



DIRTART

WORLD LEADERS IN TRAILS

ILLAWARRA ESCARPMENT

**MOUNTAIN BIKING CONCEPT
PLAN**

Illawarra Escarpment Mountain Biking Concept Plan

Prepared by Dirt Art Pty Ltd, July 2018

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1. EXECUTIVE SUMMARY

Mountain biking is one of the fastest growing adventure-based activities in the world, fed significantly by the sport shedding its 'extreme' sport image, and emerging into a mass-market recreational pursuit. With ongoing growth in user numbers, mountain bike tourism continues to prosper, offering significant economic development potential for established and emerging mountain bike destinations.

The Illawarra Escarpment is a popular existing mountain bike destination, with a network of existing informal trails catering to a mostly local riding audience. These existing trails vary greatly in their condition and sustainability, though the majority do provide a good riding experience.

The Greater Sydney area has an estimated population of 5,030,000,¹ and has the lowest formal trail kilometre to population ratio of any Australian capital city. This huge gap between supply and demand, and an ever-growing mountain bike population would ensure significant visitation to the destination from Greater Sydney residents alone. The volume and quality of trail proposed, along with the quality of the natural environment and topography, would ensure that the destination gets significant national and international attention.

This project stage involved progressing concept plans from the initial feasibility report (Illawarra Escarpment Mountain Bike Feasibility Study, *Dirt Art* November 2017) from desktop concepts to ground truthed trail designs. The report has worked through a comprehensive, structured process to determine final proposed trail alignments for the project. This process has involved significant network rationalisation and refinement, ensuring the environmental, social and cultural values of the site are not adversely affected.

The project involved the following strategic aims;

- **Develop a trail network plan that compliments and where possible enhances the natural values of the site**
- **Develop a trail network plan that is sensitive to the cultural values of the target area**
- **Develop a trail plan that offers significant opportunities for economic development and business development**

¹ As of 30th June 2016. Source: <http://profile.id.com.au/australia/population-estimate>

- Target trail experiences to the “wants and needs” of local riders
- Target proposed trail experiences for both the non-enthusiast, and the enthusiast mountain bike rider
- Provide cost-effective, feasible trail concepts and design, which offer conditions for world-class trail construction
- Develop a stage one construction plan that offers minimal barriers to implementation
- Develop a variety of trail concepts that facilitate longer distance, descending and ‘backcountry’ trail riding experiences

A total of 76.5km of new trails and the upgrade of 5.9km of trails has been proposed, across both cross country and gravity riding styles, suitable for all rider skill levels across a total network of 82.3km of trails.

The Illawarra Escarpment Mountain Bike Project (IEMTBP) offers significant potential for development as one of Australia’s leading mountain bike destinations. The project would have a profound impact on the local economy, with the estimated economic impact being;

- 15 FTE jobs during trail construction
- 175,000+ annual visits
- \$21,875,000 per annum direct economic impact in year one
- \$41,562,500 per annum direct + indirect economic impact in year one
- 6+ new businesses created as a direct result of the project
- 20+ new FTE jobs created as a direct result of the project.

Dirt Art suggest that the IEMTBP has genuine potential for development as an internationally-significant mountain bike destination. The Illawarra Escarpment possesses a number of key attributes that make the site perfectly suited to a large-scale mountain bike development, these include;

- Unique and diverse natural environments
- Diverse terrain and topography
- Significant useable elevation
- Peri-urban location.

Dirt Art suggests that for a relatively low capital expenditure investment, the IEMTBP has significant potential to have a profound positive impact on the local and surrounding region.

2. PROJECT OVERVIEW

2.1 BACKGROUND ANALYSIS

2.1.1 Overview

Dirt Art undertake a comprehensive background analysis during the formation of all mountain bike project design plans. This background research ensures all relevant past planning and research documents are considered when formulating the final facility plan.

Dirt Art also place a strong emphasis on developing a plan that will target strong visitation and return on investment opportunities. The concept plan has proposed trails and facilities that will cater for key demands, and provide significant points of difference to attract visiting riders. *Dirt Art* have developed the study to capitalise on the key attributes of the Illawarra Escarpment area, to ensure that future trail developments will provide a wide range of sustainable, world-class and in-demand mountain biking experiences.

A summary of all reports and plans reviewed during the project can be found at Appendix 2.

2.1.2 Environmental values

The Illawarra Escarpment has wide-ranging environmental values though notably, many areas of the site feature high environmental values, including areas of temperate rainforest. *Dirt Art* has proposed limited trail in south-facing areas, where temperate rainforest is more prevalent. Notably though, it is suggested that the eventual trail network should attempt to offer riders an experience through some of these temperate rainforest areas where this can be sustainably achieved. The quality and diversity of environment is ultimately a critical component to the success of mountain bike destinations, which is clearly evident in the success of Australia's current leading mountain bike destination, Blue Derby. Blue Derby has showcased the unique Tasmanian wilderness (including temperate rainforest) in a sensitive and sustainable way, which has captured the interest of riders visiting from across the globe.

New trails proposed in this study feature predominantly gentle sustainable gradients (<10%), which eliminate any issues associated with erosion and sediment dispersion, resulting in a greatly reduced or eliminated environmental impact.

2.1.3 Constraints mapping

The NPWS have developed a set of constraints mapping overlays for the Illawarra Escarpment area, these overlays are an in-field and desktop-based exercise that collates key values and restrictions to create a patchwork of 'zones' of suitability for trail development.

Dirt Art has used the constraints mapping as a fundamental guide for all trail design work. Where possible, trails have not been proposed in moderate-high value areas, with this second stage in the project removing essentially all trails from constrained areas. In certain areas, *Dirt Art* has proposed trail through more sensitive sections of forest. These areas are in many cases essential to network functionality and connectivity, but they are also critical to the success of the development as a tourism facility. Traveling mountain bike riders are highly-motivated by unique and picturesque environments, and as such it is important to attempt to allow trail users to experience areas of higher quality forest in a sustainable way. In New South Wales, trail projects such as Thredbo Resort have demonstrated that trails can be built through highly-sensitive areas, including through areas with known REF (rare and endangered flora), through the use of elevated platforms and other construction methodologies.

Constraints mapping with proposed trails overlaid can be found at Appendix 1.

2.1.4 Other user groups

The Illawarra Escarpment is used by a wide range of other user groups, including but not limited to; bush walkers, dog walkers, and rock climbers. The proposed trail network has carefully considered the range of other users of the Escarpment, and where possible has avoided any potential conflict between users. This has been achieved by;

- Proposing trails, where possible, away from areas frequented by other users
- Limited trail crossings of existing trails
- Carefully managed trail crossing points
- No MTB use proposed on existing walking trails
- Moving mountain bike trails as far away from walking trails as possible to prevent noise pollution

Notably, a number of other formal user groups and agencies are located on Mount Keira, these include but are not limited to; Scouts, Girl Guides, rural fire fighting base, and archery. The current plan has been developed to co-exist with these existing user groups and agencies.

2.1.5 Key visitation drivers

The proposed development has been carefully structured around the aspiration of developing the Illawarra Escarpment as a leading mountain bike destination, which would provide a range of trail experiences that will generate significant national and international attention. It should be noted that to achieve this, a large volume of high quality trail is required, and where possible, trails should showcase the stunning views and high quality natural environments.

Dirt Art suggest the following are key visitation drivers in the current mountain bike market;

- Trail quality: Trail quality and diversity is a paramount consideration for mountain bike destinations
- Elevation opportunities: Mountain bike destinations require a reasonable degree of elevation change to be competitive in the current market.
- Uplift opportunities: Uplift opportunities are highly desirable for riders, and also provide a number of business opportunities.
- Appealing environments: High quality environments and views are critically important to creating a world-class mountain bike experience.
- Trail volume: A trail volume of approximately 100km is considered a benchmark for mountain bike destinations to remain competitive.
- Ride variety: High quality mountain bike destinations require opportunities for a large variety of riding options.

The planning process has worked to establish all the above visitation drivers.

2.2 STAKEHOLDER CONSULTATION

Throughout the project *Dirt Art* has liaised with a number of key land manager and stakeholder groups, these include;

- *National Parks and Wildlife Service*
- *Wollongong City Council*
- *Destination Wollongong*
- *University of Wollongong (UOW)*

- *Cardno*
- *Illawarra Local Aboriginal Land Council*
- *Illawarra Mountain Bike Alliance*
- *National Parks Association*
- *Trailcare*

As principal land managers, *Dirt Art* has worked closely with the NPWS and WCC throughout the project.

A summary of all consultation undertaken can be found in at Appendix 3.

2.3 SITE ANALYSIS

2.3.1 Location

The Illawarra Escarpment, or Illawarra Range, is its own State Conservation Area (2,635 hectares in area) in a coastal region located directly south of Sydney and north of the Shoalhaven or South Coast of NSW. Spanning close to 120km, the 30 million-years-old natural rock wall formation provides a stunning backdrop to the city of Wollongong and its surrounding coastal towns.

2.3.2 Site selection and land tenure

2.3.2.1 Site Selection

Through the first phase of the project, a number of trails were proposed on private land parcels, the majority of which are privately held ex-mining sites. A number of ex-mining sites were also investigated at the request of the NPWS, while these sites featured some potential for development, land tenure and ground disturbance issues limited their viability at this stage in the project. Through this second phase of the project a focus has been made on shifting trail concepts to crown land, with the majority of land under management of the NPWS. The key rationale for the focus on NPWS land is as follows;

- NPWS manages the key land assets that are generally most suitable for trail development, particularly on/around Mount Keira. For ease of implementation, a single land manager is preferable.

- There are significant complications in proposing trail development on privately held land, including; lengthy and costly purchase arrangements, and leasing arrangements that pose significant mid-long term project risks.
- A timely implementation was sought, and as such, the first stages of the project would not have been viable on private land.
- Key private sector land managers such as the UOW were not opposed to the investigation of trail development on their land, but would not be in a position to facilitate such development in a short to mid-term timeframe.

Sites were explored between Mount Kembla in the South and Austinmer in the North. A focus has been made on the key sites of;

- Mount Kembla
- Mount Brisbane
- Mount Keira
- Balgownie

Bulli Pass and Austinmer were both considered for development, but have been removed from the initial proposed stages of the project. Notably, these sites do possess future development potential.

2.3.2.2 Land Tenure

Land tenure across the site is widely varied, though the majority of the proposed development area is managed by the National Parks and Wildlife Service (NPWS); remaining land areas are managed by Wollongong Council. All private land has been excluded from this stage of the project, though notably, *Dirt Art* has made allowances for existing and potential trails on private land to be retrofitted into the trail network at a later date.

2.4 EXISTING TRAILS ANALYSIS

The Illawarra Escarpment has a large network of existing, largely informal trails. *Dirt Art* has undertaken an extensive inspection and audit of these existing trails. Many existing trails are located on private land (largely ex mining sites), and due to the focus on crown land areas, these trails have been excluded from the proposed trail network at the time of preparing this report. Most existing trails are in fair-good condition, and many offer a good quality riding experience. *Dirt Art* has proposed upgrade and inclusion of a number of existing informal trails, though some trails have been slated for closure and rehabilitation. Common issues with existing trails are;

- Location in private land areas
- Poorly considered entry, exit and parking areas
- Fall line alignments
- Trail braiding

Dirt Art has worked to consider and address the above common issues in the proposed final trail network plan.

A detailed overview of existing trails can be found at Appendix 4.

3. PROPOSED NEW TRAILS

3.1 OVERVIEW

The proposed trail network for the Illawarra Escarpment provides a clear pathway towards the development of a world-class network of mountain bike trails, which focus on the following key market segments; all mountain and enduro, back country/wilderness trail riding, beginner friendly trails, and downhill riding. *Dirt Art* suggests that these areas of the market are in demand, under catered for in the current market, and offer the most direct opportunities for commercialisation. A detailed overview of all proposed new trails can be found at Appendix 5.

3.2 OVERVIEW OF THE DESIGN PROCESS

All new trails proposed in this document have been developed as working desktop concepts, and do not represent detailed trail designs. *Dirt Art* undertakes a structured trail design process, based upon the below workflow;



All trail routes have been developed with an intended construction corridor of 20m (final trail width of approximately 1m will reside within this approval corridor). This 20m corridor allows for micro-design changes during construction to allow for management of issues such as; tree routes, bed rock and animal dens. It is expected that the average final clearance corridor will be approximately 2m, with a periodic allowance of up to 4m clearance around steeper corners and other trail features as required.

3.3 SUMMARY OF PROPOSED NEW TRAILS

Mount Keira		
Number	Difficulty	Length (M)
Trail K1	Green	1,000
Trail K2	Blue	1,300
Trail K3	Blue	1,100
Trail K4	Blue	4,600
Trail K5	Blue	2,000
Trail K6	Green	1,800
Trail K7	Green	3,400
Trail K8	Green	3,100
Trail K9	Green	3,700
Trail K10	Blue	3,200
Trail K11	Black	2,400
Trail K12	Blue	700
Trail K13	Blue	500
Trail K14	Green	2,300
Trail K15	Blue	2,300
Trail K16	Green	2,000
Trail K17	Blue	1,600
Trail K18	Blue	600
Total		37,600m

Mount Brisbane/Mount Kembla		
Number	Difficulty	Length (M)
Trail KB1	Blue	2,900
Trail KB2	Blue	2,400
Trail KB3	Blue	6,200
Trail KB4	Blue	1,600
Trail KB5	Blue	3,800
Trail KB6	Blue	1,200
Trail KB7	Green	3,200
Total		21,300m

Balgownie		
Number	Difficulty	Length
Trail B1	Green	3,700
Trail B2	Blue	2,200
Trail B3	Blue	1,900
Trail B4	Green	2,200
Trail B5	Green	2,400
Trail B6	Black	2,000
Trail B7	Black	400
Trail B8	Black	2,200
Trail B9	Black	600
Total		17,600m

Legend

DEVELOPMENT STAGES

- Stage 1 - Trail Development
- Stage 2 - Trail Development
- Stage 3 - Trail Development

NEW TRAILS

Mt Keira

- 'Frenchies' - Stage 1
- K1 - Stage 1
- K2 - Stage 1
- K3 - Stage 1
- K4 - Stage 1
- - - K5 - Stage 3
- K6 - Stage 1
- - - K7 - Stage 3
- - - K8 - Stage 3
- - - K9 - Stage 2
- - - K10 - Stage 2
- - - K11 - Stage 2
- - - K12 - Stage 2
- - - K13 - Stage 2
- K14 - Stage 1
- K15 - Stage 1
- K16 - Stage 1
- K17 - Stage 1
- - - K18 - Stage 2

Mt Kembla / Mt Brisbane

- KB1 - Stage 1
- KB2 - Stage 1

- KB3 - Stage 1
- KB4 - Stage 1
- KB5 - Stage 1
- KB6 - Stage 1
- - - KB7 - Stage 3

Balgownie

- - - B1 - Stage 2
- - - B2 - Stage 2
- - - B3 - Stage 2
- - - B4 - Stage 3
- - - B5 - Stage 2
- - - B6 - Stage 3
- - - B7 - Stage 3
- - - B8 - Stage 3
- - - B9 - Stage 3

Bulli Pass

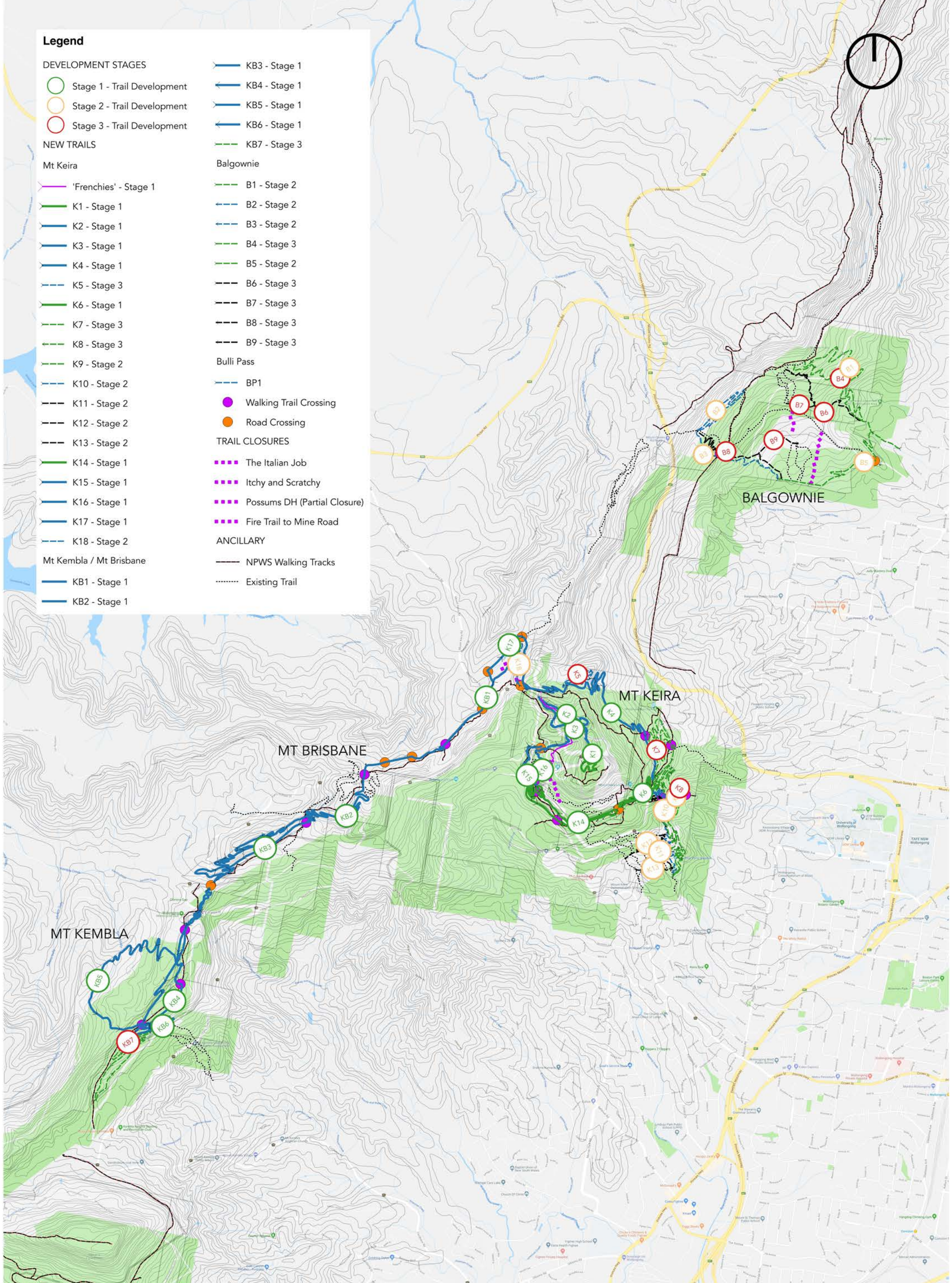
- - - BP1
- Walking Trail Crossing
- Road Crossing

TRAIL CLOSURES

- - - The Italian Job
- - - Itchy and Scratchy
- - - Possums DH (Partial Closure)
- - - Fire Trail to Mine Road

ANCILLARY

- NPWS Walking Tracks
- - - Existing Trail



3.5 MOUNT KEIRA

3.5.1 Overview

Mount Keira is the current focus for the majority of mountain bike riding in the Illawarra Escarpment area. The area features a number of key attributes, including; close proximity to urban areas, good elevation range, iconic views, and the largest volume of existing trails. *Dirt Art* suggest that Mount Keira is pursued as a key focus for any future mountain bike development, with the area possessing the strongest potential for trail development, and the best access potential into and out of the existing and proposed new trails.

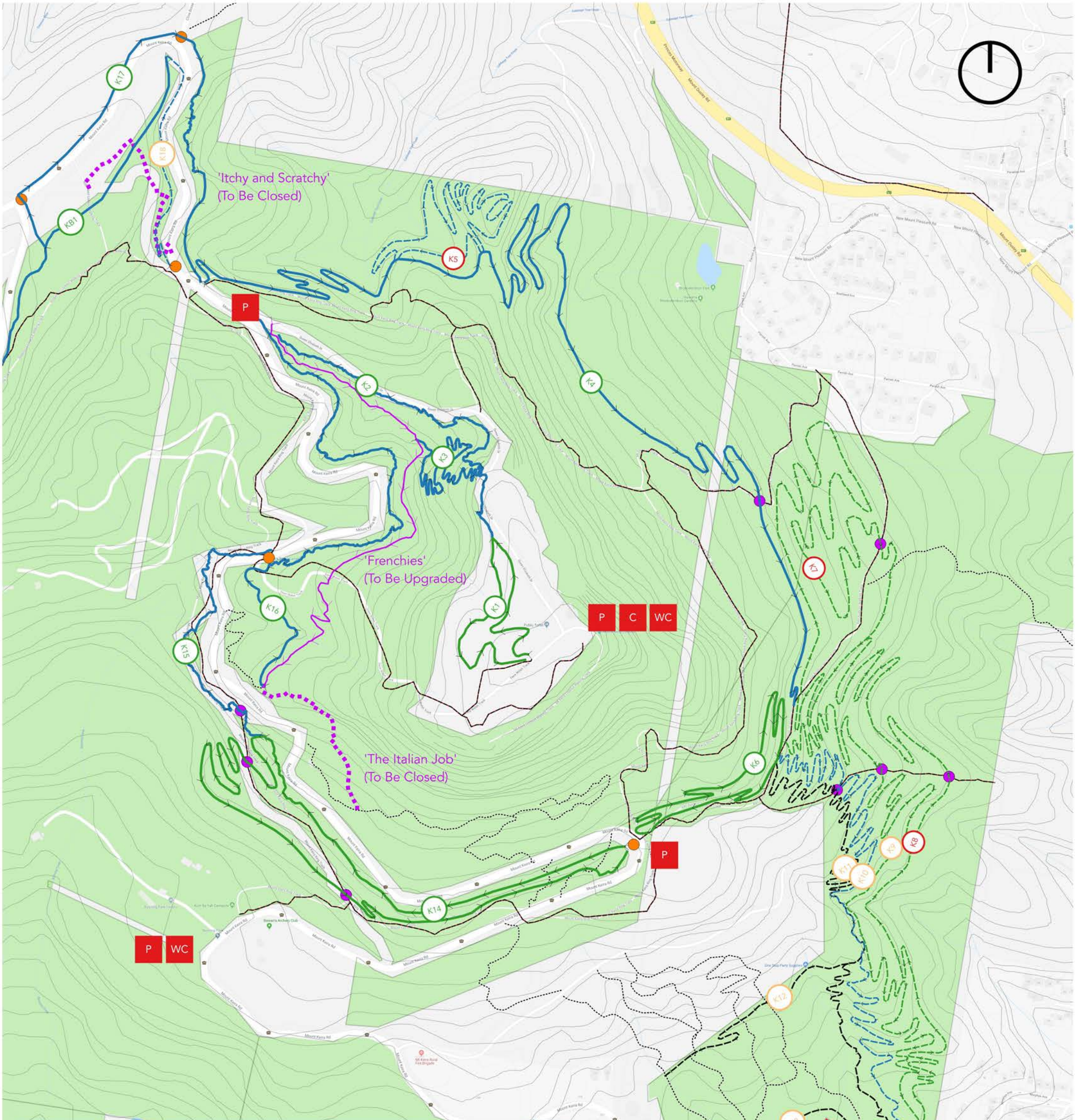
Dirt Art proposed a strong focus on beginner-friendly trails at Mount Keira. As the proposed primary access point for the trail network, this focus ensures the trails are accessible to all trail users, and provides for avenues for safe skill progression. This beginner and intermediate focus compliments the existing network of more challenging trails proposed for formalisation.

3.5.2 Rationale for site selection

Mount Keira is a logical focus point for the trail development, the area has the highest concentration of existing trails, and geographically sits in the most logical position to act as the main gateway into the network from key population areas, and from key visitor access routes. *Dirt Art* has proposed that Mount Keira act as the main entry and exit point for the trail network, and also houses the largest volume of proposed new trails.

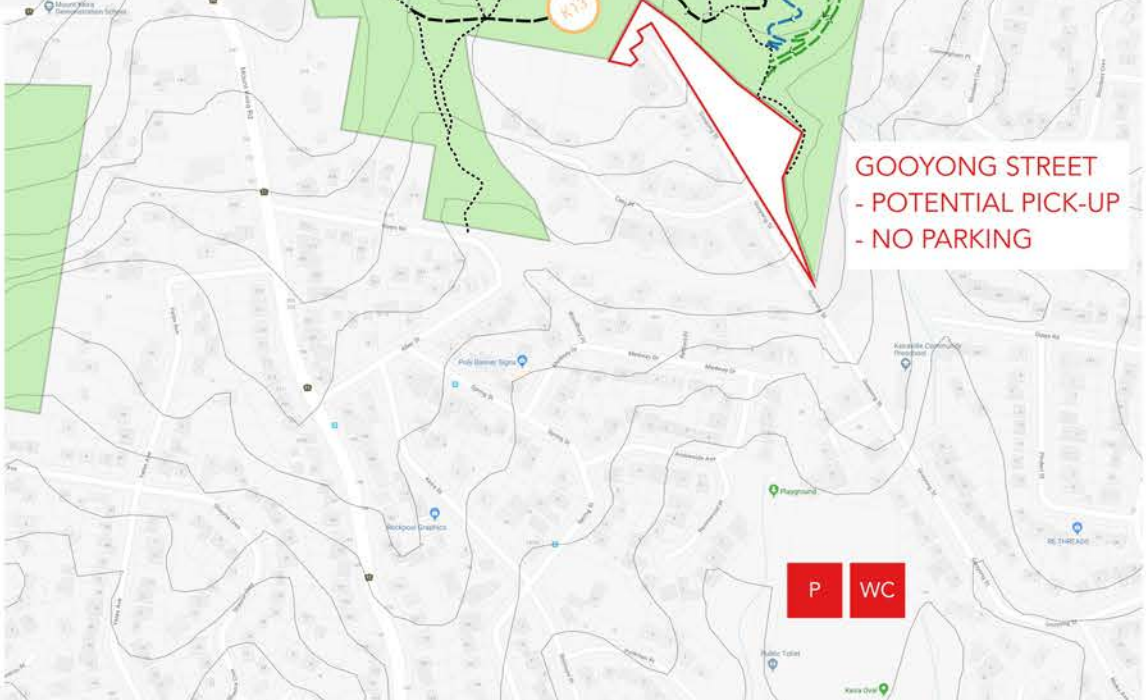
Key rationale for the focus of development and access on Mount Keira is as follows;

- Mount Keira has the largest viable parking and amenities area suitable to act as primary access into the trails (The Summit Park)
- Mount Keira has direct connections with major urban areas for local riders commuting to the trails by bike
- Mount Keira has the largest elevation opportunity of all the sites reviewed, including a sealed access road for uplift opportunities
- Mount Keira has the most suitable terrain and topography for trail development
- A number of areas on Mount Keira are degraded from pas mining activity, providing opportunities to minimise environmental disturbance, and enhance the environmental value of the site with rehabilitation



Legend

DEVELOPMENT STAGES		K6 - Stage 1	Walking Trail Crossing
Stage 1 - Trail Development	K7 - Stage 3	Road Crossing	TRAIL CLOSURES
Stage 2 - Trail Development	K8 - Stage 3	The Italian Job	Itchy and Scratchy
Stage 3 - Trail Development	K9 - Stage 2	ANCILLARY	
NEW TRAILS		K10 - Stage 2	NPWS Walking Tracks
Mt Keira		K11 - Stage 2	Existing Trail
'Frenchie's' - Stage 1	K12 - Stage 2	Existing Amenities	Existing Parking
K1 - Stage 1	K13 - Stage 2	Existing Food & Beverage	
K2 - Stage 1	K14 - Stage 1		
K3 - Stage 1	K15 - Stage 1		
K4 - Stage 1	K16 - Stage 1		
K5 - Stage 3	K17 - Stage 1		
	K18 - Stage 2		



Map 1: Mt Keira
16 July 2018

3.6 MOUNT KEMBLA/MOUNT BRISBANE

3.6.1 Overview

Mount Kembla and Mount Brisbane are both popular riding destinations for many mountain bike riders currently riding on the Escarpment. Extending the south, a number of existing trails have potential to be formalised and connected with the new proposed network. New trails proposed by *Dirt Art* essentially form a long loop connecting through Mount Brisbane to Mount Kembla. The trails form a longer duration ride with a 'backcountry' feel. The loop includes a wide variety of trail types, and some stunning views to the east across Wollongong.

With existing trails focusing on advanced-level riders, new proposed trails have broadened the offering by focusing on an intermediate trail difficulty.

3.6.2 Rationale for site selection

Mount Kembla and Mount Brisbane are a logical extension from the trails at Mount Keira, lengthening and diversifying the riding experience. The sites offer good elevation opportunities, and an opportunity to develop longer format rides, including a long, gradual descent down to Mount Kembla township.

Key rationale for the focus of development on Mount Brisbane and Mount Kembla is as follows;

- Key connectivity with Mount Keira and Mount Kembla
- Opportunities for economic development at Mount Kembla township
- Opportunities for longer format trail rides
- Good elevation opportunity

Legend

DEVELOPMENT STAGES

- Stage 1 - Trail Development
- Stage 2 - Trail Development
- Stage 3 - Trail Development

NEW TRAILS

Mt Kembla / Mt Brisbane

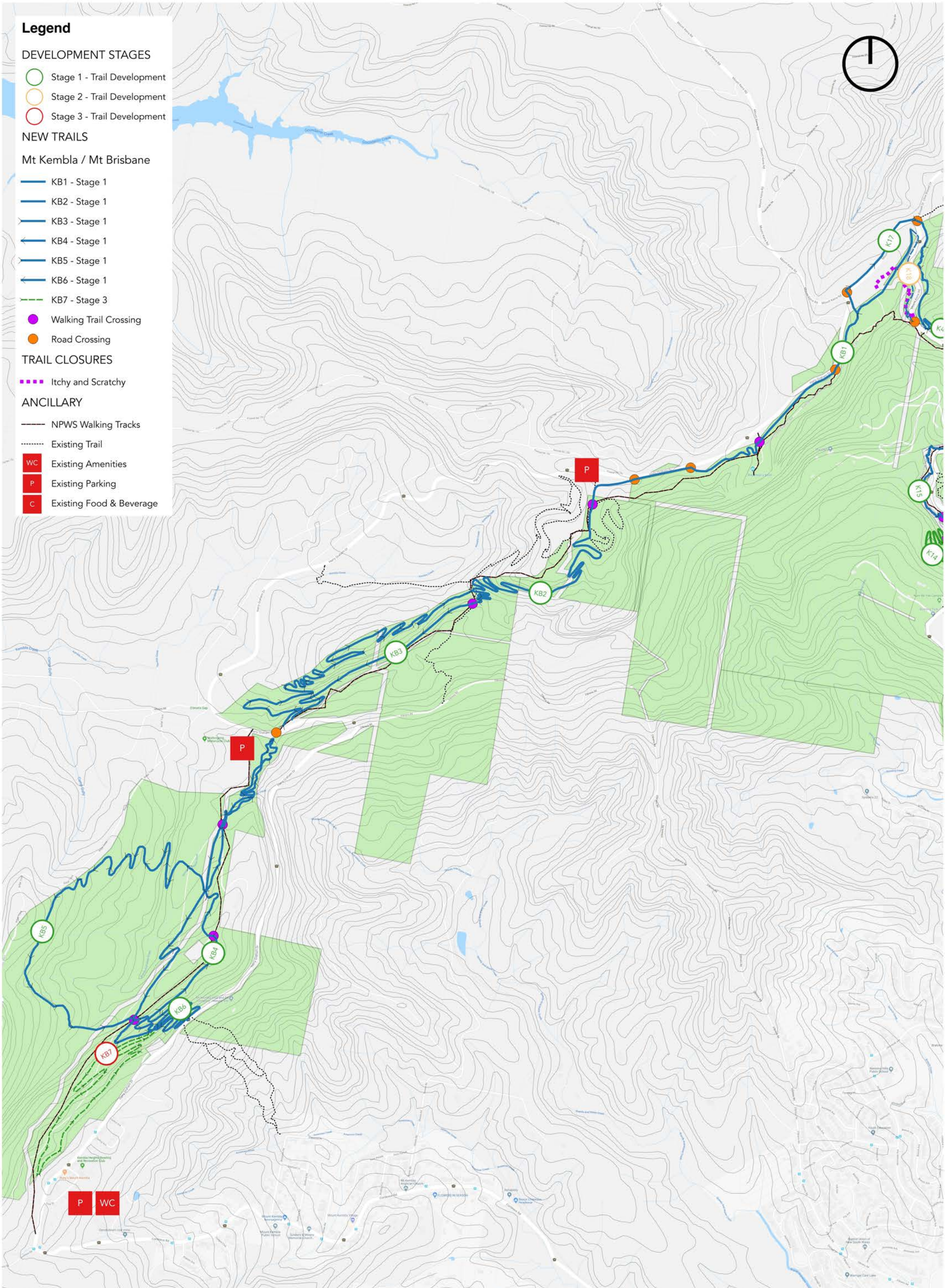
- KB1 - Stage 1
- KB2 - Stage 1
- KB3 - Stage 1
- KB4 - Stage 1
- KB5 - Stage 1
- KB6 - Stage 1
- KB7 - Stage 3
- Walking Trail Crossing
- Road Crossing

TRAIL CLOSURES

- Itchy and Scratchy

ANCILLARY

- NPWS Walking Tracks
- Existing Trail
- WC Existing Amenities
- P Existing Parking
- C Existing Food & Beverage



Map 2: Mt Kembla / Mt Brisbane
16 July 2018



3.7 BALGOWNIE

3.7.1 Overview

Balgownie has an existing network of predominantly descending trails, which appear popular with riders. Proposed new trails have provided a gently ascending climb through the entire elevation range of the existing trails, as well as providing an intermediate and beginner descending option to broaden accessibility of the network.

Balgownie poses a connectivity challenge due to two key issues; private land connecting through to Mount Keira, and a major highway crossing. Neither are insurmountable issues, though they do likely mean that the area will be ridden as a separate, non-connected riding zone in the short to mid-term.

3.7.2 Rationale for site selection

Balgownie provides an excellent opportunity for trail development, with good elevation opportunities and excellent scope for trail development. Unfortunately the area does not currently connect to Mount Keira due to a major highway crossing. Notably, longer term a tunnel or overpass may be an opportunity worth pursuing, which may be in unison with the Greater Escarpment Walk Project.

Key rationale for the focus of development at Balgownie is as follows;

- Good elevation opportunities
- Site offers strong potential for trail development
- Degraded areas minimise environmental impacts and provide opportunities for rehabilitation
- Caters for local needs

Legend

DEVELOPMENT STAGES

- Stage 1 - Trail Development
- Stage 2 - Trail Development
- Stage 3 - Trail Development

NEW TRAILS

Balgownie

- B1 - Stage 2
- B2 - Stage 2
- B3 - Stage 2
- B4 - Stage 3
- B5 - Stage 2
- B6 - Stage 3
- B7 - Stage 3
- B8 - Stage 3
- B9 - Stage 3

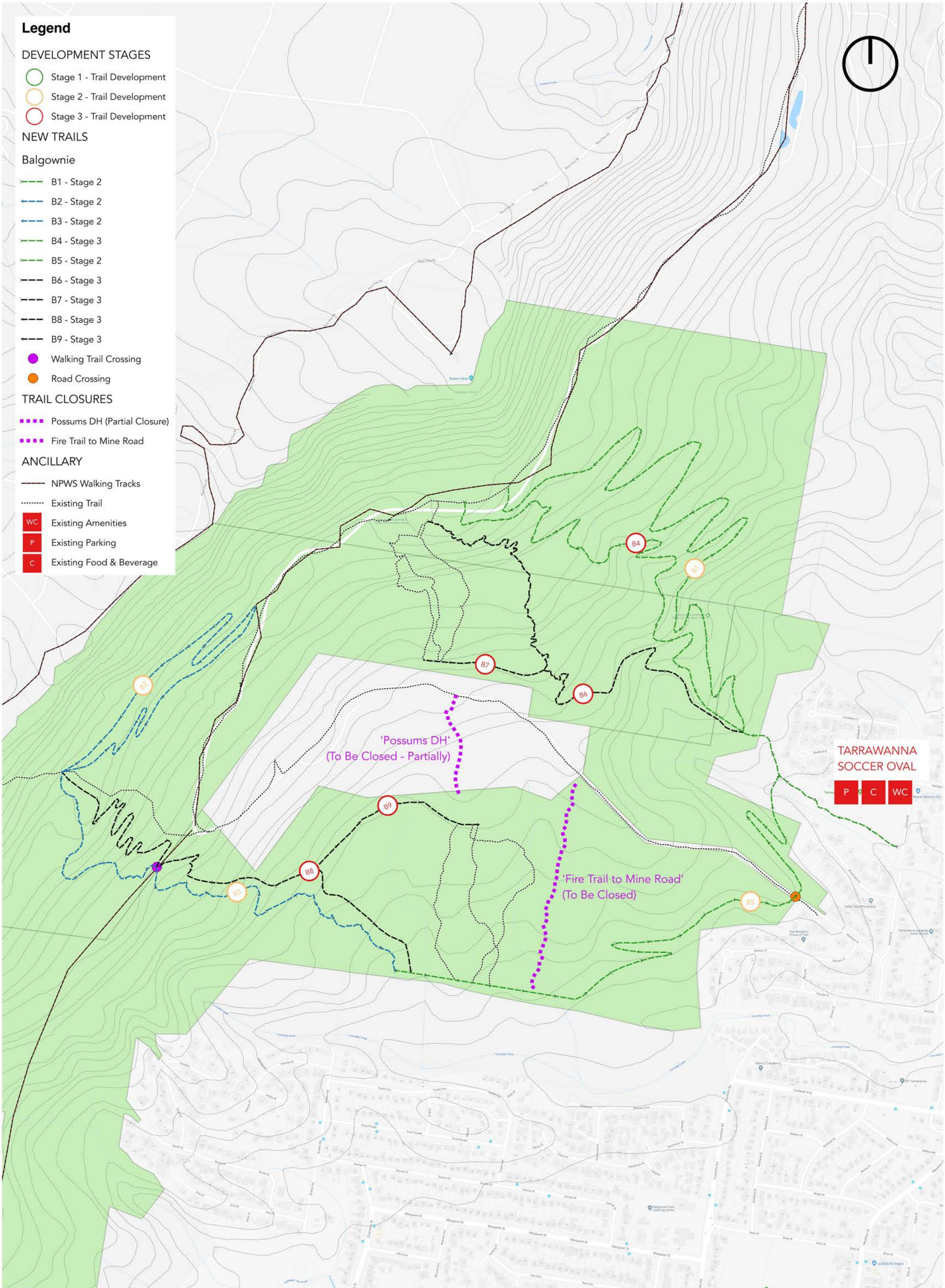
- Walking Trail Crossing
- Road Crossing

TRAIL CLOSURES

- Possums DH (Partial Closure)
- Fire Trail to Mine Road

ANCILLARY

- NPWS Walking Tracks
- Existing Trail
- WC Existing Amenities
- P Existing Parking
- C Existing Food & Beverage



TARRAWANNA SOCCER OVAL



Map 3: Balgownie
16 July 2018



4. IMPLEMENTATION PLAN

4.1 OVERVIEW

The proposed implementation plan provides a suggested approach for delivering the various aspects of the trail development proposed in this concept plan. While not intended to be prescriptive in its nature, the prioritised order provided has been carefully developed to allow for optimal progression through the development process in a logical, cost-effective fashion. The implementation plan proposes a three-stage phasing of the project, though this may be condensed into one or two stages, or alternatively broadened into greater than three stages, as required.

4.2 PROJECT STAGING

4.2.1 Overview

The project staging has been proposed based on a desire to achieve;

- A Stage One project that is achievable in a reasonable timeframe, with minimal project barriers
- A Stage Two Project that works towards establishing the area as a nationally-competitive mountain bike destination
- A Stage Three Project that consolidates the first two project stages, and builds a world-class trail destination

An overview of proposed staging can be found over the page.

4.2.2 Stage One

4.2.2.1 Overview

Stage One has been developed to provide a volume and quality of trail that would establish the Illawarra region as a genuinely world-class mountain bike destination. Given the significant rise in the development of mountain bike destinations across Australia in the past three years, *Dirt Art* suggest that an initial new trail volume of approximately 36km, plus 1.2km of trail upgrades should be targeted.

The trails proposed in stage one of the development provide iconic, longer distance trail experiences, while catering for riders across the full spectrum of abilities.

Key rationale for stage one priorities is as follows;

- Minimise the initial trail volume whilst retaining high-quality trail experiences
- Target trails that feature low constraints, and limited barrier to implementation
- Address local needs by catering for in-demand trail experiences
- Providing connections to existing and new trails that avoid the use of roads
- An iconic network that features a range of loop and point-to-point riding options
- Land tenure has been confined to NPWS and WCC to assist in ease of implementation
- Provision of an iconic circumnavigation ride of Mount Keira
- Address the issues with the current French Connection Trail exit point
- Provide trails for all abilities, including beginner-friendly trails
- Provide a formal major entry point (Mount Keira Summit Park), which connects into the broader trail network

4.2.3 Stage One- Proposed Staging

Trail	Difficulty	Length
K1	Green Circle	1.0
K2	Blue Square	1.2
K3	Blue Square	1.1
K4	Blue Square	4.6
K6	Green Circle	1.8
K14	Green Circle	2.3
K15	Blue Square	2.3
K16	Blue Square	2.0
K17	Blue Square	1.6
KB1	Blue Square	2.9
KB2	Blue Square	2.4
KB3	Blue Square	6.2
KB4	Blue Square	1.6
KB5	Blue Square	3.8
KB6	Blue Square	1.2
Upgrades- Mt Keira- French Connection	Blue Square	1.2
Total trail length (km)	37.2	

4.2.4 Stage Two

4.2.4.1 Overview

Stage Two focuses on connecting new riding areas, and creating longer distance iconic riding experiences. The proposed development stage activates a whole new riding area on Mount Keira, and Balgownie, which creates localised opportunities for local riders, while at the same time increase the appeal and length of stay for visiting riders.

Stage Two involves the proposed construction of 21.3km of new trails, and the upgrade of 4.7km of existing trails.

Key rationale for Stage Two priorities is as follows;

- Activate new riding areas, including Mount Keira and Balgownie
- Create new, longer duration riding opportunities
- Diversify the offering with a broader range of trail experiences
- Increase the total trail volume to increase the appeal for visiting riders, and increase the length of stay
- Further improve connectivity between existing and new trails
- Improve access on the lower areas of Mount Keira

4.2.5 Stage Two- Proposed Staging

Trail	Difficulty	Length
K9	Green Circle	3.7
K10	Blue Square	3.2
K11	Black Diamond	2.4
K12	Black Diamond	0.7
K13	Black Diamond	0.5
K18	Blue Square	0.6
B1	Green Circle	3.7
B2	Blue Square	2.2
B3	Blue Square	1.9
B5	Green Circle	2.4
Upgrades- Balgownie (various trails)	Various	2.0
Upgrades- Mount Kembla (various trails)	Blue Square	2.7
Total Trail Length	26.0	

4.2.6 Stage Three

4.2.6.1 Overview

Stage Three aims to further diversify and extend riding opportunities across all proposed trail locations. The final project stage will result in a truly world-class trail network and destination, which would be certain to attract significant rider visitation.

Stage Three involves the proposed construction of 19.1km of new trails, with no proposed trail upgrades.

Key rationale for Stage Three priorities is as follows;

- Create a number of iconic additional ride loops, broadening the experience, increasing appeal and increasing length of stay
- Broaden the beginner friendly trail offering with an iconic beginner descent at Balgownie

4.2.7 Stage Three- Proposed Staging

Trail	Difficulty	Length
K5	Blue Square	2.0
K7	Green Circle	3.4
K8	Green Circle	3.1
B4	Green Circle	2.2
B6	Black Diamond	2.0
B7	Black Diamond	0.4
B8	Black Diamond	2.2
B9	Black Diamond	0.6
KB7	Green Circle	3.2
Total Trail Length	19.1	

5. CONCLUSION

The Illawarra Escarpment offers stunning natural scenery, iconic terrain and rock formations, and significant useable elevation, which combine to provide an excellent canvas for development of a large-scale trail destination. With the city of Wollongong on its doorstep, Mount Keira is the natural entry point for the trails, which offer unrivalled servicing from a major city in such close proximity.

The Greater Sydney area has a population of 5m+, and has the poorest access to formal mountain bike trail opportunities of any major Australian city. This large gap between supply and demand, and an ever-growing mountain bike population would ensure significant visitation to the destination from Great Sydney residents alone. The volume and quality of trail proposed, along with the quality of the natural environment and topography would ensure that the destination gets significant national and international attention. The Illawarra Escarpment mountain bike project offers genuinely unrivalled potential to service the large and growing Greater Sydney mountain bike market, but also to capture the interest of intrastate, interstate and international riders.

The Illawarra Escarpment Mountain Bike Project proposes development of 82.3km (including 5.9km of existing trail upgrades) of truly world-class trails, which capitalise on the natural assets of the site to create one of Australia's leading mountain bike destinations. This concept plan has provided a clear pathway towards development of a mountain bike destination that would;

- Create 15 FTE jobs during trail construction
- Deliver 175,000+ annual trail visits
- Deliver \$21,875,000 per annum direct economic impact in year one
- Deliver \$41,562,500 per annum direct + indirect economic impact in year one
- Create opportunity for 6+ new businesses direct result of the project
- Create 20+ new FTE jobs created as a direct result of the project

For a relatively modest capital expenditure, and minimal ongoing operational expenditure, the Illawarra Escarpment Mountain Bike Project has potential to deliver profound, economic, social and environmental results. This report has provided a development and management pathway, which would undoubtedly establish the Illawarra Escarpment as one of Australia's leading mountain bike trail destinations.