

2011 Nillumbik Trails Strategy



Acknowledgements

Nillumbik Shire Council acknowledges the contributions of many people who have had input into the development of the Nillumbik Trails Strategy.

Council would like in particular to thank the Recreation Trails Advisory Committee (RTAC), residents, recreation clubs and organisations that provided input into the strategy. The valuable contributions will help to ensure a network of quality trails, including regional, local and cultural heritage which will provide for not only the Nillumbik community but also the community across Victoria now and in the future.

Council also appreciates the extensive work achieved by the shire's GIS Officers, in completing the mapping component of this strategy.

Nillumbik Shire Council acknowledges the Wurundjeri as the traditional custodians of the land now known as the Shire of Nillumbik and values the Wurundjeri people's history as essential to the unique character of the shire.

Human Rights Charter Compatibility Statement

In accordance with the Charter of Human Rights and Responsibilities Act 2006, the Nillumbik Trails Strategy is assessed as being compatible with the human rights protected by the charter. This assessment is based on a Statement of Compatibility of the Human Rights protected by the Charter that are relevant to the Policy.

Executive Summary

Nillumbik currently has an extensive network of recreation trails in a range of settings. Currently 25 kilometres of urban trails and 18 kilometres of rural trails enable people to be physically active and enjoy a variety of recreation opportunities in natural and cultural landscapes.

The development of the draft Nillumbik Trails Strategy 2011 has been in consultation with the Recreation Trails Advisory Committee (RTAC), Parks Victoria and Melbourne Water.

The strategy will guide the planning and decision making in the provision of recreation trails. It outlines Council's key priorities for the expansion of the trail network and the proposed actions to achieve these objectives over the next ten years.

The draft Nillumbik Trails Strategy outlines a vision that *Nillumbik Shire Council will be recognised for the quality and diversity of its trail network. The network will be developed and managed sustainably while ensuring economic, health and wellbeing benefits are provided to the community.*

Recreation Trends

Data has shown there is a participation increase in unstructured recreation activities, including walking, horse riding, and bike riding. Trails can provide the opportunity to experience these activities across a variety of landscapes.

Trails offer the following elements:

- the ability to deliver potential economic, environmental and social benefits to the community.
- the ability to serve multiple use purposes including pedestrian, cycling and equestrian.
- allowance for both recreation and commuter use.
- a quality experience that reflects the unique character and features of the trail, including historic, cultural and landscape.
- improved safety for trail users by providing off-road passage wherever possible and practicable.
- community health benefits.

Recreation Trail Classification

The draft trails strategy classifies **regional**, **local** and **cultural heritage** trails, which reflect the experience users can expect on the trail. **Regional trails** traverse the shire and generally provide linkages to neighbouring municipalities. **Local trails** can provide local connections to townships and across neighbourhoods. **Cultural heritage trails** offer a unique insight into the surrounding environment and often reflect the heritage of the region.

Once a trail has been determined to be regional, local or cultural heritage a further system has been developed in an attempt to match the experience with the landscape and subsequent design and maintenance requirements. The system is the **Recreation Trails Experience Based Matrix**.

Six trail categories outline the trail experience, expected trail use and design and construction standards. The design and management of each trail category is based on Australian Standards and guidelines from both Parks Victoria and the International Mountain Bike Association.

The six categories include:

Bushland Trail – trails within a bushland setting, with a natural surface.

Bridle Trail – trails generally through open pasture, with a natural surface.

Rural Road Trail – on road trail, generally along country roads, trail surface consistent with road surface material.

Roadside Trail – trails along road verges, generally in rural areas, with minimal surface treatments.

On-road Cycling Trail – a trail route along sealed roads usually for experienced cyclists given the limited number of dedicated bikes lanes across the shire.

Off-road Trail – a dedicated shared use trail, specifically designed to accommodate more than one use. Trails generally have a sealed surface, although occasionally where suitable these trails have a natural surface.

Future Vision

The proposed expansion of the trail network will ensure a strong link is maintained with the surrounding landscape. The trails will be created sustainably to fit with the natural environment with the intent of ensuring an exceptional recreation experience.

The trails strategy recommends an investment of \$8 million in recreation trails over the next 10 years. Indicative costs have been identified for each of the recommendations within the strategy, with \$800,000 in planning and design, \$6 million in capital expenditure and \$1.2 million in maintenance.

It is recognised that a significant level of funding from federal and state government sources will be required to deliver the strategy objectives.

The recommendations for capital investment and planning in the regional trail network include:

- **Diamond Creek Trail** – extend this trail from Diamond Creek to Hurstbridge, estimated at \$3.5 million.
- **Aqueduct Trail** – determine development options for this trail following the establishment of land owner status, from Eltham to Christmas Hills, estimated at \$2.3 million.
- **Green Wedge Trail** – formalise this trail which extends from Wattle Glen to Kinglake, estimated at \$0.8 million.
- **Kinglake Way** - establish a trail from Hurstbridge to Arthurs Creek, estimated at \$0.5 million.

The development of each of these trails range from short-term, within 3 years to long term, over the next 10 years.

A network of local trails has also been identified in the strategy, with both the proposed and existing local trails mapped. Local trails are essential in providing connections to townships, community hubs, sporting precincts and the regional trails. This strategy recommends expanding the designated local trail network.

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Section 1 – Introduction

1.1 Background

In 2001, Nillumbik Shire Council commissioned HML Leisure Planning to develop a Recreation Trails Strategy, which consolidated work previously undertaken and provided a way forward in prioritising, planning and constructing recreation trails. The 2001 strategy outlined existing Federal and State policy to provide a basis for Nillumbik Shire Council's policy. The strategy also devised a process for recreation trail development and importantly recommended the establishment of a Recreation Trails Advisory Committee (RTAC). Council appointed RTAC in 2002 to plan, prioritise and implement the construction of recreation trails throughout the Shire. This committee has been critical to progress the recreation trail network.

At present Council provides an extensive network of recreation trails in a range of settings. Currently 25 kilometres of urban based trails and 18 kilometres of rural trails enable people to be physically active and enjoy a variety of recreation in natural and cultural landscape settings.

The 2011 Nillumbik Trails Strategy consolidates work achieved over the past ten years in partnership with the Recreation Trails Advisory Committee and provides a holistic approach to the future growth of the trail network.

1.2 Report Structure

Section 1 – provides an introduction to the strategy details the vision and objectives and outlines a rationale for the strategy.

Section 2 – introduces Nillumbik Shire, defines trails, outlines the main trails and user groups, summarises the benefits associated with trails and provides an economic evaluation of trails.

Section 3 – outlines recreation participation in a national, state and local context and provides an overview of relevant policy.

Section 4 – provides an understanding of the classification system used for trails and outlines the process associated with determining the designated trail network.

Section 5 – identifies the regional trail network within Nillumbik.

Section 6 – identifies the critical issues associated with recreation trails and offers a proposed solution to address these issues.

Section 7 – provides recommendations to guide, plan, implement and manage the trail network.

1.3 Strategy Rationale

The diverse landscape, community interests and expectations provide a strong platform for the development of a robust recreational trail network. A well networked system of trails is also essential to create community neighbourhood connections to local townships and community hubs throughout the shire. This strategy is imperative to address and meet community needs and effectively plan and prioritise recreation trail development.

The Nillumbik Trails Strategy considers all types of trails, including off-road trails, bushland trails, road verge trails and commuter trails and provides an outline of the expected experience. Trails are designed to accommodate a variety of interest groups that predominately include horse riders, mountain bike riders, walkers, cyclists and runners.

1.4 Purpose

The purpose of this project is to develop a comprehensive trails strategy that provides a strategic and sustainable approach to the planning, design, construction and maintenance of trails throughout the Shire of Nillumbik.

1.5 Vision

Nillumbik Shire Council will be recognised for the quality and diversity of its trail network. The network will be developed and managed sustainably while ensuring economic and health and well-being benefits are provided to the community.

1.6 Objectives

- To efficiently develop the trail network
- Identify and address barriers to the trail network's growth
- Realise the social, economic and environmental potential of each trail

1.7 Guiding Principles

The following guiding principles create an overarching framework from which to base the development of trails.

partnerships	established and continual development of community and stakeholders partnerships is vital to ensure successful trails.
experience	the expectation of the trail network is informed through the experience derived from trails which determines infrastructure requirements.
sustainability	trails will be sustainably designed, constructed and managed to ensure long-term trail use and protection of our natural and cultural heritage.
connectedness	trails will allow for community connections and access to sporting facilities, schools, community centres, public transport, amenities, and connections to trails within adjacent municipalities and state and national parks.

Section 2 – Defining Nillumbik and Trails

2.1 Nillumbik Shire

Nillumbik Shire was formed with the Green Wedge as its strategic focus. The shire is thus affectionately known as the ‘lungs’ of Melbourne. Our beautiful open spaces and natural treed environment readily compliments the creation of recreational trails to experience the outdoor environment in both rural and urban settings. This is manifested in the many informal trails that currently exist across the shire.

The Shire of Nillumbik is located less than 25 kilometres north-east of the Melbourne CBD. The natural boundaries of Nillumbik Shire include Kinglake National Park to the north, the Yarra River to the south, Plenty River to the west and Christmas Hills to the east. These natural features along with the generally undulating topography of Nillumbik set the scene for an interesting landscape.

The shire covers an area of 432 square kilometres and has an estimated population of 60,600. Communities range from the urban environments of Eltham and Diamond Creek to rural and tranquil bush properties in the outer townships , including Arthurs Creek, St Andrews and Kangaroo Ground.

2.2 Nillumbik Shire Residents

The Nillumbik Shire population and age profile review indicates an almost even split in age groups with just under half the population, 47.5% aged 0 to 34 years whilst people aged 35 years and older represent 52.5% of residents. This indicates that a range of leisure options are required to meet the needs of the community.

The review of annual income levels indicates that a high proportion of residents have access to discretionary spending. More than 54% of households have access to weekly incomes greater than \$1000.

Approximately 9 out of 10 Nillumbik residents have access to a private vehicle. This indicates that residents are relatively mobile and not as reliant on public transport to access leisure activities.

Overall, locally collected data suggests unstructured activities such as walking, swimming, cycling and horse riding are both current and future priority activities for Nillumbik residents.

2.3 Recreation

Recreation is defined as what people choose to do in their free time for the purpose of physical activity, enjoyment and relaxation. This includes organised or structured recreation (activities such as basketball, football, lawn bowls and netball) and unstructured recreation (activities such as walking, gardening, riding and playing in the park).

2.4 Defining Trails

Trails are Council endorsed routes that are typically designed to support shared use unstructured recreation.

Trails offer the following elements:

- the ability to provide social, economic, environmental benefits to the local community.
- shared use, typically including walking, cycling and equestrian.
- allow for both recreation and commuter use.
- a quality experience that reflects the unique character and features of the trail, including the historic, cultural and landscapes.

2.5 Recreation Trail Use

Recreation trails offer a variety of user groups the opportunity for unstructured recreation. Many of these user groups contain sub-groups seeking a different experience, usually based on differing interests. A diverse set of expectations can result. It is useful to define user groups with the intention of developing a range of recreation trails to meet these myriad expectations.

The main unstructured recreational activities associated with recreation trails include walking, running, horse riding, mountain bike riding and cycling, with orienteering a smaller but no less valid use.

2.5.1 Walking

Walking along recreation trails broadly describes anyone travelling by foot. Walking includes all forms of recreational walking and a variety of trail experiences from a leisurely stroll on a sealed path to strenuous treks across natural terrain. Walking may also involve exercising dogs and nature appreciation.

Walking: generally along trails within suburban reserves, along linear parks and transport corridors. Recreation trails are used for both fitness and socialising.

Bushwalking: often a variety of trail experiences are sought. Bushwalkers are generally self-sufficient and carry adequate food and water.

2.5.2 Running

Running is largely undertaken as a means of exercise and is simply described as rapid movement on foot. The term running can refer to a variety of speeds ranging from jogging to sprinting. A variety of trails and thus experiences are generally sought by runners, ranging from urban, hard paved trails to unsealed roads or cross country trails in rural areas. Running sub-groups can include:

Trail running: describes running along sealed off-road trails, this can be informal or an organised event.

Road running: describes running along roads, this can be informal or an organised event.

Cross country running: running along bush trails or open space. Competitive cross country runners may use trails for training purposes.

2.5.6 Horse Riding

A range of sub-groups sit under the broad heading of horse riding. The following outlines the main sub-groups:

Recreational or 'weekend' riding: these riders generally seek to experience a few hours to day long rides. The intention of the riders is either one or both of the following:

- Leisurely riding at slow speeds to allow for an enhanced sensory experience, exploration and peace and quiet. The inherent nature of the landscape setting is critical for personal enjoyment when this type of experience is sought. Chosen trails would likely be local reserves, parks, road verges and unsealed rural roads.
- Active or focused riding at higher speeds, to maintain fitness. Trails with durable surfaces with a variety of terrain are most suitable for this group. This type of riding typically occurs on road verges and unsealed roads.

Long distance riding: these are non-competitive riders who often travel long distances along linear trails or on daily loops of up to 30 kilometres from a base. Their trail experience can range from all day to overnight, several days at a time and in some cases rides that last a number of weeks. The aim of these riders is for a sensory experience, exploration and peace and quiet combined with fitness. Trails with a durable surface that contain watering points are suitable for these riders. Strategic areas available for float parking are also useful.

Competitive riding: these are riders who regularly compete in equestrian events on weekends and utilise trails to maintain the mental and physical fitness of their horses and as a compliment to arena training. They typically either ride directly to a trail, or float their horse to a suitable trail and ride for up to 3 hours. They prefer a safe, durable trail surface with a variety of terrain including flat ground and hills. Chosen trails would likely be road verges and unsealed rural roads

2.5.4 Mountain bike riding

There are a range of sub-groups which sit under the broad heading of mountain bike riding:

Family, occasional or beginner: generally like short loops of fairly level terrain, with some introductory off-road challenges.

Cross-country: seek moderate to very challenging terrain and like to get away from busy trails to areas of more solitude. They are usually self sufficient; carrying tools, spare tubes, water, food, maps and first aid kits. They like trails that include a variety of interconnecting loops that range from a 10 to 100 kilometre ride.

Downhill riding: seek steep challenging terrain and obstacles that appear unusable to outsiders. Most ride full suspension bikes, which are not designed to efficiently ride uphill, so shuttle access to the top of the hill is preferred.

Technical: prefer trails that provide numerous obstacles to challenge their riding skills. Such obstacles may include fallen trees, drop offs, stairs, rocks and very difficult obstacles. These can be incorporated into cross-country trails or in special-use areas.

2.5.5 Cycling

Cycling can be described according to the following broad categories:

Recreational cycling: prefer a sealed on-road route with low traffic volumes or an off-road shared use trail. Scenic views and moderately undulating terrain are sought by this group of cyclists. Recreation cyclists often seek rides between 10 – 50km in length. Generally group rides are undertaken, often riding two abreast where safe to do so and where passing traffic is not hindered.

Competitive cycling: attempt to find a well maintained, sealed on road circuit route with challenging undulating terrain. Competitive cyclists often seek rides of long distances, which can be between 80 – 180 kilometres in length. Cyclists often ride in groups with two riders abreast.

Commuter cyclists: within this category there are generally two types of commuter cyclists; those who prefer off-road trails or low stress roads, taking

longer to arrive at their destination and those who wish to arrive at their destination as quickly as possible. The primary requirements of the commuter cyclist are bicycle lanes and/or off road trails. Commuter cyclists also require well-lit trails for evening travel.

Touring Cyclists: make extensive long distance journeys or shorter trips around local areas of tourist significance. They travel both solo and in groups and are either lightly equipped or self-sufficient. Often their route choice characteristics are similar to other tourists.

2.5.3 Orienteering

Orienteering is a sport that requires navigational skills using a map and compass to navigate from point to point in diverse and usually unfamiliar terrain, and normally moving at speed. Participants are given a topographical map, usually a specially prepared orienteering map, which they use to find control points. Originally a training exercise in land navigation for military officers, orienteering has developed many variations. Among these, the oldest and the most popular is foot orienteering. Trails and bushland are ideal spaces for orienteering.



A bushland trail.

2.6 Recreation Trail Benefits

The benefits offered by a well networked system of recreation trails are numerous with improvements to the economy, community and environment. Social improvements arise through the physical and physiological benefits of exercise and allowing for connections to community hubs and townships, thus enabling a socially connected and interactive community. The environmental and cultural benefits offered by trails include less car travel, thus a healthier environment and trails can lead to the preservation of our cultural heritage. Economic benefits arise through use of recreation trails and the flow-on benefits this provides to local cafes and businesses. Further, with the economic benefit, more funding is available to support environmental works and cultural development.

2.6.1 Social and Health Benefits

There are considerable social and health benefits associated with creating a recreation trail network. Some of the main benefits include:

- Participation in trail activities improves physical and mental health, assists with disease prevention and management, particularly cardiovascular, musculoskeletal, respiratory, nervous and endocrine systems as well as reducing obesity, hypertension, depression and anxiety.
- Trail activities encourage participation and interaction between a diverse range of community members, age groups, individuals and families and facilitate social interaction, e.g. community groups, voluntary trail maintenance and conservation work.
- Trails can offer a wide range of opportunities to a wide range of people. Depending upon design, trails can accommodate the elderly, people with mobility impairments or satisfy those seeking challenging adventures and a sense of achievement.
- Participation in trail activities is relatively low cost.
- Trails can introduce participants to other recreational and participation offerings in the community.
- Trails can help to connect people, places and grow community pride.

2.6.2 Environmental and Cultural Benefits

There are significant environmental and cultural benefits associated with creating a recreation trail network. Some of the main benefits include:

- Trails provide opportunities for the community to experience natural and cultural environments.
- Trails help to protect the environment by localising impacts and managing visitation effects.

- Trails provide for educational and interpretive opportunities and increase environmental and cultural awareness and appreciation.
- Well-connected trail networks can decrease the use of motorised vehicles for transportation and recreation, therefore reducing the production of emissions that contribute to global warming and respiratory problems.
- Trail networks increase community ownership and assist to preserve natural and cultural values and help underpin the integrity of the Nillumbik Green Wedge.
- Trails highlight our 'living heritage' by allowing the continuation of traditional activities such as horse riding.
- Trails provide opportunities for community participation in conservation and revegetation work.
- Trails provide a safer environment for learning cycling and horse riding skills.



A habitat and stormwater treatment wetland along the Diamond Creek Trail.

2.6.3 Economic and Tourism Benefits

There are numerous economic and tourism benefits associated with creating a recreation trail network. Some of the main benefits include:

- Trails may generate intrastate, interstate and overseas tourism spending.
- Trails support and enhance local business opportunities.
- Trail visitors spend money in towns and communities along or near trails.
- Trail users spend money preparing for their trail experience.
- Trail construction and maintenance can generate employment opportunities.

- Participation in trail activities improves community health and reduces health expenditure.
- Trails add to the lifestyle of the region – economically this is rewarded, as creating a liveable town may increase property values in areas adjacent to well developed trail networks.

2.6.4 Transport Benefits

Transport benefits are mainly associated with utilising the trails for commuter use, the main benefits include:

- Trails can provide linkages between townships or suburbs that can provide opportunity for non-motorised transport.
- Reduced traffic and parking congestion results when good local trail systems support walking or cycling both within and to neighbouring municipalities.
- Cycling and walking particularly for short trips reduces the overall expenditure on car maintenance, fuel and parking.
- Trails use land more efficiently than other forms of transport.



Cycling is a popular recreation activity.

Section 3 - Developing the Strategy

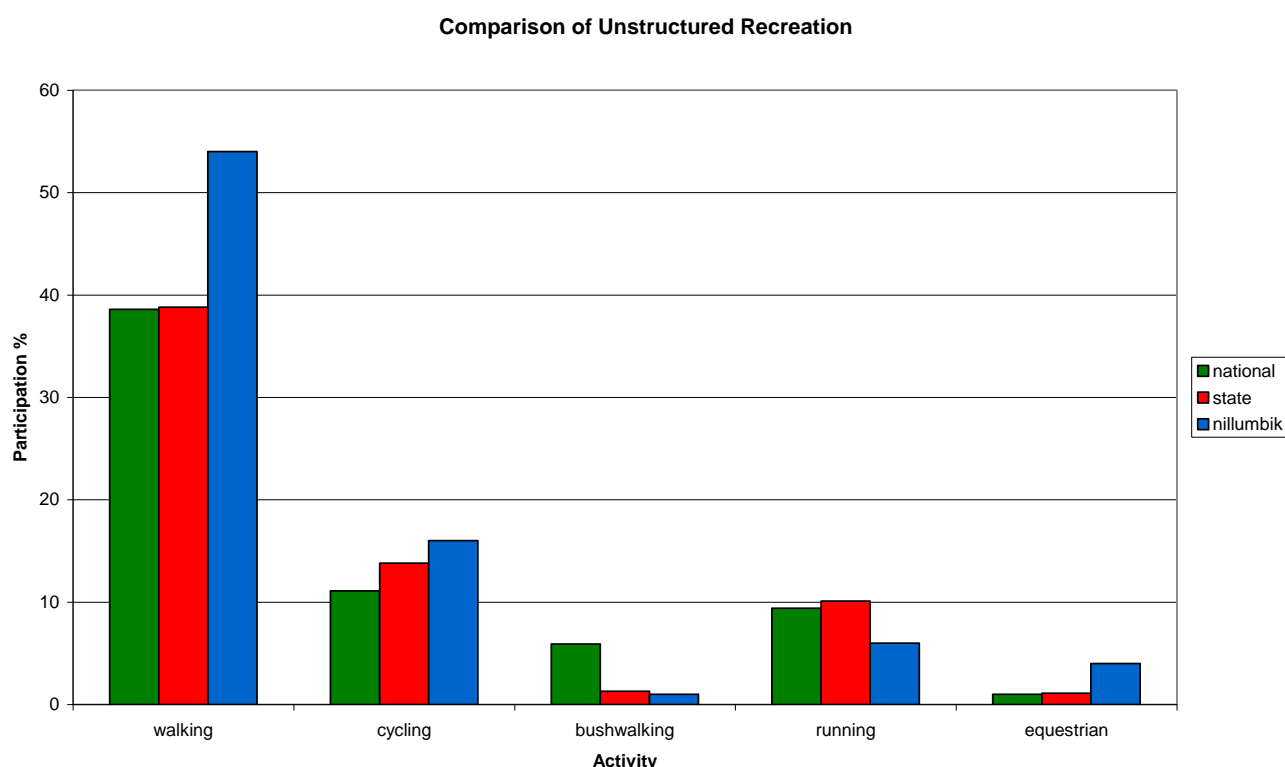
3.1 National and State Recreation Research

The Exercise, Recreation and Sport Survey (ERASS) is a joint initiative of the Australian Sports Commission and the state and territory government agencies responsible for sport and recreation, and was first conducted in 2001. Results from the most recent study, the 2009 ERASS have been used to inform this strategy.

ERASS collects information on the frequency, duration, nature and type of activities that persons aged 15 years and over participate in for exercise, recreation and sport during the 12 months prior to interview. Participation means taking an active part in the recreation pursuit.

The findings of the 2009 report indicate a definite trend towards unstructured sporting activities with walking the most common unstructured activity. This shift has contributed to increased demand for recreational trails close to both urban and rural areas. Recreation trails are typically used for walking, cycling, equestrian pursuits and bushwalking, with these activities listed in the top ten unstructured activities for Australian and Victorian residents.

Graph. 1 National, State and Local Comparison of Unstructured Recreation



3.2 National, State and Local Unstructured Recreation Comparisons

The following table offers a comparison between national, state and local trends in unstructured recreation and provides a guide to meeting the locally identified recreation needs. The national and state data has been obtained from the Participation in *Exercise Recreation and Sport Annual Report 2009* (ERASS), completed by the Australian Sports Commission. The local data has been obtained from the 2011 Recreation Strategy and from various local user groups.

Table 1. Analysis and Comparison of Unstructured Recreation

National and State Unstructured Recreation	Local Unstructured Recreation
<p>PARTICIPATION – National</p> <ul style="list-style-type: none"> – participation rate of 79.4% (participated at least once per week in physical activity). – regular participation rate of 47.7% (participation at least three times per week in any form of physical activity). – unstructured physical activity participation rate of 59.7%. – unstructured physical activity regular participation rate of 38.9%. – overall increases in physical activity between 2001 and 2009 were mainly due to the increase in unstructured participation. – activities in the top ten to experience large increases since 2001 included walking (50% increase), running (57% increase), weight training (49% increase), cycling (36% increase) and bushwalking (34% increase). – females had higher regular participation rates in unstructured physical activity (42.9%) than males (36.7%). – regular participation in unstructured physical activity gradually increased with age for females and males, peaking at 55 to 64 years. – regular participation in unstructured physical activity was higher among those with a university education. – top five unstructured activities in 2009 were walking (39.2%), aerobics/fitness (23.5%), swimming (14.5%), cycling (11.6%) and running 	<p>PARTICIPATION – Nillumbik Shire</p> <p>A telephone survey was conducted with Nillumbik residents in 2008 with regard to recreation participation. The data received from this survey indicated an increase in unstructured recreation compared to traditional club organised sports, with 54% of respondents indicating they walk regularly.</p> <p>An increased demand being placed on existing recreational trails, indicates an expansion of the trail network is required to meet community needs and expectations.</p> <p>In expanding the network consideration should be given to:</p> <ul style="list-style-type: none"> – ensuring shared use trails are designed to meet expected user groups. – multiple access points, linkages to community hubs and townships. – sustainable trail design, including surface and width to fit in with surrounding landscape. – signage requirements (i.e. distance and directional, interpretive). – safe trails for intended user groups; off road trails should be considered in the first instance. – existing and future maintenance requirements.

National and State Unstructured Recreation	Local Unstructured Recreation
<p>(9.9%).</p> <p>PARTICIPATION – State</p> <ul style="list-style-type: none"> – regular participation rate of 49.1% (participation at least three times per week in any form of physical activity). – the top five unstructured activities within Victoria were: walking (35.9%), aerobic/fitness (23.5%), cycling (12.8%), swimming (13.9%) and running (11.7%). 	
<p>WALKING – National</p> <ul style="list-style-type: none"> – walking was the most commonly participated in activity Nationally. – participation rates for females was 50.2% and males 27.8%. – participation in walking has increased by 50% over the last seven years – The total participation rate for walking increased with age, peaking at 55 to 64 years (55.2%) and declining slightly among those aged 65 years and over (49.3%). <p>State</p> <ul style="list-style-type: none"> – walking was the most commonly participated in activity across Victoria. – participation rate for females was 45.9%, and 26.2% for males. – participation in walking was highest in the 45+ age group, and lowest for the 15-24 year age group. 	<p>WALKING – Nillumbik Shire</p> <p>The 2008 survey indicates 54% of residents walk regularly. The continued national popularity of walking is a trend that is also strongly evident among Nillumbik residents. Unfortunately a distinction between walking and bushwalking was not made.</p> <p>However, the demand for quality walking trails both in the urban and rural precincts is likely to continue to be important, particularly given the ageing population as walking is a cost effective activity that is also easy to access.</p>
<p>CYCLING AND MOUNTAIN BIKING – National</p> <ul style="list-style-type: none"> – cycling was the fourth most commonly participated in activity nationally. – participation rate for females was 8.1%, and for males 15.3%. – almost all participation in cycling was unstructured. – cycling is undertaken on average once per week. 	<p>CYCLING AND MOUNTAIN BIKING – Nillumbik Shire</p> <p>Cycling continues to increase in popularity within Nillumbik. The 2008 survey indicates 16% of residents cycle regularly. On-road cycling for both commuter and recreation use, includes growing participation from groups such as the Nillumbik Bicycle User Group. Given this popularity and the windy, undulating</p>

<p>National and State Unstructured Recreation</p> <ul style="list-style-type: none"> – the number of bicycles (all types) sold in Australia in 2009 - 1.15 million bicycles, exceeded the number of cars sold for the 10th consecutive year. <p>State</p> <ul style="list-style-type: none"> – cycling was the third most commonly participated in activity in Victoria. – the participation rate for females was 8.6%, and 17.2% for males. – participation was highest among the 35– 44 year age group (17.0%). – the majority of people indicated that they participated in unstructured cycling (9.7%), in comparison to only 0.9% who indicated they participated in organised cycling activities. 	<p>Local Unstructured Recreation</p> <p>character of rural roads, VicRoads and Council need to ensure cyclist safety is actively considered through appropriate road design, maintenance and signage.</p> <p>Recreational cycling along off-road trails for both young and old is very popular. School groups utilise off-road trails for education purposes and all age groups use these trails for social riding. The Shire roads offer a premium recreational and training opportunity on scenic country roads. This network attracts visiting cyclists.</p> <p>In terms of mountain bike riding, at present there is limited statistical data relating to participation. However, anecdotal evidence indicates that participation has increased rapidly throughout the local precinct over recent years. This is evident through new groups such as the Smiths Gully Mountain Bike Association.</p>
<p>EQUESTRIAN – National</p> <ul style="list-style-type: none"> – total participation rate for equestrian activities in 2009 was 1.0%. – participation rates for females was 1.4%, and for males 0.5%. – participation trends for equestrian activity has remained virtually constant over the last 9 years. – horse riding is undertaken on average once per week. <p>State</p> <ul style="list-style-type: none"> – the total participation rate for horse riding activities was 1.1%. – participation rate for females was 1.7% and for males 0.5%. – out of 55 surveyed recreation pursuits, horse riding was rated as the twenty-third most popular activity. 	<p>EQUESTRIAN – Nillumbik Shire</p> <p>Figures gathered for the Recreation Strategy indicate 4% of residents horse ride. This figure represents a four-fold increase in participation in horse riding in Nillumbik Shire, compared to the State and National averages of 1%.</p> <p>This is evident through the significant number of Horse and Pony and Adult Riding Clubs (11 organisations) and five dedicated equestrian facilities across the shire. The total membership numbers are around 650, of this 90% are female and 45% are 16 – 23 years.</p> <p>The number of clubs and facilities and the consistent annual membership reflect the strong interest in horse riding. Gender and age groups attracted to horse riding indicate the importance of supporting an alternative to more popular recreation pursuits.</p> <p>It is worth mentioning not all horse riders are members of a horse and pony club and thus the need to provide safe horse trails within Nillumbik is vital.</p>

Note: *Cycling figures for National and State data include road cycling, mountain bike riding and BMX.
Equestrian figures for National and State data include horse riding, equestrian activities, and polocrosse.*

3.3 Policy Framework

A wide range of policy and strategic documents provide a basis to inform recreation trail planning in the Shire of Nillumbik. Documents range from Australian Standards, state policies and Council endorsed strategies.

The following table summarises the policies and strategies referenced for the development of this strategy.

3.3.1 State Government Policy

Table 2. Relevant Summary of State Government Policy

State Government Policy	Summary of State Government Policy	Relevance to Nillumbik Policy
<i>Department of Environment:</i> Victorian Trails Strategy 2005 – 2010	This document was released by the State Government through the Victorian Trails Committee and provides an overarching approach for developing and maintaining trail networks. This strategy is used as a basis for decision making in terms of trail marketing and identifies key issues in terms of sustainability, social and economic rationalism.	The key findings in this Strategy were to enhance nature-based tourism and overnight bike rides/ hikes in close proximity to Melbourne. Developing nature based tourism and overnight walks / rides, is directly met through the planned creation of quality recreation trails that traverse historical and contemporary landscape features such as the Kangaroo Ground Fire Tower and the plethora of local wineries. (<i>Maroondah Aqueduct and Green Wedge Regional Trails</i>)
<i>Parks Victoria:</i> Linking People and Places (under review)	This 2002 strategy outlined a holistic approach to Parks Victoria managed land across Melbourne. This document categorises Melbourne according to regions and identifies the management and long term approach of parks and trails within these regions. The Metropolitan Trail Network is identified in this strategy which outlines 15 main trails across Melbourne which range from existing to proposed with a 1 to 10 year or greater timeframe. The MTN is used as the basis for developing local trails through matched funding arrangements with Parks Victoria.	The MTN identified the following trails for Nillumbik to develop within 4 – 9 years: <ul style="list-style-type: none"> – Trail gap between the Plenty River Trail and the Metropolitan Ring Road. (<i>Plenty River Drive Trail link</i>) – Promote east west links, both habitat and trail, in order to compliment and extend the north south links along the regions rivers and waterways. (<i>Green Wedge and Maroondah Aqueduct Regional Trails</i>) – Extend the Diamond Creek Trail from Nillumbik Park to Hurstbridge Park. (<i>Diamond Creek Regional Trail extension</i>) – Complete the Maroondah Aqueduct Trail link from the Plenty River Trail to the Diamond Creek Trail, and establish the trail from Research to Healesville via Sugarloaf Reservoir Park. (<i>Maroondah Pipeline and Maroondah Aqueduct Regional Trails</i>)
<i>Vic Roads:</i> Principal Bicycle Network (under review)	The Principal Bicycle Network (PBN) is a network of arterial cycling routes in metropolitan Melbourne and provides a	The PBN identifies the following as potential on-road or off-road trails: <ul style="list-style-type: none"> – the Maroondah Aqueduct as a

State Government Policy	Summary of State Government Policy	Relevance to Nillumbik Policy
	strategic approach to developing bicycle routes across Melbourne. There is approximately 3500 kilometres of existing and proposed on-road and off-road bicycle routes and is generally based on the arterial network, along with some off-road paths alongside roads and through open space. To date, approximately 1200 kilometres of the network has been completed. VicRoads manage the development of the PBN.	<p>proposed off-road path. (<i>Aqueduct Regional Trail</i>)</p> <ul style="list-style-type: none"> – An off-road path link to Kinglake National Park, adjacent to Eltham Yarra Glen Rd. (<i>Smiths Gully / Christmas Hills trails</i>) – An off-road path between Diamond Creek and Hurstbridge. (<i>Diamond Creek Regional Trail extension</i>)
<i>Department of Sustainability and the Environment.</i> Australian Walking Track Grading System	This classification system is a national reference point as it has been nationally adopted. The system classifies walking trails only according to distance, gradient, signage and track surface.	Elements of the classification system can be incorporated into the Recreation Trails Classification Matrix and the signage strategy, given a consistent and easily identifiable approach is required.

3.3.2 Nillumbik Shire Council Policy

Table 3. Relevant Summary of Nillumbik Shire Council Policy

Council Policy	Summary of Council Policy	Relevance to Recreation Trails Strategy
Green Wedge Management Plan, 2010	The Green Wedge Management Plan outlines how Council will deliver on managing a sustainable Green Wedge Shire. The plan centres around four main themes of environment, economy, people and communities and governance. Each of the themes are addressed through prioritising relevant works to support a sustainable outcome. The implementation plan is for 15 years with a 3 yearly review.	A strategic direction of this plan includes implementing the <i>Recreation Trails Strategy</i> (2001) with emphasis on the extension to the Diamond Creek Trail, Pipeline Trail (Allendale to Diamond Creek-Hurstbridge Road) and the Green Wedge Trail. The plan also identifies a continued investigation into the proposed Maroondah Aqueduct Trail, given the opportunity it provides to create an iconic recreation and tourism opportunity for Melbourne.
Economic Development Plan, 2010	This strategy plans the development of a vibrant and sustainable local economy that is based on our key advantages, including our magnificent environment and the high level of skills and abilities of our residents and business people. The strategy has been developed around five inter-linked themes, including: <ul style="list-style-type: none"> • Activity Centres • Business Development • Tourism • Arts • Rural / Green Wedge Economy. The Implementation Plan identifies timelines and resources required to implement actions, external funding opportunities and consultation, necessary with stakeholders and the community.	Developing nature based tourism is identified in this plan as a means of enhancing tourism opportunities and the rural green wedge economy. Recreation trails are an integral part of nature based tourism and contribute to developing and sustaining the local economy. Given nature based tourism is a growth area, the development of recreation can capitalise on this.
Recreation Strategy, 2011	The Recreation Strategy intends to provide a strategic approach to the provision of recreation and sporting services and infrastructure within Nillumbik over the period of 2011 – 2016.	The Recreation Strategy identifies unstructured recreation as an expanding area and one that is required to be prioritised. Recreation trails enable the opportunity to participate in

NILLUMBIK TRAILS STRATEGY 2011

Council Policy	Summary of Council Policy	Relevance to Recreation Trails Strategy
		unstructured recreation. Developing tourism was also identified in the strategy, also met through the creation of quality recreation trails
Open Space Strategy, 2005	The Open Space Strategy provides a framework for developing and managing the Shire's open space network. This includes the recreation trail network throughout these open spaces. The strategy largely aims to meet the current and future needs of residents and visitors.	The recreation trail network will provide connections between the open space network to enhance the recreation experience and provide for wildlife corridors. This will be achieved through the development of the regional trails, such as the Diamond Creek Regional Trail connecting the parklands in Diamond Creek to the parklands in Hurstbridge via a wildlife corridor along the Diamond Creek.
Community Inclusion Policy, 2011 - 2012	This policy is currently being reviewed and aims to create a more connected, supported and included community. The policy supports active living through the recognition of all residents requiring a range of different supports to enjoy a healthy life.	The development of access for all ability trails aim to meet the diverse needs of the community. Urban trails and trails with a township connection will aim to meet the access for all abilities criteria to ensure community connectedness.
Municipal Public Health Plan, 2010 - 2013	The Municipal Health and Wellbeing Plan is the key policy document that identifies priority health issues and responses for the communities of Nillumbik. This Plan is based on a community resilience framework, outlining the key goal areas to ensure Nillumbik residents maintain active living in the community.	Development and management of trails aligns with two of the key goals being active participation and connection to place and space. A healthy active lifestyle may be maintained or improved through undertaking 30 minutes of exercise daily. This can easily be met through the use of recreational trails, which are cost effective, free of time constraints and cater for a diverse range of age groups.
Draft Roadside Management Plan, 2011	This policy is currently under review. However in its current format provides an outline of the vegetation management required for the different roadsides throughout Nillumbik and outlines the inherent environmental features requiring preservation.	Recreation trails often traverse roadsides, the roadside management plan is used to inform the development of recreation trails to ensure trails are developed sustainably and in partnership with all areas of Council.
Draft Rural Road Sealing Policy, 2003	This draft policy outlines the strategic approach to sealing rural roads, the requirements for sealing and expected outcomes, including funding.	Recreation trails are often located on unsealed rural roads, for example the Green Wedge Regional Trail has on-road sections throughout Smiths Gully. This draft policy should address the sealing of rural roads used as trails (either on road or verge trails). This will ensure trail routes are not compromised with the expected increase in vehicle speed along sealed roads.
Recreation Trails Signage Strategy 2006	This strategy provides a guide to appropriate signage in terms of design, positioning and budgeting requirements. This strategy should be used when signage installation is required to ensure a consistent approach across the trails.	Recreation trail signage is required to be in line with this signage strategy, and rolled out in a consistent and timely manner.
Panton Hill Bushland Reserves Management Plan 2011	The policy outlines the environmental significance of the bushland reserves while recognising the historic use of the reserves for shared recreation pursuits.	The trails within the Panton Hill Bushland Reserves are listed in the trails strategy and form part of the network of local trails. The on-road trails that link to the Panton Hill Bushland Reserve have also been identified.

3.4 Economic Evaluation

Investment in regional trails across Nillumbik has the potential to achieve substantial social, environmental and economic benefits to the region. An economic evaluation was completed to focus on the direct and in-direct economic benefits that recreation trails can provide to the local community.

To carry out this study information on trail use and estimated visitor and local spending patterns was required. As Nillumbik Council has just commenced collecting data on use, comparative figures from the Warburton Trail in the Shire of Yarra Ranges were used to inform this evaluation. Nillumbik data will be used in future evaluations.

The economic evaluation includes a comparison with the cost of trail construction and maintenance. This provides a complete picture of the economic benefits of recreation trails.

It is likely that the use of the urban regional trails in Nillumbik such as the Diamond Creek Trail primarily attracts use from local residents. Whereas the proposed regional trails such as the Green Wedge Trail, which traverses rural areas are likely to attract use from a combination of local and state-wide visitors. This evidence is based on studies including the Barwon South West Regional Trails Master Plan, 2009 (Robin Crocker and Associates) and Cycling in Regional Communities, 2009 (Associate Professor Sue Beeton, PhD).

These reports show that regional trails in interface Council areas attract 25% of use from the local community and 75% of use from intrastate visitors. This data was extrapolated for both the rural and urban regional trails in Nillumbik. Rural regional trail use is assumed to contain a ratio of 25% local and 75% visitor use and urban regional trail use has an assumed usage ratio of 75% local to 25% visitor use. This can be justified given the urban regional trails connect local townships and traverse local residential areas, such as the Diamond Creek Trail connects Eltham to Diamond Creek. Rural regional trails require user groups (other than the local community) to specifically travel to these trails for use, such as mountain bike riding the Green Wedge Trail.

These studies recognise that regional trails may be the main trigger for attracting the majority of visitors to a particular region, as seen for rural based regional trails. The studies also indicate that a high portion of trail use is as short trail experiences, highlighting the necessity for multi-access points and local links, as seen for urban based regional trails.

For the purposes of the strategy an estimate of potential economic benefits has been calculated as follows.

1. An estimate of the proportion of trail usage, local and visitor
2. The ratio of local to visitor usage-
 - a. rural regional trails: 25% local use and 75% visitor use

- b. urban regional trails: 75% local use and 25% visitor use
3. An average daily spend of \$2 was estimated for local users and \$10 for visitors.

(note. data is based on An Economic Analysis of Rail Trails in Victoria, Australia, 2003 by Associate Professor Sue Beeton, PhD).

Table 4. Estimate of Economic Benefits of Regional Trails

regional trail	expected use	expected ratio of local to visitor use	estimated local spend (\$2)	estimated visitor spend (\$10)	total estimated spend
Diamond Creek Trail	105,000	75 / 25	\$157,500	\$262,500	\$420,000
Green Wedge Trail	50,000	25 / 75	\$25,000	\$375,000	\$400,000
Aqueduct Trail	150,000	50 / 50	\$150,000	\$750,000	\$900,000
Kinglake Way Trail	25,000	25 / 75	\$12,500	\$187,500	\$200,000
Total use	365,000		\$345,000	\$1,575,000	\$1,920,000

The results indicate that in total regional trails could potentially generate almost 2 million dollars in direct annual revenue to local communities. Trail users, including road cyclists regularly purchase food and drinks at local cafes and shops as part of the recreation experience.

Job creation is estimated at 24 jobs, using \$80,000 / annum as the salary basis, this is adopted from the *Cycling in Regional Communities, 2009* report. This employment is expected to be sustained through nature-based tourism with local and visitor use of the regional trails and could be expected to increase over time, provided effective ongoing management of trails is achieved.

There is also the potential for increasing demand for accommodation in the rural sections of the shire, further enhancing the economic benefits to the region.

The results are interesting for rural regional trails, as while they may have lower usage numbers, a higher portion of the use is from visitors who spend more than locals thus increasing annual revenue. For example the Green Wedge Trail potentially has half the patronage as the Diamond Creek Trail, yet approximately the same revenue is estimated to be generated.



Wineries can be accessed from recreation trails and form part of a 'tourism trail'.

Section 4 – Trail Classification

This section outlines the process involved in classifying recreation trails. Trail classification is important for a range of reasons, from enabling effective marketing and promotion to ensuring appropriate maintenance.

4.1 Recreation Trail Classification

Recreation trails have been categorised as regional, local or cultural heritage. This is based on the classification system as outlined in the State Government's Victorian Trails Strategy 2005 – 2010. The following table outlined the properties associated with each trail classification.

Table 5. Recreation Trail Classification

Regional Trails	Local Trails	Cultural Heritage Trails
Attract interstate and intrastate visitors.	Mainly attract local users.	Attracts local, intrastate and interstate visitors.
Generates significant economic benefits to the region.	Generate economic benefits to the local area	Depending on the trail may generate economic benefits to the region, such as tourism trails.
Excellent quality experiential values.	Good quality experiential values	Unique and distinctive experience.
Significant contribution to the lifestyle, health and social well-being of the broader community.	Significant contribution to the lifestyle, health and social well-being of the local community.	Significant contribution to the lifestyle, health and social well-being of the local and broader community.
Trails traverse the Shire and aim to link to other Victorian regional and/or national trails.	Trails link to regional trails, or form vital township or community hub links.	Stand-alone trails or can link to the local or regional trail network.
Identified through: <ul style="list-style-type: none"> – Parks Victoria's Metropolitan Trails Network (MTN). – VicRoads' Principle Bicycle Network (PBN). – RTAC 	Identified through: <ul style="list-style-type: none"> – Local walking groups – Local communities – RTAC 	Identified through: <ul style="list-style-type: none"> – Local tourism groups. – Local business development groups. – Heritage groups. – Access for all abilities. – Reconciliation groups.



4.2 Recreation Trail Experience Based Matrix




Once a trail has been determined to be **regional**, **local** or **cultural heritage** a further system has been developed in an attempt to match the experience with the landscape and subsequent design and maintenance requirements. This system is the **Recreation Trail Experience Based Matrix**.


Six trail categories outline the trail experience, expected trail use and design and construction standards. The central identifier of the matrix is the **trail category** with the various categories stemming from this. The design and management of each trail category is based on Australian Standards, and guidelines from Parks Victoria and the International Mountain Bike Association.

Table 6. Recreation Trail Experience Based Matrix

The following matrix provides a way to classify trails based on the experience offered by the environment in which the trail is located. The allowable use on each trail is linked to this experience and detailed as the trail category. Trail design and maintenance are determined based on a match with the environmental conditions and the desired experience.

Trail Category	Landscape	Trail Experience	Typical Use	NSC Design Parameters	NSC Level of Service
Bushland Trail		Recreation in bushland along natural trails.	Bushwalking Equestrian Mountain Biking <i>Note: some trails have specific use requirements</i>	<ul style="list-style-type: none"> Natural ground for trail surface. Gullies and creek banks to be avoided, where possible. Necessary creek and gully crossings will ensure minimal impact on surrounding environment, through use of stone beaching, boardwalks or culverts. Sustainable trail design and construction, including water sensitive urban design (WSUD) and erosion control design features. Trail width to maintain the natural form of the trail. Trail design aims to avoid vegetation clearance. New trails to avoid recognised areas of environmental significance. Waterway crossings managed by Melbourne Water will conform to MW Constructing Waterway Crossing Guidelines, 2011. Trails on land subject to flooding should meet the requirements outlined in the MW Guidelines for Development in Flood-prone Areas. 	<ul style="list-style-type: none"> Trail maintenance to manage erosion, control weeds and remove trail obstructions. Low-key signage acknowledging suitable use, code of conduct and interpretation. Annual inspection frequency. Inspections also to follow 1 in 10 year storm events or when alerted about obstruction or hazard. Maintenance works conducted following inspections.
Bridle Trail		Recreation along a linear corridor of open space.	Equestrian Walking	<ul style="list-style-type: none"> Natural ground for trail surface. Modified trail surface in steep or wet sections, through use of crushed rock or culvert crossings. Trail width maximum 6m. Sustainable trail design and construction, including water sensitive urban design (WSUD) and erosion control design features. Waterway crossings managed by Melbourne Water's to conform to MW Constructing Waterway Crossing Guidelines, 2011. Trails on land subject to flooding should meet the requirements outlined in the MW Guidelines for Development in Flood-prone Areas. 	<ul style="list-style-type: none"> Minimal modification to natural surface, as required for trail maintenance. Vegetation maintained to provide up to 6m horizontal clearance and 3 m vertical clearance. Signage at head of trail and route markings, (i.e. distance and directional). Annual inspection frequency. Inspections also to follow 1 in 10 year storm events or when alerted about obstruction or hazard. Maintenance works conducted following inspections.

Trail Category	Landscape	Trail Experience	Typical Use	NSC Design Parameters	NSC Level of Service
Roadside Trail		Recreation along the road verge of unsealed or sealed roads, generally in a rural setting.	Walking Equestrian Mountain biking	<ul style="list-style-type: none"> Natural ground for trail surface. Modified trail surface in steep or wet sections, through use of crushed rock or culvert crossings. Trails are on the road verge, where impacts to significant vegetation can be avoided or minimised. Sustainable trail design and construction, including water sensitive urban design (WSUD) and erosion control design features. Trail width to maintain the natural form of the trail, an approximate width of up to 1m. <p><i>Note: roadsides with vegetation classified as environmentally significant, as defined in the Roadside Management Plan will not be impacted, alternative routes will be sought.</i></p>	<ul style="list-style-type: none"> Vegetation maintained to provide up to 2 m horizontal clearance and up to 3 m vertical clearance. Signage at head of trail and route markings, (i.e. distance and directional). Annual inspection frequency or when alerted about obstruction or hazard. Maintenance works conducted following inspections.
Rural Road Trail		Recreation in a rural setting along an unsealed road.	Walking Equestrian Mountain biking	<ul style="list-style-type: none"> Existing surface of road. Avoiding coarse crushed rock for new shared use road trails. Trail width as per road. <p><i>Note: For this trail type it is important to preserve unsealed roads for shared recreation.</i></p>	<ul style="list-style-type: none"> Vegetation maintained to ensure no encroachment onto road, in line with the Road Management Plan. Shared use signage, including signs warning vehicles of trail users. Avoid use of coarse crushed rock for maintenance works. Bi-annual inspection frequency or when alerted about obstruction or hazard. Maintenance of road surface conducted following inspections or when alerted about obstruction or hazard, which is in line with the Road Management Plan.
On-Road Cycling Trail		Recreation and commuter cycling on sealed roads. This may be a dedicated bicycle lane.	Road cycling	<ul style="list-style-type: none"> Existing surface of road (generally asphalt). Where there is a dedicated bicycle lane, minimum width of 1.2m. Line markings clearly define bicycle lanes. <p><i>Note: Utilise the Australian Standard – Manual of Uniform Traffic Control Devices – Part 9 Bicycle Facilities for design.</i></p>	<ul style="list-style-type: none"> Vegetation management - box clearance to 2.5m, in line with the Road Management Plan. Bi-annual inspection frequency or when alerted about hazard. Maintenance works conducted following inspections or when alerted about obstruction or hazard. <p><i>Note: Vic Roads conduct maintenance as per internal guidelines on Non-Council roads.</i></p>

Trail Category	Landscape	Trail Experience	Typical Use	NSC Design Parameters	NSC Level of Service
Off-Road Trail		Recreation on designated shared use trails. Trails are in a range of settings from urban to rural, creek corridors to open space.	Walking Running Cycling Equestrian	<ul style="list-style-type: none"> – Generally sealed surface, typically concrete or asphalt. – Surface can also be natural, or hardened with crushed rock. – Urban shared use trail widths should be 3m with 1m clearance on either side of trail (i.e. 5m wide footprint). – Rural shared use trail width to match landscape setting. – Trail should be designed for access for all abilities (including a trail grade of 1:14), where possible. – Provide for amenities such as toilets, car parking, picnic facilities, where possible. – Sustainable trail design and construction, including water sensitive urban design (WSUD) and erosion control design features. – Waterway crossings managed by Melbourne Water's to conform to MW Constructing Waterway Crossing Guidelines, 2011. – Trails on land subject to flooding should meet the requirements outlined in the MW Guidelines for Development in Flood-prone Areas. 	<ul style="list-style-type: none"> – In urban precincts maintain vegetation to provide 1 m horizontal clearance from the trail edges and 3 m vertical clearance. – In rural precincts maintain vegetation to ensure trail is trafficable. – Signage at trail head, access points, and at strategic locations along the trail route including; distance and directional, warning, etiquette and interpretive. – Bi-annual inspection frequency or when alerted about obstruction or hazard. – Maintenance works conducted following inspections.

Section 5 – Recreation Trail Network

The designated trail network consists of regional, local and cultural heritage trails. Council is responsible for the management, public liability, insurance and monitoring of the designated trail network to ensure the identified level of service is met, as detailed in the **Recreation Trail Experience Based Matrix**.

5.1 Regional Trails

The regional trail network forms the backbone of the trail network throughout Nillumbik Shire. Regional trails traverse the shire providing tourism, economic, social and environmental benefits. The regional trail network includes the **Diamond Creek Trail, Aqueduct Trail, Green Wedge Trail** and the **Kinglake Way Trail**.

Sections 5.4 to 5.7 details each of the regional trails, including an overview map.

Appendix 1 outlines the management requirements associated with each of the regional trails.

5.2 Local Trails

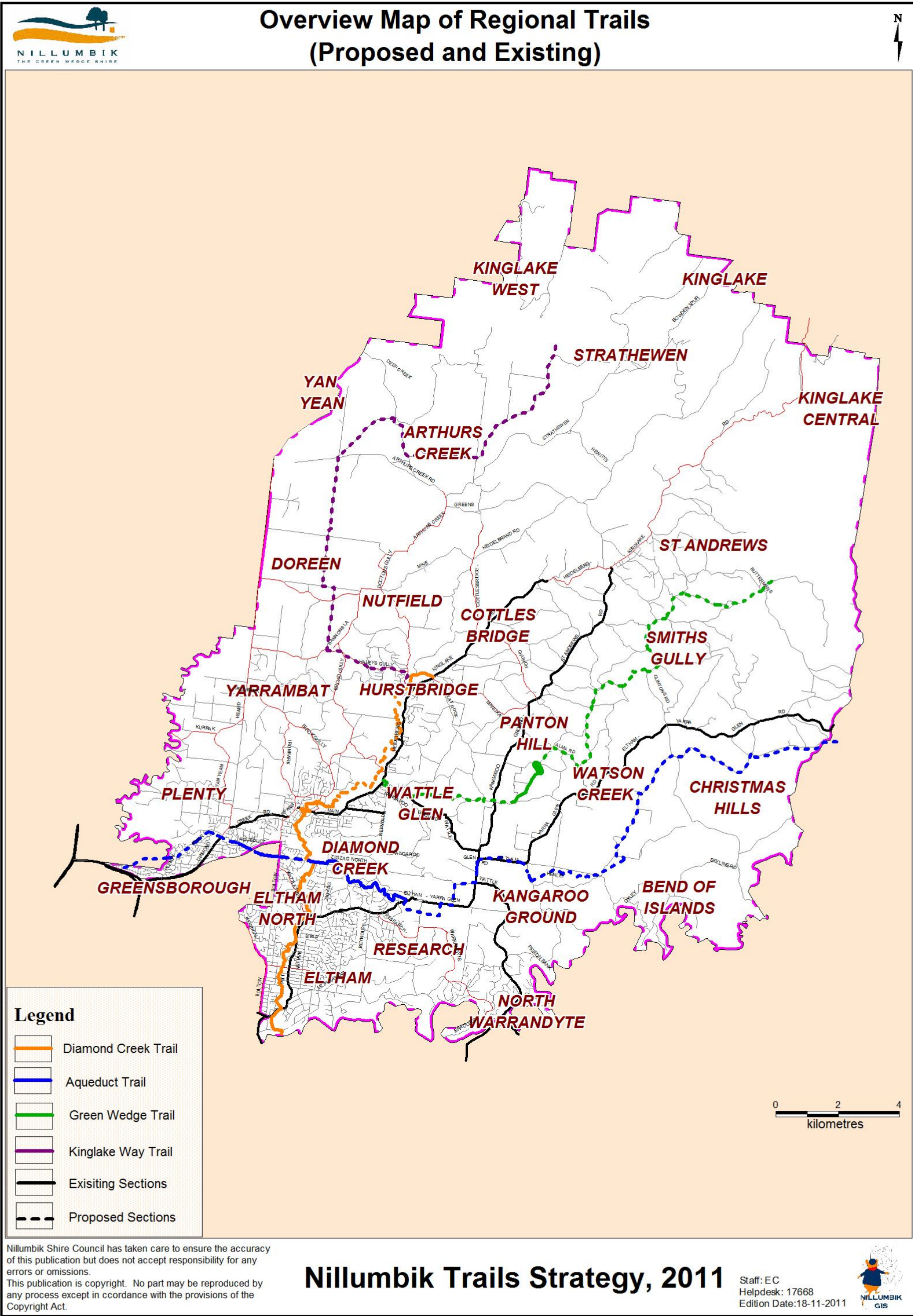
The network of local trails throughout Nillumbik is extensive in both rural and urban settings. Local trails offer a variety of recreational experiences, often providing connections through neighbourhoods to townships, parklands and community activity centres.

Detail of the local trail network is outlined in Appendix 2.

5.3 Cultural Heritage Trails

Cultural heritage trails provide a unique opportunity to the community such as through a sensory experience or by offering a historical or cultural insight to the precinct.

Cultural heritage trails are further detailed in Appendix 2.



5.4 Diamond Creek Trail

The **Diamond Creek Trail** is the most popular shared use trail in Nillumbik as it connects the two major townships of Eltham and Diamond Creek. A planned extension of this trail will provide a connection to the townships of Wattle Glen and Hurstbridge.

The trail is important as it provides for both recreation and commuter use, with the trail connecting to Eltham and Diamond Creek railway stations. The proposed trail extension will connect with the Wattle Glen and Hurstbridge railway stations.

The trail currently provides links to community activity centres and sporting hubs at:

- **Lower Eltham** – Diamond Valley Miniature Railway, Eltham Horse and Pony Clubs, sports fields (lacrosse, cricket, football).
- **Eltham Central** – sports fields (rugby, football and cricket), community centres.
- **Eltham North** – sports fields (soccer, cricket), adventure playground and Edendale.
- **Diamond Creek** – sports fields (football and cricket), community centre.

The trail is categorised as an **off-road trail**. The main use of the trail includes walking, cycling and running.

The trail is currently 12km in length, from Eltham Lower Park where a connection to the Main Yarra Trail can be made, to the newly completed bridge in Diamond Creek behind Diamond Creek East Primary School. The existing trail is sealed with either asphalt or concrete at widths varying between 2m and 3m. The aim is for the existing trail to be upgraded to a 3m wide sealed surface trail.

The proposed trail extension between Diamond Creek and Hurstbridge is expected to be a long term project, given that three alignment options need to be assessed, including rail, road and creek. Critical sections of the land along the Diamond Creek are in private ownership. The final length of the trail will be approximately 18km when the proposed connection to Hurstbridge is complete.

5.5 Aqueduct Trail

The proposed **Aqueduct Trail** utilises the corridor of the historically significant Maroondah Aqueduct. The aqueduct was an engineering feat, following the contours of the land from Maroondah Dam in Healesville to Melbourne's storage dam in Preston. The aqueduct was 66km in length, supplying clean water to Melbourne during the late 19th and early 20th Centuries. The remaining aqueduct and associated infrastructure are of state heritage significance and are expected to be listed on the Victorian Heritage Register.

The alignment and gradient of the Maroondah Aqueduct provide for an ideal family friendly trail. The aqueduct has a relatively wide easement, picturesque setting, and a constant gradient, aside from the inverse syphons at creek and road crossings.

The length of the proposed trail is 33km with the alignment commencing in Greensborough and finishing overlooking Yarra Glen. The proposed Aqueduct Trail contains a range of recreation opportunities including linkage to other regional and local trails within both urban and rural settings.

A detailed design has been completed of a 3km stretch of the trail, located along an easement of active pipeline between Diamond Creek Rd, Greensborough and Allendale Rd, Eltham North. Construction of this section is planned for 2013. This trail section is important as it provides an ideal opportunity for both recreation and commuter use and provides a viable link between Diamond Creek and the city. This trail section will be categorised as an **off-road trail**.

The land manager of the aqueduct easement between Research and Christmas Hills is yet to be confirmed. A potential trail in this section would be 17km in length and is proposed to follow both the alignment of the old aqueduct and rural roads, where the aqueduct is impractical to utilise. The proposed route provides connections to local townships, including Kangaroo Ground to encourage local tourism and business development.

The expected uses include horse riding, mountain bike riding, recreation cycling and bushwalking. Varieties of experiences are offered by this proposed trail section and thus can be classified under a number of categories however the main categories are **off-road and roadside trail**.

5.6 Green Wedge Trail

The proposed **Green Wedge Trail** will provide the opportunity to explore the rural reaches of the shire. The trail is proposed as a largely natural trail which blends with the surrounding environment. The trail will be 25km in length, commencing in the Wattle Glen township, and provide links to the townships of Kangaroo Ground, Pantan Hill and Smiths Gully before reaching Kinglake National Park.

The Green Wedge Trail will connect to the planned extension of the Diamond Creek Trail and the train station in Wattle Glen, allowing for access to public transport and public amenities.

The trail route provides ample opportunity for tourism and business development in the rural townships, particularly given the proximity to local wineries and historic attractions, including the Kangaroo Ground Museum and Tower of Remembrance.

The trail is generally located along rural roads, with the expected use bushwalking, mountain bike riding and horse riding. The trail will be classified predominately as a **roadside trail**.



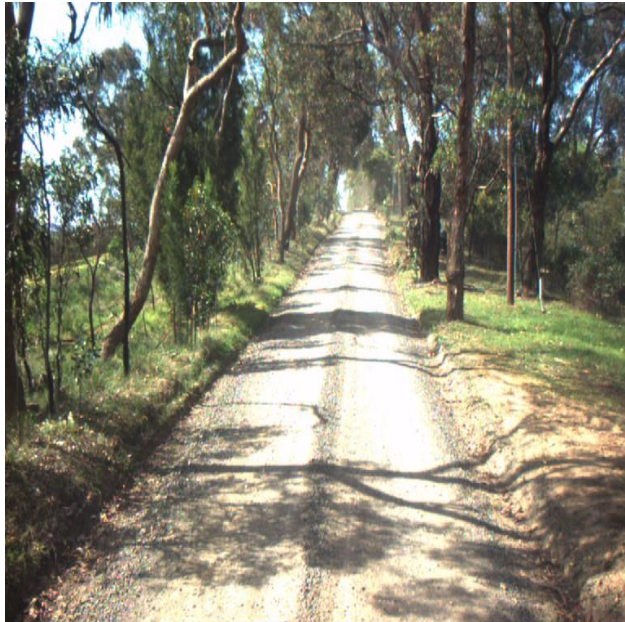
Horse riding along an existing section of the Green Wedge Trail.

5.7 Kinglake Way Trail

The proposed **Kinglake Way Trail** is a recent addition to the regional trail network and traverses the northwest reaches of the shire.

The trail commences in Hurstbridge and utilises rural roads before reaching Kinglake National Park. The alignment offers scenic views of the surrounding district with striking views of Kinglake National Park. The trail is 21km in length with bushwalking expected as the main use and mountain bike riding and horse riding complimentary uses.

The proposed trail will be categorised as a **rural road trail** as the alignment is largely on road, with some road verges utilised where practical.



A typical rural road to form part of the proposed Kinglake Way.

Section 6 – Trail Issues and Solutions

This section provides a summary of some of the emerging issues associated with recreation trails. The issues have been identified from previous reviews, background research, consultation with RTAC, stakeholders and the community. For each of the issues a solution has been identified, however at this stage these have not been costed as this will form part of the action plan.

The emerging issues have been grouped into four main themes:

1. the need for efficient **planning, development** and **management**
2. a need to emphasise trail **experience** which informs **infrastructure** requirements
3. opportunities for **marketing** and **promotion**
4. sustainable **funding**

6.1 Planning, Development and Management

It is integral to plan, develop and manage trails to ensure the expectations of all user groups are met. The following table identifies these issues along with an appropriate solution.

Emerging Issues	Proposed Solution
– Limited cross-government focus, i.e. state and local in trail development.	– Form a recreation trail planning network, to meet quarterly, with the main land management agencies and adjacent municipalities.
– Limited data on trail use, which is integral to inform management decisions.	– Permanent usage counters could be installed on trails.
– Limited volunteer involvement in trail management.	– Encourage volunteer support through the development of friends of group(s).
– Conflicts and safety concerns associated with the different user groups on shared use trails.	– Develop and adopt a trail users 'code of conduct' in consultation with trail user groups.
– Limited knowledge of proposed and existing trails.	– RTAC to review the proposed network of local trails with a view to increasing the designated trail network.
– Trail development has potential to impact on sites of cultural or heritage significance.	– These risks and impacts will be identified during trail planning and where necessary during trail construction, such as through an onsite cultural advisor.
– Trail development has potential to impact on sites of environmental significance.	– These impacts will be identified during trail planning and where necessary during trail construction, to ensure threats to environmentally sensitive areas are appropriately managed.
– Limited maintenance of the existing trail network.	– Assess resources allocated to maintain existing trails and determine future maintenance requirements.

6.2 Experience Based Emphasis

At the heart of the rationale for the use of a trail is the experience it provides. To date the emphasis on trails has been on the provision of infrastructure i.e. trail surface, drainage, signage, facilities and amenities. This strategy attempts to initially recognise the required trail experience with infrastructure needs stemming from this.

Issue	Proposed Solution
<ul style="list-style-type: none"> – Ability to provide a range of trail opportunities that cater for a diverse skill set and variety of interests. 	<ul style="list-style-type: none"> – Investigate the feasibility of a series of fitness stations, along the Diamond Creek Trail. – Investigate the feasibility of a sensory trail at an accessible location. – Investigate feasibility of developing a tourism trail, which includes local wineries and local attractions.
<ul style="list-style-type: none"> – Limited amenities associated with existing trails: signage, parking, information shelters and toilets. 	<ul style="list-style-type: none"> – Investigate where trailhead facilities are required, such as toilets, parking, and picnic facilities.
<ul style="list-style-type: none"> – Concern regarding the development of 'over engineered' trails i.e. trails not compatible with the landscape setting or nature of the desired experience sought. 	<ul style="list-style-type: none"> – Use the Recreation Trail Experience Based Matrix to classify, design and manage recreation trails.
<ul style="list-style-type: none"> – No dedicated facilities for mountain bike riders in this region. 	<ul style="list-style-type: none"> – Investigate the opportunity for the creation of a mountain bike hub within Nillumbik.
<ul style="list-style-type: none"> – Limited off road trails for equestrian use. At present the majority of trails are either on-road or roadside verge trails 	<ul style="list-style-type: none"> – Consult with the horse riding community to investigate safer alternatives to existing trails and explore opportunities with land managers within the shire.
<ul style="list-style-type: none"> – Limited on-road cycling lanes and safe sealed shoulders for road cycling. 	<ul style="list-style-type: none"> – Review maintenance of proposed on-road cycling routes and investigate the feasibility of sealing road shoulders. Install safety awareness signs.

6.3 Marketing and Promotion

Marketing and promotion of recreation trails is mainly achieved through trail openings and articles in the local publications such as Nillumbik News.

Expanding the marketing and promotion of trails will increase trail use and thus lead to economic development in local townships.

Issue	Proposed Solution
– Minimal use of multi-media marketing.	– Investigate use of mobile phone applications in marketing of trails and web based supporting information.
– Limited detailed trail maps and trail information.	– Produce detailed trail maps, including trail classification, gradient, amenities.
– Minimal trail interpretation signage.	– Install interpretive signage along appropriate trail routes, such as the historically significant Aqueduct Trail.
– Limited bundling of promotional opportunities for trail experiences, such as winery trails, indigenous experiences and historic features.	– Develop an effective marketing strategy which is consistent with the Nillumbik Tourism Association.

6.4 Sustainable Funding

To date considerable resources have been spent on developing trails across Nillumbik, however expanding funding sources should be explored.

Issue	Proposed Solution
– Generally limited available funding within Council to maintain existing and construct new trails.	<ul style="list-style-type: none"> – Identify a wide range of funding sources, such as Department of Health, Sport and Recreation Victoria, Tourism Victoria and private funding. – Identify opportunities for trails to become self-funded, i.e. through tourism and local business leases.

Section 7 – Recommendations

To sustainably develop and manage the recreation trail network, an action plan is recommended based on the proposed solutions to the identified critical issues, as outlined in Section 6.

A strategic plan has been developed for each regional trail. The regional trail plans guide and prioritise the actions relating to the extension of the Diamond Creek Trail, formalisation and development of the Green Wedge Trail, future direction of the Aqueduct Trail and the development of the Kinglake Way.

Realistic timeframes have been assigned to each recommendation:

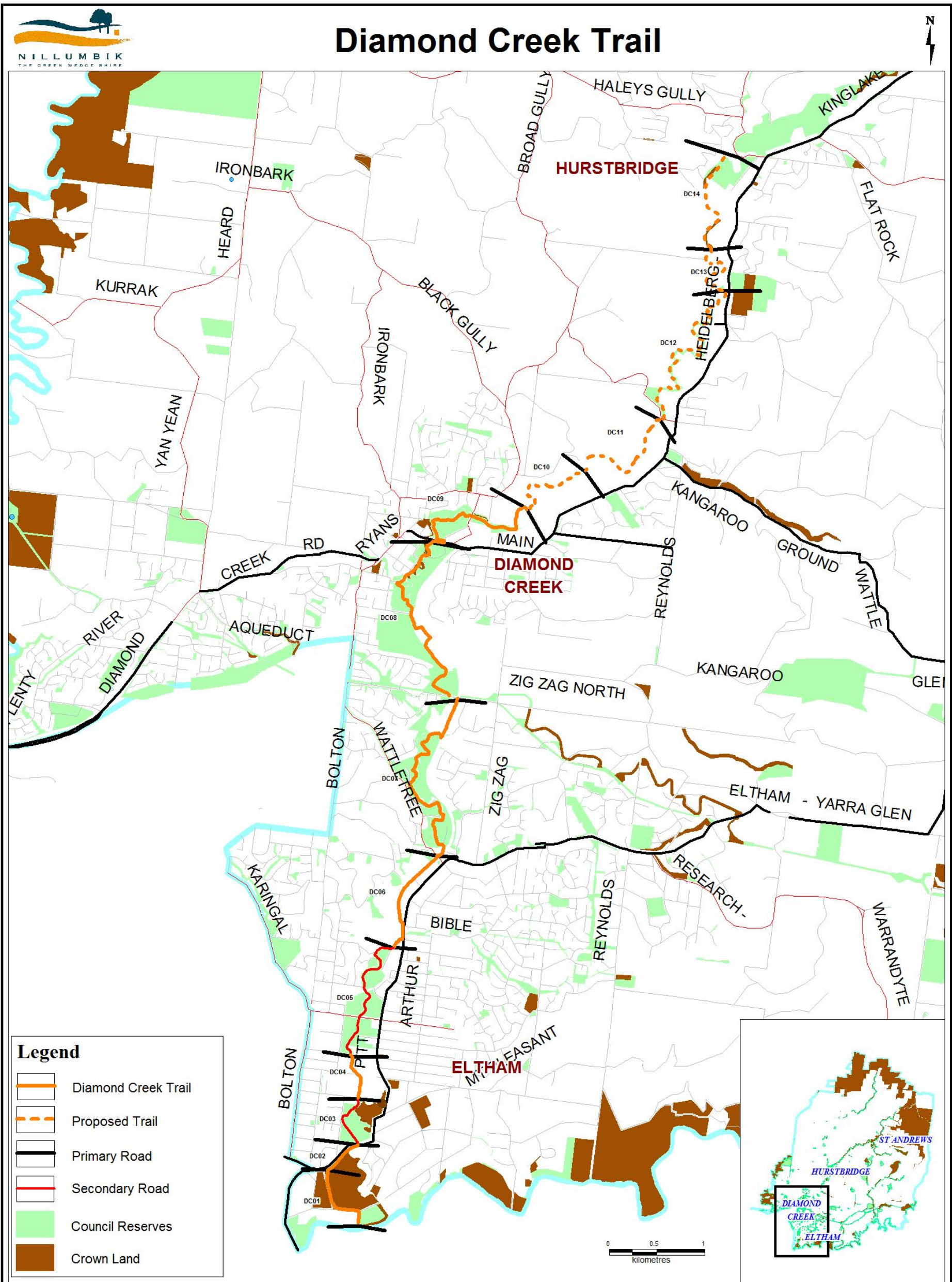
- **short-term:** 0 to 3 years, 2011 – 2014
- **medium-term:** 4 to 9 years, 2015 - 2020
- **long-term:** 10+ years, 2020
- **ongoing:** actions required to be completed each year

An indicative cost has also been assigned to each task along with the responsible Council unit and external stakeholders to be consulted in regard to the task.

7.1 Diamond Creek Trail Plan

Diamond Creek to Hurstbridge: The following table reflects the **planning** involved to **extend** the Diamond Creek Trail

Section Code	Location	Project	Indicative Cost	Responsible Unit	Stakeholder	Timeframe
DC10 – DC14	Diamond Creek to Hurstbridge	Continue negotiations with landowners regarding the possible development of the trail.	N/A	Leisure Services	DSE Landowners	short-term
		Section 7.1 - Investigate options (rail, road, creek or private land alignment) to achieve a continuous public access trail experience between Diamond Creek and Hurstbridge. This may be achieved through negotiation, creation of easements, and potential purchase of land, as per the Local Government Act 1989 and Planning and Environment Act 1987.	N/A	Leisure Services Strategic Planning	DSE Melbourne Water DOT VicRoads Landowners	Ongoing
		Advocate for funding the underpass and trail connection.	N/A	Leisure Services	DSE; DOT VicRoads	short-term
		Design and construct the underpass and trail connections to the schools, stadium and township.	\$700K	Leisure Services Infrastructure Development	DOT Schools	short-term
		Design and construct a trail link in Hurstbridge along Greys Harps Rd, (1km).	\$300K	Leisure Services Infrastructure Development	Community Vic Track	short-term
		Design and construct trail to connect the Diamond Creek township and Wattle Glen.	\$1M	Leisure Services Infrastructure Development	Vic Track	medium-term
		Design and construct trail to connect Wattle Glen and Hurstbridge.	\$1.5M	Leisure Services	Vic Roads DOT	medium-term



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Nillumbik Trails Strategy, 2011

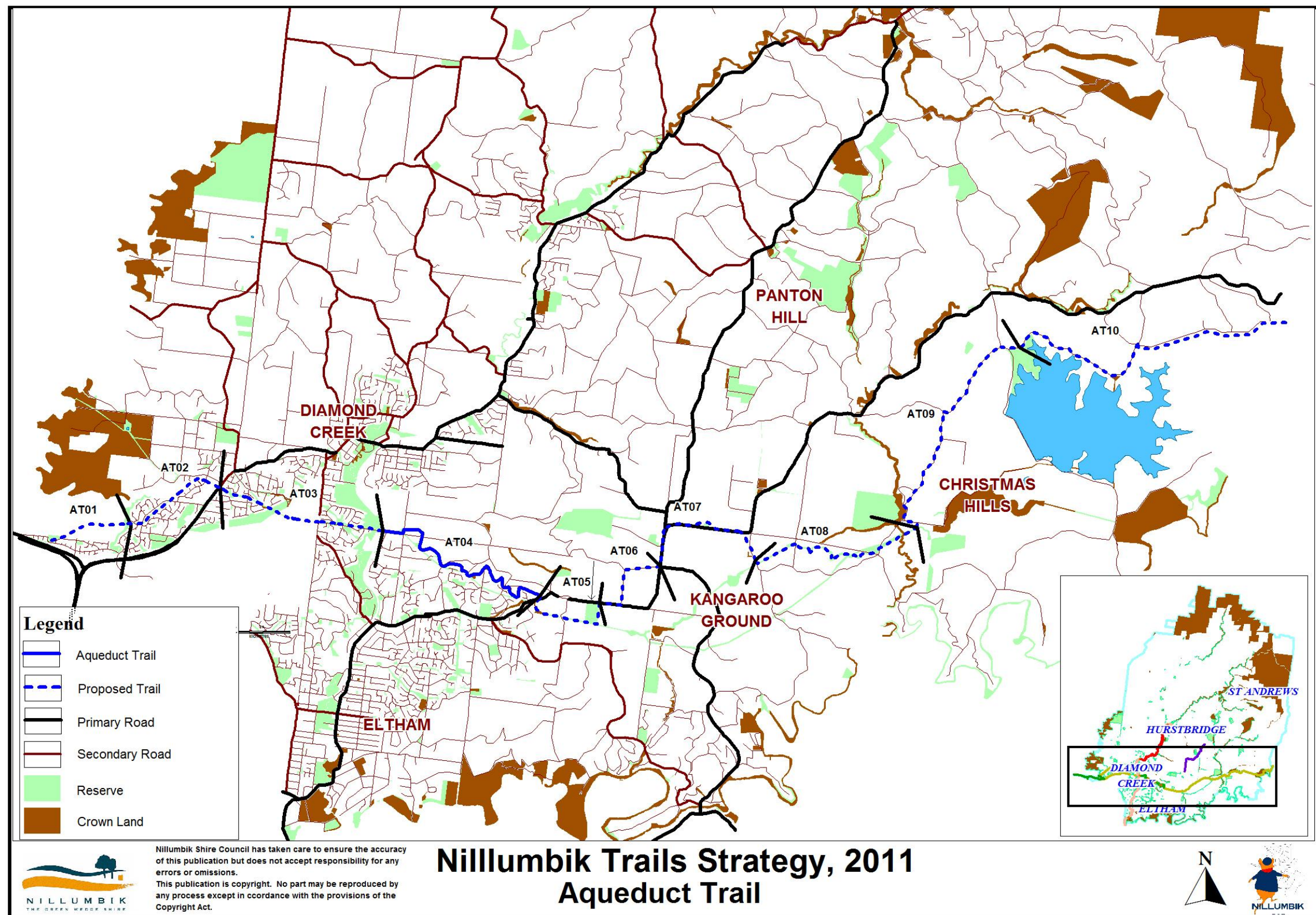
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7.2 Aqueduct Trail Plan

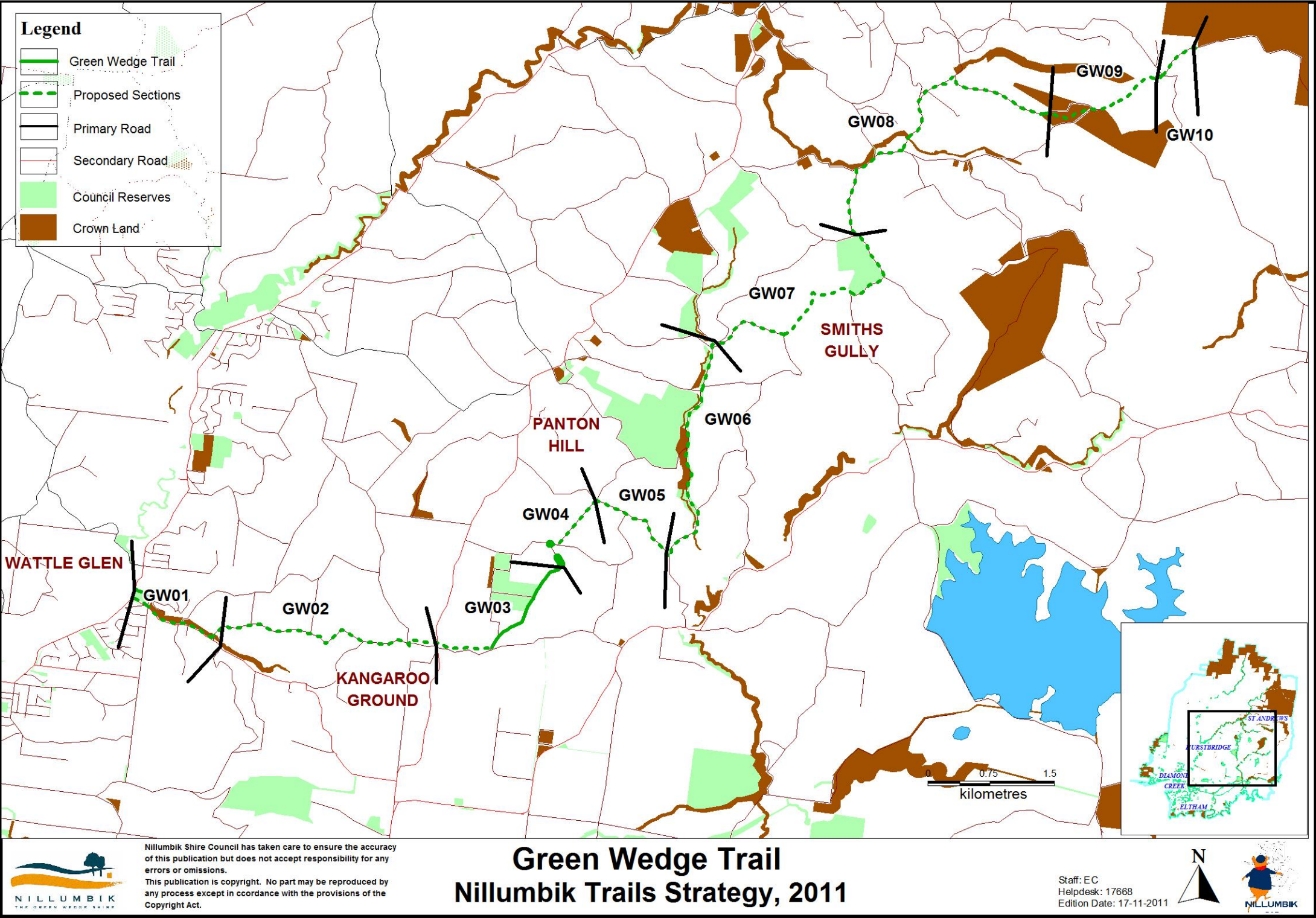
Section Code	Location	Task	Indicative Cost	Responsible Unit	Stakeholder	Timeframe
AT01	Eastgate Dr – Plenty River	Design and construct trail, 1km section of trail. Work with Parks Vic to develop remaining section.	\$60K	Leisure Services	Melbourne Water Parks Vic	short-term
AT02	Plenty River – Diamond Creek Rd	Investigate development of this trail section.	N/A	Leisure Services	Melbourne Water	short-term
AT03	Diamond Creek Rd – Allendale Rd	Negotiate licence agreement with Melbourne Water.	N/A	Leisure Services	Melbourne Water Vic Roads	short-term
		Construct the trail section, when grant becomes available	\$1M	Leisure Services Infrastructure Development	Melbourne Water Vic Roads	short-term
AT05 – AT09	Allendale Rd – Ridge Rd	Determine land manager between Research and Sugarloaf.*	N/A	Leisure Services	Melbourne Water	short-term
		<i>Design and construct trail in Kangaroo Ground between Henley Rd and Calwell Rd.</i>	<i>\$230K</i>	<i>Leisure Services Infrastructure Development</i>	<i>Melbourne Water Community</i>	<i>short-term</i>
		<i>Design and construct trail from Research to Kangaroo Ground.</i>	<i>\$900K</i>	<i>Leisure Services Infrastructure Development</i>	<i>Melbourne Water</i>	<i>medium-term</i>
		<i>Design and construct on road trail through Christmas Hills.</i>	<i>\$100K</i>	<i>Leisure Services Infrastructure Development</i>	<i>Melbourne Water Community</i>	<i>long-term</i>

Note: All italic actions are dependent on the outcome of **asterisked** task.



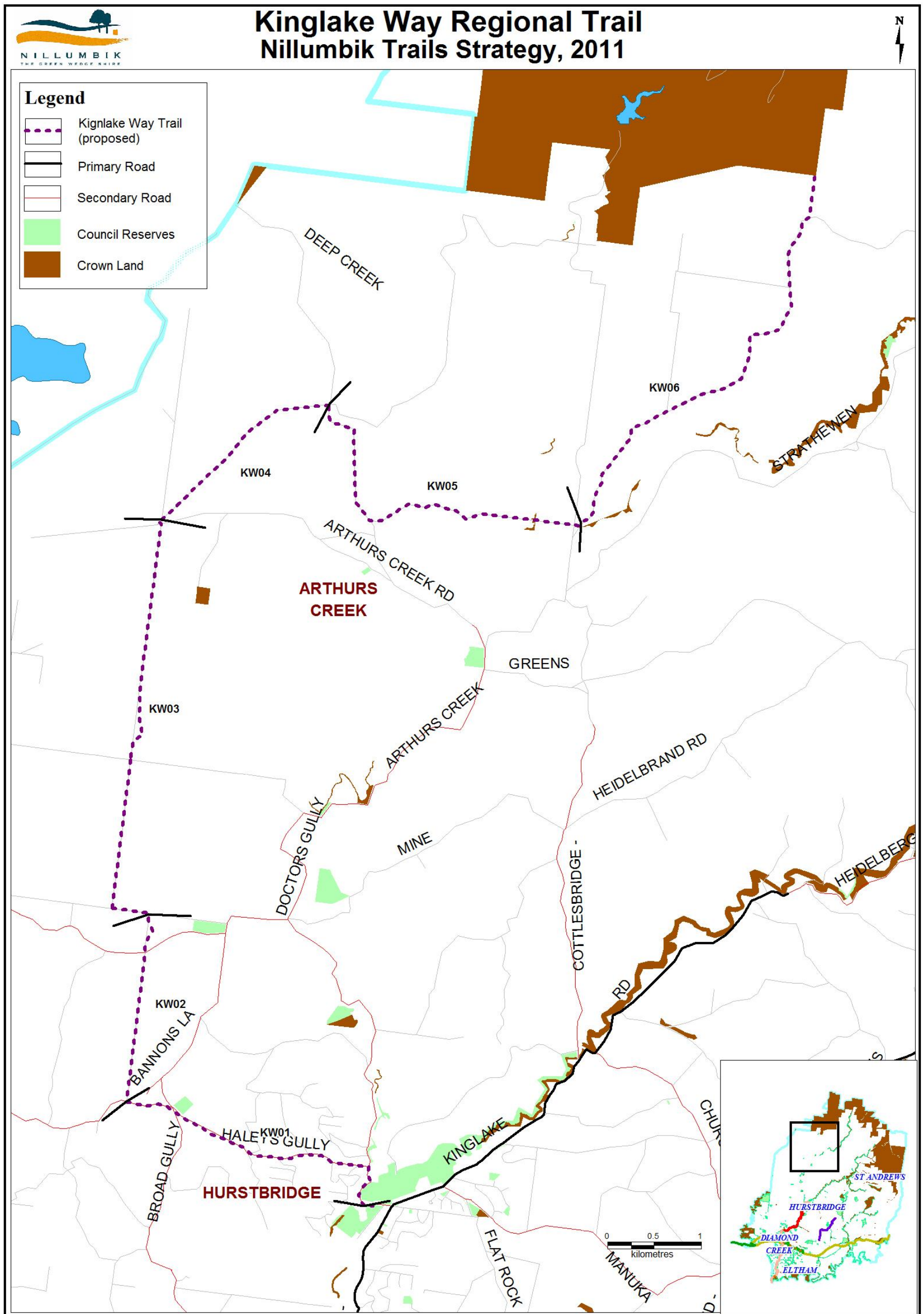
7.3 Green Wedge Trail Plan

Section Code	Location	Task	Indicative Cost	Responsible Unit	Stakeholder	Timeframe
GW02	Wattle Glen-Kangaroo Ground	Design and construct Watery Gully Rd trail section.	\$50K	Leisure Services Infrastructure Development	Melbourne Water DSE Community	short-term
GW04	Couties Rd, Pantan Hill	Design and construct trail along Couties Rd and Kings Rd link.	\$50K	Leisure Services Infrastructure Development	DSE Community	short-term
GW06-GW07	Pantan Hill	Design and construct Long Gully Rd link to St Andrews Horse & Pony Club.	\$250K	Leisure Services Infrastructure Development	SRV Community Associations	short-term
GW09	Kinglake	Finalise route through Rifle Range Reserve and confirm maintenance.	N/A	Leisure Services	Parks Vic	short-term
GW05	Alma Rd, Pantan Hill	Assess the alignment options and create a safe route for this section of trail.	\$500K	Leisure Services Economic Development	DSE Community	medium-term



7.4 Kinglake Way Trail Plan

Section Code	Location	Task	Indicative Cost	Responsible Unit	Stakeholders	Timeframe
KW06	Kinglake	Determine feasibility of link to Kinglake National Park.	N/A	Leisure Services	Parks Vic DSE Community	short-term
KW01- KW06	Hurstbridge - Kinglake	Finalise route.	N/A	Leisure Services	Parks Vic Vic Roads RTAC	short-term
		Design & construct trail.	\$500K	Leisure Services Infrastructure Development	Vic Roads Community	long-term



7.5 Cost Summaries

A summary of the costs has been collated to indicate total costs for each financial year. Overall an investment in recreation trails of \$8 million is required over the next 10 years. Indicative costs include \$800,000 in planning, design and management, \$6 million in capital expenditure and \$1.2 million in maintenance.

It is recognised that a significant level of external funding will be required to deliver the strategy objectives.

7.5.1 Short Term Cost Summary

Regional Trail	Action	Cost	Timeframe
Diamond Creek Trail	Construct a trail along Greysharps Rd in Hurstbridge.	\$300K	2013/14
	Construct underpass and trail connection in Diamond Creek.	\$700K	2013/14
	Trail maintenance in existing sections between Eltham and Diamond Creek.	\$775K	2013/14
Aqueduct Trail	Design and construct trail between Eastgate Rd and Plenty Gorge Parklands.	\$60K	2011/12
	Construct trail between Diamond Creek Rd and Allendale Rd, Eltham North.	\$1M	2013/14
	Construct trail section in Kangaroo Ground, between Henley Rd and Caldwell Rd.	\$200K	2013/14
Green Wedge Trail	Design and construct Watery Gully Rd Trail.	\$50K	2011/12
	Design and construct Couties Rd Trail.	\$50K	2011/12
	Design and construct Long Gully Rd Section.	\$250K	2012/13
Total Cost for 2011 / 12		\$160K	2011/12
Total Cost for 2012/13		\$250K	2012/13
Total Cost for 2013/14		\$3M	2013/14
Total Short Term Cost		\$3.4M	

Note: Significant external funding will be sourced to achieve each short-term action.

7.5.2 Medium Term Cost Summary

Regional Trail	Action	Cost	Timeframe
Diamond Creek Trail	Design and construct trail between Diamond Creek and Wattle Glen.	\$1M	2014/15
	Design and construct trail between Wattle Glen and Hurstbridge.	\$1.5M	2015/16
	Trail maintenance in existing sections between Eltham and Diamond Creek.	\$440K	2014/15
Aqueduct Trail	Develop trail between Research and Kangaroo Ground.	\$900K	2016/17
Green Wedge Trail	Alma Rd trail re-alignment.	\$500K	2014/15
Total Cost for 2014 / 15		\$1.9M	2014/15
Total Cost for 2015 / 16		\$1.5M	2015/16
Total Cost for 2016 / 17		\$900K	2016/17
Total Medium Term Cost		\$4.3M	

Note: Significant external funding will be sourced to achieve each medium-term action.

7.5.3 Long Term Cost Summary

Regional Trail	Action	Cost	Timeframe
Aqueduct Trail	Develop on road trail in Christmas Hills.	\$100K	2020
Kinglake Way Trail	Design & construct trail.	\$500K	2020
Total Long Term Cost		\$600K	

Note: Significant external funding will be sourced to achieve each long-term action.

Appendix 1 – Regional Trail Overview

Regional Trails:

Diamond Creek Trail
Aqueduct Trail
Green Wedge Trail
Kinglake Way

Regional Trail Overview

An overview of the regional trails are detailed in this appendix, this includes an estimate of design, construction and maintenance costs.

Installation and maintenance costs are based on the different expenses associated with the various surface treatments. This is outlined in the following table.

Trail Surface	Installation Cost	Annual Maintenance Cost
Natural	\$10/m ²	\$0.1/m ²
Toppings (i.e. crushed rock)	\$40/m ²	\$2/m ²
Asphalt	\$60/m ²	\$3/m ²
Concrete	\$100/m ²	\$5/m ²
Boardwalk	\$200/m ²	\$10/m ²

Diamond Creek Trail – Trail Overview							
Section	Status	Road Intersections	Trail Category	Surface	Width	Distance	Comments
DC01	complete (upgrade in-design)	Yarra River - Main Rd	off road trail	asphalt	2m	0.85km	Trail traverses through Eltham Lower Park. This trail will be re-aligned and re-constructed in Jan 2011.
DC02	complete	Main Rd - Baxter St	off road trail	asphalt	2m	0.45km	Trail is adjacent to Main Rd. Trail width requires an increase to 3m.
DC03	complete	Bater St - Ely St	off road trail	asphalt	2.5m	0.65km	Trail is in good condition, relatively new and traverses through Barrack Bushlands.
DC04	complete	Ely St - Brougham St	off road trail	asphalt	2.5m - 3m	0.5km	This section of trail has been recently upgraded to 3m width.
DC05	complete	Brougham St - Diamond St (Youth Rd)	off road trail	asphalt	2.5 - 3m	1.5km	This section of trail has been recently upgraded to 3m width.
DC06	complete	Diamond St - Wattletree Rd	off road trail	asphalt	2m - 2.5m	1.2km	This section of trail is adjacent to Main Rd and the Railway Line / Railway Pde. This section of trail is very degraded and requires immediate works. The trail requires re-sealing, widening and vegetation management.
DC07	complete	Wattletree Rd - Allendale Rd	off road trail	asphalt	2 - 3m	2.6km	This section of trail connects to numerous community hubs, including Edendale Farm, Eltham North Adventure Playground and Eltham North Soccer Pitch and Oval. The end of this section also provides a connection to the Aqueduct Trail. The section leading to Edendale Farm from Main Rd requires an upgrade. The bridge connecting Eltham North Adventure Playground to Edendale Farm requires an upgrade, to meet future demand and reduce impacts during flood events.
DC08	complete	Allendale Rd - Main Rd (Chute St)	off road trail	concrete	2.5 - 3m	2.3km	This section of trail traverses wetlands, community sporting facilities before providing a connection to the Diamond Creek Township.
DC09	complete	Main Rd (Chute St) - Dianella Drv	off road trail	concrete	2.5 - 3m	1.8km	This section of trail crosses Main Rd, and runs past Coventry and Marngrook Ovals, stormwater wetlands and Diamond Creek Pool. The trail connects the new development between Rangeview Rd and Luscombe Drv to the Diamond Creek township. The section of trail between Main Rd and Gipson St requires a width upgrade.
DC10	concept	Dianella Drv - Herberts Ln	off-road trail	toppings	3m	1.2km	This alignment follows the creek corridor.
DC10 (alt)	concept	Dianella Drv - Herberts Ln	footpath	concrete	2m	1.4km	This alignment provides an alternate route to the route above, following Luscombe Drv, Broadgully Rd and Herberts Ln.

Diamond Creek Trail – Trail Overview							
Section	Status	Road Intersections	Trail Category	Surface	Width	Distance	Comments
DC11	concept	Herberts Ln - Wilson Rd	off-road trail	toppings	3m	1.4km	The most appropriate alignment is currently being explored for this section of trail.
DC12	concept	Wilson Rd - 673 Heidelberg-Kinglake Rd	off-road trail	toppings	3m	2.6km	The most appropriate alignment is currently being explored for this section of trail.
DC13	concept	673 Heidelberg-Kinglake Rd - Wadeson Rd	off-road trail	toppings	3m	0.8km	The most appropriate alignment is currently being explored for this section of trail.
DC14	concept	Wadeson Rd - Fergusons Paddock	off-road trail	toppings	3m	1.5km	The most appropriate alignment is currently being explored for this section of trail. This section of trail provides a connection to the Hurstbridge Township and railway station.

Diamond Creek Trail – Trail Costs											
Section	Status	Trail Category	Surface	Width (m)	Distance (m)	Surface area (m2)	Design (concept)	Detailed Design (tech. assess)	Drainage / Treatments	Section Cost	Maintenance Cost
DC01	In design	off road trail	asphalt	2	850	1700	\$5,000	\$15,000	\$10,000	\$300,000	\$5,100
DC02	complete - width upgrade	off road trail	asphalt	2	450	900	450m width upgrade			\$81,000	\$2,700
DC03	complete	off road trail	asphalt	2.5	650	1625					\$4,875
DC04	complete	off road trail	asphalt	2	500	1000					\$3,000
DC05	complete	off road trail	asphalt	3	1500	4500					\$13,500
DC06	complete - width upgrade & maintenance	off road trail	asphalt	2	1200	2400	1.2km widening			\$216,000	\$7,200
DC07	complete - section inc. bridge upgrade	off road trail	asphalt	3	2600	7800	130m width upgrade		\$100,000	\$223,400	\$23,400
DC08	complete - section upgrade	off road trail	concrete	3	2300	6900	1km trail cracking			\$0	\$34,500
DC09	complete - section upgrade	off road trail	concrete	3	1800	5400	700m width upgrade			\$210,000	\$27,000
DC10	concept	off-road trail	toppings	3	1200	3600	\$60,000	\$60,000	\$20,000	\$224,000	\$7,200
DC10 (alt)	complete	footpath	concrete	2	1400	2800				N/A	N/A
DC11	concept	off-road trail	toppings (boardwalk)	3	1400	4200		\$50,000	\$8,000	\$226,000	\$42,000
DC12	concept	off-road trail	toppings (bridge)	3	2600	7800		\$70,000	\$200,000	\$582,000	\$39,000
DC13	concept	off-road trail	toppings (bridge)	3	800	2400		\$70,000	\$200,000	\$366,000	\$12,000
DC14	concept	off-road trail	toppings	3	1500	4500		\$50,000	\$20,000	\$250,000	\$9,000
sub-total										\$1,450,000	
total							\$65,000			\$2,678,400	\$230,475

Aqueduct Trail – Trail Overview							
Section	Status	Road Intersections	Trail Category	Surface	Width	Distance	Comments
AT01	proposed	Eastgate Dr – Plenty River	off road trail	granitic sand	3m	1.5km	This section follows the pipeline easement and is adjacent to Plenty Gorge Parklands. This trail will be constructed in consultation with Parks Victoria and Melbourne Water.
AT02	proposed	Plenty River – Diamond Creek Rd	off road trail	concrete	2m	2.2km	This section follows the pipeline easement. Discussion with Melbourne Water is required to progress construction.
AT03	proposed	Diamond Creek Rd - Railway Line	off road trail	concrete	3m	3.2km	This section received funding from Parks Vic to undertake a detailed design. The end of this section meets with the Diamond Creek Trail. Part of this section is within Banyule City Council.
AT04	existing	Railway Line – Main Rd	off road trail	asphalt	2 – 3m	4km	This initial part of this section utilises the existing footpath, then follows an asphalt trail to Research
AT05	proposed	Main Rd - Eltham Yarra Glen Rd	off road trail	toppings	3m	1.8km	This section is off road, utilising the existing aqueduct easement.
AT06	proposed	Eltham Yarra Glen Rd	roadside trail	natural	5m	2.7km	This section utilises a Council Reserve before heading along Main Rd, New Rd and Donaldson Rd.
AT07	proposed	Eltham Yarra Glen Rd - Henley Rd	roadside trail	natural	2m	3.2km	This section of trail is proposed to be along Eltham Yarra Glen Rd from Donaldson Rd to the Henley Rd intersection of the Maroondah Aqueduct. This section connects to the Kangaroo Ground Township, the Kangaroo Ground Memorial Tower and viewing platform and local wineries.
AT08	proposed	Henley Rd - Calwell Rd	off road trail	toppings	3m	3.7km	This section of trail follows the Maroondah Aqueduct.
AT09	proposed	Calwell Rd - Simpson Rd	rural road trail	natural	2m	4.4km	This section of trail is on road: Calwell Rd, Westering Rd and Ridge Rd.
AT010	proposed	Simpson Rd - Breakneck Rd	rural road trail	natural	2m	6.2km	This section of trail is located along Ridge Rd, Muir Rd & Skyline Rd.

Aqueduct Trail – Trail Costs											
Section	Status	Trail Category	Surface	Width (m)	Distance (m)	Surface Area (m2)	Design (concept)	Detailed Design (tech. assess)	Drainage / Treatments	Section Cost	Maintenance Cost
AT01	proposed	off road trail	granitic sand	3	1500	4500		\$20,000	\$10,000	\$100,000	\$10,000
AT02	some existing	off road trail	concrete	3	2200	6600				\$100,000	\$10,000
AT03	proposed	off road trail	concrete	3	3200	9600		\$70,000	\$100,000	\$1,000,000	\$28,800
AT04	existing	off road trail	asphalt	3	4000	12000					\$36,000
AT05	proposed	off road trail	toppings	3	1800	5400		\$12,000	\$50,000	\$200,000	\$10,800
AT06	proposed	roadside trail	toppings	3	2700	8100		\$6,000	\$10,000	\$100,000	\$16,200
AT07	proposed	roadside trail	toppings	2	3200	6400		\$30,000	\$50,000	\$600,000	\$12,800
AT08	proposed	off road trail	toppings	3	3700	11100		\$10,000	\$20,000	\$200,000	\$12,200
AT09	proposed	rural road trail	natural	2	4400	8800		\$5,000	\$20,000	\$50,000	\$3,000
AT10	proposed	rural road trail	natural	2	6200	12400		\$5,000	\$2,000	\$50,000	\$2,000
total							\$65,000			\$2,400,000	\$141,800

Green Wedge Trail – Trail Overview							
Section	Status	Location	Trail Category	Surface	Width	Distance	Comments
GW01	existing	Main Rd – Watery Gully Rd	off road trail	toppings	2m	1km	Trail commences opposite Wattle Glen Train Station. General store and amenities at Peppers Paddock.
GW02	proposed	Watery Gully Rd – Dawson Rd	rural road trail	natural	2m	3km	This section of trail is along Watery Gully Rd, utilising an existing crossing point of the waterway.
GW03	existing	Dawson Rd – Couties Rd	roadside trail	natural	2m	2km	This section of trail is on the road verges of Dawson Rd. A main road crossing is required for Kangaroo Ground - St Andrews Rd.
GW04	existing (informal)	Couties – Alma Rd	off road trail	natural	2m	1km	This section requires erosion control and drainage treatment at the end of Couties Rd.
GW05	existing (informal)	Alma Rd	roadside trail	natural	2m	1km	Cracknells Rd, Alma Rd. Alma Rd is particularly narrow and requires some design solutions.
GW06	existing (informal)	Long Gully Rd	roadside trail	natural	1.5m	3km	This section of trail is adjacent to the Panton Hill Bushland Reserve System. The trail is marked through use.
GW07	existing (informal)	Motchells Rd - Smiths Gully Rd	off road trail	natural	1.5m	3km	A short section of trail follows Motchells Rd, then along a closed road reserve, with a trail marked through use. In need of maintenance.
GW08	proposed	Smiths Gully Rd - Rifle Range Rd	rural road trail	natural	1m	4.3km	On road trail: Smiths Gully Rd, Salters Rush Rd and Rifle Range Rd to Rifle Range Reserve.
GW09	existing	Rifle Range Reserve	bushland trail	natural	1.5m	1.7km	Rifle Range Reserve - Parks Vic Reserve.
GW10	proposed	Marshalls Rd	rural road trail	natural	1.5m	0.6km	Section of trail follows Marshalls Rd to Kinglake National Park to join with the Mt Everard Track (shared use).

Green Wedge Trail – Trail Costs											
Section	Status	Trail Category	Surface	Width (m)	Distance (m)	Surface Area (m2)	Design (concept)	Detailed Design	Drainage / Treatments	Section Cost	Maintenance Cost
GW01	existing	off road trail	toppings	2	1000	2000					\$10,000
GW02	proposed	rural road trail	natural	2	3000	6000		\$5,000	\$10,000	\$50,000	\$5,000
GW03	existing	roadside trail	natural	2	2000	4000					\$3,000
GW04	existing (informal)	off road trail	natural	2	1000	2000		\$5,000	\$10,000	\$40,000	\$4,000
GW05	existing (informal)	roadside trail	natural	2	1000	2000	\$30,000	\$60,000	\$15,000	\$200,000	\$2,000
GW06	existing (informal)	roadside trail	natural	1.5	3000	4500		\$10,000	\$10,000	\$125,000	\$2,000
GW07	existing (informal)	off road trail	natural	1.5	3000	4500		\$15,000	\$20,000	\$125,000	\$2,000
GW08	proposed	rural road trail	natural	1	4300	4300		\$10,000	\$10,000	\$50,000	\$3,000
GW09	existing (informal)	bushland trail	natural	1.5	1700	2550				\$20,000	\$2,000
GW10	proposed	rural road trail	natural	1.5	600	900				\$2,000	\$100
total										\$600,000	\$33,100

Kinglake Way – Trail Overview							
Section	Status	Road Intersections	Trail Category	Surface	Width	Distance	Comments
KW01	proposed	Arthurs Creek Rd & Creighton Way	roadside trail	Natural	2m	3.4km	Trail commences at Fergusons Paddock and is along road verge of Haley's Gully Rd and Bannons Lane. These roads are sealed with 80km/hr speed limits.
KW02	proposed	Bannons Rd - Brocks Rd	rural road trail	Natural	2m	2.5km	Trail section is along road verge of Creighton Way and Brocks Rd.
KW03	proposed	Brocks Rd - Arthurs Creek Rd	rural road trail	Natural	2m	4.1km	Trail section is located along Middle Hut Rd.
KW04	proposed	Arthurs Creek Rd - Deep Creek Rd	rural road trail	Natural	2m	2.3km	Trail section is located along Running Creek Road.
KW05	proposed	Running Creek Rd - Minchins Rd	rural road trail	Natural	2m	3.8km	Trail is located along Deep Creek Rd & Brennans Rd East.
KW06	proposed	Minchins Rd - Government Rd	rural road trail	Natural	2m	5.2km	Trail section link with Kinglake National Park needs to be confirmed with Parks Victoria.

Kinglake Way – Trail Costs											
Section	Status	Trail Category	Surface	Width (m)	Distance (m)	Surface Area (m2)	Design (concept & detailed)	Detailed Design (tech. assess)	Drainage / Treatments	Section Cost	Maintenance Cost
KW01	proposed	roadside trail	natural	2	3400	6800	\$10,000	\$60,000	\$5,000	\$133,000	\$680
KW02	proposed	rural road trail	natural	2	2500	5000			\$2,000	\$52,000	\$500
KW03	proposed	rural road trail	natural	2	4100	8200			\$2,000	\$84,000	\$820
KW04	proposed	rural road trail	natural	2	2300	4600			\$2,000	\$48,000	\$460
KW05	proposed	rural road trail	natural	2	3800	7600			\$2,000	\$78,000	\$760
KW06	proposed	rural road trail	natural	2	5200	10400			\$5,000	\$109,000	\$1,040
total							\$10,000	\$60,000		\$504,000	\$4,260

Appendix 2 –

Prioritising Recreation Trails

Local Trails

Cultural Heritage Trails

Prioritising Recreation Trails

The trail development process has been created to provide rigour to the process of formalising the network of local trails. This process recognises the proposed local trail network, which consist of trails currently in use, however not formally recognised by Council and thus not maintained.

The recreation trail development process will be used to determine if a proposed trail meets the criteria to form part of the designated network. This process also ensures that appropriate design and construction standards and ongoing maintenance are achieved.

The trail development process involves:

1. Route identification and presentation to Council's Recreation Trails Advisory Committee (RTAC).
2. RTAC and officers undertake a **Trail Ranking Assessment** to determine if a trail meets Nillumbik Shire Council's criteria for development. If score was 0 - 30 review decision within 3 years.
3. If score is 31 – 50, nominate trail to be considered as part of the trail network.
4. Report outcome to Council via RTAC minutes, outlining a recommendation to elevate status of trail from proposed to existing.
5. Prepare a trail development and management plan. To include:
 - concept design
 - indicative budget
 - funding source
 - timeframe
 - promotion and marketing
6. Design and construct trail according to **Recreation Trail Experience Based Matrix**.
7. Include trail in the **Trail Management Plan**, which programs the maintenance and renewal works.

Trail Ranking Assessment

To effectively prioritise the development of the designated trail network a **trail ranking assessment** has been designed. This sets the guiding principles against a series of criteria and subsequently a score. The score determines the trail priority based on the timeframe for development.

Each proposed trail should be set against the selection criteria and given an appropriate score out of 5, with 1 being the lowest.

The final score out of 50 is used to determine the timeframe for development of the trail, as outlined in the second table.

Trail Ranking Assessment

Guiding Principles	Trail Selection Criteria	Score (1 – 5)
partnerships	Trail has support from external stakeholders, including community Trail meets a community need Trail will be managed in partnership with a community group or local residents	
experience	The trail provides a quality experience highlighting natural and/or cultural features Trail provides access for all abilities	
sustainability	Trail design and construction are sustainable (including method and materials) Trail can be maintained sustainably	
connectedness	Trail provides strategic link to existing trail network Trail provides access to community hubs / sporting facilities Trail provides access to public transport	

Score	Timeframe for Development
0 – 15	10+ years
16 – 30	4 – 9 years
31 – 50	0 – 3 years

Local Trails

The network of local trails throughout Nillumbik is extensive. Local trails are important as they provide connections to regional trails, townships and community facilities. Local trails also offer a variety of recreation experiences; often circular routes allow for a diverse experience when riding or walking along a trail. Trails provide safe links through community neighbourhoods heightening well-being and sense of place.

Council's local trail network totals over 70kms, with 30kms of existing trails and 44kms of proposed trails. The existing local trail network accounts for 60% of local trails in rural areas and the remaining 40% in urban precincts. The proposed local trail network has 80% of trails in rural areas, and the remaining 20% in urban precincts.

The on-road cycling routes are separate to the local trail network as the road route inherently contains different management requirements to local trails. The proposed cycling routes total approximately 60kms, as identified in the following tables and maps.

The network of local trails across the shire has been divided into two regions;- north and south. This enables the local trails to be viewed in the context of the local townships and the connections these trails make to various places within the Shire, such as the Kinglake National Park and the Warrandyte – Kinglake Nature Conservation Reserve system.

North Shire Local Trails

The local trails managed by Nillumbik Shire Council in the north section of the Shire include on road cycling routes, roadside trails and off road trails. The cycling routes use a combination of Vic Roads and Council managed roads. The routes are identified on the following maps and table and outlined briefly as follows:

Strathewen & District

Trail	Code	Description	Category
Strathewen Cycling Route (proposed)	SCR	This proposed 26km cycling route provides a connection from Diamond Creek to Strathewen, which can link back to Hurstbridge and also extend to Kinglake and Whittlesea. This route is for experienced cyclists as it is along sealed roads without dedicated bike lanes. There are also a number of long descents and challenging hill climbs. Cyclists will be the user group of this trail.	on-road cycling trail
Kinglake Cycling Route via Eltham (proposed)	KCR	This proposed 20km cycling route is from Eltham to Kinglake via St Andrews, which can also be extended to Whittlesea. This route is for experienced cyclists as it is along sealed roads without dedicated bike lanes. There are also a number of long descents and challenging hill climbs. Cyclists will be the user group of this trail.	on-road cycling trail
Hurstbridge Cycling Route (proposed)	HCR	This proposed 12km cycling route is between Hurstbridge and St Andrews, this route can also join with the KCR and be extended to Kinglake. This route is for experienced cyclists as it is along sealed roads without dedicated bike lanes. There are also a number of narrow sections and challenging hill climbs. Cyclists will be the user group of this trail.	on-road cycling trail

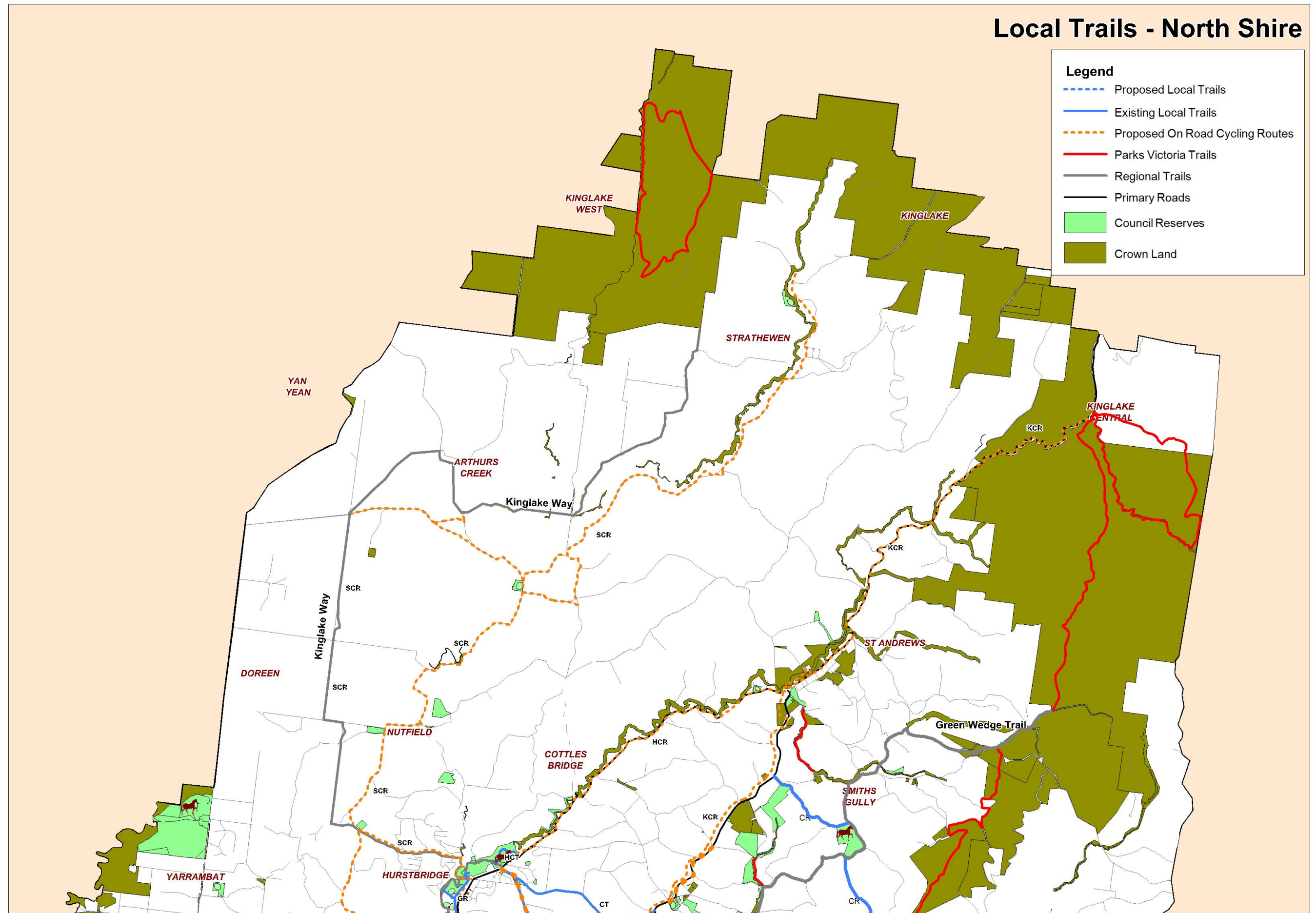
Smiths Gully & District

Trail	Code	Description	Category
Clintons Rd Trail (proposed)	CR	<p>This proposed 5km natural form trail provides an important connection between the Smiths Gully General Store, St Andrews Horse and Pony Club, the Green Wedge Trail and the Panton Hill Bushland Reserve System.</p> <p>Horse and mountain bike riders are expected to be the predominate user groups along this trail.</p>	roadside trail

Parks Victoria manage a number of trails within this region as part of the trails within the **Warrandyte Kinglake Nature Conservation Reserve**, these trails include:

- Boomers Reserve (specific use trail)
- One Tree Hill Reserve (specific use trail)
- Rifle Range Reserve (shared use trail)
- Sugarloaf Circuit Track (specific use trail)

Melbourne Water own land surrounding Sugarloaf Reservoir, this land was originally purchased for the potential use as catchment area. Given that this use is no longer relevant, Melbourne Water may be amenable to opening some sections of this area to trails.



South Shire Local Trails

The following trails are located in the southern section of the Shire; they are identified on the following map and described in detail in the associated table.

Greensborough & District

Trail	Code	Description	Category
Plenty River Trail	PR	<p>This trail is part of a longer linear trail along the Plenty River, which traverses three Shires, including Banyule City Council and Whittlesea City Council. A small 2.3km section of this sealed trail meanders through Nillumbik within the bushland setting of the Plenty River corridor.</p> <p>The main user groups of this trail includes cyclists, runners and walkers.</p>	off-road trail
Diamond Hills Trail	DH	<p>This 1km sealed trail provides connection from the Greensborough Bypass Trail into Nillumbik.</p> <p>The main user groups of this trail includes cyclists, runners and walkers.</p>	off-road trail
Plenty River Trail Link (proposed)	PRL	<p>This 250m sealed trail will provide a connection from the Plenty River Trail to the Greensborough Bypass Trail. The trail is relatively short however, given the extreme grade separation the trail is necessary to provide a safe link.</p> <p>The main user group of this trail is expected to be cyclists.</p>	off-road trail
Greensborough Bypass Trail	GB	<p>This 4km sealed trail is managed by Vic Roads and located adjacent to the Greensborough Bypass. This trail provides a link between the Metropolitan Ring Road Trail and the Diamond Hills Trail.</p> <p>Given the urban nature of this trail the main user groups are cyclists, runners and walkers.</p>	off-road trail
Aqueduct Link Trail	ALT	<p>This 1km sealed trail link is proposed to be located along Diamond Creek Rd and separated from traffic. This trail link will connect the Greensborough Bypass Trail and the Aqueduct Trail.</p> <p>The main user group of this trail is expected to be cyclists, walkers and runners.</p>	off-road trail

Eltham & District

Trail	Code	Description	Category
Wingrove Park Trail	WP	<p>This 2.2km sealed trail forms a loop from the Diamond Creek Trail in Lower Eltham. The trail traverses bushland and a stormwater treatment wetland.</p> <p>The main user groups of this trail includes cyclists, runners and walkers.</p>	off-road trail
Woodridge Linear Trail	WL	<p>This 1.6km sealed trail is located along a linear stretch of open space in an urban setting.</p> <p>The main user groups of this trail includes cyclists, runners and walkers.</p>	off-road trail
Research Loop	RL	<p>This 10.2km sealed trail provides a loop around Research and Eltham North. This trail utilises both the Aqueduct Trail and the Diamond Creek Trail to complete the loop.</p> <p>The main user groups of this trail includes cyclists, runners and walkers.</p>	off-road trail
Eltham South Circuit Trail	EST	<p>This 5km trail is a roadside circuit trail in Eltham South. The trail can link to Eltham via the Woodridge Linear Trail and to Research via the proposed Woodridge – Research Trail.</p>	roadside
Woodridge to Research Trail (proposed)	WR	<p>This proposed 1.5km trail utilises existing power line easements and Council reserves to create a link between the Woodridge Linear Trail and Research.</p>	off-road trail

Diamond Creek

Trail	Code	Description	Category
Diamond Creek Township Trail (proposed)	DCT	This proposed trail links from the planned underpass to the new Community Bank Stadium and the schools and into the Diamond Creek township. This local trail network is proposed to also link to Wattle Glen. The trail will have the dual purpose of commuter and recreation and will cater for students and stadium users.	off road trail
Diamond Creek World Game Trail (proposed)	WGT	This proposed 750m trail will form a link from the Diamond Creek Trail near Campbell St to Diamond Creek Township. This trail is located in land aside to enhance the soccer program within Nillumbik. This proposed trail requires a crossing over the Diamond Creek.	off-road trail

Hurstbridge & District

Trail	Code	Description	Category
Greysharps Rd Railway Link (proposed)	GR	This proposed 1km trail will form an important connection from the proposed extension of the Diamond Creek Trail to the Hurstbridge Railway Station. Cyclists and walkers are expected to be the predominate user groups along this trail.	off-road trail
Hurstbridge Creek Trail (proposed)	HCT	This proposed 1km natural surface trail is located between Fergusons Paddock and the current Bridge's Nursery and Restaurant. Bushwalkers are expected to be the predominate user groups along this trail.	bushland trail
Flat Rock Rd Trail (proposed)	FR	This proposed 6km roadside natural surface trail provides a scenic connection between Hurstbridge and Panton Hill. Flat Rock Rd is also proposed for use by cyclists as a route between Hurstbridge and Panton Hill. Horse riders, walkers and mountain bike riders are expected to be the predominate user groups along the roadside trail and cyclists on the road.	roadside trail on road cycling trail
Cherry Tree Rd Trail (proposed)	CT	This proposed 4km trail provides another option for a link between the townships of Hurstbridge and Panton Hill. Cherry Tree Rd is also proposed for use by cyclists as a route between Hurstbridge and Panton Hill. Horse riders and mountain bike riders are expected to be the predominate user groups along the roadside trail and cyclists on the road.	roadside trail
Hurstbridge to Diamond Creek Cycling Route (proposed)	HDC	This 5km proposed cycling route is a popular route for cyclists riding between Diamond Creek and Hurstbridge, riding further north to Strathewen and Arthurs Creek and for residents heading south, into the city.	on road cycling trail

Panton Hill

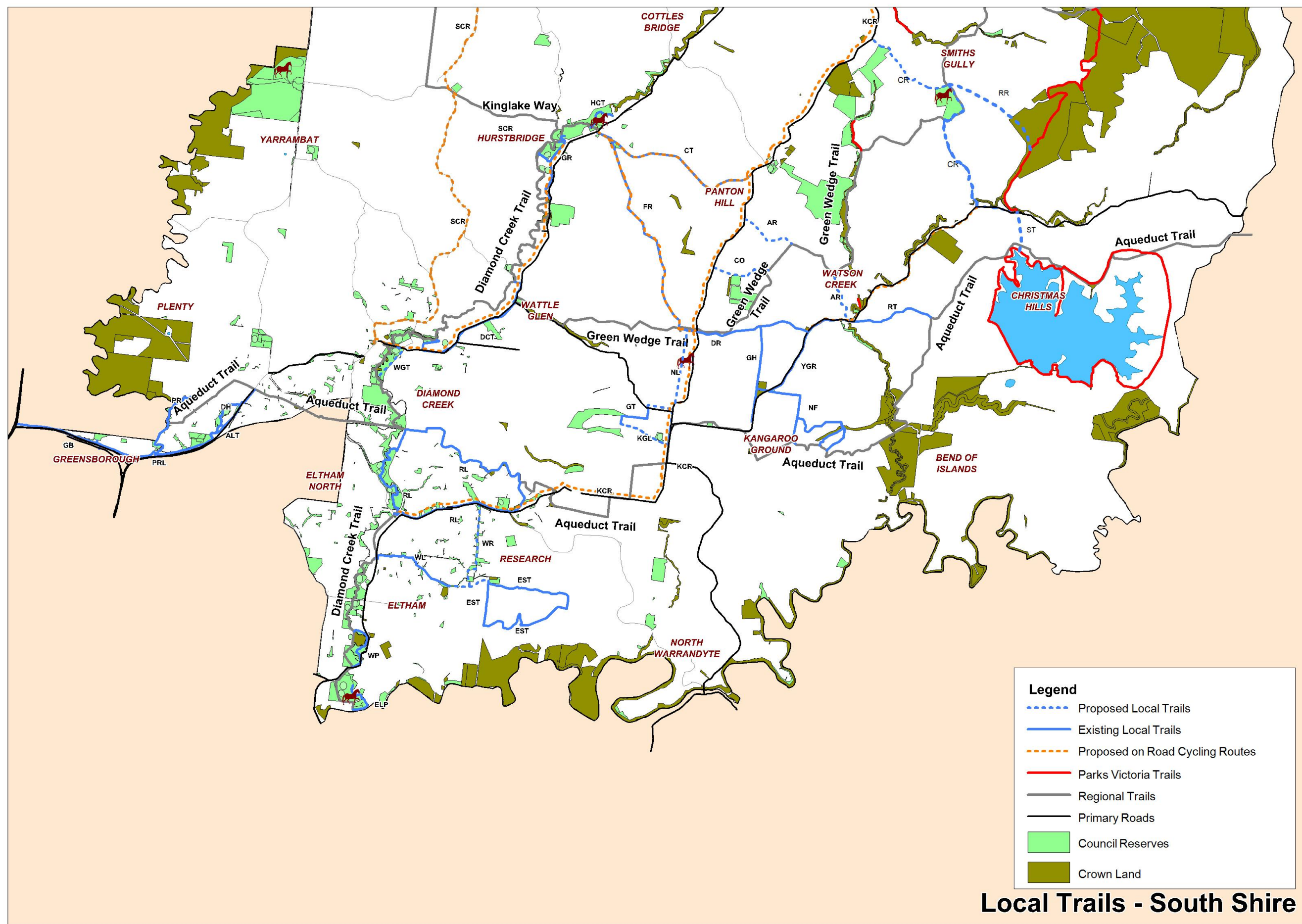
Trail	Code	Description	Category
Alma Rd Trail (proposed)	AR	<p>This 3km natural surface trail links Panton Hill to Watsons Creek. This trail is along the roadside of the sealed Alma Rd and forms part of the regional Green Wedge Trail.</p> <p>Horse riders, mountain bike riders and bushwalkers are expected to be the predominate user groups along this trail.</p>	roadside trail
Couties Rd Trail (proposed)	CO	<p>This 1km natural surface trail along Couties Rd links from Kangaroo Ground – St Andrews Rd to the Green Wedge Trail.</p> <p>Horse riders and bushwalkers are expected to be the predominate user groups along this trail.</p>	roadside trail
Panton Hill Bushland Reserve Trails	PHBR	<p>The network of natural surface trails located in the bushland reserves include:</p> <ul style="list-style-type: none"> – Bulwidj Reserve (960m shared use trail) – Yanggai Reserve (500m shared use trail) – Wimbi Reserve (650m shared use trail) – Bunjil Reserve (3.5km of trails. Two shared use trails: Bakehouse Rd and the Rodger Rd hill-top entrance and the Northern Spur Trail, which includes the crossing of Long Gully Creek into Long Gully Bushland Reserve. One walking only trail: Southern Spur Trail - Rodger Rd hill-top entrance to the crossing of Long Gully Creek) – Yirrip Reserve (550m shared use trail and 570m walking only trail) – Boomers Reserve is Parks Victoria managed (900m specific use trail) 	bushland trails

Kangaroo Ground

Trail	Code	Description	Category
Graham Rd Trail	GT	<p>This natural surface trail is 1km in length and of rough terrain. Located adjacent to open farmland the trail provides a local link between Kangaroo Ground – Wattle Glen Rd and Graham Rd.</p> <p>Horse riders and walkers predominately use this trail.</p>	bridle trail
Garden Hill Trail	GH	<p>This 3km natural surface linear trail is an important route for local residents. This trail connects to the Dawson Rd Trail, Yarra Glen Rd Trail and the Nillumbik Farm Trail. The trail can be accessed at the Kangaroo Ground Cemetery, which can be used as an informal float parking area.</p> <p>Horse riders predominately use this linear trail which is located adjacent to open farmland.</p>	bridle trail
Nillumbik Farm Trail	NF	<p>This 4km network of natural surface trails connects to the Garden Hill Trail at Nicholas Lane before traversing along Heckers Hill Way to the proposed Aqueduct Trail. These trails were designed for horse riding with a 6m wide easement meandering through bushland, paddocks and along roadsides.</p> <p>Horse riders and bushwalkers are the predominate user groups of these trails.</p>	bridle trail
Dawson Rd	DR	<p>This 3km natural surface trail provides a connection between Kangaroo Ground – St Andrews Rd and Eltham – Yarra Glen Rd. The trail also forms part of the Green Wedge Trail.</p> <p>This trail is mainly used for horse riding, bushwalkers and mountain bike riding.</p>	roadside trail
Kangaroo Ground Loop (proposed)	KGL	<p>This proposed 4km natural surface trail is proposed to incorporate the Graham Rd Trail and provide a loop around Kangaroo Ground.</p> <p>This trail is expected to be used mainly by local residents as a walking and horse riding trail.</p>	roadside trail
Ness Lane (proposed)	NL	<p>This proposed 1.5km natural surface trail will provide a local link between the Kangaroo Ground Township and the Green Wedge Trail. Eventually this local trail will also provide a connection to the proposed Aqueduct Trail.</p> <p>This local trail is expected to be used mainly for horse riding trail, walking and mountain bike riding.</p>	off-road trail

Christmas Hills

Trail		Description	Category
Yarra Glen Rd Trail	YGR	This 4km natural surface trail is along the Eltham to Yarra Glen Rd; the trail provides a link between the Garden Hill Trail, the Ridge Rd Trail, Dawson Rd and Alma Rd. Horse and mountain bike riders predominately use this trail.	roadside trail
Ridge Rd Trail (proposed)	RT	This 3km roadside trail will connect Yarra Glen Rd Trail with the Aqueduct Trail. This trail is expected to mainly be used by horse riders and mountain bike riders.	roadside trail
Rob Roy Trail (proposed)	RR	This 3km on road trail provides a long downhill run and provides access to the network of trails in One Tree Hill Reserve. This trail is expected to be predominately used by mountain bike riders.	rural road trail
Simpson Rd Trail (proposed)	ST	This 1km on road trail connects Sugarloaf Reservoir to Clintons Road and the trails throughout One Tree Hill Reserve. This trail is expected to be mainly used by mountain bike riders.	rural road trail



Cultural Heritage Trails

Cultural heritage trails provide a unique opportunity to the community, such as through a sensory experience or by offering a historical or cultural insight to the precinct.

Sensory trails fall under the cultural heritage category and are considered when a request submitted either directly to Council or through RTAC. Sensory trails are also considered during open space planning.

Cultural heritage trails located within Nillumbik Shire include the **Little Eltham Heritage Trail**, the **Hurstbridge Heritage Trail**. A sensory trail is also planned to link with the new access for all abilities playground at Eltham Lower Park.

The **Little Eltham Heritage Trail** encompasses 20 historically significant sites, including Montsalvat. The loop trail is 4.8km and starts and finishes at the old trestle railway bridge near the Eltham Library.

The **Hurstbridge Heritage Trail** comprises 30 sites of historical significance located throughout the township of Hurstbridge. The trail utilises existing footpaths and contains interpretive signage along the trail. The trail is managed by the Hurstbridge Traders Association.

Eltham Lower Park Sensory Trail will be created as part of the upgrade at Eltham Lower Park. The upgrade includes a trail realignment, widening and re-surface for the main Diamond Creek Trail. The works also include the creation of an access for all abilities playground, with a **sensory trail**.

Cultural heritage trails currently managed by **Parks Victoria** include **Smiths Gully – St Andrews Heritage Trail** and the **Gawa Wurundjeri Resource Trail**.

The **Smiths Gully – St Andrews Heritage Trail** is a 1.5km walking only trail that traverses the Old Caledonia Gully from the Queenstown Cemetery in Smiths Gully to Proctor St, St Andrews. This trail provides access to historic landmarks along with high value indigenous vegetation.

The **Gawa Wurundjeri Resource Trail** provides an Indigenous cultural learning experience. The trail is a 300m loop walk that meanders around Watsons Creek with interpretive signage at points of interest along the way.