavated soil and rock to build up the mountain bike trail, while at the same time accentuating drainage and putting in more frequent water bars to push water off the track. The poor condition of Sun Flats Rd appears to be due to lack of maintenance and drainage measures rather than excessive gradient. No (or minimal) vegetation would be removed, as the entire trail could be built within the original road bench corridor.
<b>Reference Map:</b>	See Map 2.
<b>Estimated Length:</b>	2.6km
<b>Composition:</b>	New singletrack: 0.0km (0%) Existing singletrack: 0.0km (0%) Existing vehicle access track: 2.6km (100%)
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> NA</li> <li>• <b>Side slopes:</b> Moderate</li> <li>• <b>Rock:</b> Abundant</li> <li>• <b>Technical Trail Features:</b> Moderate</li> <li>• <b>Bridges:</b> None</li> <li>• <b>Construction difficulty (1-10):</b> 5</li> <li>• <b>Construction access:</b> via trailhead and Sun Flats Rd</li> <li>• <b>Notes:</b> Signage at the top of this road prohibits four-wheel drives on this section, however there was evidence of motorbikes, quads and some four-wheel drives using this section. If it is to be used for mountain biking, usage by motorised vehicles may need to be prohibited more effectively. Alternatively, it may be possible to construct it to be wide enough for motorbike and quad bike use, prohibiting only four-wheel drive vehicles. Anecdotally, this route is quite popular with off-road motorbike users. The use of a larger excavator would be possible given the existing 3-4m wide road bench, and would be beneficial given this section may require the movement of large volumes of rock and soil.</li> </ul>

### 4.3.5 Section 5

Section 5 Summary Information	
<b>Overview:</b>	Section 5 follows the lower section of Sun Flats Rd to Murdoch's Rd. This section is in excellent condition due to its usage for timber harvesting. No works required.
<b>Reference Map:</b>	See Map 2.
<b>Estimated Length:</b>	1.5km
<b>Composition:</b>	New singletrack: 0.0km (0%) Existing singletrack: 0.0km (0%) Existing vehicle access track: 1.5km (100%)
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> NA</li> <li>• <b>Side slopes:</b> NA</li> <li>• <b>Rock:</b> NA</li> <li>• <b>Technical Trail Features:</b> NA</li> <li>• <b>Bridges:</b> NA</li> <li>• <b>Construction difficulty (1-10):</b> NA</li> <li>• <b>Construction access:</b> NA</li> <li>• <b>Notes:</b> NA</li> </ul>

### 4.3.6 Section 6

Section 6 Summary Information	
<b>Overview:</b>	Section 6 is the second longest section of new singletrack. It starts on Murdoch's Rd near Platt's Tower and finishes at Terry's Hill Rd. It passes through tall Eucalypt forests, dense tree-fern groves and some small sections of pine plantations. It is mostly new singletrack, but does merge onto some existing old logging roads in places, which are followed where convenient.
<b>Reference Map:</b>	See Map 2 and Map 3.
<b>Estimated Length:</b>	8.0km
<b>Composition:</b>	New singletrack: 8.0km (100%) Existing singletrack: 0.0km (0%) Existing vehicle access track: 0km (0%)
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate - dense</li> <li>• <b>Side slopes:</b> Moderate</li> <li>• <b>Rock:</b> Minimal</li> <li>• <b>Technical Trail Features:</b> Moderate</li> <li>• <b>Bridges:</b> 4 x bridges: 20m, 10m, 20m and 5m in length</li> <li>• <b>Construction difficulty (1-10):</b> 6</li> <li>• <b>Construction access:</b> via Murdochs Rd and Terrys Hill Rd</li> <li>• <b>Notes:</b> Construction difficulty is increased due to dense vegetation in places and remoteness of middle sections, however much of the trail construction should be straightforward – the soils appear good and much of the trail passes through relatively open forests or follows old logging roads.</li> </ul>

### 4.3.7 Section 7

Section 7 Summary Information	
<b>Overview:</b>	Section 7 follows existing roads – Clifford's Rd, Chaplin's Rd, Fire Rd. No works required.
<b>Reference Map:</b>	See Map 3 and Map 4.
<b>Estimated Length:</b>	9.6km
<b>Composition:</b>	New singletrack: 0.0km (0%) Existing singletrack: 0.0km (0%) Existing vehicle access track: 9.6km (100%)
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> NA</li> <li>• <b>Side slopes:</b> NA</li> <li>• <b>Rock:</b> NA</li> <li>• <b>Technical Trail Features:</b> NA</li> <li>• <b>Bridges:</b> NA</li> <li>• <b>Construction difficulty (1-10):</b> NA</li> <li>• <b>Construction access:</b> NA</li> <li>• <b>Notes:</b> NA</li> </ul>

### 4.3.8 Section 8

Section 8 Summary Information	
<b>Overview:</b>	Section 8 is the longest section of singletrack. It passes through Doctors Peak Forest Reserve and Mt Pearson State Reserve. Access is minimal, with very few roads accessing the area. Soils are dry granitic sands making the construction of features like high-banked corners and berms difficult. Large boulders and outcrops of granite are frequent and will add complexity to construction, but will also be useful for the construction of rock features.
<b>Reference Map:</b>	See Map 5 and Map 6.
<b>Estimated Length:</b>	21.2km
<b>Composition:</b>	New singletrack: 21.2km (100%) Existing singletrack: 0.0km (0%) Existing vehicle access track: 0km (0%)
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Sparse</li> <li>• <b>Side slopes:</b> Moderate – steep</li> <li>• <b>Rock:</b> Abundant</li> <li>• <b>Technical Trail Features:</b> Moderate</li> <li>• <b>Bridges:</b> 3 x bridges: 3-5m, 5m and 5-6m in length</li> <li>• <b>Construction difficulty (1-10):</b> 7</li> <li>• <b>Construction access:</b> via Fire Rd or Gardens Rd.</li> <li>• <b>Notes:</b> Construction difficulty is increased due to remoteness of middle sections, the abundance of rock and the poor sandy soil, however much of the trail construction should be straightforward – long sections of trail have minimal rock, minimal vegetation and should allow for high daily productivity rates.</li> </ul>

## **4.4 ALTERNATIVE ALIGNMENT**

Late during the ground-truthing process, an alternative alignment was identified that could potentially reduce the overall length of the trail by about 6-7km, subject to ground-truthing of the exact route.

This new alignment was not ground-truthed, but is thought to be viable.

It is shown in Map 7.

The realignment only affects Section 7 and 8. If adopted, Section 7 would likely end up about 9.1km long and Section 8 would likely end up about 14.8km long. This alternative alignment almost completely avoids the Doctors Peak Forest Reserve, but still passes through the middle of the Mt Pearson State Reserve.

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## 5 TRAIL CONSTRUCTION COST ESTIMATE

The conditions observed along the proposed alignment for the Poimena to Binalong Bay trail vary widely from top to bottom as the trail passes through a range of elevation zones, ecological communities, aspects, soils and geological zones. Overall, the conditions are generally good, with some challenging sections. The majority of the trail building is thought to be good.

Given the good conditions for trail building, World Trail believes that it will be possible to achieve good productivity rates (ideally, in excess of 80-90m of finished trail per team per day), translating to competitive rates per metre for construction.

Table 1 below provides a cost estimate to construct the proposed Poimena to Binalong Bay trail.

**Table 1. Standard Trail Construction Costs**

Section	Distance (km)	Construction Type	Rate (\$ per m)	Cost
Section 1 (Existing Blue Tier MTB Trail)	0.5	Existing trail - No works required	\$0.00	\$0.00
Section 2 (New singletrack to Sun Flats Rd)	1.6	Standard trail construction	\$30.00	\$48,000.00
Section 3 (Sun Flats Rd - top section)	1.1	Existing road - No works required	\$0.00	\$0.00
Section 4 (Sun Flats Rd - mid section)	2.6	Standard trail construction	\$40.00	\$104,000.00
Section 5 (Sun Flats Rd - bottom section to Murdoch's Rd)	1.5	Existing road - No works required	\$0.00	\$0.00
Section 6 (New singletrack to Terry's Hill Rd)	8	Standard trail construction	\$30.00	\$240,000.00
Section 7 (Existing forest roads - Clifford's Rd, Chaplin's Rd, Fire Rd)	9.6	Existing road - No works required	\$0.00	\$0.00
Section 8 (New singletrack to Gardens Rd)	21.2	Standard trail construction	\$30.00	\$636,000.00
<b>Total</b>	<b>46.1</b>			<b>\$1,028,000.00</b>

**Note:**

- The rates used to prepare these cost estimates are indicative estimates only, based on World Trail's experience of over ten years in the trail design and construction industry. Better rates would likely be achieved through a competitive tender process;
  - Section 4 has a higher per metre rate than other Sections as it is proposed to use a larger excavator and is considered more labour intensive to construct;
  - No GST included.

In addition to the standard trail construction rates provided in Table 1 there are a number of other costs that need to be considered. These are shown in Table 2 below.

**Table 2. Additional Project Costs**

Item	Cost Estimate
Trail infrastructure (bridges, rock armouring)	\$102,800.00
Contractor expenses (mobilisation, accommodation)	\$51,400.00
Trail signage (including trailhead and directional signs)	\$20,560.00
Permits and approvals	To be determined by others
<b>Total</b>	<b>\$174,760.00</b>

**Note:**

- Trail infrastructure includes items such as bridges and rock armouring. While every attempt to quantify such items was made during ground-truthing, in practice it is typical that many new areas requiring bridges and rock armouring are identified during construction. Therefore, an allowance is provided for this item. Using previous projects as a guide, WT recommends a provisional allowance of 10% of the standard trail construction costs be made for trail infrastructure;
- Contractor expenses include mobilisation of staff and equipment to the job site. Using previous projects as a guide, WT recommends a provisional allowance of 5% of the standard trail construction costs be made for contractor expenses;
- Trail signage is an essential and often overlooked element of the trail network. Using previous projects as a guide, WT recommends a provisional allowance of 2% of the standard trail construction costs be made for trail signage;
- Permits and approvals are included without any indicative pricing, as they are significant cost items but WT is not qualified to provide cost estimates for these;
- No GST included.

The total project cost for the Stage 2, Poimena to Binalong Bay is \$1,202,760.00 (plus any uncoded items noted above and GST).

## 6 TRAIL CONSTRUCTION STAGING

With a total distance of approximately 33km of new singletrack to be constructed, and working off a daily productivity rate of 100m of finished trail per team per day, it is estimated that:

- It would take one team<sup>2</sup> 330 working days<sup>3</sup> to construct the entire trail network;
- It would take two teams 165 working days to construct the entire trail network;
- It would take three teams 110 working days to construct the entire trail network.

Allowing for a shut down of approximately twelve weeks during winter when days are short and wet, two weeks off for Christmas and assuming a five-day working week, there are only 190 working days in a year.

Based on this, WT recommends using two construction teams simultaneously and constructing the proposed Poimena to Binalong Bay trail in one year.

Construction should be carried out in order of sections. That is, starting with Section 1, followed by Section 2 etc. Once Sections 1 - Section 6 are complete, this portion of the trail could be opened to the public, with the temporary finish being on either Terry's Hill Rd or Anson's Bay Rd.

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<sup>2</sup> A construction team is generally 3-4 people, a mini-excavator and all necessary tools and equipment.

<sup>3</sup> A working day is 8 hours.

## 7 APPENDIX

### 7.1 IMBA TRAIL DIFFICULTY RATING SYSTEM

Rating	Very Easy	Easiest	More Difficult	Very Difficult	Extremely Difficult
Symbol					
Description	<p>Likely to be a fire road or wide single track with a gentle gradient, smooth surface and free of obstacles.</p> <p>Frequent encounters are likely with other cyclists, walkers, runners and horse riders.</p>	<p>Likely to be a combination of fire road or wide single track with a gentle gradient, smooth surface and relatively free of obstacles.</p> <p>Short sections may exceed these criteria.</p> <p>Frequent encounters are likely with other cyclists, walkers, runners and horse riders.</p>	<p>Likely to be a single trail with moderate gradients, variable surface and obstacles.</p> <p>Dual use or preferred use</p> <p>Optional lines desirable</p>	<p>Likely to be a challenging single trail with steep gradients, variable surface and many obstacles.</p> <p>Single use and direction</p> <p>Optional lines</p> <p>XC, DH or trials</p>	<p>Extremely difficult trails will incorporate very steep gradients, highly variable surface and unavoidable, severe obstacles. Single use and direction</p> <p>Optional lines</p> <p>XC, DH or trials</p>
Trail Width	2100mm plus or minus 900mm	900mm plus or minus 300mm for tread or bridges.	600mm plus or minus 300mm for tread or bridges.	300mm plus or minus 150mm for tread and bridges.  Structures can vary.	
Trail Surface	Hardened or smooth.	Mostly firm and stable.	Possible sections of rocky or loose tread.	Variable and challenging.	Widely variable and unpredictable.
Average Trail Grade	<p>Climbs and descents are mostly shallow.</p> <p>Less than 5% average.</p>	<p>Climbs and descents are mostly shallow, but may include some moderately steep sections.</p> <p>7% or less average.</p>	<p>Mostly moderate gradients but may include steep sections.</p> <p>10% or less average.</p>	<p>Contains steeper descents or climbs.</p> <p>20% or less average.</p>	
Maximum Trail Grade	Max 10%	Max 15%	Max 20% or greater	Max 20% or greater	Max 40% or greater

Level of Trail Exposure	Firm and level fall zone to either side of trail corridor	Exposure to either side of trail corridor includes downward slopes of up to 10%	Exposure to either side of trail corridor includes downward slopes of up to 20%	Exposure to either side of trail corridor includes steep downward slopes or free-fall	
Natural Obstacles and Technical Trail Features (TTFs)	No obstacles.	<p>Unavoidable obstacles to 50mm (2") high, such as logs, roots and rocks.</p> <p>Avoidable, rollable obstacles may be present.</p> <p>Unavoidable bridges 900mm wide.</p> <p>Short sections may exceed criteria.</p>	<p>Unavoidable, rollable obstacles to 200mm (8") high, such as logs, roots and rocks.</p> <p>Avoidable obstacles to 600mm may be present.</p> <p>Unavoidable bridges 600mm wide.</p> <p>Width of deck is half the height.</p> <p>Short sections may exceed criteria.</p>	<p>Unavoidable obstacles to 380mm (15") high, such as logs, roots, rocks, drop-offs or constructed obstacles.</p> <p>Avoidable obstacles to 1200mm may be present.</p> <p>Unavoidable bridges 600mm wide.</p> <p>Width of deck is half the height.</p> <p>Short sections may exceed criteria.</p>	<p><b>Large, committing and unavoidable obstacles to 380mm (15") high.</b></p> <p><b>Avoidable obstacles to 1200mm may be present.</b></p> <p><b>Unavoidable bridges 600mm or narrower.</b></p> <p><b>Width of bridges is unpredictable.</b></p> <p><b>Short sections may exceed criteria.</b></p>

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## 8 WORLD TRAIL CONTACT DETAILS

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**BREAK O'DAY MOUNTAIN BIKE TRAIL MASTER PLAN:**

**STAGE 1, ST HELENS**

**Draft**

**PREPARED BY WORLD TRAIL PTY LTD**

**FOR BREAK O'DAY COUNCIL**

**APRIL 2016**

**WORLD TRAIL**

**Disclaimer:**

This document, *Break O'Day Mountain Bike Trail Master Plan: Stage 1, St Helens*, has been prepared by World Trail Pty Ltd for Break O'Day Council. This document is the work of World Trail and does not necessarily reflect the final views or opinions of all of stakeholders.



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# 1 INTRODUCTION

In November 2015, World Trail (WT) completed a concept plan for a network of proposed mountain bike trails in the St Helens area of northeast Tasmania, for Break O'Day Council (BODC). BODC's main objective in considering the development of a mountain bike trail network is to increase tourism visitation to the region. The concept plan outlined a potential network of trails that could be designed and constructed in the region and provided high-level cost estimates for construction. The concept plan, titled '*Break O'Day Mountain Bike Trail Concept Plan*', provides additional background to this project which is essential for a full understanding of this overall project.

In late 2016, BODC commissioned WT to undertake the next step in this process, being the ground-truthing of the proposed trails. Ground-truthing is the process by which the final proposed alignment of a trail is determined on the ground.

Ground-truthing works were undertaken throughout the months of December 2015 – March 2016.

This document, *Break O'Day Mountain Bike Trail Master Plan: Stage 1, St Helens*, presents the final ground-truthed alignments for the trails that are proposed to be built to the south of St Helens, in the Loila Tier area.

A separate document, *Break O'Day Mountain Bike Trail Master Plan: Stage 2, Poimena to Binalong Bay*, addresses the other half of the proposed trail network to the north of St Helens.

The splitting of the trail network into two stages will allow the two portions of the trail network to be pushed forward as separate projects, without being tied to each other.

## 2 PROJECT BACKGROUND

BODC is currently involved in the Blue Derby project, which aims to develop a mountain bike trail network centred around the towns of Derby and Weldborough. Derby is located within the neighbouring municipality of Dorset, but Weldborough is located within Break O'Day (albeit at the western extent of the municipality). BODC and Dorset Council are effectively partners in the development of the Blue Derby trail network, due for completion in June 2016.

With Blue Derby already seeing a significant increase in mountain bike driven tourism visitation, despite the trail network being incomplete, this project represents an opportunity to capitalise on the momentum being generated by Blue Derby and to offer a complementary mountain bike product nearby in Break O'Day municipality. While this project presents a whole new trail network based around St Helens and Binalong Bay, it could also be considered as an extension of the Blue Derby trail network, as it would actually connect with the Blue Derby trail network via Poimena and utilise a small portion of the Blue Derby trail infrastructure.

When complete, the Blue Derby trails will offer about 80km of trails, requiring a visit of 3-5 days in order to ride the entire trail network (depending on experience and fitness). With the construction of a similar-sized mountain bike trail network in Break O'Day municipality, a 3-5 day visit would extend out to a 6-10 day visit, with the tourism spend being distributed more widely across northeast Tasmania. Together, the two trail networks would form the largest purpose-built mountain bike trail network in Australia, capable of attracting mountain bike tourists from all over Australia and potentially from overseas and becoming a nationally significant tourism attraction.

### 3 GROUND-TRUTHING METHODOLOGY

Ground-truthing is the process by which the final proposed alignment of a trail is determined on the ground. It assumes that the conceptual alignment of the proposed trail has already been determined and approved by the landholder.

Ground-truthing is done using a GPS and clinometer (to measure gradient) and keeping in mind the intended difficulty rating of the trail. It is at this point that local environmental conditions are assessed and the trail is designed accordingly. For example, if there is a creek to be crossed, the alignment is chosen so as to cross the creek at the narrowest point, or if there is a low-lying boggy area, the trail is aligned so as to avoid the boggy section. Once complete, the trail is mapped by GPS and marked in the field using coloured flagging tape.

Once ground-truthed, the GPS file of the track can be submitted to any relevant authorities for planning consent. In seeking approval to construct any of the trails proposed herein, World Trail advises that approval be sought for construction of the trail within a 20m wide corridor (i.e. 10m either side of the ground-truthed alignment). This 20m wide corridor is required to provide flexibility for the trail builders to respond to any unforeseen circumstances that may occur. For example, prior to construction, it may appear that the soil is deep and excavation will be easy, but once construction commences, it soon becomes apparent that there is a large slab of rock just beneath the surface.

All the trails discussed herein have been ground-truthed. Their alignments have been recorded as a 'track log' with a handheld GPS as well as any relevant points of interest. Each trail alignment has also been tagged in the field by tying small strips of brightly coloured (orange) flagging tape to trees/shrubs along the trail alignment.

When attempting to follow a trail alignment in the field, World Trail recommends:

- Loading the GPS file of the recorded 'track' into a handheld GPS and using it to follow the 'track' in the field;
- Taking a hard copy map, showing the proposed trail alignments;
- Looking for the coloured flagging tape in the field.

In relation to the flagging tape, the following protocols should be understood:

- The flagging tape indicates roughly the middle of the proposed trail alignment;
- Generally, each strip of flagging tape should be visible from the next/previous one, but this should not always be relied on as they can be removed by weather/animals. In thick vegetation, flagging tape will be placed more frequently and in sparse vegetation, tape will be used more sparingly;
- Where the trail performs a sharp turn or switchback, three pieces of tape tied around a single trunk or branch are generally used to indicate the apex of the turn (see **Figure 1** on next page);
- Switchbacks are often used in close succession to each other to help a trail climb up or descend a steep slope. In these situations, there can be multiple 'legs' of the trail running roughly parallel to each other. Anyone attempting to follow the proposed trail alignment needs to be aware of where these switchbacks might be (using a GPS and map) and ensure that they look forward along the contour to locate the next piece of flagging tape;
- Where the trail is proposed to follow an existing road flagging may be sporadic.

While the length of the trail as recorded during ground-truthing is more accurate than any trail lengths estimated during the conceptual phase, it may still not be 100% accurate to the actual final

constructed trail. It is likely that the final constructed trail length may be up to 10% longer than the length recorded during ground-truthing. This is caused by the inability of handheld GPS devices to pick up small twists and turns and minor direction changes.

**Figure 1. Triple taping to indicate switchback corner**



## 4 STAGE 1, ST HELENS TRAILS

### 4.1 SITE DESCRIPTION

The majority of the trails are located in State Forest, in an area referred to as Loila Tier or Scamander Tier on some maps. The trailhead and Loop 1, Loop 2 and Loop 3 appear to be located in a smaller parcel of land managed by the Tasmania Parks and Wildlife Service, but it isn't clear what tenure this parcel is. Areas to the immediate south are operational timber harvesting areas, but the trails have been designed to avoid the areas currently being used for timber harvesting purposes.

The landscape can be described as steep ridgelines and valleys, generally running in a north-south direction, with most waterways draining northwards into St Georges Bay. While Map 1 shows a landscape punctuated with many watercourses, in reality most of these are dry drainage gullies. Visual assessment of these gullies suggests that many only carry surface water during heavy rain events.

Elevation ranges from 60m above sea level at the trailhead, up to a maximum of about 450m above sea level at the highest point.

The area is dissected by numerous roads of varying quality – some are well-made forestry roads, while others are rough four-wheel drive tracks – providing good vehicle access to most areas.

Vegetation is generally open and sparse Eucalypt woodland. Undergrowth is notably absent in many of the higher areas, making for ideal trail building conditions and long forward sightlines. In the base of gullies and valleys, vegetation is denser, particularly in riparian area alongside waterways, but still fairly open and manageable from a construction perspective. The area appears to have been burnt in a bushfire in the recent past, which may have contributed to the lack of understorey species.

Soils are gravelly and sandy. Granitic sands are common. Soils appear to offer good drainage characteristics, but may not offer a high degree of plasticity. Accordingly, the trails are designed, where possible, to minimise the number of switchbacks and berms, instead favouring long traverses. There is a moderate amount of rock, but generally smaller surface rock rather than large outcrops, slabs or boulders.

The photos on the following pages provide an indication of the open vegetation and steep side slopes typical of the area. Constable Creek, shown in some of the photos, features on Loop 7.

**Figure 2. Typical terrain in the Loila Tier area**



**Figure 3. Sparse open vegetation structure**



**Figure 4. Dreaming Pools, Constable Creek**



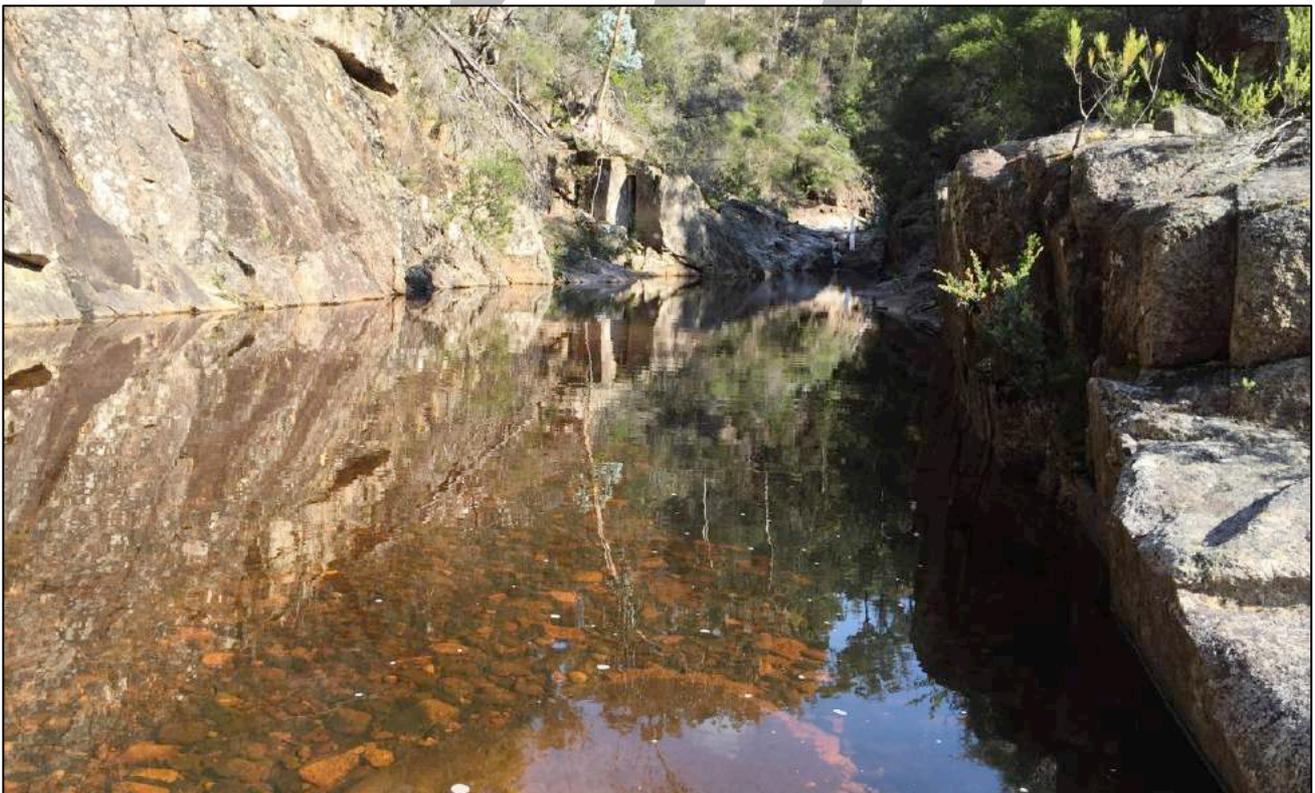
**Figure 5. Another view of the Dreaming Pools**



**Figure 6. Unnamed waterfalls on tributary to Constable Creek**



**Figure 7. Constable Creek**

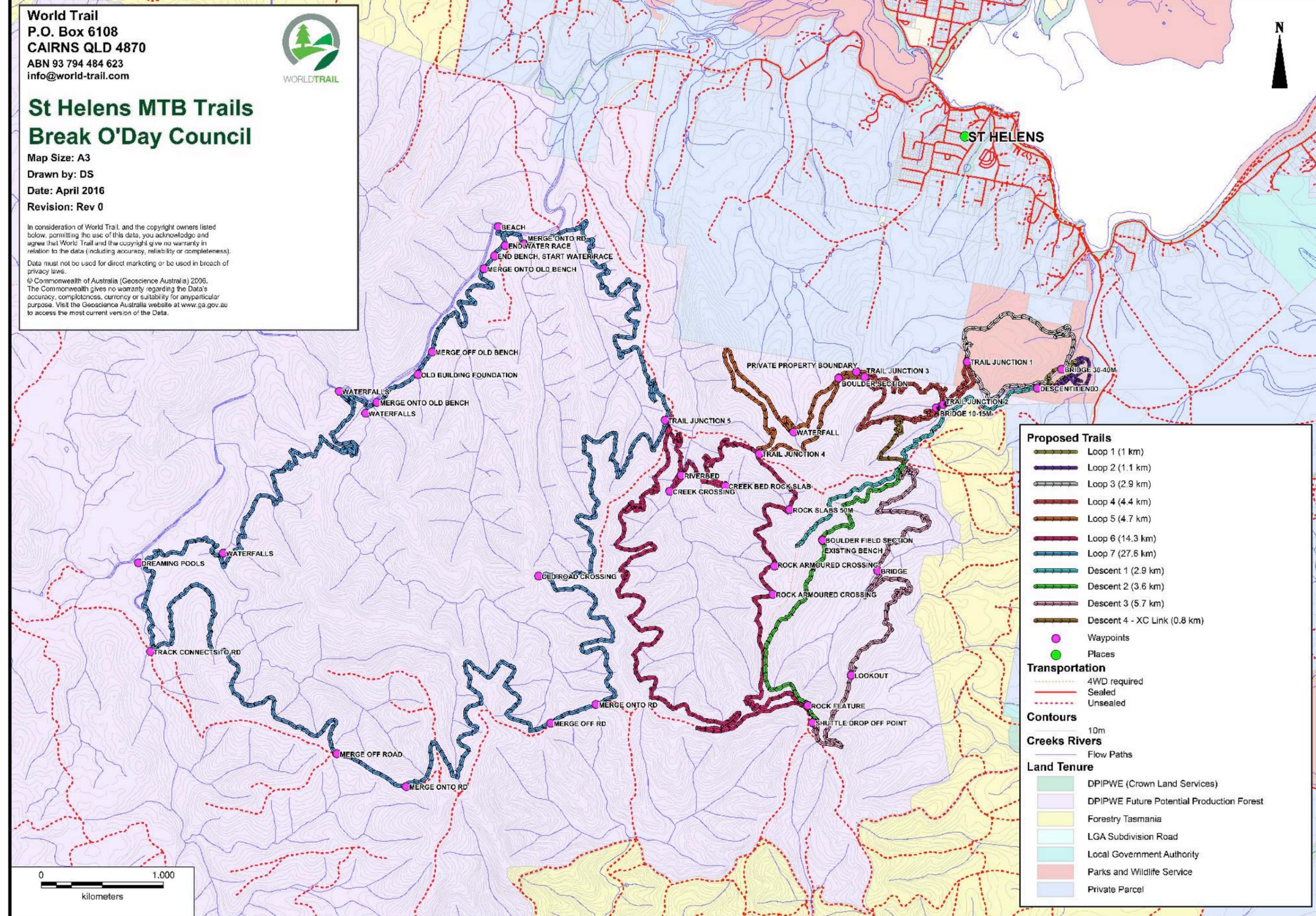


## **4.2 TRAIL NETWORK OVERVIEW**

Map 1 on the next page shows the ground-truthed alignments of all the trails within Stage 1, St Helens.

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Map 1. St Helens MTB Trails



The trail network can be described as a stacked loop network for cross-country mountain biking, with a number of point-to-point gravity trails. All trails are suitable for day-to-day use, but can also be utilized for a range of competitive events from the local to the national and even international level.

The key features of the Stage 1, St Helens trail network are:

- 11 trails in total;
- 7 cross-country loop trails, comprising 56km of trails;
- 4 gravity point-to-point trails, easily accessible by road, comprising 13km of trails;
- Total distance of 69km of trails;
- Caters for all ability levels, from beginner to expert, with the following mix of trail difficulty ratings:
  - 3 Easy trails;
  - 6 More Difficult trails;
  - 2 Very Difficult trails;
- Offers a mix of easily accessible, short trails and more remote, wilderness, longer trails;
- Offers spectacular scenery, including a mix of different ecological communities;
- Coastal proximity provides a unique backdrop to the trail network. Furthermore, the coastal climate makes for a slightly drier and warmer environment than other parts of Tasmania, meaning St Helens could potentially be a 'year round' mountain biking destination;
- Gravelly well-drained soils will also contribute to the potential year round capabilities of the trails;
- With the trailhead located at the lowest point of the trail network, all rides (including both the cross-country and gravity trails) will finish with a descent. This is a key design criterion for visitor satisfaction and a large justification for the location of the trailhead.

Table 1 below lists each of the eleven trails and provides their estimated distance and proposed trail difficulty rating (see Appendix 7.1 for details of the International Mountain Bicycling Association's [IMBA] Trail Difficulty Rating System [TDRS]).

**Table 1. St Helens MTB Trail Network summary**

Trail	Style / Discipline	Length (km)	Trail Difficulty Rating	
Loop 1	Cross-country	1.0	Easy	
Loop 2	Cross-country	1.1	Easy	
Loop 3	Cross-country	2.9	Easy	
Loop 4	Cross-country	4.4	More Difficult	
Loop 5	Cross-country	4.7	More Difficult	
Loop 6	Cross-country	14.3	More Difficult	
Loop 7	Cross-country	27.6	More Difficult	
Descent 1	Gravity	2.9	Very Difficult	
Descent 2	Gravity	3.6	Very Difficult	
Descent 3	Gravity	5.7	More Difficult	
Descent 4	Gravity	0.8	More Difficult	
<b>Total Length</b>		<b>69</b>		

### 4.3 TRAILHEAD

The recommended location for the trailhead for Stage 1, St Helens is located about 4km south from the centre of St Helens along the Tasman Highway and about 350m west of the Tasman Highway. Map 2 on the next page shows a close up view of the trailhead area. An entry road will need to be constructed into the trailhead site and a large area will need to be cleared to make way for car parking and other required infrastructure.

This location is ideally located close to St Helens, but also conveniently close to the holiday areas of Stieglitz, Beaumaris and Scamander. It is easy to find, being located on the Tasman Highway, giving it maximum visibility to passing traffic.

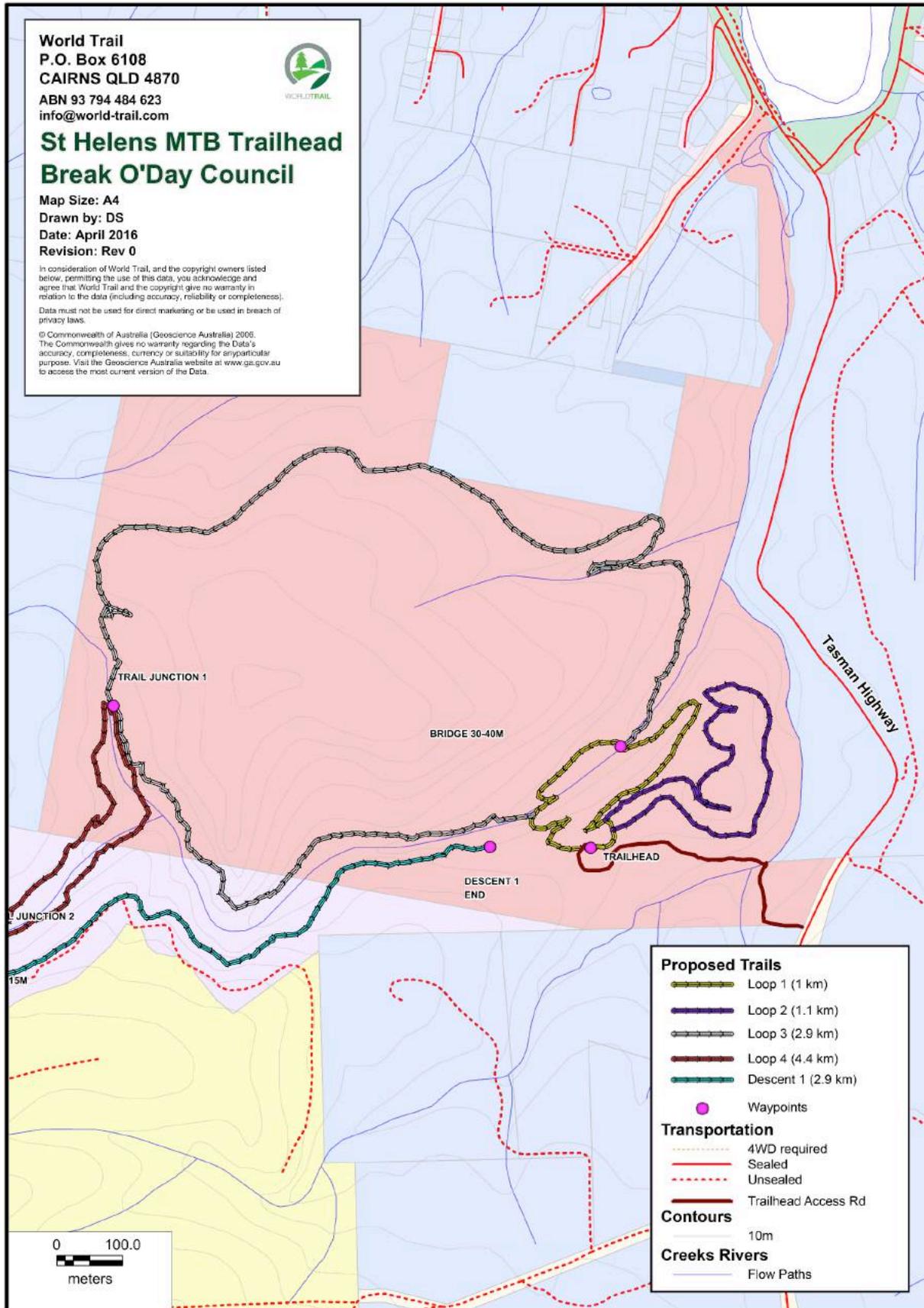
The trailhead is located a short distance to the west of the Tasman Highway, on a high, dry, ridge-top saddle area, just to the immediate east of Boggy Creek. While ground covers and shrubs will need to be cleared to create roads, car parks and passive recreation areas at the trailhead, the trees are fairly well spaced, and it should be possible to retain many with sensitive design and construction of these elements.

A potential alignment for the trailhead access road was investigated and mapped during ground-truthing and is presented in Map 2 on the next page. The length of the trailhead access road, from Tasman Highway into the trailhead is approximately 550m. From the trailhead, the access road would also continue an additional 100-150m to the end of Descent 1, providing a separate shuttle pick-up location for gravity riders. It should be understood, however, that WT are not experienced in designing and building roads, and this road alignment will need further investigation and costing by engineers (or similar practitioners) with experience in road construction.

Furthermore, in conjunction with the design of the trailhead access road, a detailed design for the trailhead will need to be undertaken by landscape architects. This should be done with input from trail builders, taking into account the range and nature of infrastructure required at the trailhead and giving consideration to the ways in which the trailhead is proposed to be used. It should include all the necessary infrastructure items required at a trailhead, as discussed previously in the *Break O'Day Mountain Bike Trail Concept Plan*.

Ultimately, BODC may need to investigate options to connect the trailhead to town via a shared-use path, so as to facilitate a safe off-road cycling route to the trailhead. There is an existing shared-use path from the centre of St Helens that runs along the edge of St George's Bay to the junction of the Tasman Highway and St Helen's Point Rd. From here, a new trail could potentially be constructed behind the guardrail on the western side of the Tasman Highway, a distance of approximately 1.3km to the entry road into the trailhead.

**Map 2. Stage 1, St Helens Trailhead Area**



## 4.4 CROSS-COUNTRY TRAILS

The cross-country trails are arranged in a 'stacked loop' system. That is, the network is composed of loop trails, stacked on top of each other, with each loop radiating further out and away from the trailhead. This is the simplest kind of system – there is only one trail departing from and returning to the trailhead, which provides access to all other trails.

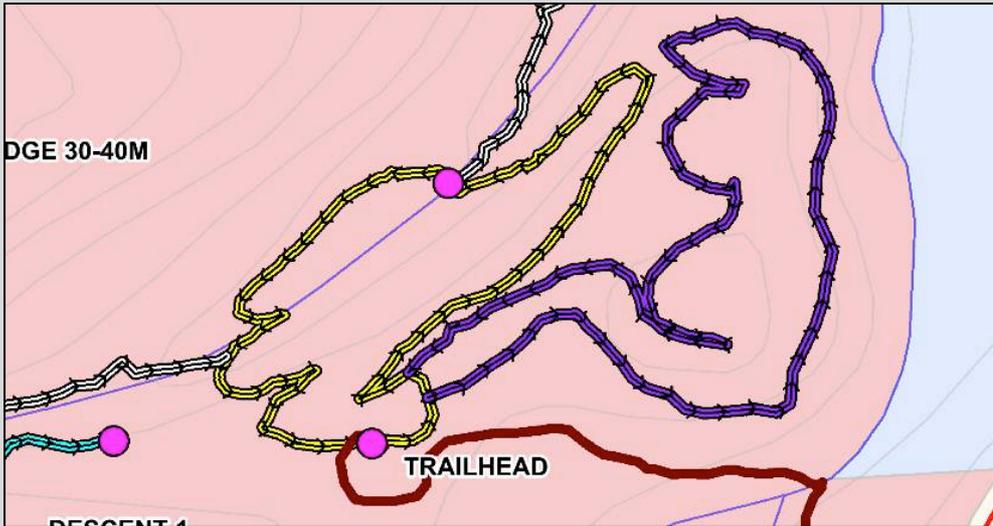
Key design aspects of the cross-country trails are:

1. With one exception, the direction of travel on all the trails is the same (anti-clockwise), making it possible to incorporate all trails into one large loop without back-tracking, crossing-over or missing any sections. The trail network has been designed this way as it is the simplest and most intuitive loop structure possible, and it allows for the possibility of running a competitive event that uses the entire network without back-tracking, cross-overs or missing any sections. The exception to this rule is Loop 7, which runs in the clockwise direction. This was necessary for the flow of the trail and maximising the descending sections of the trail adjacent to the Constable Creek;
2. The three Easy trails (Loop 1, Loop 2 and Loop 3) are the first three trails encountered when leaving the trail network. This limits the exposure of inexperienced riders to more challenging trails, as their fitness, speed and experience tends to limit how far they can ride. There are 5km of Easy trails in total, which is sufficient to keep beginners occupied for a reasonable amount of time;
3. The loops get longer as riders progress outwards from the trailhead;
4. The cross-country trails also connect to the shuttle drop-off point for the gravity trails. This allows cross-country riders to choose to descend down one of the gravity trails, and conversely, allows gravity riders to choose to descend down via the cross-country trails. The descent from this high point via the cross-country trails is a 7km continuous descent using the inbound portions of Loop 5, Loop 4, Loop 2 and Loop 1;
5. There is an alternate entry/exit from the trail network via Loop 7. At the northern most extent of Loop 7, it connects to an existing vehicle track called Stonyford Track, which in turn can be followed out of the State Forest to Argonaut Rd and back into St Helens. This alternate entry/exit may be useful for some local riders and may also be valuable in times of emergency;
6. A key feature of Loop 7 is the Constable Creek, which has numerous swimming holes and waterfalls.

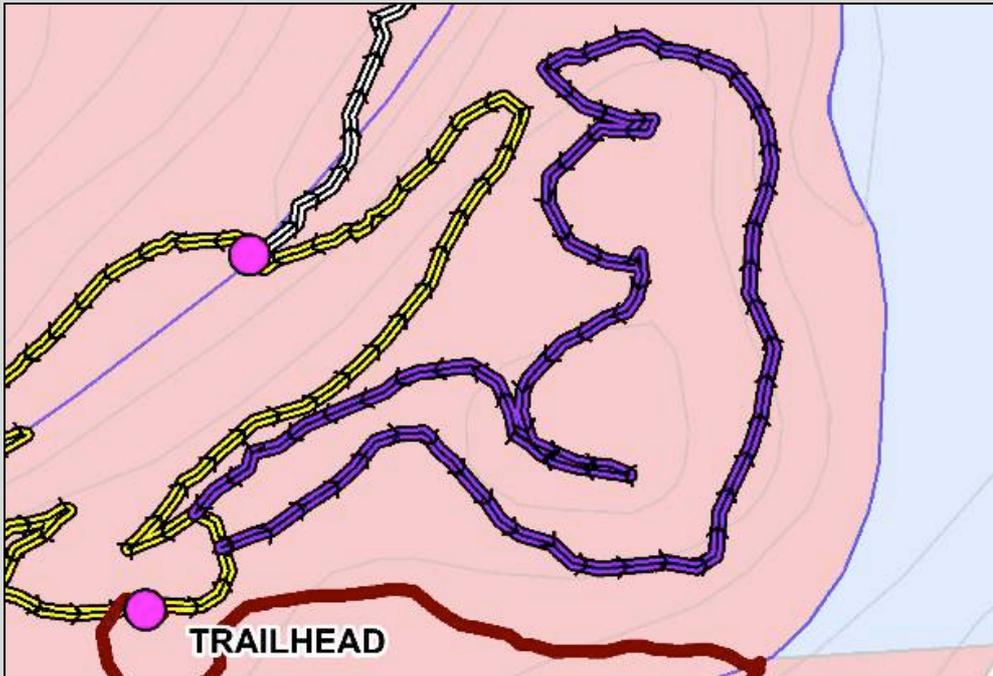
Each trail is described in more detail in the following pages. Please note:

1. Distances shown are from the track logs recorded by GPS. The completed track length may vary from this by up to 10% due to a range of factors;
2. The elevation profiles shown are generated using a digital elevation model rather than the actual elevations recorded during ground-truthing. As such, they are not entirely accurate and should be used as a guide only;
3. The estimates of trail construction difficulty are a subjective internal assessment used by World Trail to try to classify how difficult the construction will be. It attempts to consider factors like vegetation density, rockiness, steepness, remoteness and the nature of the trail to be built. It ranges from 1 (easiest) to 10 (hardest);
4. All large and significant creek crossings requiring bridges have been identified and mapped and are included in the following section. However, given the seasonal stream flow variations, it is not always possible to identify all bridges required and it is normal that additional bridges become apparent during construction. For this reason, costings provided later in this document include an 'allowance' for additional trail infrastructure such as bridges, rather than a definitive cost.

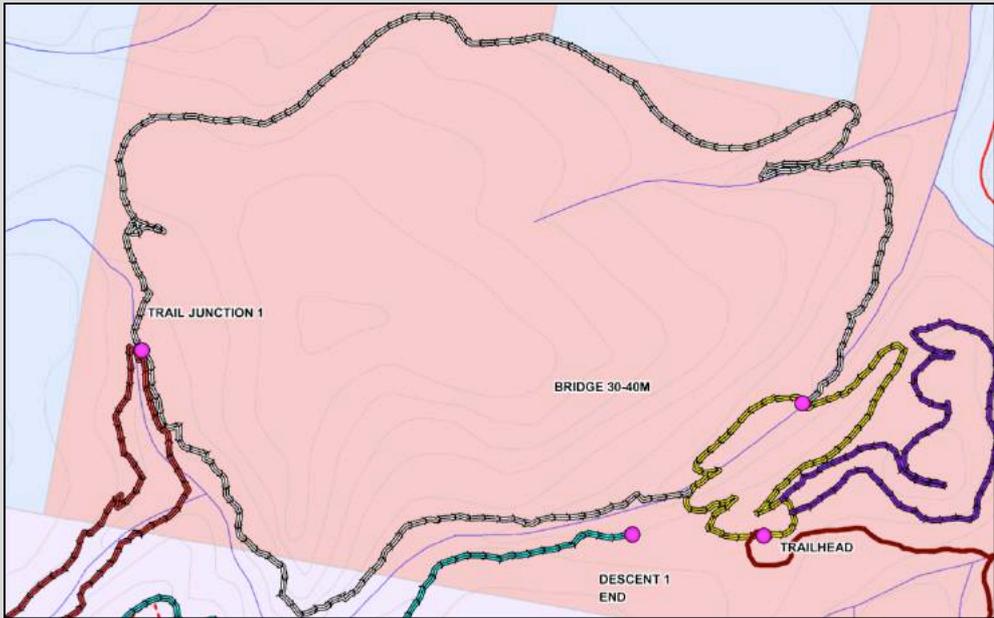
### 4.4.1 Loop 1

Loop 1 Summary Information	
Overview:	Loop 1 starts and finishes at the trailhead. It is the only cross-country trail exiting and entering the trailhead area. It descends down into Boggy Creek, which it crosses twice, before climbing back up to the trailhead. It provides access to Loop 2 and Loop 3.
Trail Difficulty Rating:	Easy 
Reference Map:	
Estimated Length:	1.0km
Composition:	New singletrack: 1.0km (100%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Moderate</li> <li>• <b>Rock:</b> Minimal</li> <li>• <b>Technical Trail Features:</b> Minimal/none</li> <li>• <b>Bridges:</b> 2 x crossings of Boggy Creek – one bridge 30-40m, one bridge 10-15m.</li> <li>• <b>Construction difficulty (1-10):</b> 3</li> <li>• <b>Construction access:</b> via trailhead</li> <li>• <b>Notes:</b> As Loop 1 is the main entry and exit trail from the trailhead, it should be constructed with minimal technical trail features and obstacles and should be 1-1.5m wide, with long forward sight lines.</li> </ul>

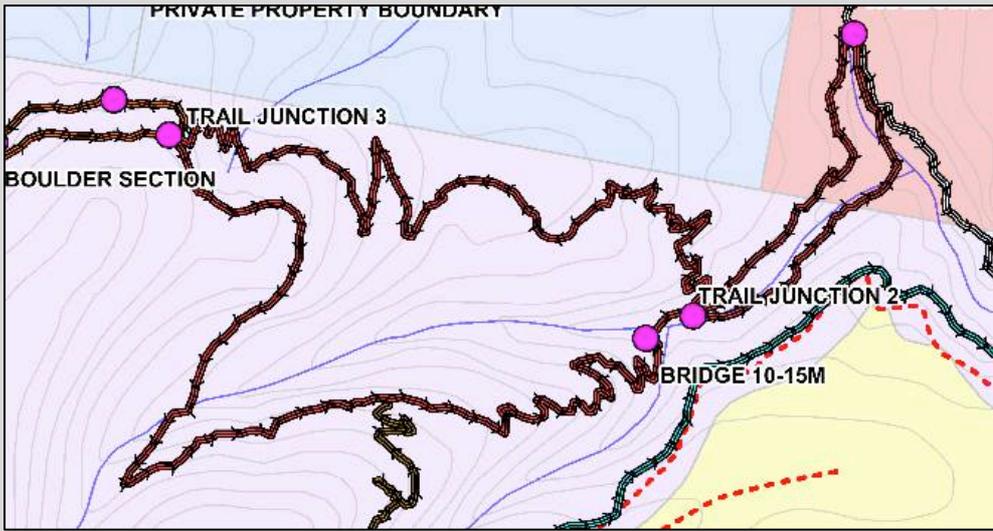
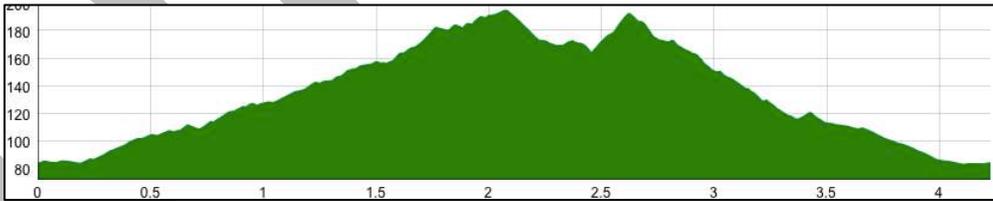
### 4.4.2 Loop 2

Loop 2 Summary Information	
<b>Overview:</b>	Loop 2 is a short loop, which starts and finishes on Loop 1, but within the trailhead area. It circumnavigates a small hill to the northeast of the trailhead area. It features very gentle gradients.
<b>Trail Difficulty Rating:</b>	Easy 
<b>Reference Map:</b>	
<b>Estimated Length:</b>	1.1km
<b>Composition:</b>	New singletrack: 1.1km (100%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
<b>Elevation Profile:</b>	
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Minimal</li> <li>• <b>Rock:</b> Minimal</li> <li>• <b>Technical Trail Features:</b> Minimal</li> <li>• <b>Bridges:</b> None</li> <li>• <b>Construction difficulty (1-10):</b> 2</li> <li>• <b>Construction access:</b> via trailhead</li> </ul>

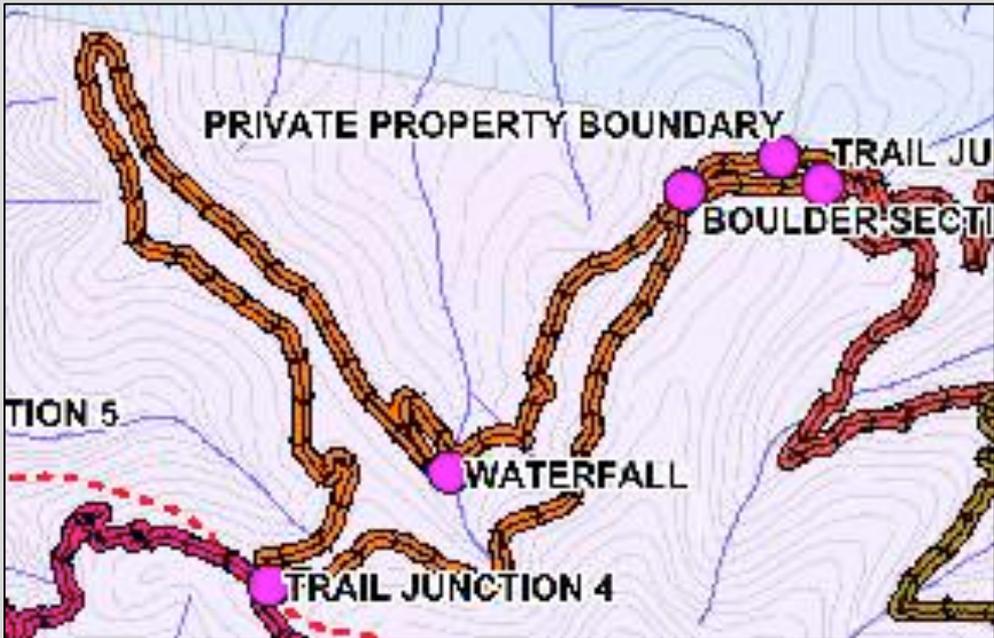
### 4.4.3 Loop 3

Loop 3 Summary Information	
Overview:	Loop 3 traverses around a large hill to the west of Boggy Creek. It starts and finishes on Loop 1. It runs very close to private property boundaries to the north, but has minimal exposure to houses. It traverses some steep side slopes, which will provide a sense of exposure to riders.
Trail Difficulty Rating:	Easy 
Reference Map:	
Estimated Length:	2.9km
Composition:	New singletrack: 2.9km (100%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Generally moderate but very steep in one section</li> <li>• <b>Rock:</b> Moderate</li> <li>• <b>Technical Trail Features:</b> Minimal</li> <li>• <b>Bridges:</b> None</li> <li>• <b>Construction difficulty (1-10):</b> 5</li> <li>• <b>Construction access:</b> via trailhead and Loop 1</li> <li>• <b>Notes:</b> Overall, construction is expected to be generally easy, but very difficult in one section due to steep side slopes and rocky outcrops. Hand construction may be required for 50-100m.</li> </ul>

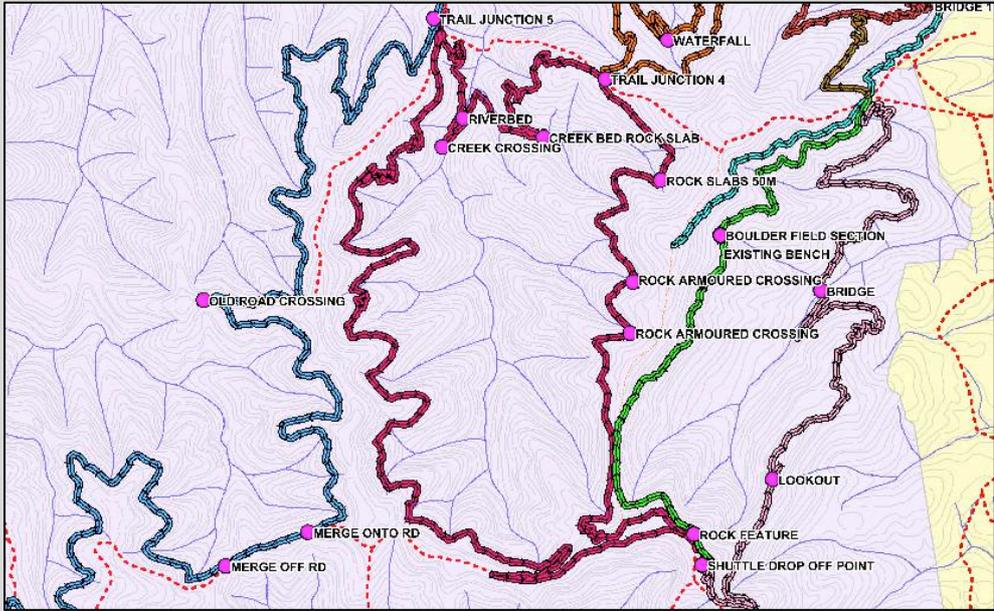
### 4.4.4 Loop 4

Loop 4 Summary Information	
Overview:	Loop 4 is the first More Difficult trail encountered after leaving the trailhead. It starts and finishes on Loop 2. It has a substantial climb and descent. Descent 4 merges onto the descending portion of Loop 4, providing an option to cross over from the gravity trails and descend back to the trailhead via the cross-country trails.
Trail Difficulty Rating:	More Difficult 
Reference Map:	
Estimated Length:	4.4km
Composition:	New singletrack: 4.4km (100%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Moderate – steep</li> <li>• <b>Rock:</b> Moderate</li> <li>• <b>Technical Trail Features:</b> Moderate</li> <li>• <b>Bridges:</b> One x 10-15m and possibly a second (rock armour may suffice)</li> <li>• <b>Construction difficulty (1-10):</b> 4</li> <li>• <b>Construction access:</b> via trailhead, Loop 1 and Loop 3</li> </ul>

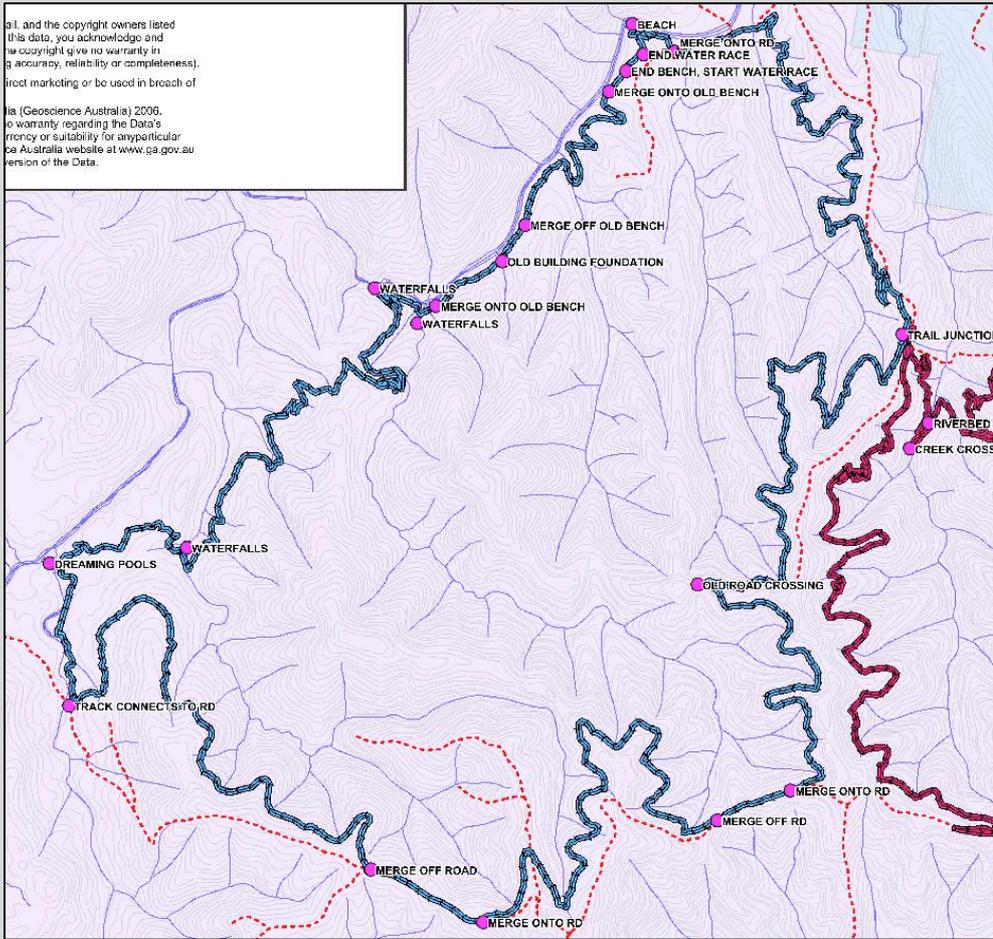
### 4.4.5 Loop 5

Loop 5 Summary Information	
Overview:	Loop 5 starts and finishes on Loop 4. It is undulating and features a long traverse around a ridge running northwest. It passes by a small waterfall.
Trail Difficulty Rating:	More Difficult 
Reference Map:	
Estimated Length:	4.7km
Composition:	New singletrack: 4.7km (0%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Sparse – moderate</li> <li>• <b>Side slopes:</b> Moderate – steep</li> <li>• <b>Rock:</b> Moderate – abundant</li> <li>• <b>Technical Trail Features:</b> Moderate</li> <li>• <b>Bridges:</b> One or two bridges may be required. Rock armour may suffice.</li> <li>• <b>Construction difficulty (1-10):</b> 5</li> <li>• <b>Construction access:</b> via trailhead, Loop 1 and Loop 3</li> <li>• <b>Notes:</b> Extremely rocky in one section (200-300m). Some steep side slopes and waterfall section increase the construction difficulty.</li> </ul>

### 4.4.6 Loop 6

Loop 6 Summary Information	
Overview:	
Trail Difficulty Rating:	More Difficult 
Reference Map:	
Estimated Length:	14.3km
Composition:	New singletrack: 13.1km (92%) Existing singletrack: 0km (0%) Existing vehicle access track: 1.2km (8%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Sparse</li> <li>• <b>Side slopes:</b> Moderate – steep</li> <li>• <b>Rock:</b> Moderate – abundant</li> <li>• <b>Technical Trail Features:</b> Moderate</li> <li>• <b>Bridges:</b> Two or three bridges may be required, plus numerous rock armoured crossings</li> <li>• <b>Construction difficulty (1-10):</b> 6</li> <li>• <b>Construction access:</b> via Loila Tier Rd and other four-wheel drive tracks</li> <li>• <b>Notes:</b> Rocks, steep side slopes, numerous gullies and remoteness increase the construction difficulty.</li> </ul>

### 4.4.7 Loop 7

Loop 7 Summary Information	
<b>Overview:</b>	Loop 7 is the outermost and longest of all the cross-country loops. It will take several hours for a rider to complete, plus additional time to ride to and from the trail, as it is located remotely from the trailhead. It includes numerous views of waterfalls and river sections of the Constable Creek, including swimming holes. It will be an iconic and must-ride feature of the trail network. This trail climbs to the highest point of the entire network, just over 400m above sea level.
<b>Trail Difficulty Rating:</b>	More Difficult 
<b>Reference Map:</b>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>all, and the copyright owners listed this data, you acknowledge and the copyright give no warranty in accuracy, reliability or completeness). (not marketing or be used in breach of</p> <p>ia (Geoscience Australia) 2006. o warranty regarding the Data's rony or suitability for any particular ca Australia website at www.ga.gov.au version of the Data.</p> </div> 
<b>Estimated Length:</b>	27.6km
<b>Composition:</b>	New singletrack: 25.8km (93%) Existing singletrack: 0km (%) Existing vehicle access track: 1.8km (7%)
<b>Elevation Profile:</b>	

**Construction Notes:**

- **Vegetation density:** Sparse – moderate
- **Side slopes:** Moderate – steep
- **Rock:** Moderate – abundant
- **Technical Trail Features:** Moderate
- **Bridges:** Six – seven bridges may be required, plus numerous rock armoured crossings
- **Construction difficulty (1-10):** 6
- **Construction access:** via Loila Tier Rd, Stonyford Track and other four-wheel drive tracks.
- **Notes:** Rocks, steep side slopes, numerous gullies and remoteness increase the construction difficulty.

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## 4.5 GRAVITY TRAILS

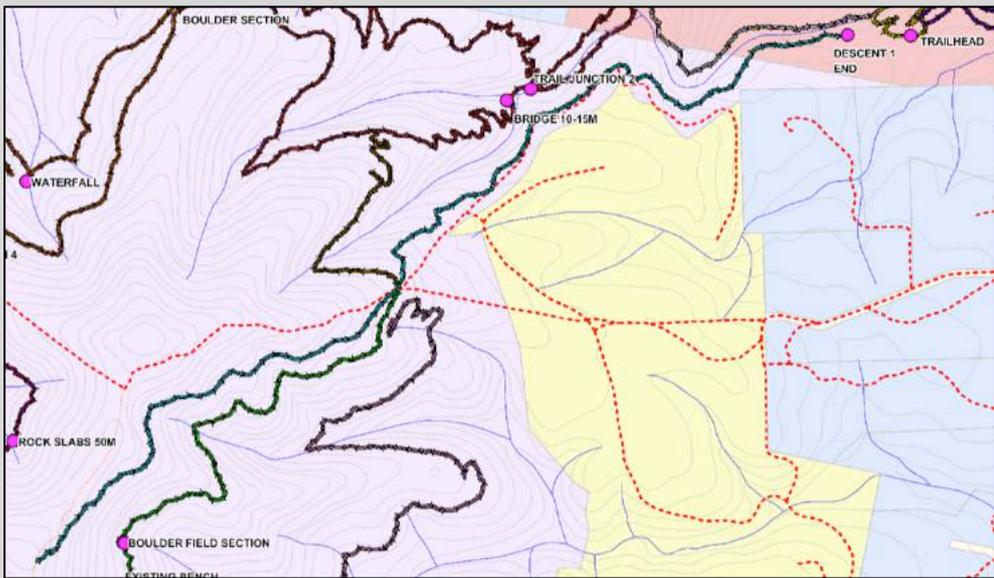
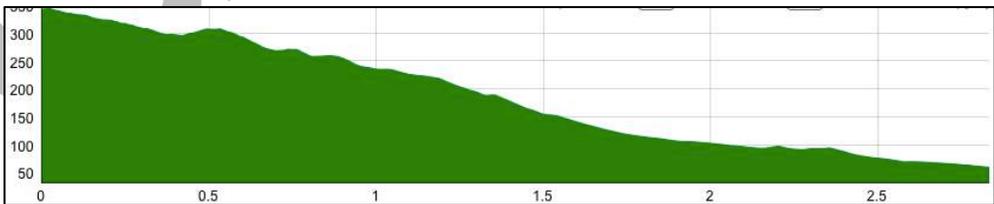
The network of gravity trails proposed for the Stage 1, St Helens is composed of four trails, totalling 13km of trails.

Key design aspects of the gravity trails include:

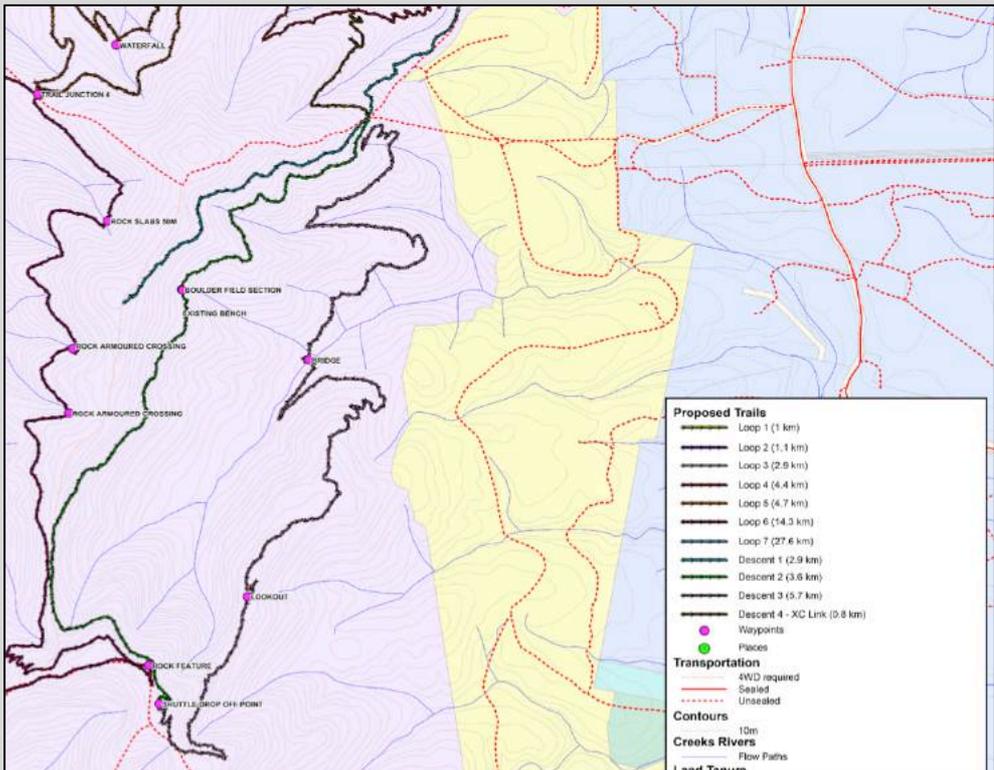
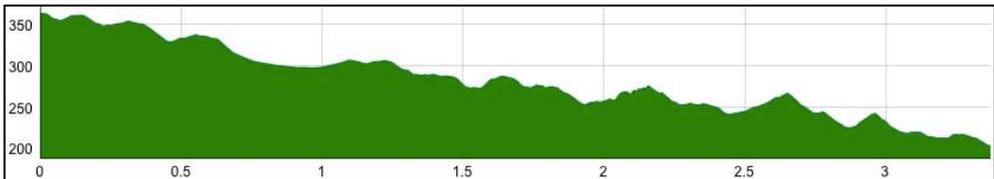
- The four gravity trails are all point-to-point trails, designed to be ridden from the top down only, with riders shuttled to the top by vehicle (although it is also possible to ride to the shuttle drop-off point via the cross-country trails);
- The shuttle drop-off point is accessed using Basin Creek Road and Loila Tier Rd. Basin Creek Rd is in good condition and is an ideal shuttle road. Some upgrade works may be required to improve sections Loila Tier Rd, which is only used for about 900m. The road distance from the trailhead to the shuttle drop-off point is about 8km and should take around 10-15 minutes at most;
- The altitude at the shuttle drop-off point is approximately 365m above sea level. The elevation at the trailhead is approximately 60m. This gives a total elevation change of 305m;
- Descent 1 starts on a four-wheel drive track, some distance from the shuttle point. It can be reached by following Descent 2 for a short distance and then the four-wheel drive track to the start point. This was necessary to ensure it maintained a good, consistently descending gradient with no flat spots. It descends all the way to the trailhead;
- Descent 2 and Descent 3 start at the shuttle point, but merge onto Descent 1 about half way down;
- Descent 4 is a short link trail that splits off mid-way down Descent 1, allowing riders to connect into the cross-country trails for an alternate and gentler descent back to the trailhead.
- While not classified and listed here as a 'Gravity Trail', there is another descending option available from the shuttle drop-off point in the cross-country trail network. Loop 6 connects to the shuttle drop-off point. From here, it is possible to descend back to the trailhead via Loop 6, Loop 5, Loop 4, Loop 3 and Loop 1 consecutively, providing the longest continuous descent (approximately 8.7km) back to the trailhead;
- The gravity trails should have a higher frequency of constructed technical trail features than the cross-country trails, typically berms and jumps;
- The gravity trails are ideally suited to all-mountain or enduro style competitive events.

The gravity trails are designed to allow independent vehicle access to the shuttle drop-off point, but ideally the finished trail network would be serviced by a dedicated mountain bike shuttle business, similar to the one operating on the Blue Derby trail network. This business service is essential to the ongoing success of the trail network but also helps create employment and economic stimulus to the local economy.

### 4.5.1 Descent 1

Descent 1 Summary Information	
Overview:	Descent 1 is the steepest of the proposed gravity trails. It would also be the most difficult with a proposed rating of Extremely Difficult. The start of Descent 1 is on a four-wheel drive track just south of Flagstaff Hill, but riders can reach it from the shuttle drop-off point via Descent 2 and a short section of four-wheel drive track. The top section (300-400m) passes through some very steep and rocky terrain, presenting some construction challenges, but the lower sections should be less challenging. Note that Descent 2 and Descent 3 merge onto this trail about halfway down. The lower portion is shared between Descent 1 and Descent 2.
Trail Difficulty Rating:	Very Difficult 
Reference Map:	
Estimated Length:	2.9km
Composition:	New singletrack: 2.9km (0%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Steep</li> <li>• <b>Rock:</b> Moderate – abundant</li> <li>• <b>Technical Trail Features:</b> Abundant</li> <li>• <b>Bridges:</b> None</li> <li>• <b>Construction difficulty (1-10):</b> 8</li> <li>• <b>Construction access:</b> via Loila Tier Rd, Flagstaff Track</li> <li>• <b>Notes:</b> Rocks, steep side slopes and frequent features (jumps, berms etc.) increase the construction difficulty.</li> </ul>

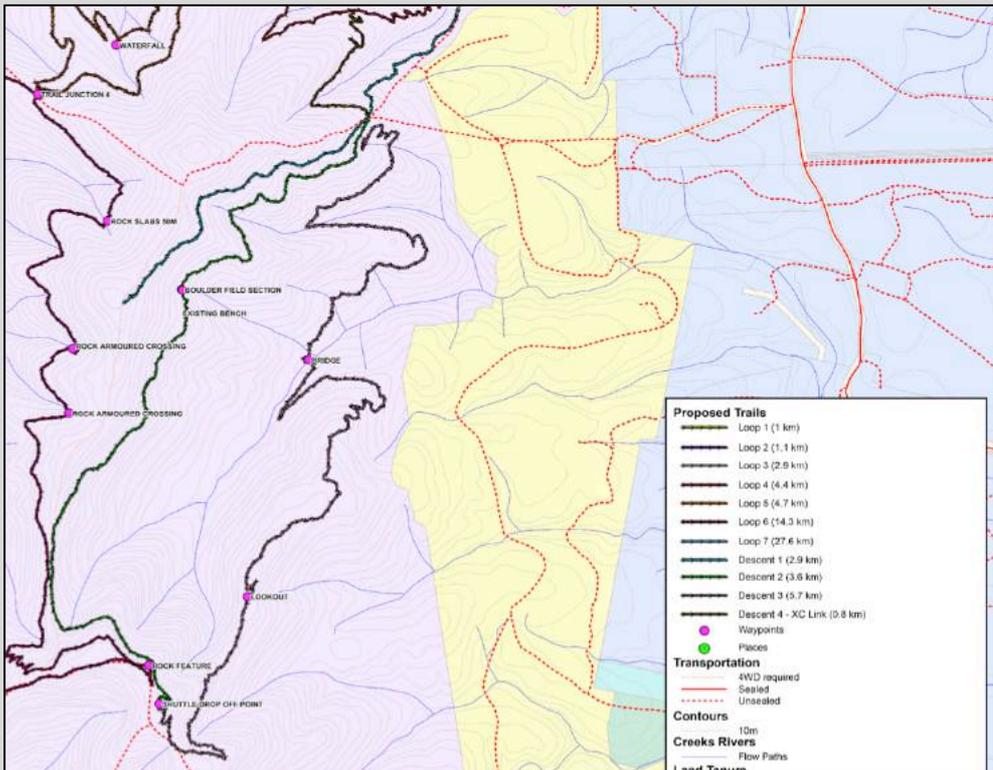
### 4.5.2 Descent 2

Descent 2 Summary Information	
<b>Overview:</b>	Descent 2 starts at the shuttle drop-off point and merges onto Descent 1 about halfway down. It is a continuous descent, with a slightly gentler gradient than Descent 1. As with Descent 1, it will include lots of technical trail features. It is 3.6km long to the junction with Descent 1, followed by another 1.6km on Descent 1 back to the trailhead, making a 5.2km total descent to the trailhead.
<b>Trail Difficulty Rating:</b>	Very Difficult 
<b>Reference Map:</b>	
<b>Estimated Length:</b>	3.6km
<b>Composition:</b>	New singletrack: 3.6km (100%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
<b>Elevation Profile:</b>	
<b>Construction Notes:</b>	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Moderate – steep</li> <li>• <b>Rock:</b> Moderate</li> <li>• <b>Technical Trail Features:</b> Abundant</li> <li>• <b>Bridges:</b> None</li> </ul>

	<ul style="list-style-type: none"><li>• <b>Construction difficulty (1-10):</b> 8</li><li>• <b>Construction access:</b> via Loila Tier Rd, Flagstaff Track</li><li>• <b>Notes:</b> Rocks, steep side slopes and frequent features (jumps, berms etc.) increase the construction difficulty.</li></ul>
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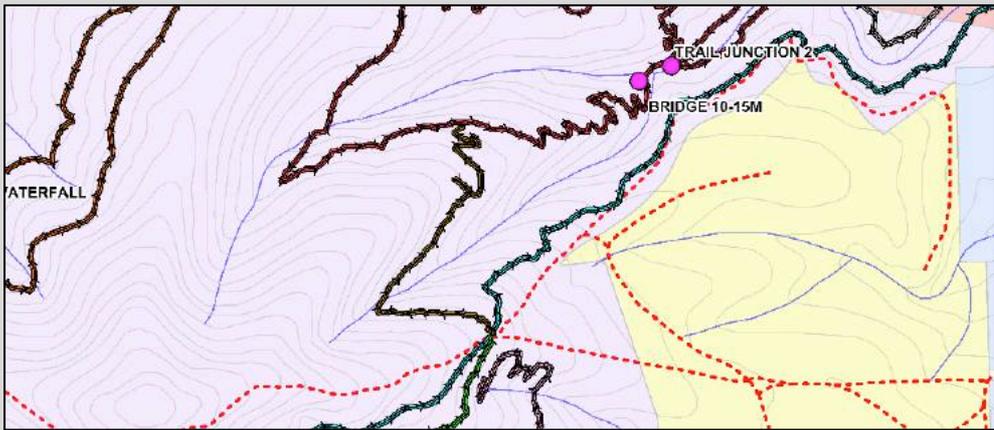
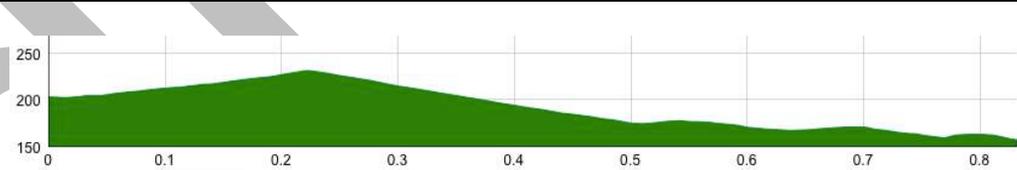
### 4.5.3 Descent 3

Descent 3 Summary Information	
Overview:	Descent 3 starts at the shuttle drop-off point and finishes on Descent 1, at the same spot as Descent 2. It is a much longer and flatter descending trail than Descent 2 and will include some short uphill sections towards the end. It is 5.7km long to the junction with Descent 1. Riders using Descent 3 will need to descend another 3.3km via Descent 4, then Loop 4, Loop 3 and Loop 1 back to the trailhead, making a 9km total descent to the trailhead.
Trail Difficulty Rating:	More Difficult 
Reference Map:	
Estimated Length:	5.7km
Composition:	New singletrack: 5.7km (100%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Moderate</li> <li>• <b>Rock:</b> Moderate</li> <li>• <b>Technical Trail Features:</b> Abundant</li> <li>• <b>Bridges:</b> One bridge x 10-15m</li> </ul>

	<ul style="list-style-type: none"><li>• <b>Construction difficulty (1-10):</b> 7</li><li>• <b>Construction access:</b> via Loila Tier Rd, Flagstaff Track</li><li>• <b>Notes:</b> Rocks, steep side slopes and frequent features (jumps, berms etc.) increase the construction difficulty.</li></ul>
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### 4.5.4 Descent 4

Descent 4 Summary Information	
Overview:	Descent 4 is a short linking track. It starts about mid-way down Descent 1 (just after Descent 2 and Descent 3 merge on) and finishes on Loop 4. It provides an important linkage between the gravity trails and cross-country trails. It allows users of the gravity trails to link into the cross-country trails. Importantly, it also provides a descending option for gravity riders that are not ready to tackle a black diamond trail.
Trail Difficulty Rating:	More Difficult 
Reference Map:	
Estimated Length:	0.8km
Composition:	New singletrack: 0.8km (100%) Existing singletrack: 0km (0%) Existing vehicle access track: 0km (0%)
Elevation Profile:	
Construction Notes:	<ul style="list-style-type: none"> <li>• <b>Vegetation density:</b> Moderate</li> <li>• <b>Side slopes:</b> Moderate</li> <li>• <b>Rock:</b> Moderate</li> <li>• <b>Technical Trail Features:</b> Abundant</li> <li>• <b>Bridges:</b> None</li> <li>• <b>Construction difficulty (1-10):</b> 7</li> <li>• <b>Construction access:</b> via Flagstaff Track</li> <li>• <b>Notes:</b> Rocks, steep side slopes and frequent features (jumps, berms etc.) increase the construction difficulty.</li> </ul>

## 5 TRAIL CONSTRUCTION COST ESTIMATE

The conditions observed at St Helens are excellent for trail construction and are characterised by:

- Relatively sparse and open vegetation structure;
- Generally rocky, gravelly and well draining soils;
- Generally moderate to steep topography;
- Good vehicle access to most areas;
- Close proximity to St Helens.

Given the excellent conditions for trail building, World Trail believes that it will be possible to achieve good productivity rates (ideally, in excess of 100m of finished trail per team per day), translating to competitive rates per metre for construction.

Table 2 below provides a cost estimate for the standard trail construction costs for the proposed Stage 1, St Helens trail network.

**Table 2. Standard Trail Construction Costs**

Trail	Distance to be constructed (km)	Standard trail construction rate (\$ per m)	Standard trail construction cost
Descent 1	2.9	\$40.00	\$116,000.00
Descent 2	3.6	\$40.00	\$144,000.00
Descent 3	5.7	\$40.00	\$228,000.00
Descent 4	0.8	\$40.00	\$32,000.00
Loop 1	1	\$30.00	\$30,000.00
Loop 2	1.1	\$30.00	\$33,000.00
Loop 3	2.9	\$30.00	\$87,000.00
Loop 4	4.4	\$30.00	\$132,000.00
Loop 5	4.7	\$30.00	\$141,000.00
Loop 6	13.1	\$30.00	\$393,000.00
Loop 7	25.8	\$30.00	\$774,000.00
<b>TOTALS</b>	<b>66.0</b>		<b>\$2,110,000.00</b>

Note:

1. The rates used to prepare these cost estimates are indicative estimates only, based on World Trail's experience of over ten years in the trail design and construction industry. Better rates would likely be achieved through a competitive tender process;
  - The gravity trails have a higher per metre rate than the cross-country trails as they generally have more features and are more labour intensive to construct;
  - No GST included.

In addition to the standard trail construction rates provided in Table 2 there are a number of other costs that need to be considered. These are shown in Table 3 below.

**Table 3. Additional Project Costs**

Item	Cost Estimate
Trail infrastructure (bridges, rock armouring)	\$211,000.00
Contractor expenses (mobilisation, accommodation)	\$105,500.00
Trail signage (including trailhead and directional signs)	\$42,200.00
Permits and approvals	To be determined by others
Trailhead design and construction	To be determined by others
Trailhead access road design and construction	To be determined by others
<b>Total</b>	<b>\$358,700.00</b>

**Note:**

- Trail infrastructure includes items such as bridges and rock armouring. While every attempt to quantify such items was made during ground-truthing, in practice it is typical that many new areas requiring bridges and rock armouring are identified during construction. Therefore, an allowance is provided for this item. Using previous projects as a guide, WT recommends a provisional allowance of 10% of the standard trail construction costs be made for trail infrastructure;
- Contractor expenses include mobilisation of staff and equipment to the job site. Using previous projects as a guide, WT recommends a provisional allowance of 5% of the standard trail construction costs be made for contractor expenses;
- Trail signage is an essential and often overlooked element of the trail network. Using previous projects as a guide, WT recommends a provisional allowance of 2% of the standard trail construction costs be made for trail signage;
- Permits and approvals, trailhead design and construction and trailhead access road design and construction are included without any indicative pricing, as they are significant cost items but WT is not qualified to provide cost estimates for these.
- No GST included.

The total project cost for the Stage 1, St Helens trail network is \$2,468,700.00 (plus any uncoded items noted above and GST).

## 6 TRAIL CONSTRUCTION STAGING

When construction commences, it is important that trails are built and opened in the order that is most logical and efficient and achieves the best tourism outcomes possible.

Table 4 below sets out a proposed order of construction of the trails. This order of construction has been determined based on logistical considerations and the perceived importance of the trails to tourism. Furthermore, the table provides expected productivity rates for trail construction, based on one, two or three construction teams, and the associated construction duration for each trail.

**Table 4. Proposed Construction Order and Construction Durations**

Order of Construction	Trail	Distance (km)
1	Loop 1	1
2	Loop 3	2.9
3	Loop 4	4.4
4	Loop 5	4.7
5	Descent 1	2.9
6	Descent 3	5.7
7	Descent 4	0.8
8	Descent 2	3.6
9	Loop 2	1.1
10	Loop 6	13.1
11	Loop 7	25.8
<b>Total</b>		<b>66</b>

Working off a daily productivity rate of 100m of finished trail per team per day, it is estimated that:

- It would take one team<sup>1</sup> 660 working days<sup>2</sup> to construct the entire trail network;
- It would take two teams 330 working days to construct the entire trail network;
- It would take three teams 220 working days to construct the entire trail network.

Allowing for a shut down of approximately twelve weeks during winter when days are short and wet, two weeks off for Christmas and assuming a five-day working week, there are only 190 working days in a year.

Based on this, WT recommends a staged approach, split over two years and using three construction teams simultaneously, as outlined in Table 5 on the next page.

Alternatively, a three-year schedule would also be acceptable, based on the use of two construction teams.

<sup>1</sup> A construction team is generally 3-4 people, a mini-excavator and all necessary tools and equipment.

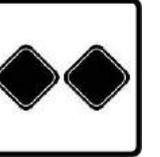
<sup>2</sup> A working day is 8 hours.

**Table 5. Two Year Construction Scenario (Based on Three Construction Teams)**

Year	Order of Construction	Trail	Distance (km)	Duration (days)	Cost (\$)
First	1	Loop 1	1	4	\$30,000.00
	2	Loop 3	2.9	10	\$87,000.00
	3	Loop 4	4.4	15	\$132,000.00
	4	Loop 5	4.7	16	\$141,000.00
	5	Descent 1	2.9	10	\$116,000.00
	6	Descent 3	5.7	19	\$228,000.00
	7	Descent 4	0.8	3	\$32,000.00
	8	Descent 2	3.6	12	\$144,000.00
	9	Loop 2	1.1	4	\$33,000.00
		Total		27.1	93
Second	10	Loop 6	13.1	44	\$393,000.00
	11	Loop 7	25.8	86	\$774,000.00
	Total		38.9	130	\$1,167,000.00

## 7 APPENDIX

### 7.1 IMBA TRAIL DIFFICULTY RATING SYSTEM

Rating	Very Easy	Easiest	More Difficult	Very Difficult	Extremely Difficult
Symbol					
Description	<p>Likely to be a fire road or wide single track with a gentle gradient, smooth surface and free of obstacles.</p> <p>Frequent encounters are likely with other cyclists, walkers, runners and horse riders.</p>	<p>Likely to be a combination of fire road or wide single track with a gentle gradient, smooth surface and relatively free of obstacles.</p> <p>Short sections may exceed these criteria.</p> <p>Frequent encounters are likely with other cyclists, walkers, runners and horse riders.</p>	<p>Likely to be a single trail with moderate gradients, variable surface and obstacles.</p> <p>Dual use or preferred use</p> <p>Optional lines desirable</p>	<p>Likely to be a challenging single trail with steep gradients, variable surface and many obstacles.</p> <p>Single use and direction</p> <p>Optional lines</p> <p>XC, DH or trials</p>	<p>Extremely difficult trails will incorporate very steep gradients, highly variable surface and unavoidable, severe obstacles. Single use and direction</p> <p>Optional lines</p> <p>XC, DH or trials</p>
Trail Width	2100mm plus or minus 900mm	900mm plus or minus 300mm for tread or bridges.	600mm plus or minus 300mm for tread or bridges.	300mm plus or minus 150mm for tread and bridges.  Structures can vary.	150mm plus or minus 100mm for tread or bridges.  Structures can vary.
Trail Surface	Hardened or smooth.	Mostly firm and stable.	Possible sections of rocky or loose tread.	Variable and challenging.	Widely variable and unpredictable.
Average Trail Grade	<p>Climbs and descents are mostly shallow.</p> <p>Less than 5% average.</p>	<p>Climbs and descents are mostly shallow, but may include some moderately steep sections.</p> <p>7% or less average.</p>	<p>Mostly moderate gradients but may include steep sections.</p> <p>10% or less average.</p>	<p>Contains steeper descents or climbs.</p> <p>20% or less average.</p>	<p>Expect prolonged steep, loose and rocky descents or climbs.</p> <p>20% or greater average</p>
Maximum Trail Grade	Max 10%	Max 15%	Max 20% or greater	Max 20% or greater	Max 40% or greater

Level of Trail Exposure	Firm and level fall zone to either side of trail corridor	Exposure to either side of trail corridor includes downward slopes of up to 10%	Exposure to either side of trail corridor includes downward slopes of up to 20%	Exposure to either side of trail corridor includes steep downward slopes or free-fall	Exposure to either side of trail corridor includes steep downward slopes or free-fall
Natural Obstacles and Technical Trail Features (TTFs)	No obstacles.	<p>Unavoidable obstacles to 50mm (2") high, such as logs, roots and rocks.</p> <p>Avoidable, rollable obstacles may be present.</p> <p>Unavoidable bridges 900mm wide.</p> <p>Short sections may exceed criteria.</p>	<p>Unavoidable, rollable obstacles to 200mm (8") high, such as logs, roots and rocks.</p> <p>Avoidable obstacles to 600mm may be present.</p> <p>Unavoidable bridges 600mm wide.</p> <p>Width of deck is half the height.</p> <p>Short sections may exceed criteria.</p>	<p>Unavoidable obstacles to 380mm (15") high, such as logs, roots, rocks, drop-offs or constructed obstacles.</p> <p>Avoidable obstacles to 1200mm may be present.</p> <p>Unavoidable bridges 600mm wide.</p> <p>Width of deck is half the height.</p> <p>Short sections may exceed criteria.</p>	<p>Large, committing and unavoidable obstacles to 380mm (15") high.</p> <p>Avoidable obstacles to 1200mm may be present.</p> <p>Unavoidable bridges 600mm or narrower.</p> <p>Width of bridges is unpredictable.</p> <p>Short sections may exceed criteria.</p>

## 8 WORLD TRAIL CONTACT DETAILS

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29 April 2016

Letter of Support – Blue Derby Mountain Bike Trails – Stage 2

I write to advise of the East Coast Regional Tourism Organisation's support for the application for funding for Stage 2 of the Blue Derby Mountain Bike Trails.

Break O'Day Council have undertaken some robust research into the potential in growth of visitation and economic value of this project and the numbers are impressive.

The mountain biking sector for Tasmania is growing and this additional infrastructure will help to increase the number of visitors to the North East and will provide tremendous flow-on business development opportunities for the region.

The development will complement the recently completed Blue Derby mountain bike trails and generate local employment and would be a welcome addition to the growing number of quality tourism experiences that are helping to drive visitation and increase length of stay on the East Coast.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Ruth Dowty", with a flourish at the end.

Ruth Dowty  
Chief Executive Officer

East Coast Regional Tourism Organisation Inc.  
P O Box 115 Bicheno  
Tasmania 7215  
03 63751799