



Bushfire Management Statement: Warburton Bike Trail Destination Project

September 2019



Bushfire Management Statement Warburton Bike Trail Destination Project September 2019

Report by Greg James

PRACTICAL ECOLOGY Pty Ltd

CAN: 082 911 377 ABN: 88 082 911 377

PO Box 228 Preston VIC 3072

(2B Stott Street Preston Vic 3072)

P: 9484 1555 F: 9484 9133

www.practicalecology.com.au

Prepared for:

PE project number: YAR 2769

Contact:

PE file location:

Version	Date	Author/amended by	Reviewer	Version notes
0.0	15/09/2019	Greg James		Pre-draft internal review
0.1				Draft for client review
1.0				Final for submission

© **Copyright** Unless otherwise agreed in writing, this report is the intellectual property of Practical Ecology Pty Ltd. It is designed to be used exclusively by the person or organisation that commissioned it. Permission must be sought prior to reproduction of any portion of this document, and every effort made to ensure proper referencing of this document.

Contents

1.	INTRODUCTION	4
1.1	Project Details	4
1.2	Application requirements	4
2.	BUSHFIRE HAZARD SITE ASSESSMENT	5
2.1	Vegetation and topography	5
2.2	Photographs within the assessment area	12
3.	BUSHFIRE HAZARD LANDSCAPE ASSESSMENT	13
3.1	Landscape	13
3.2	Bushfire history	13
3.3	Refuge options and emergency services	14
3.4	Landscape typology	14
4.	BUSHFIRE MANAGEMENT STATEMENT	16
4.1	Definition of objectives and measures	16
4.2	Development proposal	16
4.3	Landscape, siting and design	17
4.4	Defendable space and construction	18
4.5	Water supply and access	19
4.5.1	Access	Error! Bookmark not defined.
5.	REFERENCES	22
APPENDIX 1.	MAPS	23

TABLES

Table 1.	Mount Donna Buang to Ben Cairn	5
Table 2.	Ben Cairn to O'Shannassy Aqueduct	6
Table 3.	Donna Buang Road to Warburton Golf Course (east of Yuonga Road)	8
Table 4.	Donna Buang Road to Warburton Golf Course (west of Yuonga Road)	7
Table 5.	Warburton Rail Trail to Old Warburton Road	9
Table 6.	Old Warburton Road to Cumming Spur Track	10
Table 7.	Mount Bride Road Region	11
Table 8.	Landscape typology taken from Planning Practice Note 65 (DTPLI 2014)	14
Table 9.	Access requirements (Clause 53.02-5, table 5)	20

1. INTRODUCTION

1.1 Project Details

Yarra Ranges Council proposes to construct an extensive network of Mountain Bike Trails near the Warburton Township. Appendix 1, Map A provides an overview of the entire project area.

The trail network is split in two main sections, section 1 consists of 35% of the network and is to the north of the Warburton township within the Yarra Ranges National Park. Section 1 includes 4 trails that lead off from Mt Donna Buang Road. The main trail runs from the Mount Donna Buang Summit in a westerly direction until it reaches the Ben Cairn section of the National Park and then heads south from Donna Buang Road and gradually descends through to the O'Shannassy Aqueduct Trail approximately 1km north of the Warburton Township. The other 3 trails descend from Donna Buang Road further east of the summit road with each of these heading towards the township in the vicinity of the Warburton Golf Course.

Section 2 is to the south of the Warburton Highway and Rail Trail within the Yarra State Forest and includes 65% of the trail network. This area includes Mount Little Joe and Mount Tugwell. A network of trails in the vicinity of Mt Little Joe Track link to the west with the existing Crusher Track towards Wesburn and to the east towards Mt Tugwell in the Cemetery Fireline and Mt Bride Road region.

The total trail length of the project is approximately 180 km.

1.2 Application requirements

Clauses 44.06 and 53.02 detail the application requirements to address the Bushfire Management Overlay (BMO). An application under the BMO must be accompanied by:

- A **bushfire hazard site assessment** including a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard must be prepared in accordance with Sections 2.2.3 to 2.2.5 of AS3959:2009 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2. Photographs or other techniques may be used to assist in describing the bushfire hazard.
- A **bushfire hazard landscape assessment** including a plan that describes the bushfire hazard of the general locality more than 150 metres from the site. Photographs or other techniques may be used to assist in describing the bushfire hazard. This requirement does not apply to a dwelling that includes all of the approved measures specified in Clause 53.02-4.
- A **bushfire management statement** describing how the proposed development responds to the requirements in this clause and Clause 44.06. If the application proposes an alternative measure, the bushfire management statement must explain how the alternative measure meets the relevant objective.

Sections 2-4 of this document address the above requirements as relevant to this project.

2. BUSHFIRE HAZARD SITE ASSESSMENT

Map A of Appendix 1 provides an overview of the project area and Maps 1–6 provides the Bushfire Hazard Site Assessment for the various trail sections including the detailed alignment and the most significant slopes within the 150 metres of the trail network.

2.1 Vegetation and topography

The vegetation classification as per AS-3959 within 150 metres of the proposed trail is almost entirely Forest. Small areas within 150 metres that are close to the townships include areas of grassland or low threat vegetation, however, this has little bearing on potential fire behaviour given the dominance of Forest vegetation across the landscape.

Descriptions of the landscape within 150 metres is provided below for each of the 6 main sections of the trail as represented in Maps 1–6.

Mount Donna Buang to Ben Cairn

Map 1 shows the alignment from the Donna Buang Summit Road to Ben Cairn. The vegetation is mostly dominated by Alpine Ash Forest with some smaller sections of Cool Temperate Rainforest. The northern aspect is entirely upslope from the proposed trails, however, there is a significant fall to the south of the trails with slopes varying from 20–35°. Table 1 provides a summary of slopes in all directions.

Table 1. Mount Donna Buang to Ben Cairn

	Direction (Aspect)			
	North	South	East	West
Vegetation (within 150m of the site)	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>
	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>
	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>
	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>
	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>
	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>
	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>
Effective Slope (under classified vegetation)	Upslope/Flat <input checked="" type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>
	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>	>10° to 15° <input checked="" type="checkbox"/>	>10° to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input checked="" type="checkbox"/>
	>20° <input type="checkbox"/>	>20° <input checked="" type="checkbox"/>	>20° <input type="checkbox"/>	>20° <input type="checkbox"/>

Ben Cairn to O'Shannassy Aqueduct

From the Ben Cairn section of Donna Buang Road, the trail descends through wet forest of various age classes. This section was extensively logged in the past 50–60 years, although some patches of older forest growth still persists. Following the descent from Donna Buang Road, the trail moves east towards the O'Shannassy Aqueduct (east of Dee Road) among more mature riparian forest and smaller sections of pine forest.

The northern aspect is entirely upslope from the proposed trails, however, there are significant downslopes to the west (20–25°) of the trails and southerly slopes between 20–35° to the west of the APM Access Track. Southern slopes to the east of Dee Road are less extreme and are approximately 10% on average.

Table 2 provides a summary of slopes in all directions.

Table 2. Ben Cairn to O'Shannassy Aqueduct

	Direction (Aspect)			
	North	South	East	West
Vegetation (within 150m of the site)	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>
	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>
	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>
	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>
	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>
	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>
	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>
	Effective Slope (under classified vegetation)	Upslope/Flat <input checked="" type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input checked="" type="checkbox"/>
Downslope <input type="checkbox"/>		Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>
>0 to 5° <input type="checkbox"/>		>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
>5 to 10° <input type="checkbox"/>		>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
>10° to 15° <input type="checkbox"/>		>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>
>15 to 20° <input type="checkbox"/>		>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
>20° <input type="checkbox"/>		>20° <input checked="" type="checkbox"/>	>20° <input type="checkbox"/>	>20° <input checked="" type="checkbox"/>

Donna Buang Road to Warburton Golf Course

The 3 trails that lead from the lower reaches of Donna Buang Road have a substantial fall from 900m to 300m elevation. The northern aspect of the trail to the west of Yuonga Road is all upslope however the southern aspect varies between 10–25° with westerly slopes varying from 15–20°. The trail to the east of Yuonga Road is situated on steep easterly and southerly slopes of 10–20° with westerly and northerly slopes being less extreme.

Table 3 and 4 provides a summary of slopes in all directions for each trail.

Table 3. Donna Buang Road to Warburton Golf Course (west of Yuonga Road)

	Direction (Aspect)			
	North	South	East	West
Vegetation (within 150m of the site)	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>
	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>
	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>
	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>
	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>
	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>
	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>
	Effective Slope (under classified vegetation)	Upslope/Flat <input checked="" type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>
Downslope <input type="checkbox"/>		Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>
>0 to 5° <input type="checkbox"/>		>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
>5 to 10° <input type="checkbox"/>		>5 to 10° <input type="checkbox"/>	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>
>10° to 15° <input type="checkbox"/>		>10° to 15° <input checked="" type="checkbox"/>	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>
>15 to 20° <input type="checkbox"/>		>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input checked="" type="checkbox"/>
>20° <input type="checkbox"/>		>20° <input checked="" type="checkbox"/>	>20° <input type="checkbox"/>	>20° <input type="checkbox"/>

Table 4. Donna Buang Road to Warburton Golf Course (east of Yuonga Road)

	Direction (Aspect)			
	North	South	East	West
Vegetation (within 150m of the site)	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>
	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>
	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>
	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>
	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>
	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>
	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>
	Effective Slope (under classified vegetation)	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>
Downslope <input type="checkbox"/>		Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>
>0 to 5 ° <input type="checkbox"/>		>0 to 5 ° <input type="checkbox"/>	>0 to 5 ° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
>5 to 10° <input checked="" type="checkbox"/>		>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input checked="" type="checkbox"/>
>10° to 15° <input type="checkbox"/>		>10° to 15° <input type="checkbox"/>	>10° to 15° <input checked="" type="checkbox"/>	>10° to 15° <input type="checkbox"/>
>15 to 20° <input type="checkbox"/>		>15 to 20° <input checked="" type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
>20° <input type="checkbox"/>		>20° <input type="checkbox"/>	>20° <input type="checkbox"/>	>20° <input type="checkbox"/>

Warburton Rail Trail to Old Warburton Road

Several trails to the south of the Warburton Hwy and Old Warburton Road are planned within the Yarra State Forest where vegetation is a drier, predominantly stringybark forest including larger areas of post-fire regrowth from burns in the last 10–12 years. Northerly slopes are generally severe and vary from 20–40°. Southerly, westerly and easterly slopes vary within the landscape but are commonly 15–25°.

Although there are several gazetted roads through this section of the project area, these are all fire access tracks rather than public roads, although some of these are not suitable for emergency vehicles (e.g. Hooks Road and sections of the Highway Track).

Table 5 provides a summary of slopes in all directions.

Table 5. Warburton Rail Trail to Old Warburton Road

	Direction (Aspect)			
	North	South	East	West
Vegetation (within 150m of the site)	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>
	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>
	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>
	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>
	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>
	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>
	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>
	Effective Slope (under classified vegetation)	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>
Downslope <input type="checkbox"/>		Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>
>0 to 5° <input type="checkbox"/>		>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
>5 to 10° <input type="checkbox"/>		>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
>10° to 15° <input type="checkbox"/>		>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>
>15 to 20° <input type="checkbox"/>		>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
>20° <input checked="" type="checkbox"/>		>20° <input checked="" type="checkbox"/>	>20° <input checked="" type="checkbox"/>	>20° <input checked="" type="checkbox"/>

Old Warburton Road to Cumming Spur Track

The existing Crusher Link Track links with proposed new trails both sides of the Yarra Silvan Conduit Track. The forest in this area varies from north facing dry stringybark forests to Wetter Ash or Ribbon Bark Forests in sheltered gullies. Westerly, northerly and southerly aspects are generally steep slopes that range from 15–30°

Like most areas around Mt Little Joe, there are several gazetted non-public roads used as fire access or management tracks although some sections are not currently in good condition for access by emergency vehicles.

Table 6 provides a summary of slopes in all directions.

Table 6. Old Warburton Road to Cumming Spur Track

	Direction (Aspect)			
	North	South	East	West
Vegetation (within 150m of the site)	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>
	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>
	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>
	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>
	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>
	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>
	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>
Effective Slope (under classified vegetation)	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input type="checkbox"/>
	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>
	>20° <input checked="" type="checkbox"/>	>20° <input checked="" type="checkbox"/>	>20° <input type="checkbox"/>	>20° <input checked="" type="checkbox"/>

Mount Bride Road Region

Some existing mountain bike trails and informal vehicle tracks link with a series of proposed new tracks in the vicinity of Mt Bride Road and Cemetery Fireline. Forest types in this area are mainly wet forests dominated by Mountain Ash or Mountain Grey-gum. Large areas of forest either side of Cemetery Fireline and south of Cumming Spur Track were logged as recently as 30 years ago.

Slopes in all directions are variable although most of the terrain is steep and varies from 15–30° slopes that ascend towards various sections of the trail.

Table 7 provides a summary of slopes in all directions.

Table 7. Mount Bride Road Region

	Direction (Aspect)			
	North	South	East	West
Vegetation (within 150m of the site)	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>	Low Threat <input type="checkbox"/>
	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>	Modified <input type="checkbox"/>
	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Forest <input checked="" type="checkbox"/>
	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>	Woodland <input type="checkbox"/>
	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>	Scrub <input type="checkbox"/>
	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>	Rainforest <input type="checkbox"/>
	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>	Grassland <input type="checkbox"/>
	Effective Slope (under classified vegetation)	Upslope/Flat <input type="checkbox"/>	Upslope/Flat <input checked="" type="checkbox"/>	Upslope/Flat <input checked="" type="checkbox"/>
Downslope <input type="checkbox"/>		Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>	Downslope <input type="checkbox"/>
>0 to 5° <input type="checkbox"/>		>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
>5 to 10° <input type="checkbox"/>		>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
>10° to 15° <input type="checkbox"/>		>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>	>10° to 15° <input type="checkbox"/>
>15 to 20° <input type="checkbox"/>		>15 to 20° <input checked="" type="checkbox"/>	>15 to 20° <input checked="" type="checkbox"/>	>15 to 20° <input type="checkbox"/>
>20° <input checked="" type="checkbox"/>		>20° <input type="checkbox"/>	>20° <input type="checkbox"/>	>20° <input checked="" type="checkbox"/>

2.2 Photographs within the assessment area



Figure 1. Example of suitable all-weather emergency access at Backstairs Track off Old Warburton Road



Figure 2. Example of poor emergency track access that should be upgraded to improve trafficability



Figure 3. Gully Riparian Forest close to Mt Bride Road



Figure 4. Sheltered humus-rich Wet Forest in the vicinity of the O'Shannassy Aqueduct



Figure 5. Dense post fire regrowth forest east of Mt Bride Road



Figure 6. Dense post fire regrowth forest south of Hooks Road

3. BUSHFIRE HAZARD LANDSCAPE ASSESSMENT

The bushfire hazard landscape assessment provides information on the bushfire hazard more than 150 m from the proposed development. This information is presented in Map B of Appendix 1 and discussed below.

3.1 Landscape

The landscape surrounding the proposed Mountain Bike Trail is heavily forested and mountainous. In some cases, trails are isolated from roads, emergency tracks and other public infrastructure. In particular, two trails that head south from Donna Buang Road are isolated from road or track access (Map 3). Each of these tracks run for at least 4.5 km without nearby tracks or roads until the trails make its full descent in towards the O'Shannassy Aqueduct Trail and/or the Warburton Golf Course.

Other sections however are close to roads and emergency tracks including the trail section that runs east-west along Donna Buang Road (Map 1) and the trail in the vicinity of Yuonga Track (Map 3).

Maps 4–6 in the Mt Tugwell/Mt Little Joe regions have several management tracks for access and egress although some of these should be upgraded to be more trafficable and suitable for all weather conditions.

Regardless of the vehicle track access, the entire landscape would be considered a high risk to trail users on high fire danger days. A Bushfire Emergency Management Plan has been developed to mitigate these risks, which includes recommendations for trail closures for sections that are isolated from roads and township areas.

3.2 Bushfire history

As shown on Map B, the project area is within a highly fire prone landscape. The 1939 Black Friday Fires had a devastating impact to the Yarra Ranges National Park to the north of Warburton and the 1983 Ash Wednesday Fires had a similar scale impact on the Mt Tugwell/Little Joe region.

Most of the recent fires in the region have been controlled burns conducted by DELWP. Most of these burns have appeared to target forested areas on the margins of populated rural precincts around Wesburn and Don Valley. Controlled burns at higher elevations within in the vicinity of Old Warburton Road and the Cemetery Fireline may potentially assist with fire suppression in the short term, however, many of these sites currently support dense 10-year regrowth which is predicted to carry similar fuel loads compared to its pre-burned condition.

Although DELWP has ongoing plans to reduce forest fuels in strategic and opportune locations, effective fire suppression across this extensive forested landscape cannot be relied upon and trail users would place themselves at significant risk unless they abide by seasonal trail closures and take personal responsibility for their own evacuation in the event of a bushfire emergency.

3.3 Refuge options and emergency services

Map B shows that the local townships surrounding the project area (including Yarra Junction, Millgrove, Wesburn, Warburton and East Warburton) are well resourced in emergency responsiveness due to the numerous fire stations and the Wesburn Emergency Coordination Centre.

Map B also shows that 2 Neighbourhood Safer Places (NSP) and 2 Fire Refuges are available in the local area. NSPs and Refuges are purpose-built or modified buildings that provide protection from radiant heat and embers. However, these places of refuge are designed for evacuation of residents within townships. Access to these safer places cannot be relied upon for trail users given the isolation nature of some of the trails. Even if trail users were to evacuate in their cars, roads in proximity to these trails are relatively remote from township access. For example, the Donna Buang Summit Car Park is approximately 23 mins by car to the Warburton Township, the Ben Cairn area is approximately 32 minutes from the Warburton Township and the proposed Mt Bride Road trail head is approximately 16 minutes by car to the Wesburn Township.

3.4 Landscape typology

Planning Practice Note 65 provides a typology of bushfire landscapes (duplicated in Table 8).

Depending on the location within the project area, the landscape would generally be placed within type 3 or 4 due to the extensive occurrence of forest vegetation across the landscape, the isolation within some trail sections and the lack of close access to places of refuge in most instances.

Table 8. Landscape typology taken from Planning Practice Note 65 (DTPLI 2014)

Landscape Type	Description
Type 1	<ul style="list-style-type: none"> - There is little vegetation beyond 150 metres of the site (except grasslands and low-threat vegetation). - Extreme bushfire behaviour is not possible. - The type and extent of vegetation is unlikely to result in neighbourhood scale destruction of property. - Immediate access is available to a place that provides shelter from bushfire.
Type 2	<ul style="list-style-type: none"> - The type and extent of vegetation located more than 150 metres from the site may result in neighbourhood-scale destruction as it interacts with the bushfire hazard on and close to a site. - Bushfire can only approach from one aspect and the site is located in a suburban, township or urban area managed in a minimum fuel condition. - Access is readily available to a place that provides shelter from bushfire. This will often be the surrounding developed area.

Landscape Type	Description
Type 3	<ul style="list-style-type: none"> - The type and extent of vegetation located more than 150 metres from the site may result in neighbourhood-scale destruction as it interacts with the bushfire hazard on and close to a site. - Bushfire can approach from more than one aspect. - The site is located in an area that is not managed in a minimum fuel condition. - Access to an appropriate place that provides shelter from bushfire is not certain.
Type 4	<ul style="list-style-type: none"> - The broader landscape presents an extreme risk. - Evacuation options are limited or not available.

4. BUSHFIRE MANAGEMENT STATEMENT

This section describes how the proposed development in context of the requirements in Clause 53.02–4 *Bushfire Planning* and Clause 44.06 Bushfire Management Overlay.

4.1 Definition of objectives and measures

Clause 53.02 of the Planning Scheme outlines objectives, measures to address these objectives, and decision guidelines as defined below:

- **Objectives.** An objective describes the outcome that must be achieved in a completed development.
- **Approved measures (AM).** An approved measure meets the objective.
- **Alternate measures (AltM).** An alternative measure may be considered where the responsible authority is satisfied that the objective can be met. The responsible authority may consider other unspecified alternative measures.
- **Decision guidelines.** The decision guidelines set out the matters that the responsible authority must consider before deciding on an application, including whether any proposed alternative measure is appropriate.

A schedule to Clause 44.06 may specify substitute approved measures, additional alternative measures and additional or substitute decision guidelines.

4.2 Development proposal

At this stage, the scope of the proposed works is limited to construction of the Mountain Bike Trail and a trail head at Mount Bride Road. The trail head will provide limited informal parking facilities for trail users. Other parking facilities are already available to trail users including formal parking at the Donna Buang Summit Road and at Dee Road and informal parking at various junctures along Old Warburton Road. There are no proposed buildings associated with this project, only earthworks.

Due to the nature of this proposal, the standard measures for *Bushfire Planning* including Bushfire Attack Level construction, defensible space, water supply and access do not apply to this proposal. Rather, a Bushfire Emergency Management Plan (Attachment 1) is the proposed alternative measure to address the risks and objectives of the Bushfire Management Overlay. Sections 4.3 to 4.5 outline the standard measures of *Bushfire Planning* with a response to each of these objectives.

4.3 Landscape, siting and design

Clause 53.02–4.1 Objectives

- Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.
- Development is sited to minimise the risk from bushfire.
- Development is sited to provide safe access for vehicles, including emergency vehicles.
- Building design minimises vulnerability to bushfire attack.

Clause 53.02–4.1 Approved measures

AM 2.1

The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.

Proposal meets measure Yes No N/A

The risk from potential fire behaviour cannot be reduced to an acceptable level through the application of the standards within the BMO, (e.g. defensible space, access and water supply). As an alternative measure to these standards, a Bushfire Emergency Management Plan has been developed (Attachment 1) to mitigate risk to life for trail users.

AM 2.2

A building is sited to ensure the site best achieves the following:

- The maximum separation distance between the building and the bushfire hazard.
- The building is in close proximity to a public road.
- Access can be provided to the building for emergency service vehicles

Proposal meets measure? Yes No N/A

There are no buildings associated with the development of the Warburton Mountain Bike Trail. While some options for emergency access are available, the proposed development does not meet standard access requirements. However, the Bushfire Emergency Management Plan recommends upgrades to the existing emergency tracks to improve trafficability.

AM 2.3

A building is designed to be responsive to the landscape risk and reduce the accumulation of debris and entry of embers impact of bushfire on the building.

Proposal meets measure? Yes No N/A

4.4 Defendable space and construction

Clause 53.02–4.2 Objective

Defendable space and building construction mitigate the effect of flame contact, radiant heat and embers on buildings.

Clause 53.02–4.2 Approved measures

AM 3.1

A building used for a dwelling (including an extension or alteration to a dwelling), a dependant person’s unit, industry, office or retail premises is provided with defendable space in accordance with:

- Table 2 Columns A, B or C of Table 2 and Table 6 to Clause 53.02–5 wholly within the title boundaries of the land; or
- If there are significant siting constraints, Table 2 Column D and Table 6 to Clause 53.02–5.

The building is constructed to the bushfire attack level that corresponds to the defendable space provided in accordance with Table 2 to Clause 53.02–5.

Proposal meets measure? Yes No N/A

AM 3.2

A building used for accommodation (other than a dwelling or dependent person’s unit), a child care centre, an education centre, a hospital, leisure and recreation or a place of assembly is:

- Provided with defendable space in accordance with Table 3 and Table 6 to Clause 53.02–5 wholly within the title boundaries of the land.
- Constructed to a bushfire attack level of BAL12.5.

Proposal meets measure? Yes No N/A

The standards for Defendable Space are not proposed for this project due to the following reasons:

- Defendable space cannot be implemented across the project area without undermining the key objectives of this proposal and the current land use. The intent of this project is to provide a nature-based experience for mountain bike users. Clearing vegetation to create defendable space would be incompatible with the land zoning (typically Public Conservation and Resource Zone) and the land management objectives of Parks Victoria within the Yarra Ranges National Park and the land management objectives of DELWP within the Yarra State Forest.
- Given the proposal does not include ‘buildings’, the defendable space objectives outlined in table 2 and 3 of clause 53.02 do not apply.

4.5 Water supply and access

Clause 53.02–4.3 Objective

A static water supply is provided to assist in protecting property.

Vehicle access is designed and constructed to enhance safety in the event of a bushfire.

Clause 53.02– Approved measures (Water Supply)

AM 4.1

A building used for a dwelling (including an extension or alteration to a dwelling), a dependant person’s unit, industry, office or retail premises is provided with:

- A static water supply for fire fighting and property protection purposes specified in Table 4 to Clause 53.02–5.
- Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02–5.

The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire fighting water supplies.

Proposal meets measure Yes No N/A

AM 4.2

A building used for accommodation (other than a dwelling or dependent person’s unit), child care centre, education centre, hospital, leisure and recreation or place of assembly is provided with:

- A static water supply for fire fighting and property protection purposes of 10,000 litres per 1,500 square metres of floor space up to 40,000 litres.
- Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02–5.
- An integrated approach to risk management that ensures the water supply and access arrangements will be effective based on the characteristics of the likely future occupants including their age, mobility and capacity to evacuate during a bushfire emergency.

The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire fighting water supplies.

Proposal meets measure Yes No N/A

Response to Water Supply Objective

As no buildings are proposed, standard water supply objectives do not apply to this application.

Clause 53.02– Approved measures (Access)

Table 9. Access requirements (Clause 53.02–5, table 5)

Application		
<input type="checkbox"/>	Length of access is less than 30m	There are no design and construction requirements if fire authority access to the water supply is not required under AM4.1.
<input type="checkbox"/>	Length of access is less than 30 metres	Where fire authority access to the water supply is required under AM4.1 fire authority vehicles should be able to get within 4 metres of the water supply outlet.
<input type="checkbox"/>	Length of access is greater than 30 metres	<p>The following design and construction requirements apply:</p> <ul style="list-style-type: none"> • All-weather construction. • A load limit of at least 15 tonnes. • Provide a minimum trafficable width of 3.5 metres. • Be clear of encroachments for at least 0.5 metres on each side and at least 4 metres vertically. • Curves must have a minimum inner radius of 10 metres. • The average grade must be no more than 1 in 7 (14.4%) (8.1°) with a maximum grade of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres. • Dips must have no more than a 1 in 8 (12.5 per cent) (7.1 degrees) entry and exit angle.
<input type="checkbox"/>	Length of access is greater than 100 metres	<p>A turning area for fire fighting vehicles must be provided close to the building by one of the following:</p> <ul style="list-style-type: none"> • A turning circle with a minimum radius of eight metres. • A driveway encircling the dwelling. • The provision of other vehicle turning heads – such as a T or Y head – which meet the specification of Austroad Design for an 8.8 metre Service Vehicle.
<input type="checkbox"/>	Length of access is greater than 200 metres	<p>Passing bays must be provided at least every 200 metres.</p> <ul style="list-style-type: none"> • Passing bays must be a minimum of 20 metres long with a minimum trafficable width of six metres.

Response to Access Objective

Although site access via the network of roads and fire access tracks are an important management component for fire emergency planning, the above objectives do not apply to this proposal due to the lack of buildings associated with this project.

Improvement of existing access tracks and consideration of new access tracks or fire breaks are a key component of the Bushfire Emergency Plan which is the key document that provides appropriate mitigation measures in lieu of standard measures prescribed in the clause 53.02 *Bushfire Planning*.

5. REFERENCES

CFA (2012) *Planning for Bushfire Victoria – Guidelines for Meeting Victoria's Bushfire Planning Requirements*. Country Fire Authority.

CFA (2014a) Standard Permit Conditions Bushfire Management Overlay. Country Fire Authority, Victoria.

CFA (2014b) Water Supply Requirements (Bushfire Management Overlay). Country Fire Authority, Victoria.

CFA (2014c) Access Requirements (Bushfire Management Overlay). Country Fire Authority, Victoria.

DTPLI (2014) Practice Note 65: Preparing and Assessing a Planning Application under the Bushfire Provisions in Planning Schemes, July 2014. Department of Transport, Planning and Local Infrastructure, Government of Victoria, Melbourne.










Appendix 1. Maps

The following maps were produced using QGIS 3.4 using available spatial data and GPS points taken in the field during site-based assessments undertaken by the Practical Ecology Project Team and World Trail Pty Ltd

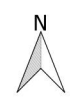
Map A – Project Overview

Warburton Mountain Bike Trail Destination Project

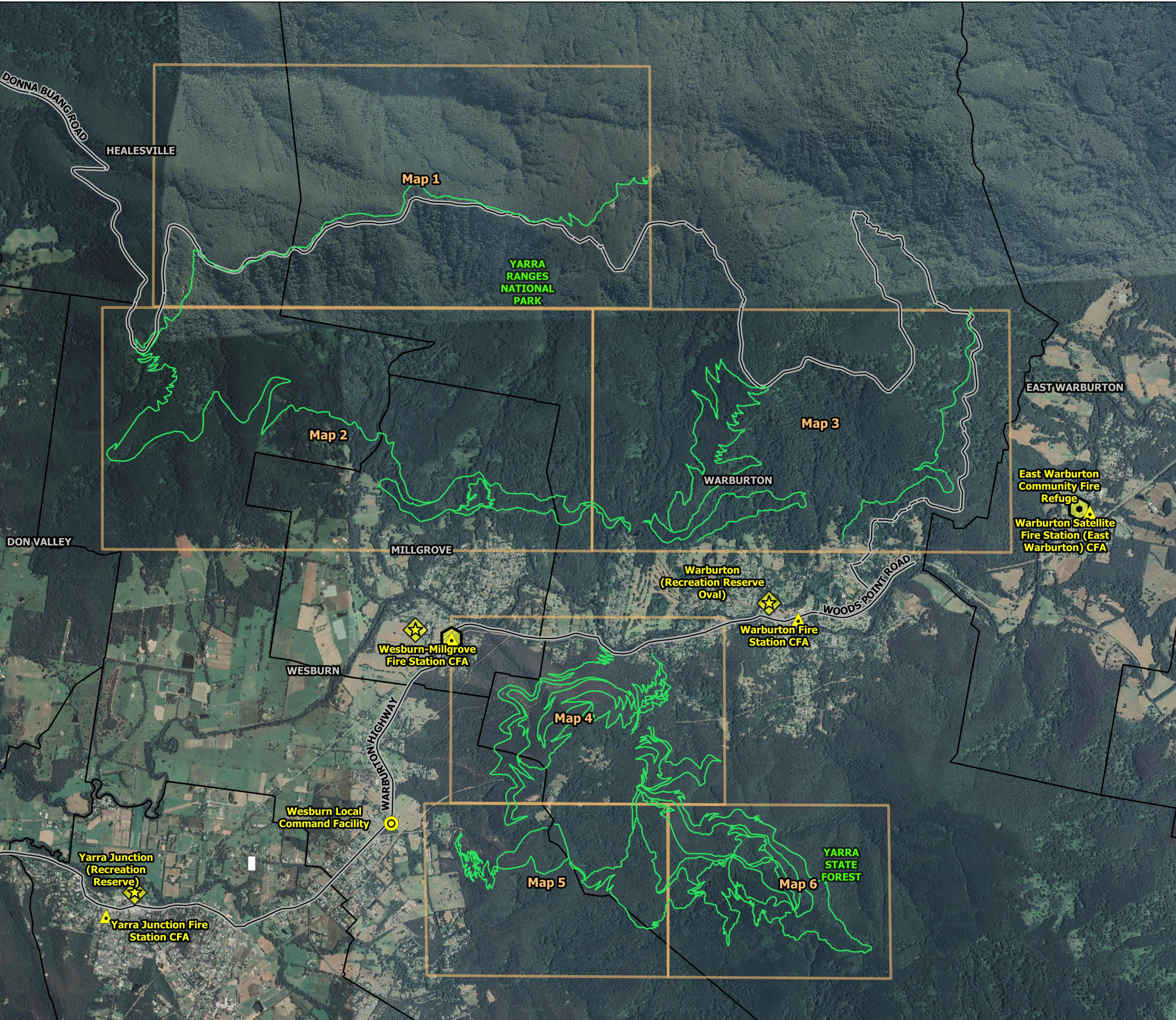
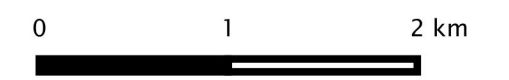
-  Trail Alignment
-  Map Reference
-  Locality Boundary
-  Emergency Coordination Centre
-  Fire station
-  Neighbourhood Safer Place (NSP)
-  Refuge

Details

Date: 15 September 2019
Created by: Greg James










Data Source:
Aerial Photography from Google Earth
Base Map Data copyright State of Victoria
Map Program: QGIS 2.18






Map B – Landscape Hazard Assessment

Warburton Mountain Bike Trail Destination Project

-  Trail Alignment
-  Roads
-  Locality Boundary
-  Emergency Coordination Centre
-  Fire station
-  Neighbourhood Safer Place (NSP)
-  Refuge

Fire History

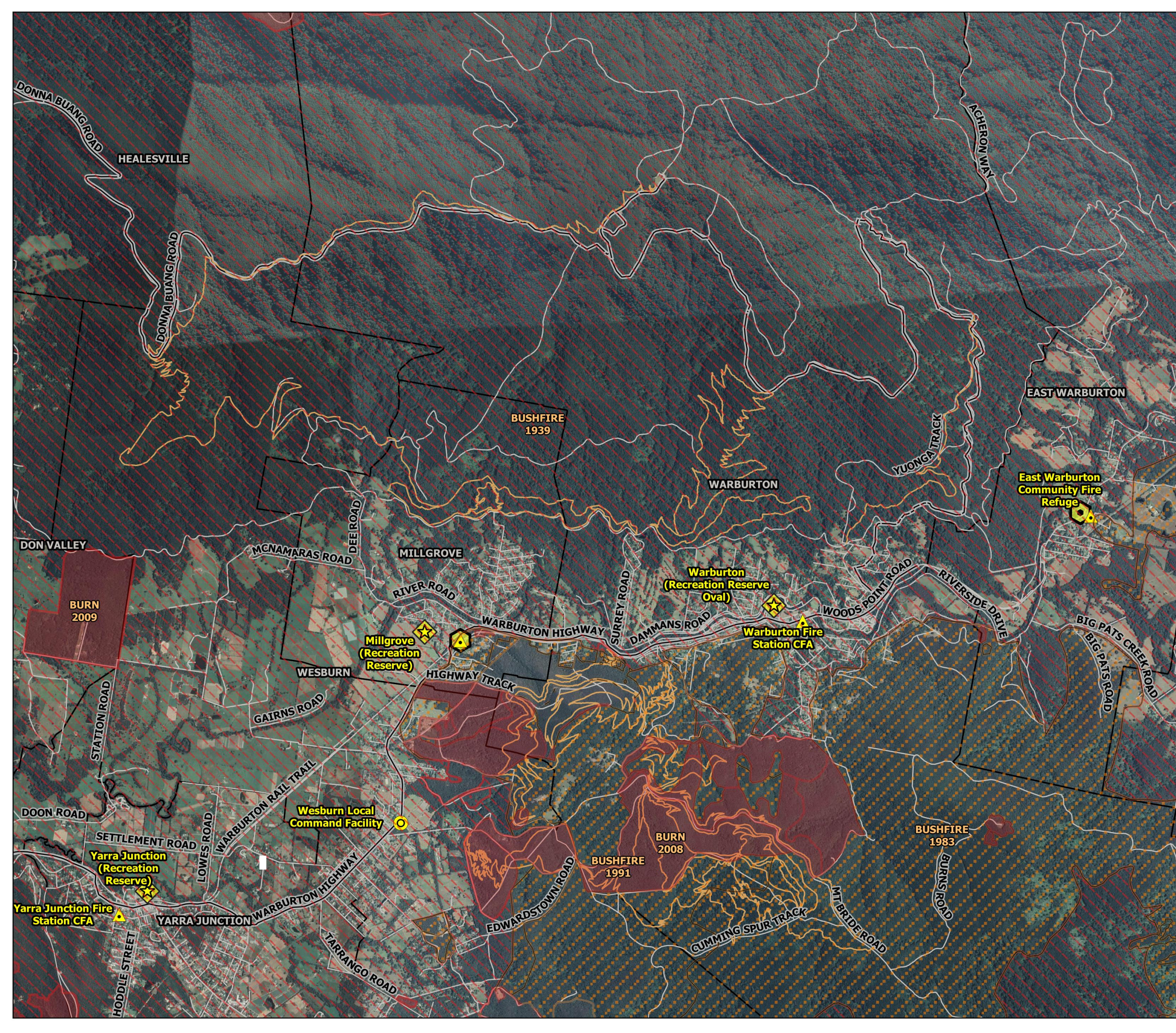
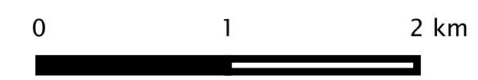
-  1925 - 1975
-  1975 - 2000
-  2001 - 2014

Details

Date: 16 September 2019
 Created by: Greg James



Data Source:
 Aerial Photography from Google Earth
 Base Map Data copyright State of Victoria
 Map Program: QGIS 2.18





- Parcel
- 150 Assessment Area

➔ Slope Measurements
(arrows point upslope)

Trail Network
- - - New Trail

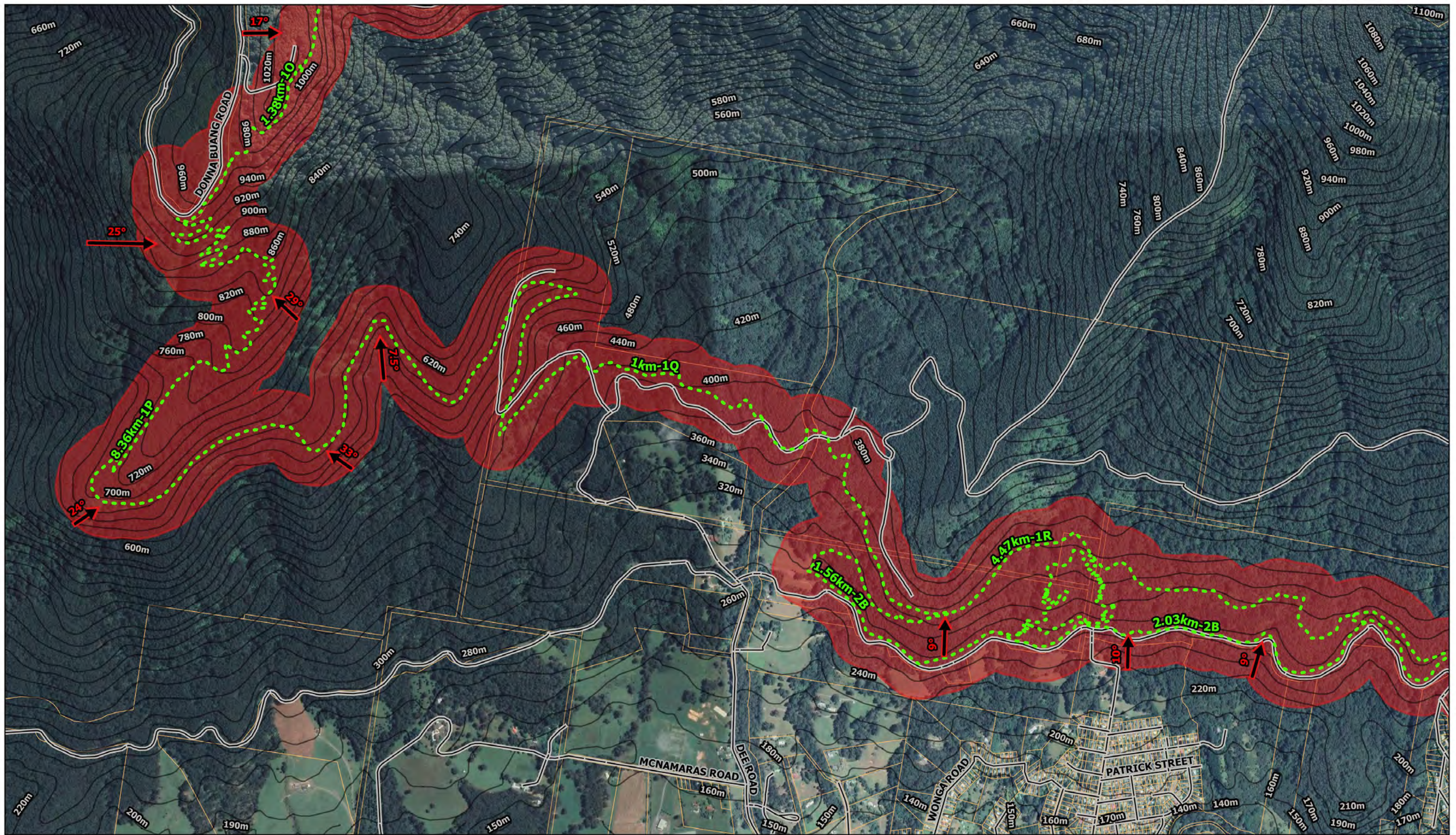
Details
 Date: 15 September 2019
 Created by: Greg James

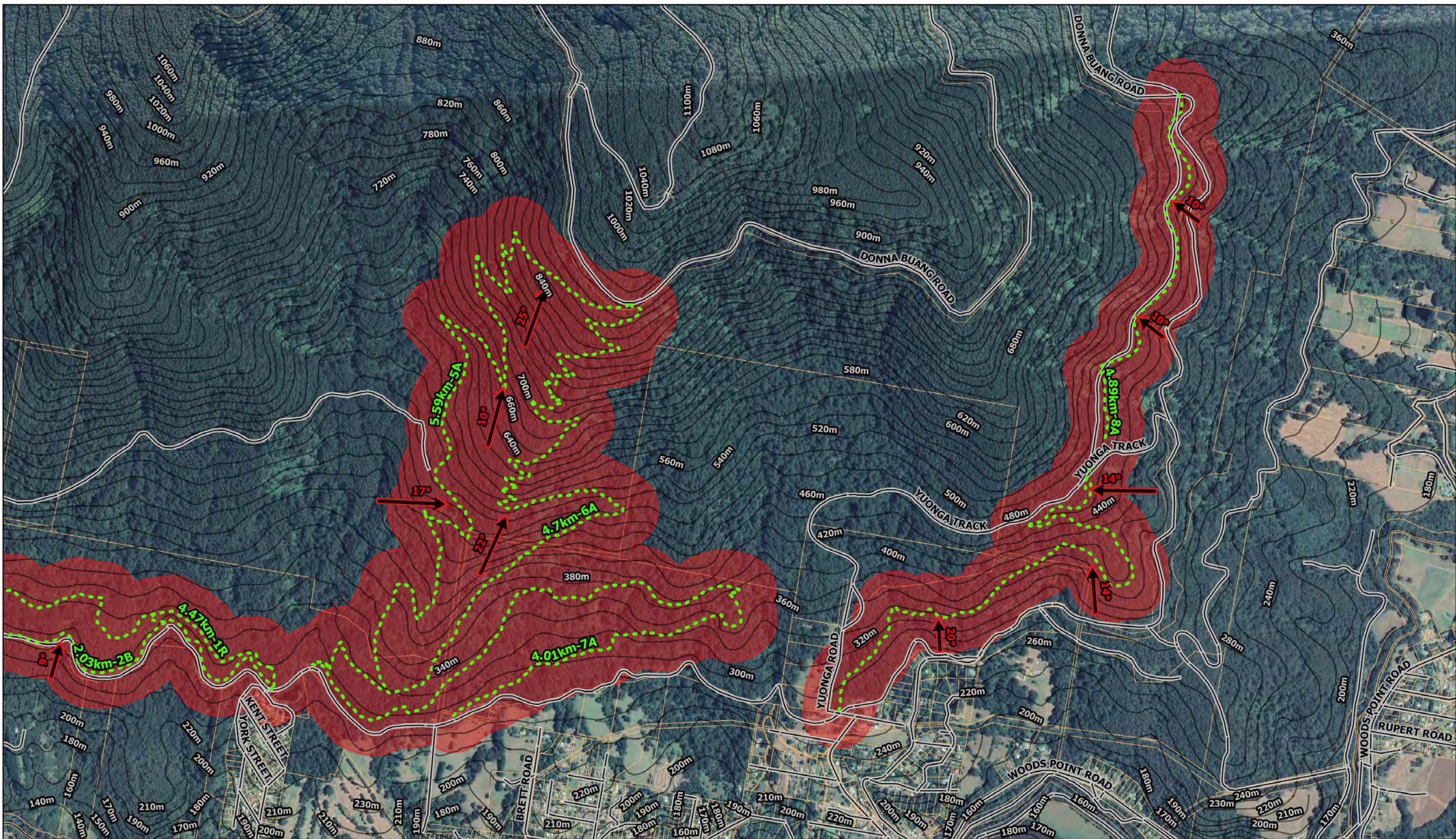
Aerial Photography from Google Earth
 Map Program: QGIS 3.6

Scale (A3): 1:15000

0 200 400 600 800 m

Map 1 of 6 – Site Hazard Assessment
 Mount Donna Buang to Ben Cairn
 Warburton Mountain Bike Trail Destination Project





- Parcel
- 150 Assessment Area

➔ Slope Measurements
(arrows point upslope)

Trail Network
- - - New Trail

Details
 Date: 15 September 2019
 Created by: Greg James

Aerial Photography from Google Earth
 Map Program: QGIS 3.6

Scale (A3): 1:15000

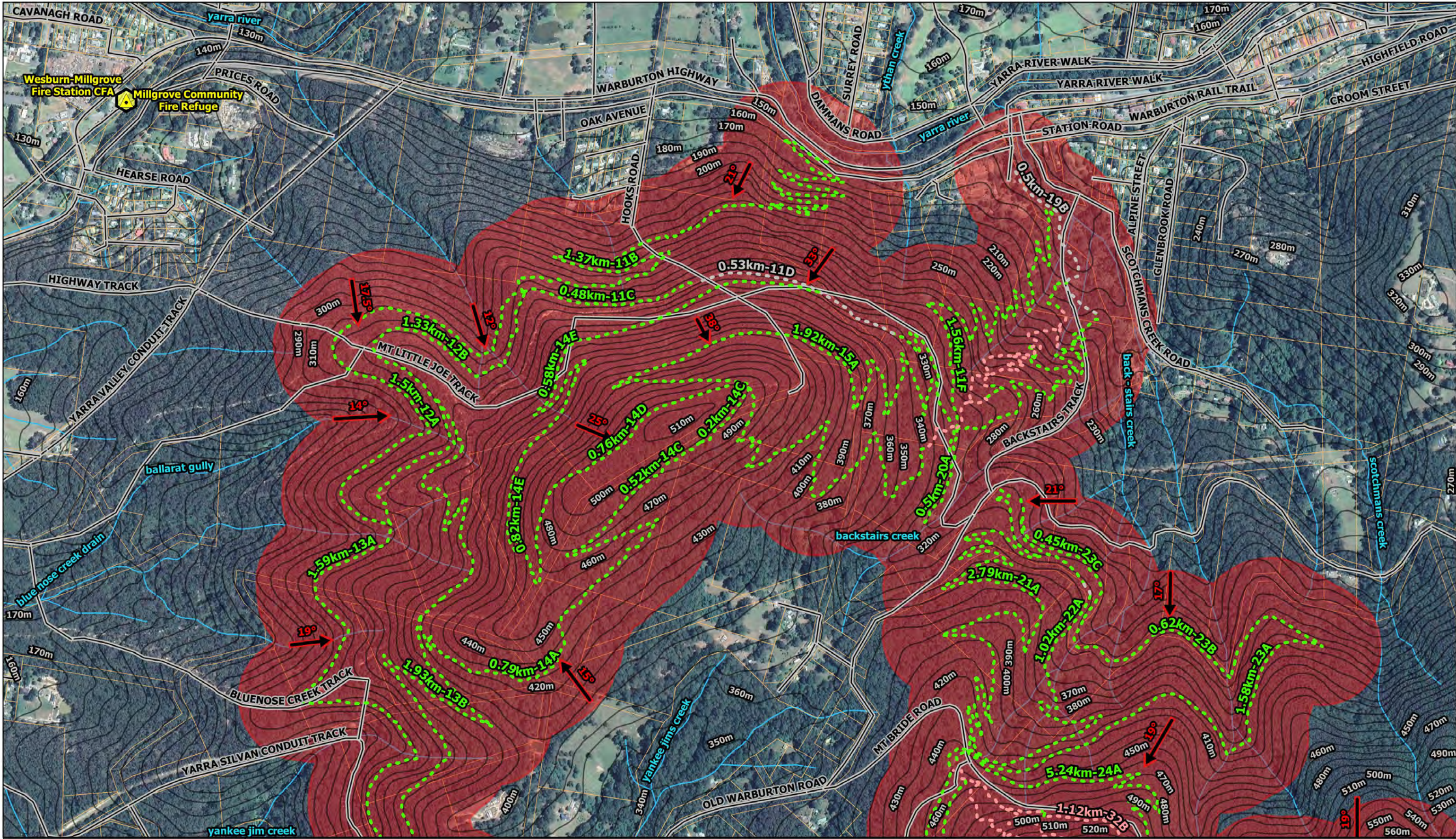
0 200 400 600 800 m

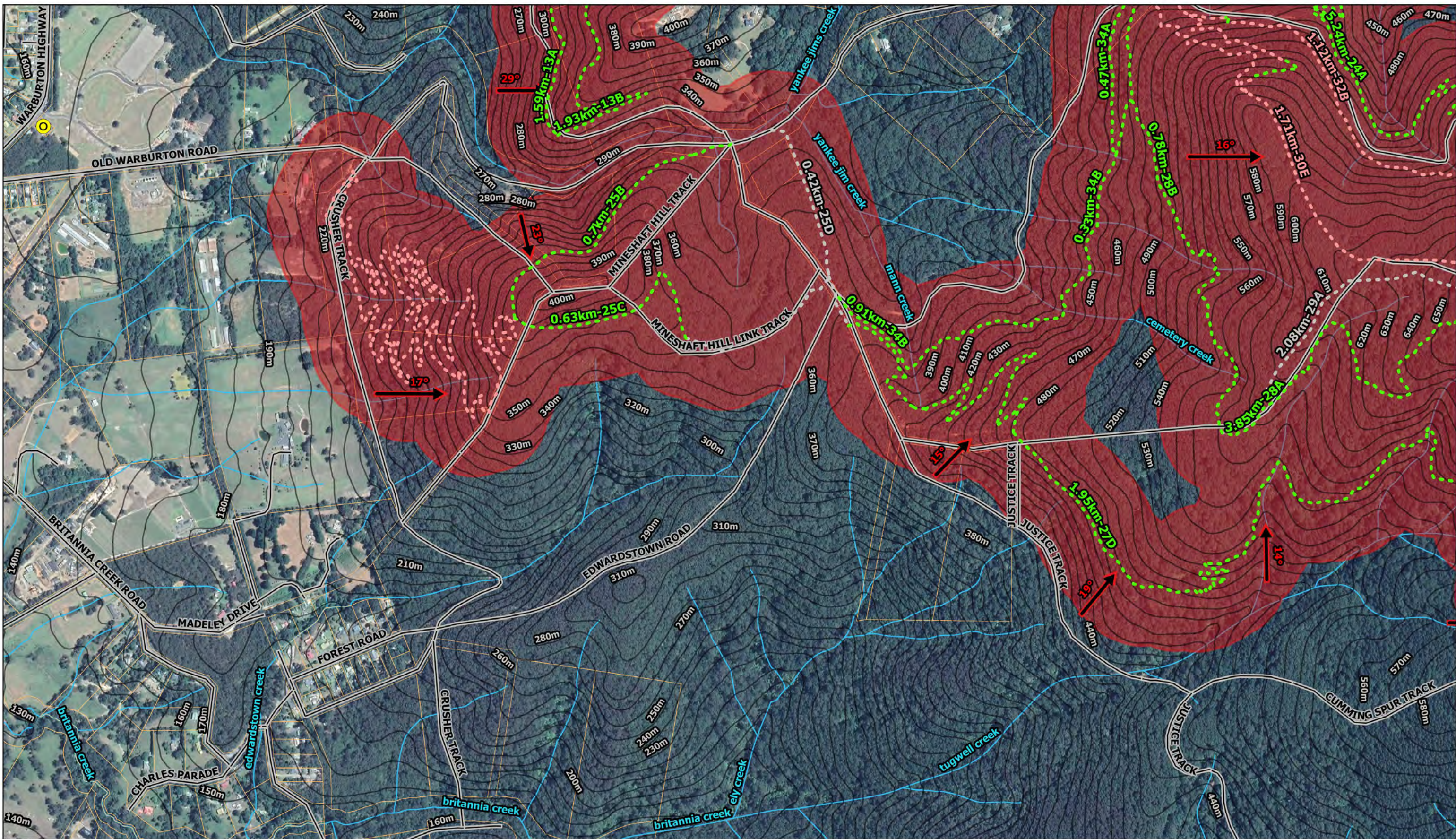


Map 3 of 6 – Site Hazard Assessment

Mount Donna Buang Road to Warburton Golf Course

Warburton Mountain Bike Trail Destination Project





- Parcel
- 150 Assessment Area

Slope Measurements
(arrows point upslope)

- Trail Network**
- Existing Trail
 - Existing Vehicle Track
 - New Trail

Details

Date: 15 September 2019
Created by: Greg James

Aerial Photography from Google Earth
Map Program: QGIS 3.6

Scale (A3): 1:9000

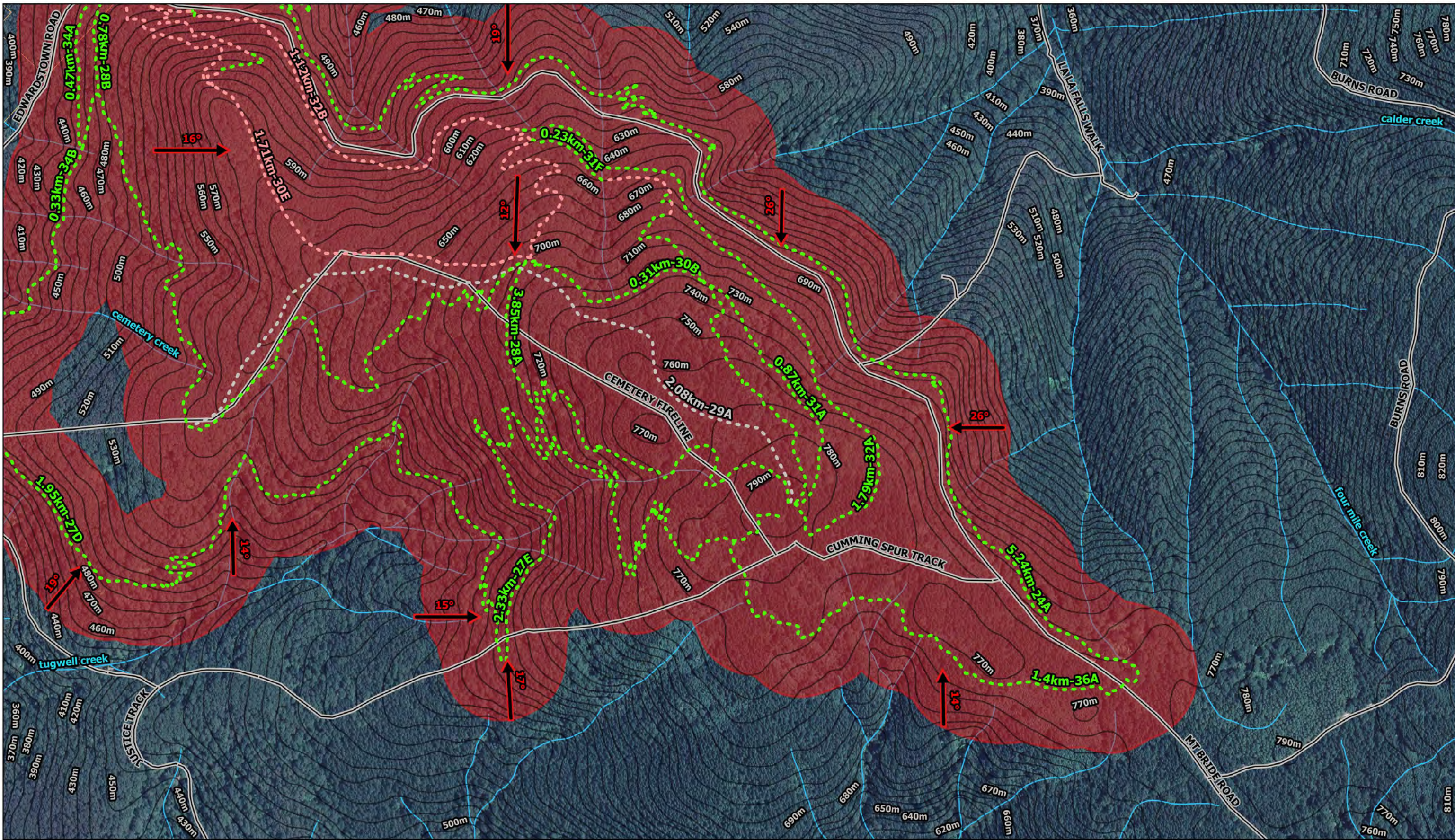
0 120 240 360 480 m



Map 5 of 6 – Site Hazard Assessment

Old Warburton Road to Cumming Spur Track

Warburton Mountain Bike Trail Destination Project



Parcel
 150 Assessment Area

Slope Measurements (arrows point upslope)

Trail Network
 - - - Existing Trail
 - - - Existing Vehicle Track
 - - - New Trail

Details
 Date: 15 September 2019
 Created by: Greg James
 Aerial Photography from Google Earth
 Map Program: QGIS 3.6
 Scale (A3): 1:9000
 0 120 240 360 480 m

Map 6 of 6 – Site Hazard Assessment
 Mount Bride Road Region
 Warburton Mountain Bike Trail Destination Project

Attachment 1 – Bushfire Emergency Management Plan



Bushfire Emergency Management Plan Warburton Bike Trail Destination Project

October 2019

DRAFT – Bushfire Emergency Management Plan Warburton Bike Trail Destination Project

October 2019

Report by Julian Drummond and Greg James

PRACTICAL ECOLOGY Pty Ltd

ACN: 082 911 377 ABN: 88 082 911 377

PO Box 228 Preston VIC 3072

(2B Stott Street Preston Vic 3072)

P: 9484 1555 F: 9484 9133

www.practicalecology.com.au

Prepared for:
Contact:

PE project number: YAR 2769
PE file location:

Version	Date	Author/amended by	Reviewer	Version notes
0.0	03/06/2019	Julian Drummond	Greg James	Pre-draft internal review
0.1				Draft for client review
1.0				Final for submission

© Copyright

Unless otherwise agreed in writing, this report is the intellectual property of Practical Ecology Pty Ltd. It is designed to be used exclusively by the person or organisation that commissioned it. Permission must be sought prior to reproduction of any portion of this document, and every effort made to ensure proper referencing of this document.

Endorsement and approval of plan

XXXX Authorised Representative Name(s)	
XXXX Authorised Representative Signature(s)	
Date	
Emergency Planning Committee Representative Name(s)	
Emergency Planning Committee Representative Signature(s)	
Date	
XXXX Authorised Representative Name(s)	
XXXX Authorised Representative Signature(s)	
Date	

Contents

1. INTRODUCTION	5
1.1 Purpose of this plan	5
1.2 Project Overview	6
1.3 committee of Management	7
1.4 Preliminary Bushfire Precautions	7
2. ROLES AND RESPONSIBILITIES	8
2.1 Emergency Planning Committee (EPC)	8
2.2 Emergency Control Organisation (ECO)	8
3. TRAINING AND INDUCTION	12
3.1 EPC training	12
3.2 ECO training	12
3.3 Visitor induction	12
4. REGISTRATION AND COMMUNICATION SYSTEM	13
4.1 ECO communication systems	13
4.2 Visitor registration	13
4.3 Communication requirements for visitors	13
4.4 Signage	14
5. PREPARATION PROCEDURES	16
5.1 Transport Arrangements	16
5.2 Prior to each declared Fire Danger Period	16
5.3 While The Trail is being used	17
5.4 Pre-emptive Closure	17
5.5 Triggers for Immediate Pre-Emptive Closure and Evacuation	18
6. EMERGENCY PROCEDURES	20
6.1 Evacuation	20
6.2 After a Bushfire	21
Appendix 1. Maps	22
Map A. Overview Map	23
Map 1. Mount Donna Buang to Ben Cairn	24
Map 2. Ben Cairn to O'Shannassy Aqueduct	25
Map 3. Mount Donna Buang Road to Warburton Golf Course	26
Map 4. Rail Trail to Old Warburton Road	27
Map 5. Old Warburton Road to Cumming Spur Track	28
Map 6. Mount Bride Road Region	29
Appendix 2. Emergency Contacts	30
Appendix 3. Emergency Control Organisation Register	31
Appendix 4. Example Sign-in/Sign-out Sheet	32

1. INTRODUCTION

1.1 PURPOSE OF THIS PLAN

This draft plan is developed for Yarra Ranges Council to address bushfire emergency management for the proposed Warburton Bike Trail Destination Project.

THIS IS A PROGRESS REPORT SUBJECT TO THE ASSESSMENT OF AN ADDITIONAL 25–30 KM OF TRAIL

Yarra Ranges Council proposes to construct an extensive network of Mountain Bike Trails near the Warburton Township. Appendix 1, Map A provides an overview of the entire project area.

The trail network is split in two main sections, section 1 consists of 35% of the network and is to the north of the Warburton township within the Yarra Ranges National Park. Section 1 includes 4 trails that lead off from Mt Donna Buang Road. The main trail runs from the Mount Donna Buang Summit in a westerly direction until it reaches the Ben Cairn section of the National Park and then heads south from Donna Buang Road and gradually descends through to the O’Shannassy Aqueduct Trail approximately 1km north of the Warburton Township. The other 3 trails descend from Donna Buang Road further east of the summit road with each of these heading towards the township in the vicinity of the Warburton Golf Course.

Section 2 is to the south of the Warburton Highway and Rail Trail within the Yarra State Forest and includes 65% of the trail network. This area includes Mount Little Joe and Mount Tugwell. A network of trails in the vicinity of Mt Little Joe Track link to the west with the existing Crusher Track towards Wesburn and to the east towards Mt Tugwell in the Cemetery Fireline and Mt Bride Road region.

The total trail length of the project is approximately 180 km.

The primary purpose of this plan is to establish an operational framework for use of the trail with minimal bushfire risk to visitors and emergency services. The aims of the plan are to ensure that:

- trails are not occupied during high risk periods or during a bushfire emergency
- measures are in place to ensure they are not in use, or
- If any remaining trail users can leave the trail as quickly and safely as possible.

For the purpose of this document, a high-risk period is defined as:

- Any day declared as Severe, Extreme Risk or Code Red on trails with access to emergency evacuation points
- Any day declared as High, Very High, Severe, Extreme Risk or Code Red on trails with no access to emergency evacuation points
- Any day where a bushfire occurs within 30 km of the trail alignment

Trail exit points will be signed and numbered to provide locations where trail users can quickly depart the trail onto an established road or fire access track and then proceed to a designated Assembly Area where emergency response vehicles arrange for pick-up. Once trail users are evacuated from a

designated Assembly Area, evacuees will be taken to a designated shelter such as a Neighbourhood Safer Places (NSP) or Fire Refuge, or to a township area if safe to do so. Tour companies and guides will be responsible for the individuals in their group.

Isolated sections of the trail will be closed during the highest risk periods due to the lack of evacuation options during an emergency. Furthermore, a sign-in and warning system will be established for visitors to be alerted to high risk conditions and/or alert emergency services to their location.

As this plan will be based on **PRE-EMPTIVE CLOSURE** and **EVACUATION**, there will be no measure for **SHELTER-IN-PLACE** or other forms of refuge along the trail.

1.2 PROJECT OVERVIEW

Appendix 1 shows an project overview map and a series of detailed maps of the trail including proposed trail heads (areas for car parking and facilities) and possible evacuation and assembly areas in the event of emergency.

Project Description

Section 1 of the trail starts at the Mount Donna Buang Summit (Map 1), then heads west alongside Mount Donna Buang Road until it reaches the Ben Cairn section of the Yarra Ranges National Park (Map 2). Then the trail heads south from Donna Buang Road and gradually descends through to the O'Shannassy Aqueduct Trail approximately 1 km north of the Warburton Township (Maps 3–4). The trail then extends easterly through to the Golf Course. A circular 6km trail continues to the north of the Aqueduct and another trail route traverses the Golf Course (Map 5). From the golf course, the trail continues 4.8 kilometres heading east along the Yarra River. The overall length of section 1 is approximately 45.9 km.

Section 2 is within Mount Tugwell and Mount Little Joe. The main trail head and departure point is the most southerly point of the project at Mt Bride Road (Map 8). This location is approximately 760m ASL. The trail mostly descends through various trail networks and concludes at 150m ASL as it connects with the existing Warburton Rail Trail opposite Surrey Road. The overall length of section 2 is approximately 53.4 km, which includes 8.5 km of existing trails.

Proposed Buildings and Works

The proposal involves installation of new trails and the upgrading of previously existing trails which will be constructed with a small traxcavator. In addition to the main trails, 3 Trail heads will be established to provide car parking and facilities at Mount Donna Buang Summit (Map 1), Warburton Golf Course (Map 5) and Mount Bride (Map 8). Signage will also be installed along trails indicating distances and track difficulty along with signage at designated Assembly Areas in the event of emergency. Gates will be installed at various sections along the track to restrict access during high risk periods.

1.3 COMMITTEE OF MANAGEMENT

The operation of the Mountain Bike Trail will be coordinated by a Committee of Management including an Emergency Planning Committee (EPC) and Emergency Control Organisation (ECO). Primary contact details for the Committee of Management are listed below.

Contact details

Site address:	TBA
Primary contact:	TBA
Position:	TBA
Contact Details	TBA
Secondary contact:	TBA
Position:	TBA
Contact Details	TBA

1.4 PRELIMINARY BUSHFIRE PRECAUTIONS

Regardless of the proposed measures and the operation of emergency plans, established rules and regulations must apply to all visitors to minimise the chance of exposure to fire as outlined below:

- No smoking allowed along the trail
- No campfires or naked flames allowed along the trail at any time
- No camping is permitted anywhere along the trail.
- Organised tours will determine group size based on their safety and company procedures (these groups will be responsible for their own safety and transport)
- Visitors and tour operators will be required to notify the appropriate authorities when using the trail including the location and time entering the trail, and number of people in the tour group.
- Visitors will be required to carry some form of communication/notification device (mobile phone/tablet, emergency beacon, radio, etc.) with them at all times while on the trail.

2. ROLES AND RESPONSIBILITIES

Considering the extent of the proposed trail and the primary aim to have no riders present during high risk periods, only a small number of trained personnel will be required to assist with evacuation of any remaining riders.

2.1 EMERGENCY PLANNING COMMITTEE (EPC)

An Emergency Planning Committee (EPC) will need to be established to enact and review this plan. The EPC shall be responsible to:

- Establish and implement emergency plans and procedures
- Resource, educate and train personnel to perform emergency plans
- Make all trail users aware of the emergency procedures and make the emergency plan readily available
- Ensure that the emergency plan is readily identifiable and available to the tour operators, public land managers and other stakeholders
- Appoint a Trail Warden to establish an Emergency Control Organization (ECO) to operate in accordance with the emergency plan, and
- Review and update the Bushfire Emergency Management Plan on an annual basis.

While this Plan is in relation to bushfire, the EPC should also:

- Identify other events that could reasonably produce emergency situations (e.g. floods, storms and injury to trail users)
- Develop other relevant emergency response plans.

EMERGENCY CONTROL ORGANISATION (ECO)

The EPC will appoint a Trail Warden who will be responsible for appointing and overseeing an Emergency Control Organization (ECO) which will be responsible for undertaking the emergency procedures in this plan. A short training course will be required for the individual appointed as Trail Warden (see Section 3).

The primary role of the ECO is to give top priority to the safety of the visitors of the trail during an emergency and/or when the trail needs to be evacuated due to increased risk of emergency. Life safety shall take precedence over asset protection during an emergency.

Note that during emergencies, instructions given by the Trail Warden and other emergency control personnel shall take precedence over the normal management structure. Authority given to the ECO to act during an emergency must be acknowledged by the facility owners, occupiers and any employers as part of the Emergency planning activities.

The following table provides an overview of the roles and responsibilities within the ECO. The Trail Warden must appoint ECO members and ensure they are adequately trained (see Section 3). A

minimum of two ECO members must be appointed for each section of the trail during the Fire Danger Period. A Trail Warden and Deputy Trail Warden will be sufficient for periods outside of the Fire Danger Period.

See Appendix 3 for an example Emergency Control Organisation Register.

Table 1. Emergency Control Organization (ECO) Overview of Roles and Responsibilities

Role	Responsibility/description
Trail Warden	<p>The Trail Warden will be responsible for overseeing the procedures in this plan including:</p> <p>Pre-emergency:</p> <ul style="list-style-type: none"> • Arranging briefings, emergency exercises and training drills • Arranging daily briefings during the fire danger period and updates regarding conditions and track closures. • Maintain a register of emergency control organization (ECO) members • Arrange training for persons responsible in emergency procedures • Ensure transport is available in the event of evacuation • Ensure that emergency communication contact details are up-to-date and communication systems are functional • Review the effectiveness of emergency procedure exercises and arrange for procedural improvements <p>Emergency:</p> <ul style="list-style-type: none"> • Ascertain the nature and location of the emergency in collaboration with the ECO • Contact and liaise with CFA and other emergency services and advise wardens on the required course of action • Oversee and coordinate responses during emergency • Account for all persons during the emergency procedures • Assist in the evacuation of visitors from designated Assembly Points where required

Role	Responsibility/description
<p>Deputy Trail Warden</p>	<p>The Deputy Trail Warden shall assume the responsibilities normally carried out by the Trail Warden if the Trail Warden is unavailable, and otherwise assist as directed by the Chief Fire Warden. Otherwise, the general duties of the Deputy Warden include:</p> <p>Pre-emergency:</p> <ul style="list-style-type: none"> • Induction and education of visitors in emergency response procedures • Maintaining records of visitor's arrival and departure from the trail and overseeing the online sign-in information and tour bookings • Oversee preparation of vehicles required to meet evacuees at Assembly Points • Monitor conditions at Trail Heads. • Ensure personal proficiency in operation of communication equipment • Ensure the emergency communication system is functional. This includes online emergency notification systems, radios, mobile phones and signage • Assist the trail warden in emergency exercises and training drills <p>Emergency:</p> <ul style="list-style-type: none"> • Notify appropriate ECO members • Monitoring for warnings and advice from the CFA via mobile phones (using the official websites and the Fireready App. with a 30km watch radius), radio and landline communication • Ascertain nature and location of the emergency so that the appropriate emergency service is contacted in collaboration with the ECO • Ascertain conditions at Trail Heads to determine safety for visitors • Oversee communications, warnings and the evacuation of the trail where appropriate • Communicate instructions and information. • Record a log of the events that occurred during the emergency. • Act as directed by the Trail Warden.

Role	Responsibility/description
<p>Area Wardens</p>	<p>Area Wardens will be primarily responsible for assisting with the evacuation of visitors from Emergency Assembly Points in the event of pre-emptive closure. These duties will include:</p> <ul style="list-style-type: none"> • Monitoring for warnings and advice from the CFA via mobile phones (using the official websites and the Fireready App. with a 30km watch radius), radio and landline communication • Driving designated vehicles to designated Assembly Points and collecting visitors once an evacuation request has been received • Providing first aid if necessary and contacting emergency services if additional support is required • Providing transport for visitors to a NSP or Fire Refuge in the event of an emergency or to the appropriate trail head, and if safe to do so they can proceed away from the area • Act as directed by the Trail Warden and/or Deputy Trail Warden <p>NOTE:</p> <ul style="list-style-type: none"> • Wardens will not be responsible for groups on guided tours but will assist tour guides if necessary. The safe evacuation of visitors that are part of guided tours is the responsibility of the Tour Company and guide • Wardens will not be permitted to enter the track in search of visitors. If visitors require evacuation but are unable to reach an Assembly Point due to injury and/or trail conditions; emergency services will be contacted to assist • Wardens will only undertake evacuation of visitors if it is deemed safe to do so by the CFA. Emergency services will provide emergency services if area is considered unsafe.

3. TRAINING AND INDUCTION

3.1 EPC TRAINING

Training of the Emergency Planning Committee shall be conducted for at least fifty percent of EPC members, to enable the EPC to competently execute its obligations. Training shall be in accordance with the Australia Standard for Planning for Emergencies and Facilities (AS3745–2010).

3.2 ECO TRAINING

An appointed Emergency Control Organisation member must be present during trail operational hours. Training and induction relevant to the duties required must be performed before the individual is appointed as an ECO member. Training shall be in accordance with AS3745–2010.

3.3 VISITOR INDUCTION

The following information will be provided for all visitors upon signing in (all visitors and tour groups will be required to sign in before being allowed access to the track) and will also be available on any promotional/information material for the proposal trail:

1. A list of the safety equipment required for all visitors:
 - a. Bike Helmets and other personal protective gear
 - b. Communication/notification device (mobile phone/tablet, radio, emergency beacon, etc.) containing the FireReady App. and/or another authorised notification system to alert visitors of relevant changes in conditions.
 - c. Appropriate first aid equipment and other supplies (water, food, etc.)
 - d. Contact details of emergency services and ECO members to arrange safe egress where appropriate and/or notify of status in the event of an emergency
2. Current weather and bushfire reports
3. Maps showing the location of trails, Trail Heads, emergency access/egress points, gated entrances, Fire Refuges and Neighbourhood Safer Places (see **Error! Reference source not found.**).
4. Details on track closure including:
 - a. List of tracks which will be closed for the duration of the Fire Danger Period
 - b. Conditions under which all tracks will be closed (Pre-emptive Closure)
5. Emergency/evacuation procedures in the event of Pre-emptive Closure and/or a bushfire emergency.

Tour companies and guides will be responsible for providing this information to any visitors in their group.

4. REGISTRATION AND COMMUNICATION SYSTEM

4.1 ECO COMMUNICATION SYSTEMS

All designated vehicles must be equipped with a short wave radio which will be managed by the Trail Warden and/or Deputy Trail Warden during evacuation proceedings. Area Wardens will also have mobile phones with contact numbers of the Trail Warden and/or Deputy Trail Warden and the CFA. Communication systems will be used to coordinate visitor transport from Assembly Points to Safer Assembly Areas (NSPs or Fire Refuges) or appropriate Trail Heads and inform Area Wardens of conditions and potential risks.

4.2 VISITOR REGISTRATION

All visitors will be required to contact the Deputy Trail Warden prior to entering the trail to register their presence via phone or in person at the visitor centres or fill in the online sign-in sheet. Information to be provided will need to include:

- Name and contact details while they are on the trail
- Number of visitors travelling in a group and their designation (adults, children etc.)
- The trails they intend to visit
- Number of people travelling in their group
- Estimated time of return

See Appendix 4 for an example sign-in sheet. Tour companies and guides will be required to submit this information prior to taking a group onto the trails a minimum of one day in advance. The individual signing in and/or the tour companies and guides will be responsible for the people in their group.

4.3 COMMUNICATION REQUIREMENTS FOR VISITORS

In addition to contact information collected by the ECO, visitors will also be recommended (and be instructed on how) to download the Vic Emergency or similar emergency apps onto their phone/tablet if available. The Warburton Bike Trail will be included on these apps as a registered location so visitors can be immediately notified of the need to vacate the area due to pre-emptive closure or the need to evacuate.

In the event of a Pre-emptive Closure or bushfire emergency, the Trail Warden and Deputy Trail Warden will contact all tour companies and guides and individuals and determine the best course of action based on their location. In the event of bushfire emergency, individuals who have driven to one of the Trail Heads will be required to inform the Trail Warden or Deputy Trail Warden to determine if it is safe to return to their vehicle or if another location is advised.

Wardens will also contact individuals if they have not checked out after their estimated time of return. Details on the sign-in sheet can be changed due to an extension in the estimated time of return. If contact cannot be established with visitors then emergency services and/or other authorities (National Park Rangers, Tour Companies, etc.) will be contacted at the Trail Warden’s discretion.

The individual signing in and/or the tour companies and guides will be responsible for the people in their group and any costs incurred from attempted rescue or recovery efforts due to procedural failure.

4.4 SIGNAGE

Signage will be required at various points along the trail and within the associated facilities. Table 2 outlines signage locations and information signage should contain.

Table 2. Required signage and information to be presented.

Location	Information to be presented
Main Office (information board)	<ul style="list-style-type: none"> • Maps of all trails • Details of trail difficulty and estimated time for completion • Details on sign-in/out procedures • Details on closed trails • Regularly updated weather reports • Current bushfire conditions and fire rating • Details on Pre-Emptive Closure and Evacuation procedures including Assembly Points and NSP or Fire Refuge • Details on how to obtain notification apps and be updated on when conditions change • Details on personal safety and required equipment for all visitors • Current status on all trails based on bushfire condition (OPEN/CLOSED)
Trail Heads (Information board)	<ul style="list-style-type: none"> • Maps of all trails • Details on sign-in/out procedures • Details on closed trails • Regularly updated weather reports • Current bushfire conditions and fire rating • Details on Pre-Emptive Closure and Evacuation procedures including Assembly Points and NSP or Fire Refuge • Details on how to obtain notification apps and be updated on when conditions change • Details on personal safety and required equipment for all visitors • Current status on all trails based on bushfire condition (OPEN/CLOSED)
All trail entrances/exits	<ul style="list-style-type: none"> • Details on the trail at starting point (distance, trail difficulty, estimated time for completion, return/on-way) • Details on Assembly Points (number of points, average distance between points)

Location	Information to be presented
Gated trail entrances/exits	<ul style="list-style-type: none"> • Details on the trail at starting point (distance, trail difficulty, estimated time for completion) • Details on Assembly Points (number of points, average distance between points) • Details regarding closure of trail (if gate is locked then visitors are not permitted past this point due to increased bushfire risk)
Assembly Points	<ul style="list-style-type: none"> • Signs are to be placed at Assembly Points and at the path intersection which leads from the trail to the Assembly Point • Assembly Point reference number • Contact details for Trail Warden/Deputy Trail Warden • Evacuation details based on location of Assembly Point

5. PREPARATION PROCEDURES

This section provides direction on procedures to be followed to prepare for a bushfire emergency. Reference is to be made to other relevant sections of this document where necessary to complete the procedure.

The ultimate responsibility in enacting these procedures is with the Trail Warden.

5.1 TRANSPORT ARRANGEMENTS

Visitors and tour companies and guides will be responsible for their own transport to and from the trail. Evacuation procedures will detail best course of action based on location including whether it is safe to return to a Trail Head. Visitors will be advised to return to their vehicles and proceed out of the area, be provided with emergency transport back to their vehicles or be provided with transport to a main Assembly Area to seek refuge.

Tour companies and guides will provide evacuation transport if required and be responsible for their group evacuating the site. Area Wardens will assist if required but should not be expected to provide transport for guided tour groups. Guided tours will be required to have a guide leading the tour and a driver with their transport available at all times. In the event of Pre-Emptive Closure and/or Evacuation; guides will be advised to contact their drivers directly and arrange immediate transport out of the area while coordinating with the ECO on the safest means to do so.

5.2 PRIOR TO EACH DECLARED FIRE DANGER PERIOD

The EPC and ECO must:

- Ensure this Plan is up-to date (review annually)
- Ensure that the roles and responsibilities of the ECO are fulfilled in accordance with this Plan
- Ensure that members of the ECO are appropriately trained
- Ensure access/egress for vehicles and trails are prepared and maintained
- Ensure associated roads and access ways are clear and maintained in accordance with CFA Access Requirements
- Ensure all signage is in place
- Ensure transport vehicles are maintained so individuals can be safely collected at Assembly Points during a bushfire emergency or pre-emptive evacuation
- Maintain a sign-in/out sheet which must be filled in when visitors are using the trails and returning from the site to ensure all visitors are accounted for.
- Ensure Trail Heads are maintained in accordance with CFA Access Requirements.
- Ensure trails designated for closure during the Fire Danger Period are closed and secured.
- Confirm off-site evacuation locations for potential use during a bushfire emergency.
- Monitor weather forecast for need of pre-emptive closure

5.3 WHILE THE TRAIL IS BEING USED

While the trail is being used, the ECO and EPC must ensure that:

- the roles and responsibilities of the ECO are fulfilled in accordance with this Plan
- Maintain communication with ECO
- Monitor weather forecast for need of pre-emptive evacuation
- A range of online sources are accessed constantly to inform of a bushfire event in the local area including:
 - The Vic Emergency App with a 30km watch zone is on the mobile devices of the management committee.
 - CFA website to monitor bushfire warnings (e.g. Incidents and Warnings at <http://emergency.vic.gov.au>)
 - FM Radio.
 - and online media.
- Ensure roads and access ways are clear and maintained in accordance with CFA Access Requirements
- Ensure signage is maintained
- Ensure that on arrival, individuals are directed to the information signage which includes bushfire safety procedures and maps
- Provide an information board with weather, fire danger rating and total fire ban forecasts
- Ensure total fire ban restrictions are followed

5.4 PRE-EMPTIVE CLOSURE

Designated trail closure during declared Fire Danger Period

Some trails and/or sections of trails are not safe to be used during the declared Fire Danger Period or on severe fire danger days due to their isolation, steep terrain and lack of available evacuation options during an emergency. These trails will have lockable gates installed at their entrances and signage posted stating the closure of the trail, the bushfire risk to the area and that any visitors who proceed and ignore these warnings do so at their own risk.

Though subject to review, at this stage, the trail sections to be closed during days of Severe, Extreme Risk or Code Red are listed below (gates and associated signage will be required at each end of the designated trail):

- Drop AK Bottom Track from the along Donna Buang Road entrance (Map 3) until the Dee River crossing (Map 4).
- The Tugwell Flow Top and Tugwell Climb Top (Map 8)

Full Trail Closure

The Trail Warden must order all trails to be closed for the following day if the day is forecast to have Extreme or Code Red Fire Danger Ratings. Existing sign-ins must be cancelled or postponed if the 4.30pm Bureau of Meteorology forecast issues an Extreme or Code Red Fire warning prior to the planned riding day.

In the event full trail closure is necessary, the following procedures must be followed:

- All relevant parties (tour companies, guides and individuals on the sign-in sheets) must be notified immediately and informed that the trails will be unavailable until further notice.
- All online promotional material must be updated to indicate the trail will be closed until further notice.
- All appropriate signage and information boards must be updated to indicate the trails are closed.
- Authorities must be notified that any individuals observed on the trails or likely to be using the trails must be informed that the trails are closed and they are using them at their own risk.
- The Trail Warden will continue to monitor the area until the above conditions are no longer met until the trails can be reopened to the public (information material/signage can be updated and relevant parties informed that the trails can be used safely).

5.5 TRIGGERS FOR IMMEDIATE PRE-EMPTIVE CLOSURE AND EVACUATION

The Trail Warden must order evacuation of the trails when occupied:

- if the Bureau of Meteorology forecast that the following day is of Extreme Fire Danger Rating; the site must be evacuated prior to 10am of the day following the forecast
- if the 4.30pm Bureau of Meteorology forecast for the following day is CODE RED Fire Danger Rating the site must be evacuated by 6 am on the day of CODE RED conditions.
- if a bushfire is recorded with 30km of the Township of Warburton during the Fire Danger Period.

In the event of a bushfire in the surrounding area regardless of conditions listed above:

- a. Trail Warden will ensure that the roles and responsibilities of the ECO are fulfilled in accordance with this Plan
- b. Establish fire situation:
 - Call 000 if fire originates within the trail or it is otherwise necessary to report fire
 - Utilise online media, local radio, etc.
 - Contact the local Fire Control Centre/Fire Brigade for fire situation & update

- Advise local emergency services that the retreat is in operation
 - Consider deploying ECO member for reconnaissance of local area or to vantage point if safe to do
- c. Inform visitors of the fire situation
- d. Prepare for evacuation to take place where necessary

Visitors will follow standard evacuation procedures when instructed to do so by the Trail Warden.

6. EMERGENCY PROCEDURES

This section provides direction on procedures to be followed in the event of a bushfire emergency . Reference is to be made to other relevant sections of this document where necessary to complete the procedure.

The ultimate responsibility in enacting these procedures is with the Trail Warden.

6.1 EVACUATION

When it has been determined in agreement with the emergency services that the trails will be evacuated, the following procedures shall be enacted.

- a. Trail Warden will ensure that the roles and responsibilities of the ECO are fulfilled in accordance with this Plan
- b. Maintain communication with emergency services regarding evacuation
- c. Inform visitors and advise on emergency procedures including:
 - Where visitors are at trail heads, all will be advised on how to proceed; this may be to stay put until emergency services arrive or to return to their vehicles and leave the area if it is considered safe and practical to do so (details will be provided on safe evacuation routes)
 - Where riders are on the trails, all will be contacted by mobile phone/device and be advised on how to proceed e.g. to the nearest Assembly Point or trail head or contact their transport (if part of a tour group) for immediate pick-up
 - The Trail Warden and Deputy Trail Warden will assess information from emergency services regarding whether pick-up is safe and will have them provide assistance if risk is high.
 - If circumstances prevent the prompt return to vehicles or the visitors do not have alternative transport, Area Wardens will provide or facilitate emergency transport and will meet visitors at the closest Assembly Point or trail head (visitors will proceed to closest Assembly Point and trail head and inform Trail Warden of their location).
 - Riders must be prepared to abandon bikes if told to do so
- d. Visitors are responsible for reaching Assembly Points and trail heads and Area Wardens are not permitted to enter trails in search of visitors. If visitors are unable to reach an Assembly Point due to conditions or injury, emergency services will be required to provide assistance.
- e. The Area Wardens will advise on the locations and routes to Safer Assembly Areas (Fire Refuges or Neighbourhood Safer Places), which will provide safer destinations in the event of a bushfire. Area Wardens will provide or facilitate transport to a Safer Assembly Areas if it is deemed unsafe for individuals return to their vehicles.
- f. Safer Assembly Areas are to be selected through consultation with emergency services for the best location with the safest egress. Options will be based on the location of visitors to

be evacuated and advice from emergency services and the Trail Warden. A list of the Safer Assembly Areas is listed below and displayed on 0:

- East Warburton Community Fire Refuge
 - Warburton Recreation Reserve Oval Neighbourhood Safer Place (NSP)
 - Milgrove (Recreation Reserve) NSP
 - Wesburn Milgrove Fire Station CFA
 - Yarra Junction (Recreation Reserve) NSP
- g. Continue to monitor fire conditions to ensure plans for evacuation is not threatened
- h. Trail Warden (or nominated ECO member) to monitor conditions and determine with emergency services when danger period has passed.

6.2 AFTER A BUSHFIRE

When the bushfire threat has passed:

- a. No person should return to the site unless approved by the Trail Warden and emergency services.
- b. After authorities have notified the Chief Fire Warden that conditions are safe, only then can people return to collect bikes or other belongings left during emergency evacuation.
- c. Provide support for ECO and attendees
- d. Undertake a debrief session to review the event, procedures undertaken and revision of this plan



Appendix 1. Maps

The following maps were produced in QGIS format with spatial layers taken from government databases and project surveys including.

- Aerial photography available through Google Earth (AusMap)
- VicMap Emergency Facilities Database
- VicMap layers (parcel, roads, waterways and locality boundaries)
- Survey points taken in the field
- Trail alignments produced by World Trail Pty Ltd

Map A – Project Overview

Warburton Mountain Bike Trail Destination Project

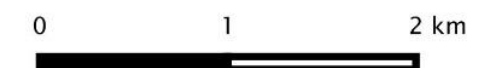
-  Trail Alignment
-  Map Reference
-  Locality Boundary
-  Emergency Coordination Centre
-  Fire station
-  Neighbourhood Safer Place (NSP)
-  Refuge

Details

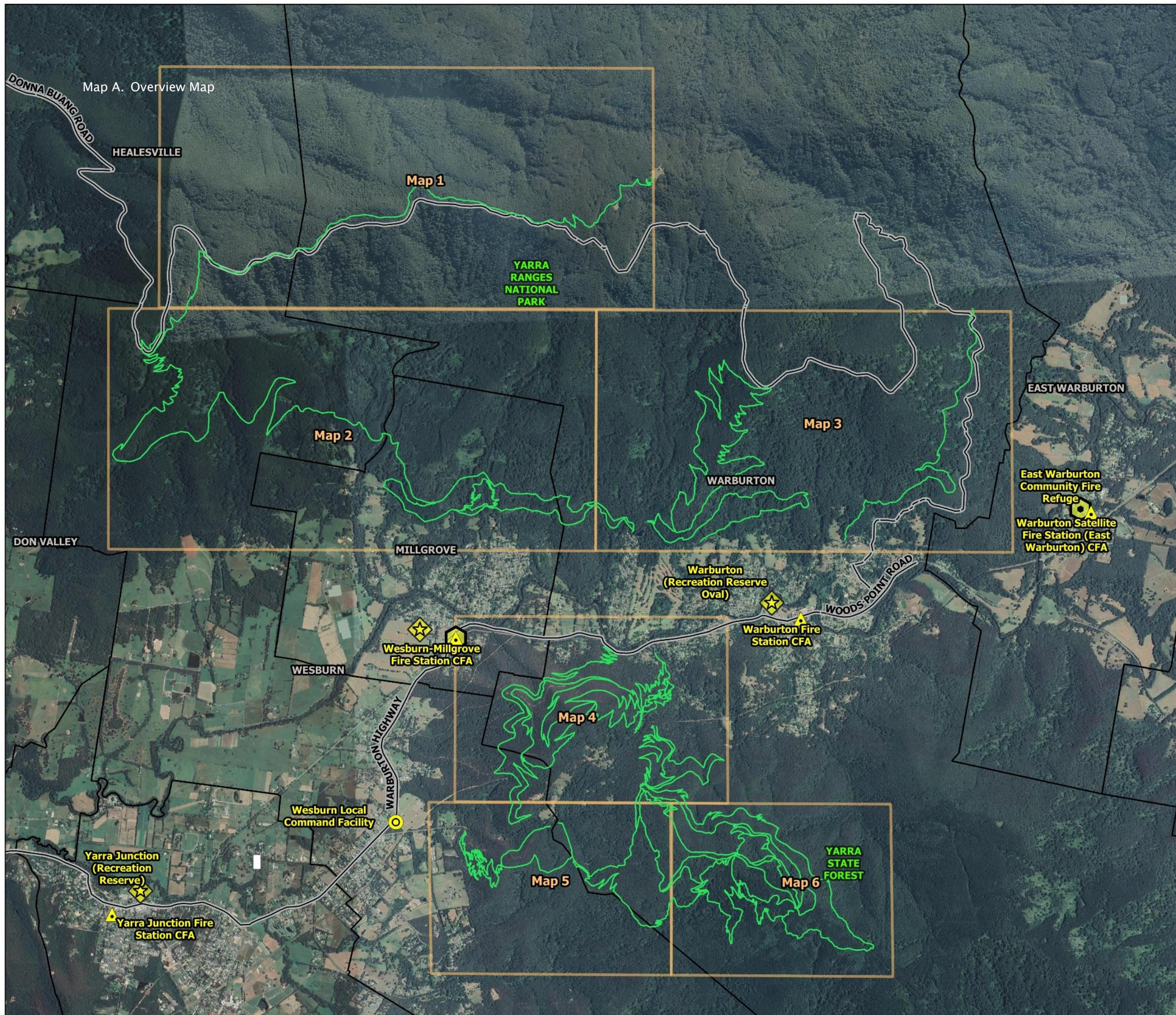
Date: 15 September 2019
 Created by: Greg James

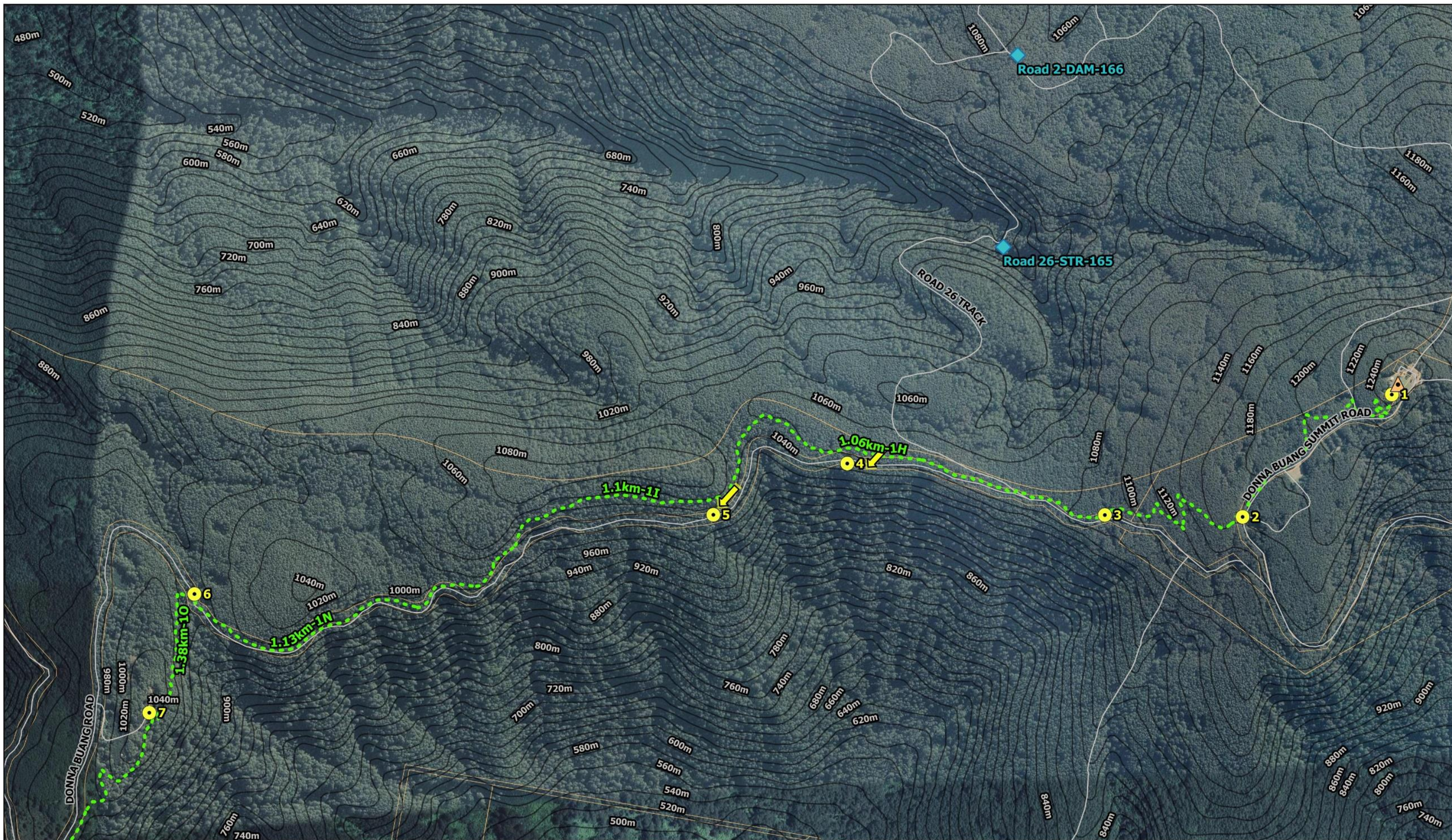


Data Source:
 Aerial Photography from Google Earth
 Base Map Data copyright State of Victoria
 Map Program: QGIS 2.18




**PRACTICAL
 ECOLOGY**
 ecological restoration & consulting
 p: (03) 9484 1555 e: enquiries@practicalecology.com.au





- | | | |
|--|---|---|
|  Assembly Area | Warburton Trails |  Water Point |
|  Trail exit point |  Existing Trail | |
|  Gated trail entrance |  Existing Vehicle Track | |
|  Trail Head |  New Trail | |

Details

Date: 19 September 2019
Created by: Greg James

Aerial Photography from Google Earth
Map Program: QGIS 3.6

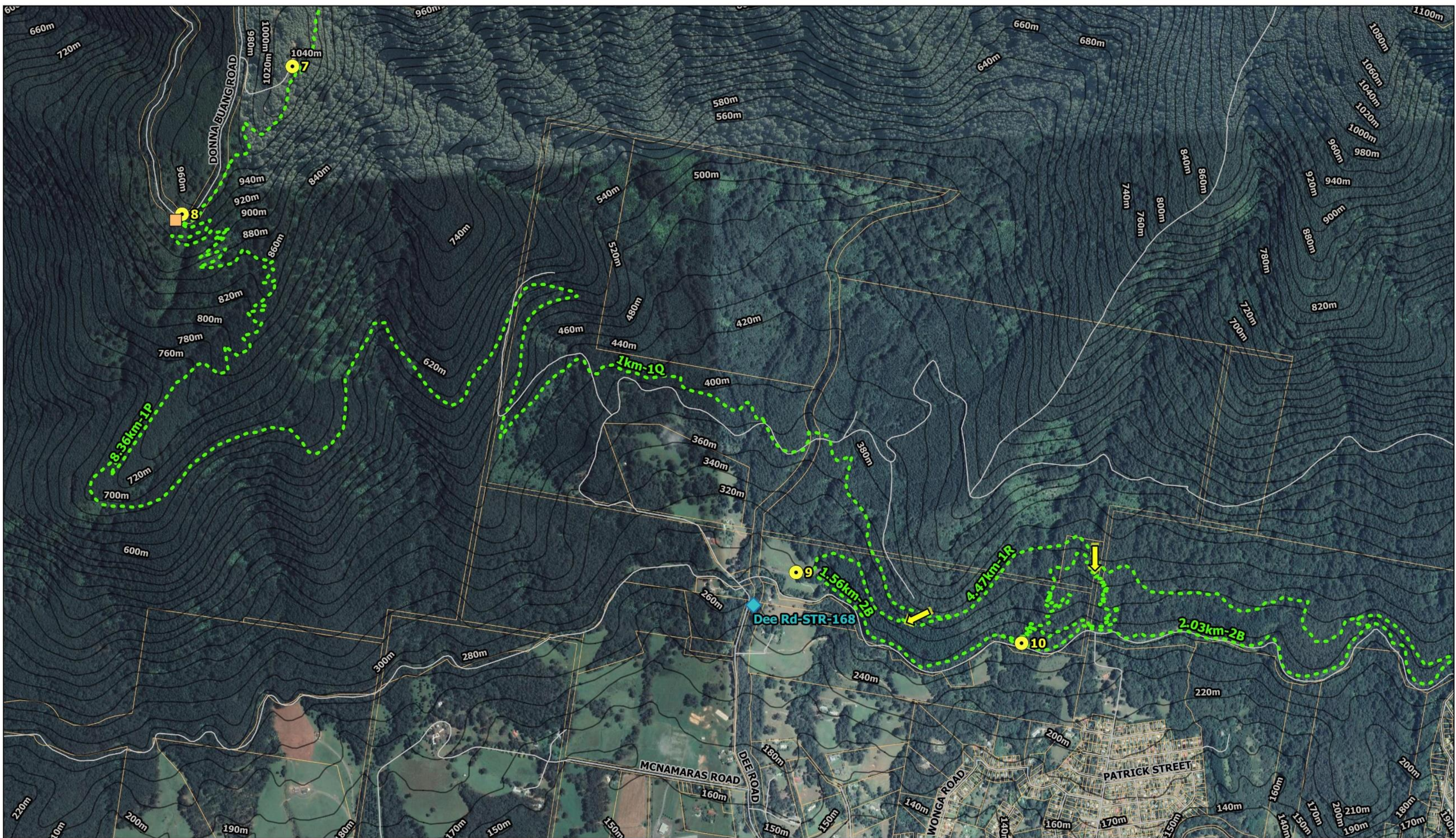
Scale (A3): 1:15000



Map 1 of 6 – Trail Alignment and Emergency Options

Mount Donna Buang to Ben Cairn

Warburton Mountain Bike Trail Destination Project



- Assembly Area
- Trail exit point
- Gated trail entrance
- Trail Head
- Warburton Trails**
- Existing Trail
- Existing Vehicle Track
- New Trail
- Water Point

Details
 Date: 19 September 2019
 Created by: Greg James

Aerial Photography from Google Earth
 Map Program: QGIS 3.6

Scale (A3): 1:15000

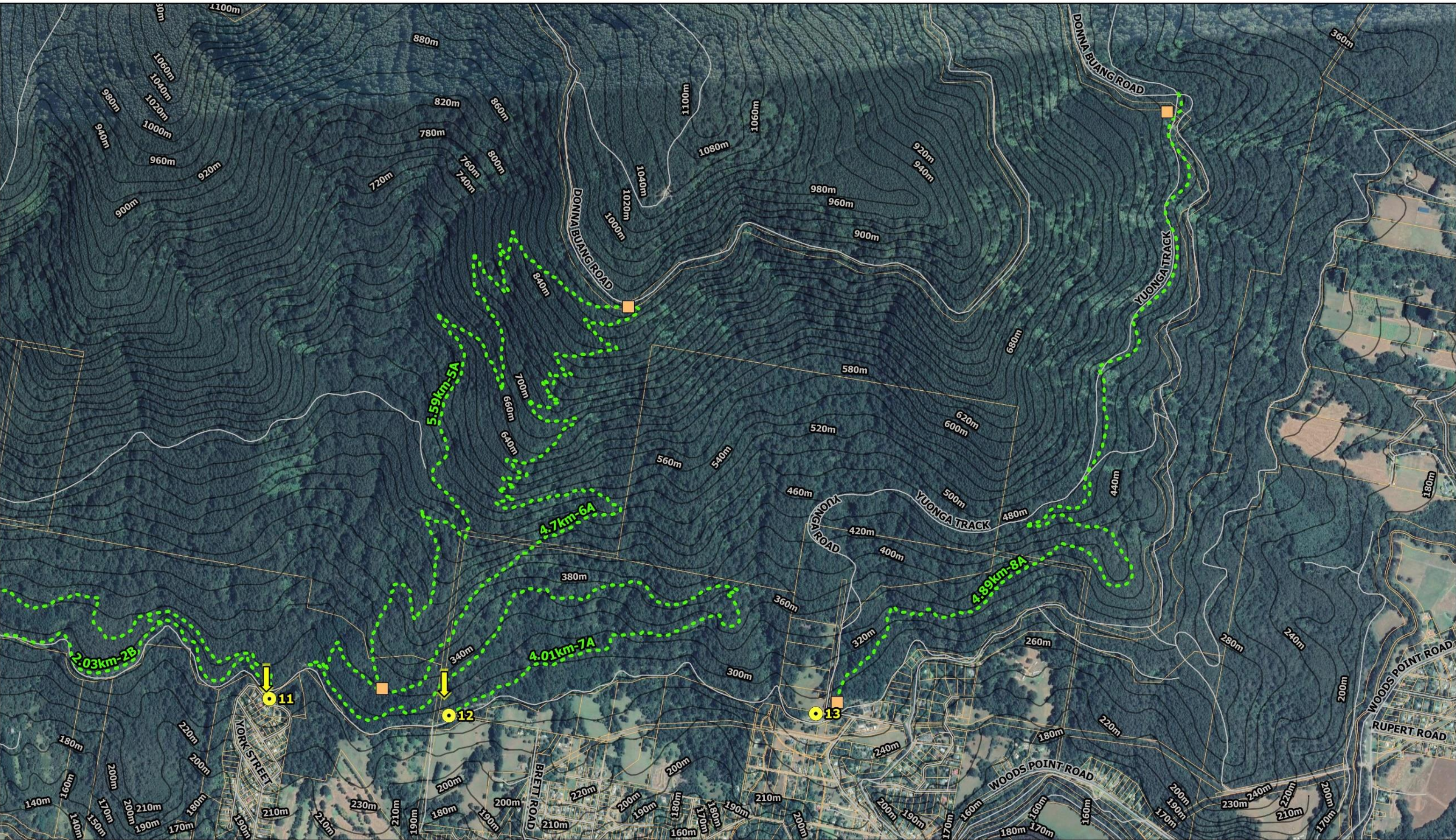
0 200 400 600 800 m



Map 2 of 6 – Trail Alignment and Emergency Options

Ben Cairn to O’Shannassy Aqueduct

Warburton Mountain Bike Trail Destination Project



- | | | | | | |
|--|----------------------|--|------------------------|--|-------------|
| | Assembly Area | | Warburton Trails | | Water Point |
| | Trail exit point | | Existing Trail | | |
| | Gated trail entrance | | Existing Vehicle Track | | |
| | Trail Head | | New Trail | | |

Details
 Date: 19 September 2019
 Created by: Greg James

Aerial Photography from Google Earth
 Map Program: QGIS 3.6

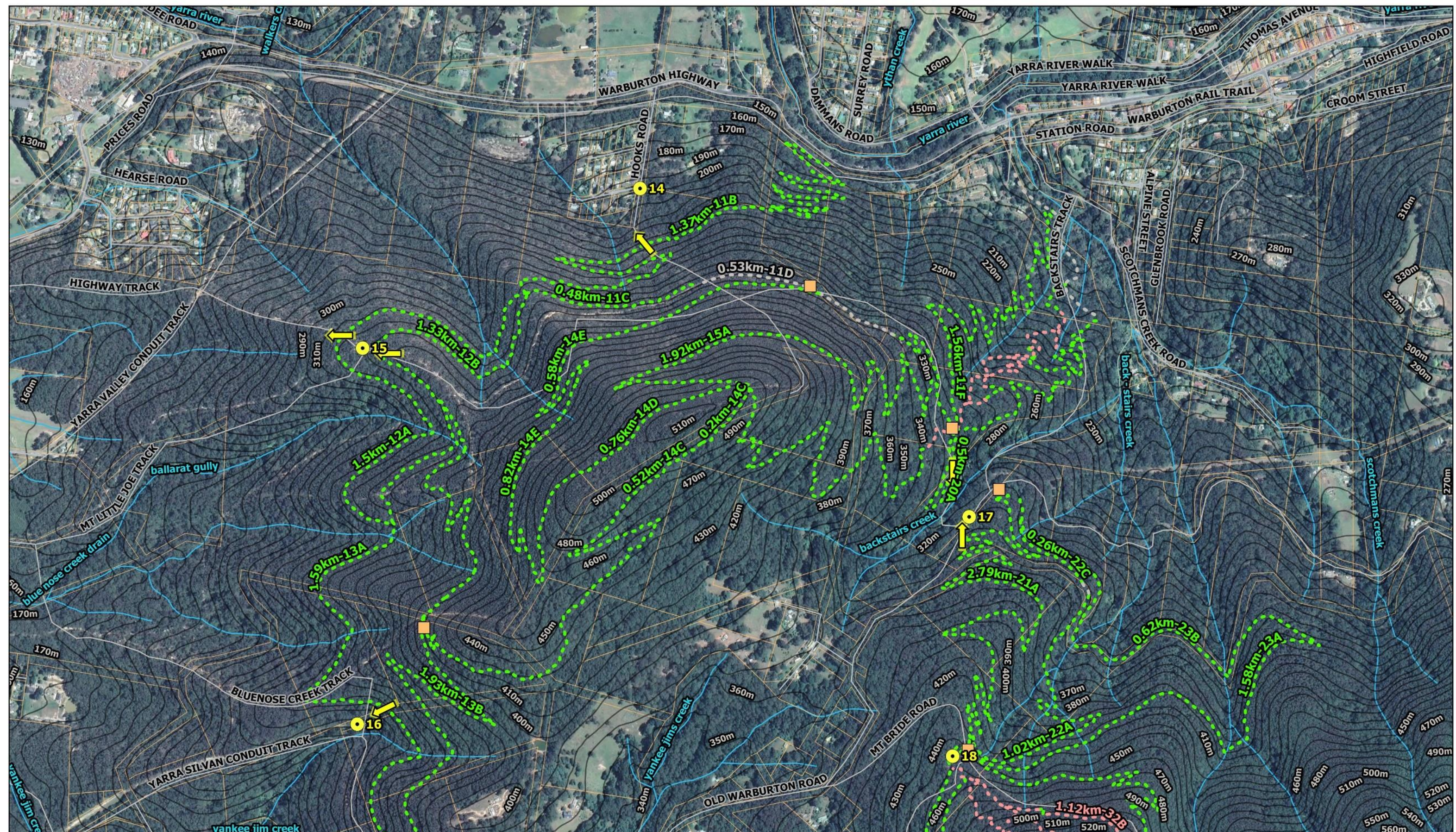
Scale (A3): 1:15000



Map 3 of 6 – Trail Alignment and Emergency Options

Mount Donna Buang Road to Warburton Golf Course

Warburton Mountain Bike Trail Destination Project



- Assembly Area
- ↑ Trail exit point
- Gated trail entrance
- ▲ Trail Head

- Warburton Trails**
- - - Existing Trail
 - - - Existing Vehicle Track
 - - - New Trail

- ◆ Water Point

Details
 Date: 19 September 2019
 Created by: Greg James
 Aerial Photography from Google Earth
 Map Program: QGIS 3.6
 Scale (A3): 1:9000
 0 120 240 360 480 m



Map 4 of 6 – Trail Alignment and Emergency Options
 Rail Trail to Old Warburton Road
 Warburton Mountain Bike Trail Destination Project



- Assembly Area
- ↑ Trail exit point
- Gated trail entrance
- ▲ Trail Head
- Warburton Trails**
- - - Existing Trail
- - - Existing Vehicle Track
- - - New Trail
- ◆ Water Point



Details
 Date: 19 September 2019
 Created by: Greg James

Aerial Photography from Google Earth
 Map Program: QGIS 3.6

Scale (A3): 1:9000

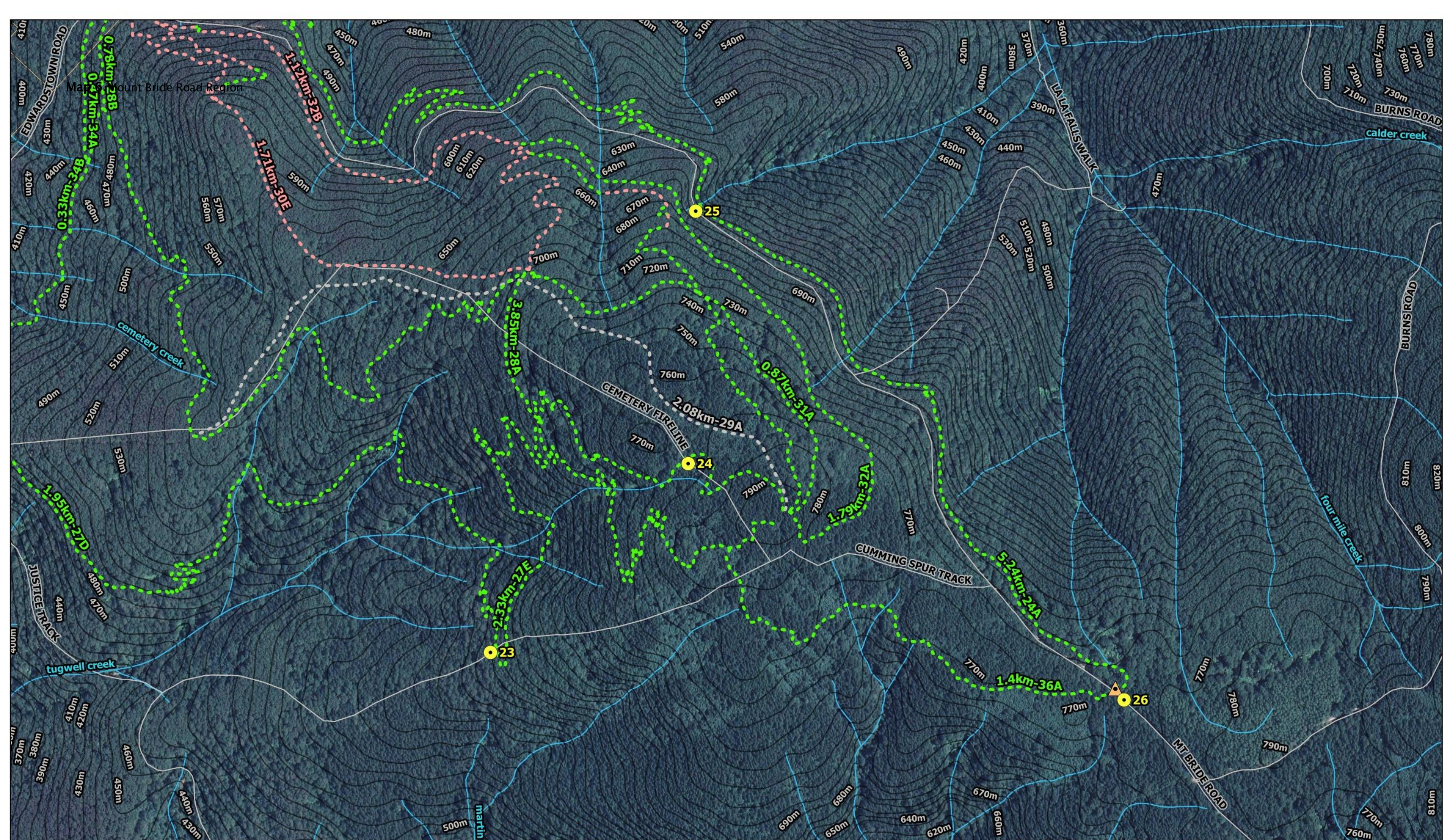
0 120 240 360 480 m



Map 5 of 6 – Trail Alignment and Emergency Options

Old Warburton Road to Cumming Spur Track

Warburton Mountain Bike Trail Destination Project




- | | | |
|--|--|---|
|  Assembly Area | Warburton Trails |  Water Point |
|  Trail exit point |  Existing Trail | |
|  Gated trail entrance |  Existing Vehicle Track | |
|  Trail Head |  New Trail | |

Details

Date: 19 September 2019
Created by: Greg James

Aerial Photography from Google Earth
Map Program: QGIS 3.6

Scale (A3): 1:9000




Map 6 of 6 – Trail Alignment and Emergency Options

Mount Bride Road Region

Warburton Mountain Bike Trail Destination Project

Appendix 2. Emergency Contacts

In all emergencies call Triple Zero (000)

Information on fire incidents:

- Vic Emergency Incidents and Warnings: <http://emergency.vic.gov.au/respond/>
- Victorian Bushfire Information Line (VBIL) 1800 240 667
- 774 AM (Melbourne)

Country Fire Authority	000
Closest CFA stations	Warburton CFA: Warburton Highway, Warburton, VIC, 3799 Millgrove CFA: Warburton Rail Trail, Millgrove, VIC, 3799
CFA Region and District	North East Region, District 13
District Headquarters	18–22 Lakeview Drive Lilydale, VIC, 3140 (03) 8739 1300
Victorian Police Force	000
Victorian Ambulance Service	000
State Emergency Service (SES)	SES Emergency Assistance 132 500

Lilydale and District Hospital	Yarra Ranges Health 25 Market St, Lilydale, VIC, 3140 1300 342 255
Yarra Ranges Shire Council	15 Anderson St, Lilydale VIC 3140 Open 8:30am to 5:00pm Monday – Friday, 9am – 12pm Saturday (excluding Public Holidays), Telephone: 1300 368 333

Appendix 3. Emergency Control Organisation Register

The Chief Fire Warden will be responsible for ensuring the Emergency Control Organization Register is complete and updated/reviewed annually.

Role	Appointees (Provide names and contact details)	Accepted (initial)
Trail Warden		
Deputy Trail Warden		
Wardens		
Area Warden (define area)		
Area Warden (define area)		
Area Warden (define area)		
Area Warden (define area)		

Appendix 4. Example Sign-in/Sign-out Sheet

*All individuals must sign-out immediately after leaving the trail. This can be managed by the track warden either through a phone call/text message upon entering and leaving the track or via an automated system online.

Date	Name	Contact	Size of group	Trail/s being utilised	Estimated Time of Return	Sign-in	Sign-out*
01/01/19	John Smith	0400 000 000	4 (2 adults and 2 children)	Summit, Drop A K Mid Top & Drop A K Bottom	2pm	JS	