

# Redland City Council

## Redland Track Park Concept and Development Plan



February 2012



**ROSS**  
planning





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## Acknowledgements

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# Introduction

## Background

As development and population densities increase within urban areas, more people are living in closer proximity to their jobs, schools and recreation areas. This presents great opportunities for cycling and walking as modes of commuting within urban areas. However, increased population also puts pressure on the large green tracts of land, especially those that provide important conservation areas as well as nature-based recreation opportunities.

The Redland Track Park comprises 152 ha of open space in its entirety. The Track Park land is registered as a Reserve for “Open Space and Buffer”, giving quality nature-based recreation opportunities for dedicated activities, such as walking and mountain biking, as well as environmental awareness and education. The Park is characterised by high quality bushland whereby its conservation values are also recognised, providing a natural open space network environment.

The Redland Track Park provides a great destination due to its proximity and size in relation to the urban surrounding fabric and also has a great value in providing commuter and recreation cycle and pedestrian links and circuits within the local area.

## Purpose

In 2011, the ROSS Planning Team was commissioned by Redland City Council to prepare a design and planning document that would “guide the future development of the Redland Track Park”.

This document aims to advance the initial work that has already been undertaken to date, to create a practical “shovel ready” document from which park development can take place. This document aims to be concise and practical, and, therefore, should be read in conjunction with other current pertinent background documentation. Section 2 gives a full list of the background documents that assisted in the development of this Report.

The intention of the site is that it attracts nature-based recreation opportunities for locals and visitors, catering primarily for walking and mountain bike riding.

This document aims to present planning and design concepts to achieve the aims and intentions mentioned above, whereby it will:

- identify and articulate the planning and development issues and opportunities within and surrounding the site
- determine current uses and potential further use(s) of the site
- prepare planning and concept drawings for the site (in particular walking and mountain biking trails and tracks, trailhead(s) and site entries)
- provide trail and park guidelines and recommendations
- identify infrastructure and construction requirements for its success as an outdoor recreation destination
- identify risks and provide mitigation strategies, including emergency and safety management plans (current and future)
- recommend staging and costing priorities
- provide detailed park branding and signage (typology and location).

It should also be noted here that this Redland Track Park Project is the first phase of a more extensive future consolidated recreation and natural open space area development. Once this (phase 1) has been developed, Council intends to incorporate additional surrounding conservation land as a part of the Track Park recreation bushland to create a larger nature based Track Park, where it will become an area that can be accessed and utilised for nature based recreation, and will provide broader connectivity and continuity to surrounding areas. This is discussed further on page 7.

## Methodology

These concept plans are the beginning of a longer process, but they are important to Council as they will support officers in site negotiations, budgeting and any development of grant applications.

A brief summary of the methodology used in the development of the concept plans include:

### Stage 1 - Situational Analysis and Developing Options

- inception meeting
- review of relevant reports, plans, policies, guidelines and other research documents
- detailed contextual analysis
- detailed site assessment (to determine current the use and potential further use(s) of the site)
- discussions with Council Officers and Councillors
- targeted consultation with peak sport bodies, State Government and other key stakeholders and interested groups

### Stage 2 - Concept Design Preparation and Presentation

- identification and understanding the planning and development issues and opportunities within and surrounding the site
- preparation of an overall vision and guidelines for the Park
- preparation of an overall concept plan for the whole Park and more detailed park elements (in particular walking and mountain biking trails and tracks, trailhead(s) and site entries)
- presentation of draft to Council and other stakeholders

### Stage 3 - Draft Concept and Development Planning Report

- progression of concept plans including preparation of draft Concept and Development Planning Report
- preparation of trail and park guidelines and recommendations
- preparation of concept park branding and signage (typology and location)
- recommend staging and costing priorities
- management considerations
- identification of risks and provision of mitigation strategies, including emergency and safety management plans (current and future)
- presentation (and review) of draft Concept and Development Planning Report

### Stage 4 - Finalise Master Plan

- review of feedback on Concept and Development Planning Report
- final amendments to the Concept and Development Planning Report
- Council endorsement.



# Literature Review

A range of reports were reviewed as part of this literature review. The main issues arising are summarised below and have been considered in the design development.

The relevant broader planning documents that have previously been reviewed within the reports and documents below have been listed at the end of this section.

## Cleveland Track Park- DRAFT<sup>1</sup>

- this report gives the background and sets out the direction for concept design and planning for the Redland Track Park
- the report identifies the Track Park as a place with facilities for “relatively easy cycling and walking activities”, expected to be “popular with families, youth and people of all ages looking for an attractive location for fitness activities”
- the report also adds that “it is anticipated that the Park will be well used as it is easily accessible to a large local population and to others by car or by train” and it “provides a large range of opportunities for various mountain bike activities”
- the report states that, because it is a large patch of high quality core habitat, recreation activities undertaken should engage and educate the community and reserve users
- recognises strong demand for venues for the popular activities of mountain biking and walking in an outdoor setting
- identifies a need for a masterplan of the Track Park with Trailhead locations and designs including management and operating strategies
- highlights the direction for park management and operating strategies for the Park as well as providing a prioritised action plan.

## Conservation Land Management Strategy 2010: A Plan for the Next 10 Years

Relevant principles within the Strategy that pertain to the Redland Track Park Concept Plan include:

- when constructing or closing a track, appropriate consultation should take place including with relevant mountain bike groups. The work must also be cognisant of the network and links to other reserves
- any trail constructed for use by mountain bikes must also be suitable for walking
- bike trails are to be constructed to International Mountain Biking Association Standards (including MTB Trail Classification System)
- walking tracks are to be constructed in accordance with AS 2516.1-2001:Walking Tracks Classification and Signage
- trails in wetlands and creeks to be avoided where possible. No new mountain bike tracks to be constructed within 30m of a waterway or area identified as being a sensitive area
- any water/creek crossing has to be as direct as possible
- the use of natural materials is preferred.

## Cleveland Aquatic Centre Land Management Plan<sup>2</sup>

Relevant discussions from the Land Management Plan pertaining to the Redland Track Park include:

- conflict exists between the Aquatic Centre and users of the Cleveland Pump Track
- CPTED principles need to be applied to improve the safety and security of the Aquatic Centre, including re-designing the Pump Track to encourage a higher standard of participation
- the pump track should be upgraded to include a toilet, new signage, shade shelter etc
- recommendation that a horizontal scaling wall be installed between the Aquatic Centre and the Pump Track, with a shade structure affixed to the top to prevent people from climbing from one side to the other. This wall could form a part of the boundary fencing
- there is currently limited car parking spaces available for the users of the Aquatic Centre, Cleveland Pump Track and the SES building, more parking should be investigated within Wellington Park
- opportunities for the Aquatic Centre to support the Track Park, where there may be scope to provide food and beverage, bike hire and a limited range of bike spares. The master plan will have the intent of integrating all the features on the site to create a physical activity hub.

## Redlands City Council Planning Scheme

The Redland Track Park is subject to the following overlays:

- Acid Sulphate Soils Overlay
- Koala Habitat Overlay
- Bushland Habitat Overlay
- Bushfire Hazard Overlay
- Remnant Vegetation Overlay.

The implications of each of these overlays has been considered in the development of this Report. It is important to note that the future intent is not to change greatly any of the existing uses within the Park. Refer to page 25 for further information regarding Planning Scheme implications.

## Cleveland Track Park Project<sup>3</sup>

This Report provides an assessment and comments on the current tracks and trail type, grading and condition within the Track Park, and provides recommendations for track upgrades and/or closures.

<sup>1</sup> Internal Use Only, 2011

<sup>2</sup> CPR Group, 2010

<sup>3</sup> Rob George- Australian Bush Trails, undated



## The Seven Cs Connection Strategy Project<sup>4</sup>

- this document identifies existing and potential major green corridors and recreation pathways across Redland City
- the Strategy identifies the challenges of creating recreation pathways (such as designing safe road crossings, especially those on major roads and recognises the importance of the safety of riders near roads (especially those that may not be that experienced)
- relevant principles of network development for the Connection Strategy include:
  - connections to provide for shared use (pedestrians and cyclists only) within the urban footprint
  - networks that have roles in both recreation and commuter use present challenges while providing opportunities for funding
  - provision of a network that is accessible to all, including the disabled
  - Strategy elements to build on existing infrastructure investments
  - must enhance tourism and business opportunities and provide value for money
  - must provide a high quality user experience
  - effective and ongoing maintenance of the network is a critical element
  - detailed planning needs to be done in environmentally sensitive areas such as along rivers and creeks
  - all new and existing pathways to have quality on-trail information and/or interpretive material
  - trails to have uniformity and consistent signage
  - trail and pathway construction, signage and trail markers, and classification will comply with recognised Australian Standards
- the Strategy also addressed a series of matters relating to trail and pathway design and development “to achieve trails and paths that are constructed with minimal disturbance to the natural environment, are sustainable and that require minimal maintenance”. These design considerations have been incorporated into this report and include:
  - follow existing tracks/trails where possible to minimise disturbance to the landscape
  - avoid poorly drained areas
  - ensure local drainage is maintained along natural watercourses where possible
  - avoid dense understory where possible
  - avoid areas of dense vegetation that may require heavy clearing
  - avoid environmentally sensitive areas
  - use debris from trail clearing to prevent use of unwanted paths
  - avoid long straight sections with long steady grades. Trails should meander to take advantage of natural and man-made features to create interest
  - avoid areas with high erosion potential
  - take note of safety hazards where possible
- it is recognised that the Redland Track Park site runs alongside and supports major cycle and pedestrian trunk connection/ routes.

## Heritage Management Protocol – Hilliards Creek (Nandeebee) Corridor

- provides guidance for the management of Indigenous and non-Indigenous cultural heritage values existing within the Corridor and gives management options and recommendations for cultural heritage conservation
- includes an agreement between Redland City Council and the Minjerribah Moorgumpin in Council (the Aboriginal Parties for the Corridor) to provide a suitable framework under the Aboriginal Cultural Heritage Act 2003
- acknowledges Hilliards Creek Corridor as having cultural significance to Aboriginals. There also is a high potential for other (unknown) objects and areas of Aboriginal cultural heritage to exist (e.g. scarred trees and middens)
- it sets out guidelines on protocols on working within Aboriginal cultural heritage sites (refer Appendix 2). “Projects which have potential to cause ground disturbance to land surface can only be undertaken after gaining approval in writing from the Aboriginal Parties”
- the document includes the protocols and work method statements which would need to be conducted prior to any “triggers” being conducted.

## Other Relevant Supporting Documents Considered

- Cleveland Sewerage Treatment Works Fire Management Plan (Rob Friend & Associates, 2000)
- Hilliards Creek Redland City Invertebrate Study (Biodiversity Assessment & Management, 2009)
- Redlands 2030 Community Plan: Creating Our Future
- Redlands Cycling and Pedestrian Strategy
- Redlands Physical Activity Strategy 2011
- Redlands City Council Corporate Plan 2010-2015
- Redlands City Council Building Strong Communities: Redlands Social Infrastructure Strategy
- South East Queensland Outdoor Recreation Strategy
- Outdoor Trends in South East Queensland Between 1997-2007
- Sports and Physical Recreation: A Statistical Overview, Australia, 2011-abs Catalogue 4156.0
- SEQ Regional Plan
- Active Trails: A Strategy for Regional Trails in South East Queensland
- Towards Q2: Tomorrows Queensland
- The Greenspace Strategy
- Crime Prevention Through Environmental Design, Guidelines for Queensland
- Queensland Cycle Strategy 2011-2021
- Rural Futures Strategy for South East Queensland 2009
- Austroads, Guide to Road Design Part 6A: Pedestrian and Cycle Paths

## Trail Design Literature

The literature below includes some pertinent documentation regarding track and trail design. This information has been included in the report.

- Trail Solutions-IMBA'S Guide to Building Sweet Singletrack (IMBA 2004)
- Managing Mountain Biking- IMBA's Guide to Providing Great Riding (IMBA 2007)
- Natural Surface Trails by Design, Physical and Human Design Essentials of Sustainable, Enjoyable Trails (T.S. Parker 2004)

# The Context

## Location

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The Redland Track Park is located midway between central Cleveland and central Alexandra Hills (both of which are approximately 2km from the site).

The surrounding area is primarily low density residential with a number of schools and parks within the surrounds (refer to Figure 1: Context Plan).

## Movement

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The main vehicular corridors near the site include Finucane Road to the north of the site, Wellington Street to the east and Vienna Road to the west.

The Redlands Track Park is also bordered by two of the 7 C's Connection Routes. The 7 C's is a strategic connections plan comprising routes that are shared "green" pedestrian/cycle corridors that connect various parts of the Redlands City Council area. Routes which are associated with the Redland Track Park include the:

- Capalaba-Cleveland Link (East-West trunk connection)
- Thornlands-Cleveland Link (North-South trunk connection).

### Capalaba-Cleveland Link

This route links Cleveland to Capalaba and traverses the north of the site along Flinders Street, and the west of the site along the sealed concrete paths at Scribbly Gums Conservation Park.

### Thornlands-Cleveland Link

This route links Cleveland to Thornlands in a north/south direction. The identified route is only indicative in the 7C's document, however it is identified to be situated near the eastern side of Hilliards Creek along the eastern edge of the site.

Refer to Figure 2: Contextual Site Analysis Plan for the locations of these two Connection Routes.

Other collector pedestrian/cycle routes which link areas at Redland Track Park include along McDonald Road and along Weippin /Long Street.

The Track Park is located approximately 2km away from the Cleveland Train Station, making the site an attractive destination for those visitors without their own transport. The route between the site and the train station can be reached safely along pedestrian and bike paths.

The location of the Track Park as well as its large area of open bushland for recreation, creates a great family friendly destination. This is accentuated further by its easy access into the Park, the sites gentle gradients, floral and faunal attributes as well as its proximity to the train station, town centre, schools and surrounding residences.

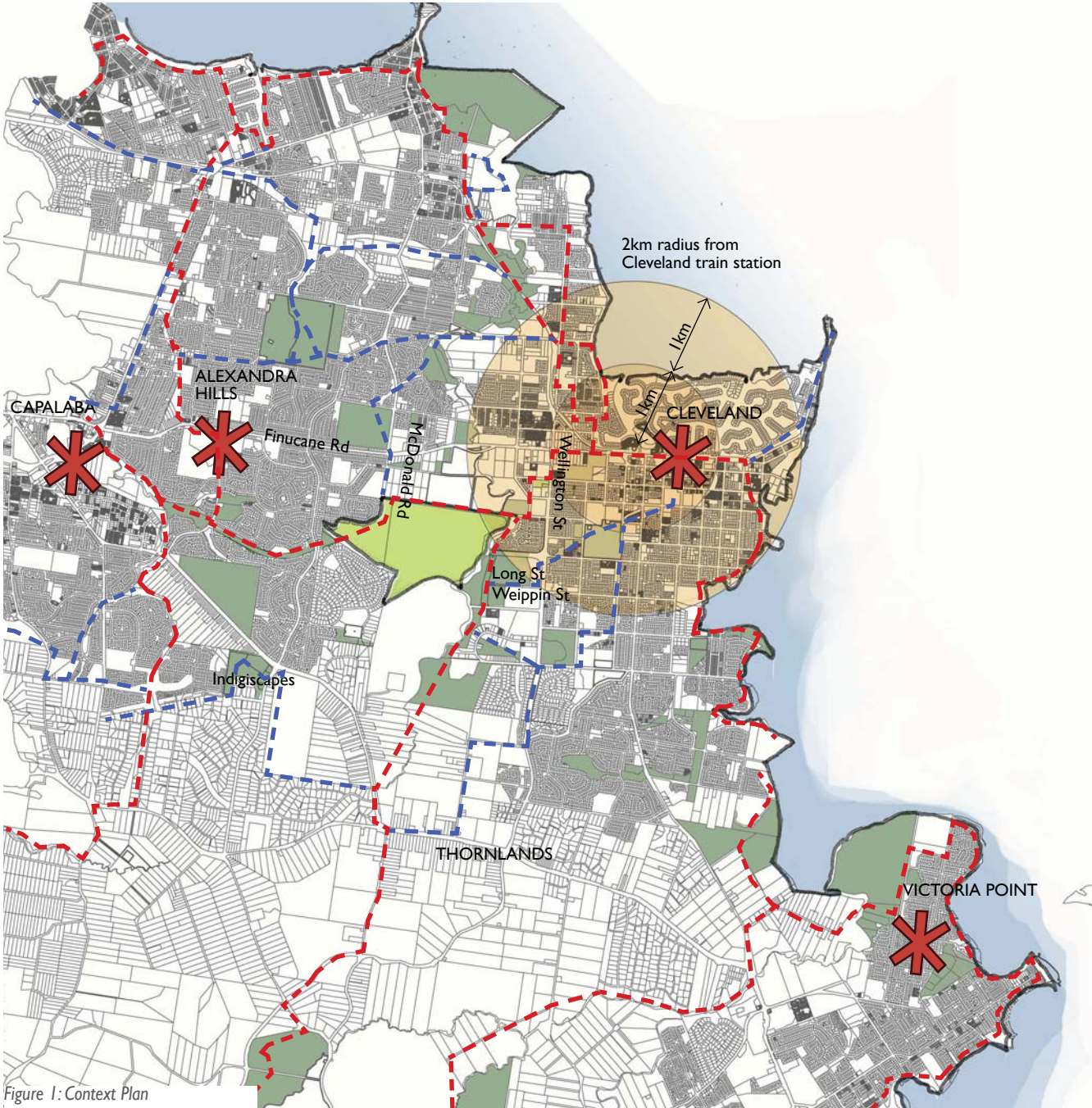
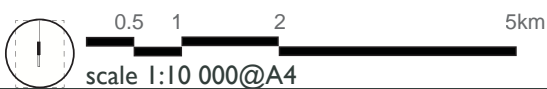


Figure 1: Context Plan

**Legend**

- Redland Track Park
- large tracts of public open spaces and parks
- commercial hubs
- major cycle and pedestrian trunk connections and routes\*
- major cycle and pedestrian collector connections and routes\*



\*The Seven C's Connection Strategy Project, Halliburton 2010



# The Local Area

## Local Area

The Redland Track Park lies within a large tract of quality bushland. The study area comprises the Track Park itself, Clarke Street Bushland Reserve, Scribbly Gums Conservation Park and Wellington Park (refer Figure 2).

Flinders Street shared pathway marks the northern boundary of the site. The Department of Primary Industries and Fisheries is located to the north of the site. The Sewer Track forms the southern boundary of the site where it borders the Cleveland Sewerage Treatment Works.

There are a number of schools within the area, making the site an attractive active open space within easy access for children.

The Cleveland Showgrounds lies approximately 500m from the Long Street Park entrance.

The Redlands Hospital is located at the south east of the site.

## Hilliard Creek Waterway Corridor

Hilliard Creek is approximately 13km in length and flows through Clarke Street Bushland and along the eastern border of the Track Park southwards through into Weippen Street Conservation Area. Within this section of Hilliard Creek, there are high biodiversity and ecological values and water quality considerations.

The creek corridor is also significant in terms of its Indigenous cultural values. South of the Track Park, between Long Street and Weippen Street lie significant Indigenous and non-Indigenous heritage sites.

Careful consideration must be made to avoid any disturbance to the environmental and heritage values.

## Future Consolidation of Surrounding Bushland

The Redland Track Park comprises 152 ha of the total (approximate) 256 ha of surrounding adjacent bushland. This surrounding land comprises:

- natural bushland area within and surrounding the sewerage treatment works
- Weippen Street Conservation Area
- State owned land between Weippen and Long Street.

Although this surrounding land is not currently managed by Council, it does contain informal tracks and trails which people currently utilise for walking and mountain biking. Many of these tracks link to the Redland Track Park, to adjacent recreation and conservation parks as well as to adjoining suburbs (refer Figure 2). In the future, once the Redland Track Park has been developed, Council envisages that the recreational values of the entire 256ha be developed, where appropriate (depending on ownership and land agreements), to become a larger nature-based outdoor recreation (walking and mountain bike riding) destination.





Figure 2: Contextual Site Analysis Plan

# Site Analysis

## Site Description

Redland Track Park total study area comprises the following properties:

Property	Area
Lot 1, 4 & 5 SP234806 -Track Park	112.6 ha
Lot 1 SPI04046 -Clark Street Bushland Reserve	5.3 ha
Lot 1 CP910606 -Wellington Park	2.3 ha
Lot 129 SPI04063 -Scribbly Gums Conservation Area	30.0 ha
Lot 38 RP203884 -Parkland east of Hilliard Creek	1.9 ha
<b>TOTAL</b>	<b>152.1 ha</b>

### Track Park

In May 2010, the Department of Environment and Resource Management granted the request to excise a portion of the sewerage land (lot 171 on SL 7400), to create a "Reserve for Open Space and Buffer Zone", with Council as Trustee (Lots 1, 3-7 on SP 234806).

The primary value of the Park is to provide a community recreation area, in particular a nature based open space reserve for non-motorised track and trail based activities such as walking and cycling, while recognising and enhancing its high quality bushland.

The Park is covered in Eucalyptus forest with riparian vegetation along Hilliards Creek, and provides an attractive large natural recreation area within an urban environment. The site is relatively flat with a height variation of about 45m over the area.

#### Uses

Within the Park are existing tracks, many functioning as both fire trails and as recreation tracks.

Primary activities within the Park include walking and cycling. However, the trails are unmarked, some are eroded, and there are no maps or signage giving information or directions for the trails.

#### Entry and Access

There are many entries into the Park. This can be confusing to first time visitors, where they can end up at a different (unmarked) entrance, as well as providing difficulties for emergency access, park closures and evacuations, should the need arise.

The main entries are from the end of Coburg Street, McDonald Street, and Long Street Road Reserve.

- Coburg Street is a residential street with little parking at the Park entry
- McDonald Street runs in a north/south direction between Finucane Road and Flinders Street. It provides the north-western entry into the site along Flinders Street
- Long Street is a Road Reserve which leads into the site from the south-east corner. Parking is along Wellington Street and access into the site is via the Sewer Track. However, the crossing of Hilliards Creek into the site is difficult. The Cleveland Showground is located to the east of the site along Long Street.

### Clarke Street Bushland Reserve

Clarke Street Bushland Reserve is located to the west of Clarke Street. There are fire trails that run through the Reserve, however access into the site is difficult due to locked vehicle gates.

#### Uses

Due to the difficult access there is little usage within the Reserve. The Pump Track is located within the wide Road Reserve, near the Park entrance gate, along Clarke Street.

#### Entry and Access

There is one locked vehicular entrance into the Reserve along Clarke Street with parallel parking along the whole western side of the road.

### Wellington Park

Wellington Park lies to the north of the Aquatic Centre between Wellington Street and the Clarke Street Road Reserve.

The Park is a large tract of open space, which has an opportunity to enhance and support the current activities there as well as provide trailhead facilities for the Redland Track Park.

#### Uses

Presently the site comprises the Aquatic Centre, the SES Emergency Services building, the Cleveland Ramp Park, parking and the site of the burnt down ambulance building. There is also a large tract of undeveloped land.

The Ramp Park located between the emergency building and the Aquatic Centre, to the east of the car park is in poor condition. The asphalt surface needs to be replaced and the drainage from the car park needs to be improved. There are no supporting youth facilities within the Ramp Park area.

#### Entry and Access

Entry into Wellington Park is off Wellington Street, and via the Aquatic Centre, off Russell Street.

### Scribbly Gums Conservation Area

The Conservation Area lies along the western border of the Track Park (along the power easement) and south of Flinders Street. It has interconnected concrete pathways. It is surrounded to the north, south and west by residential areas.

#### Uses

The area is used primarily for walking and cycling.

#### Entry and Access

There are at least nine entries into Scribbly Gums Conservation Park. They are accessed from the surrounding residential areas.

### Hilliard Creek Parkland Area

The Park is a densely covered Eucalypt and Riparian forest between the eastern side of Hilliards Creek and the residences off Sunshine Drive and Gretel Place.

#### Uses

This area of parkland is used informally as a pedestrian and cycle route. It has the potential to form a strong north/south corridor which could tie into the Thornlands/Cleveland major cycle and pedestrian trunk connection.

#### Entry and Access

Access into the Park is through a gate at the end of Coburg Street, at the end of Gretel Place and Sunshine Drive.



Figure 3: Site Analysis Plan



Site Entries (Refer to Figure 3: Site Analysis Plan)



Entrance 1 - Clarke Street



Entrance 9 - Kew Street



Entrance 2 - Coburg Street



Entrance 10 - Kew Street



Entrance 3 - Flinders Street



Entrance 11 - Winchester Court



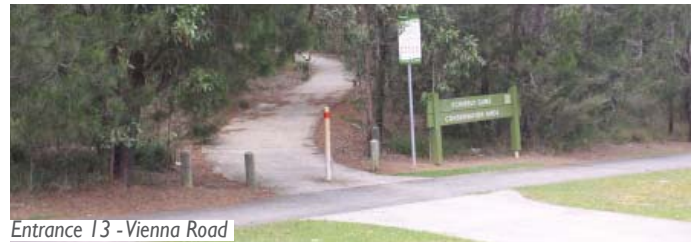
Entrance 4 - Flinders Street



Entrance 12 - Belgravia Street



Entrance 5 - Flinders Street



Entrance 13 - Vienna Road



Entrance 6 - Flinders Street



Entrance 14 - Warana Court



Entrance 7 - Flinders Street



Entrance 15 - Palana Drive



Entrance 8 - McDonald Road



Entrance 16 - Long Street

\* Photos courtesy Redland City Council



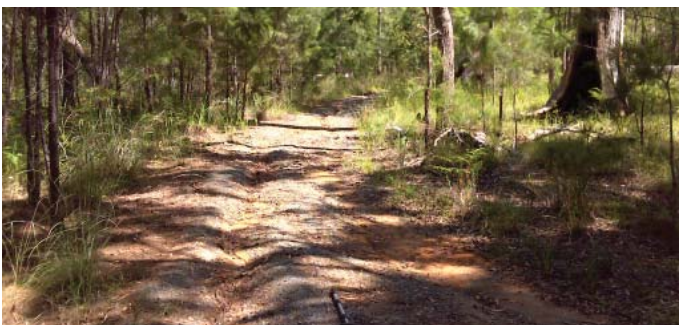
## Tracks and Trails (Refer to Figure 3: Site Analysis Plan)



Flinders Street is the main access track on the northern border of the site. It is primarily a concrete pathway, and forms a part of the Cleveland-Capalaba major cycle and pedestrian trunk connection



Magic Track splits into Upper and Lower Magic. Upper and Lower Magic are single tracks



Water Track is a fire road utility trail that is in poor condition. It has low use due to the poor quality of the track, but has high tree coverage, giving it good trail potential



Bondi Track is a well constructed single track



Fire Control Trails within the site are eroded in places

\* Photos and track information courtesy Rob George



Sewer Track runs across the southern border of the site and heads northward to Flinders Street. It is a major utility trail with varying widths. There are areas of severe erosion, without erosion control measures



Power Track is a wide fire trail linking the north and south of the site. It runs under the overhead powerlines



Hammer Track is a reasonably built single track with some fall line sections



Orchid Track is a poorly "evolved", unsustainable single to multiuse trail that has severe water and erosion problems. It has a poor entry and sections of the track are in low lying wet areas



Clarke Street fire trail is a turf trail which traverses through the site. It has good tree cover, and the trail could link to Flinders Street



## Natural Environment and Cultural Heritage

Refer Figure 4.

### Native Flora and Fauna

The Redland Track Park is a natural bushland area comprising open dry eucalypt forest and riparian vegetation along the creeks and waterways.

Within the site there are “of concern” regional ecosystems, which require protection. The site provides a natural habitat for native flora and fauna including species and communities that are rare or threatened.

Hilliard Creek Corridor supports significant biological faunal diversity, and provides a major wildlife corridor for the greater area.

The site also falls within the Koala Protection Area.

### Weeds and Pests

The Track Park, at a glance appears to be in relatively good condition with regard to weed infestation versus native coverage. However, no surveys or recordings were conducted in the development of this report. Weeds were noted mainly along track edges and cleared areas.

There are no available surveys or recordings within the Track Park regarding the impact of feral or domestic species, such as damage to native fauna from domestic dogs, cats or feral foxes. Because the Park is so close to residential areas, where there are domestic pets, (as well as people who walk their dogs in the Track Park), domestic and feral animals within the Park should be monitored and regulated.

### Fire

Fire Management within the Track Park is undertaken by Council, in accordance Council’s Conservation Land Management Strategy and Cleveland Sewerage Treatment Works Fire Management Plan (Rob Friend & Associates, 2000).

### Cultural Heritage

South of the of the Track Park are two scarred trees and a Bora Ring, as well as remnants of the site of an historical rifle range.

The Heritage Management Protocol prepared for Redland City Council identifies Hilliards Creek Corridor as a culturally significant area. Other than the Hilliard Creek Corridor, there are no known culturally/historical sensitive areas within the Redland Track Park. However, should any culturally significant elements be found within the site (such as scarred trees), appropriate measures need to be taken in accordance with the Traditional owners of the land (Elders of the Minjerrabah), the Heritage Management Protocol and the Aboriginal Cultural Heritage Act 2003.

Any works undertaken within the Creek Corridor need to have the consent of the Traditional owner and be in accordance with the relevant Protocol (See Appendix 2).

## Infrastructure and Easements

Refer Figure 5.

### Infrastructure and Facilities

Wellington Park has access to services such as water and electricity, which is currently utilised by the Aquatic Centre and other buildings on the site.

The Track Park, Clarke Street Bushland Reserve, Scribbly Gums Conservation Park and the Hilliard Creek Parkland do not presently have any infrastructure or facilities within the natural bushland areas.

There are no public amenities or picnic facilities within the Park or nearby area.

### Vehicular Movement and Parking

Russell Street and Wellington Road are both busy vehicular routes.

Vehicular parking is primarily at Wellington Park, in front of the Aquatic Centre, however it is often full, especially during peak swimming times.

There is parallel parking along Clarke Street on the Clarke Road Bushland Reserve side of the road.

There is no parking at the end of Coburg Street cul de sac, however, people park there to get easy access into the park. This should be discouraged due to its close proximity to local residents, and lack of formal parking space.

At end of McDonald Street the large gravel area could potentially be used as a secondary trailhead and could provide for ample parking (there is currently no formal centralised parking along the western Park entry (Flinders Street (West))).

### Pedestrian Movement

Traffic lights allow for safe pedestrian crossing across the Wellington Road/Russell Street intersection. There is an existing pedestrian path along Wellington Road as well as to the northern verge of Russell Street. There is no safe dedicated off-road access from Wellington Park to the Redland Track Park.

The tracks within the Park were originally service and utility tracks (e.g. for fire control and infrastructure maintenance), but have subsequently also been utilised as tracks into for bushland and recreation trails.

### Easements, Access Tracks and Road Reserves

Within the site are access tracks which service the overhead powerlines and sewage pipes. These tracks are wide enough to be accessible by vehicles.

The purpose of the Road Reserve that runs across the site has been changed to Active Recreation.

There is also a Road Reserve which is located to the north of the site and runs under Finucane Road, where it links to a wider network of open space. It presently is located within DPI property.

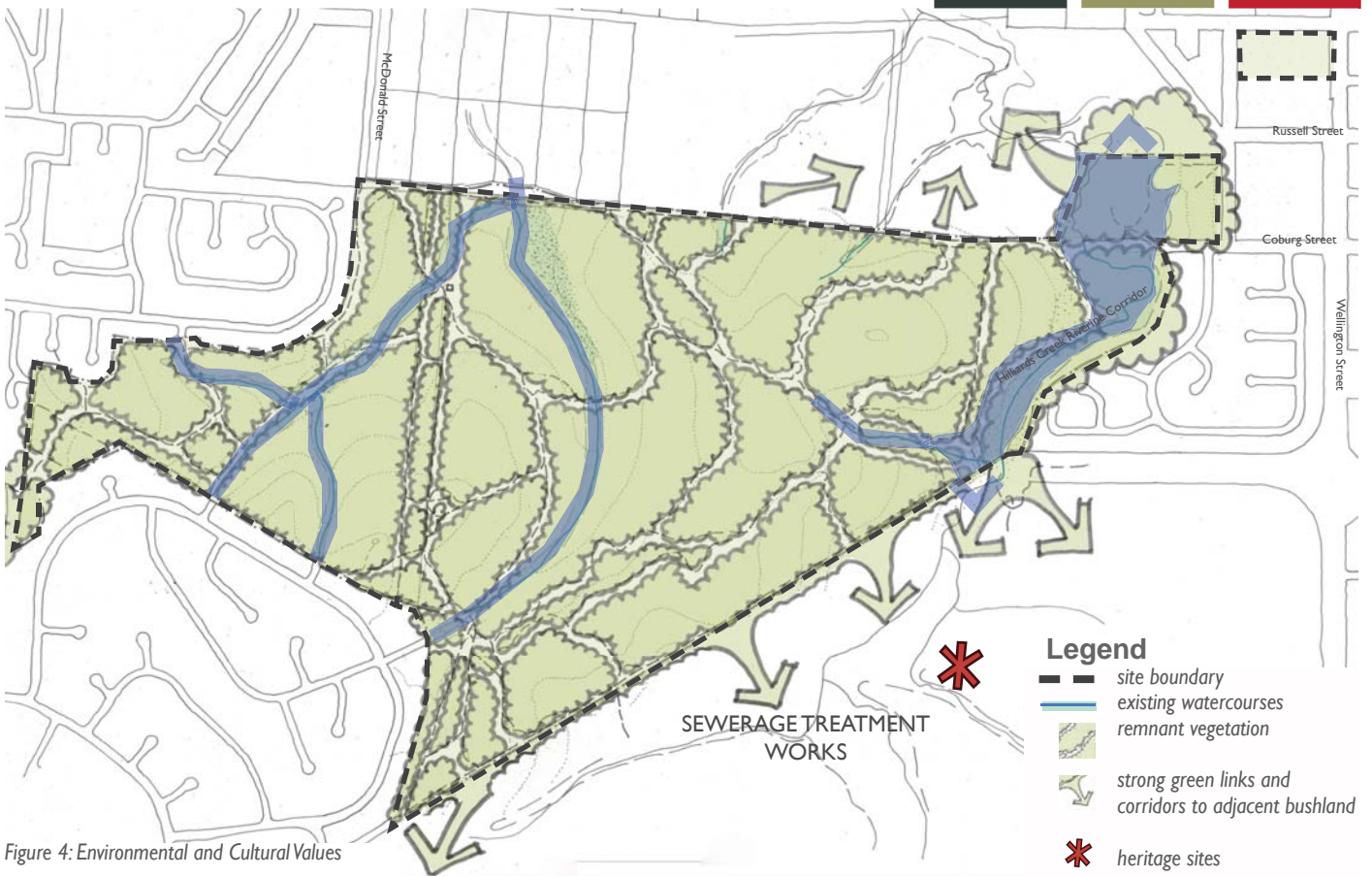


Figure 4: Environmental and Cultural Values

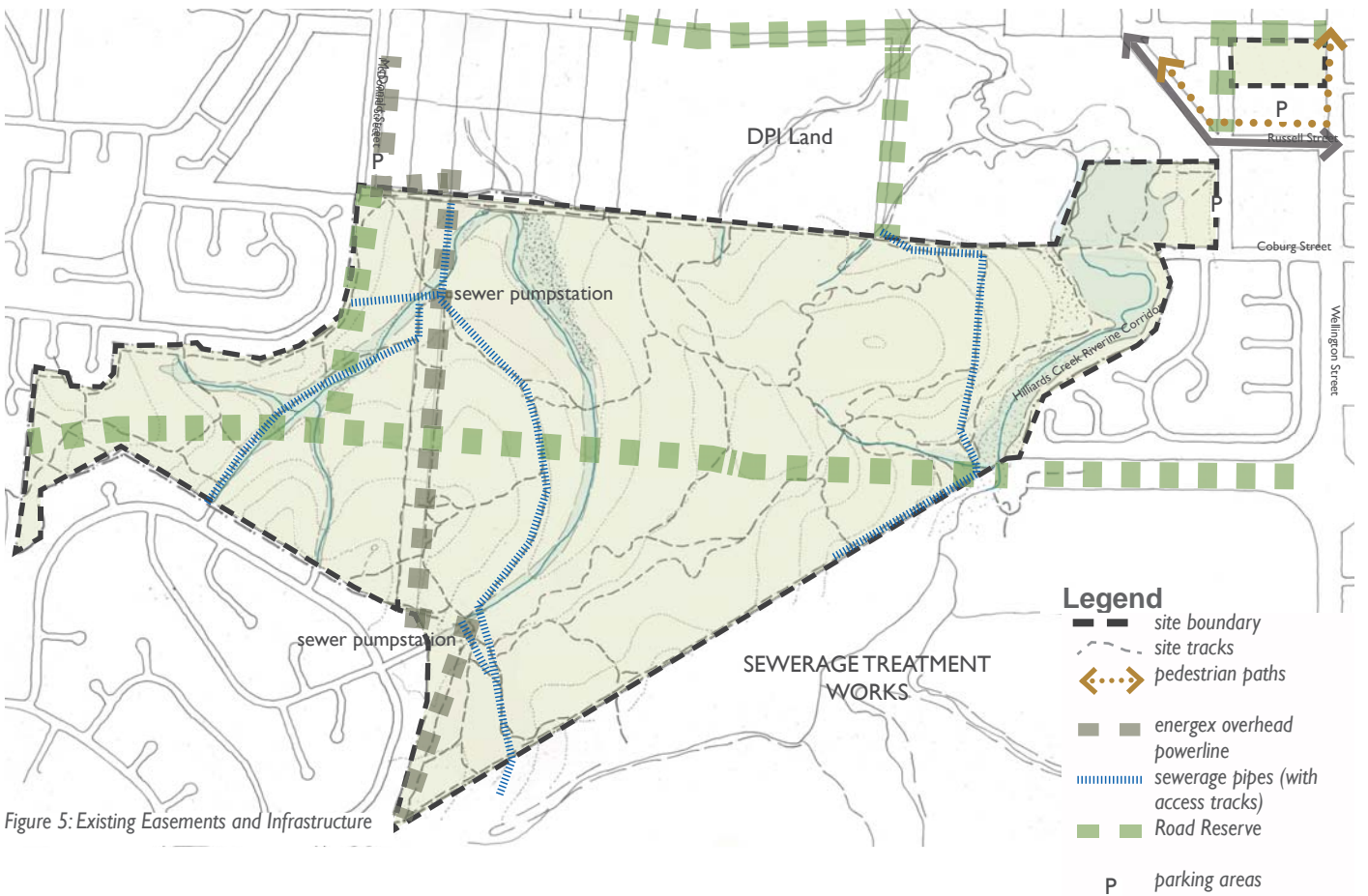


Figure 5: Existing Easements and Infrastructure



# Track Analysis

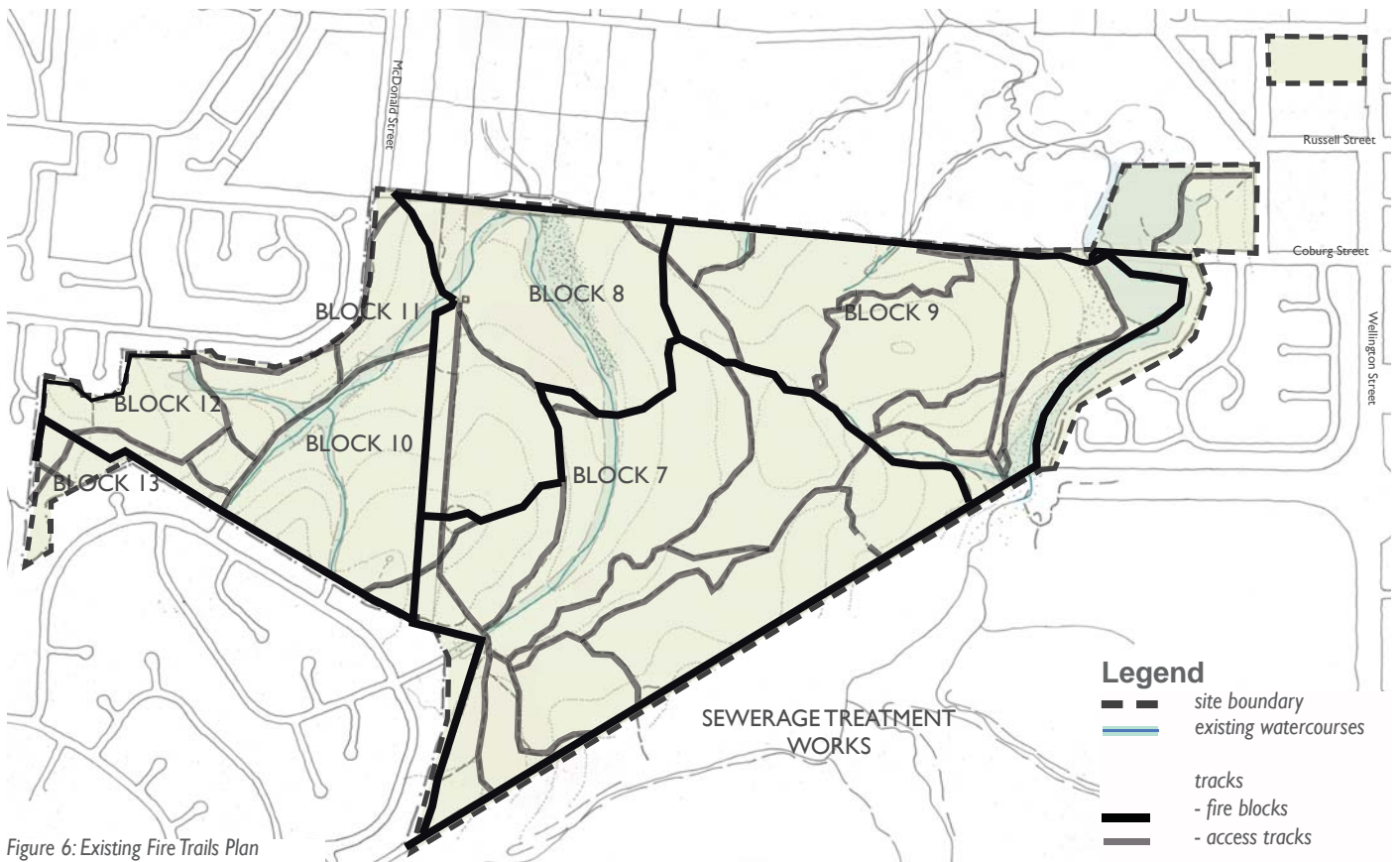


Figure 6: Existing Fire Trails Plan

(Source: Cleveland Sewerage Treatment Works Fire Management Plan, Rob Friend & Associates, October 2000; Scribbly Gums Fire Management Plan, Rob Friend & Associates, December 2002)

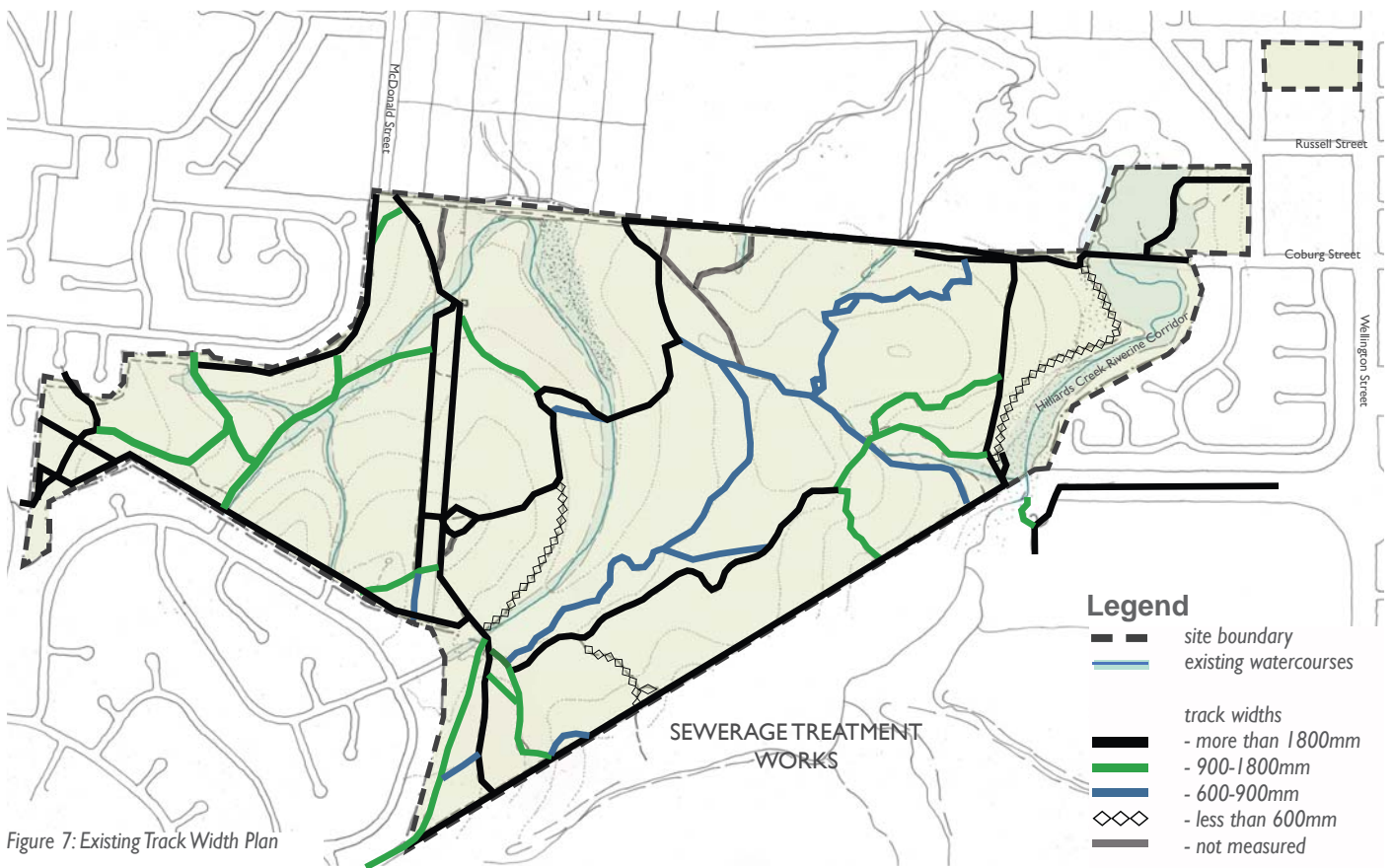


Figure 7: Existing Track Width Plan

(Cleveland Track Park Project, Rob George)





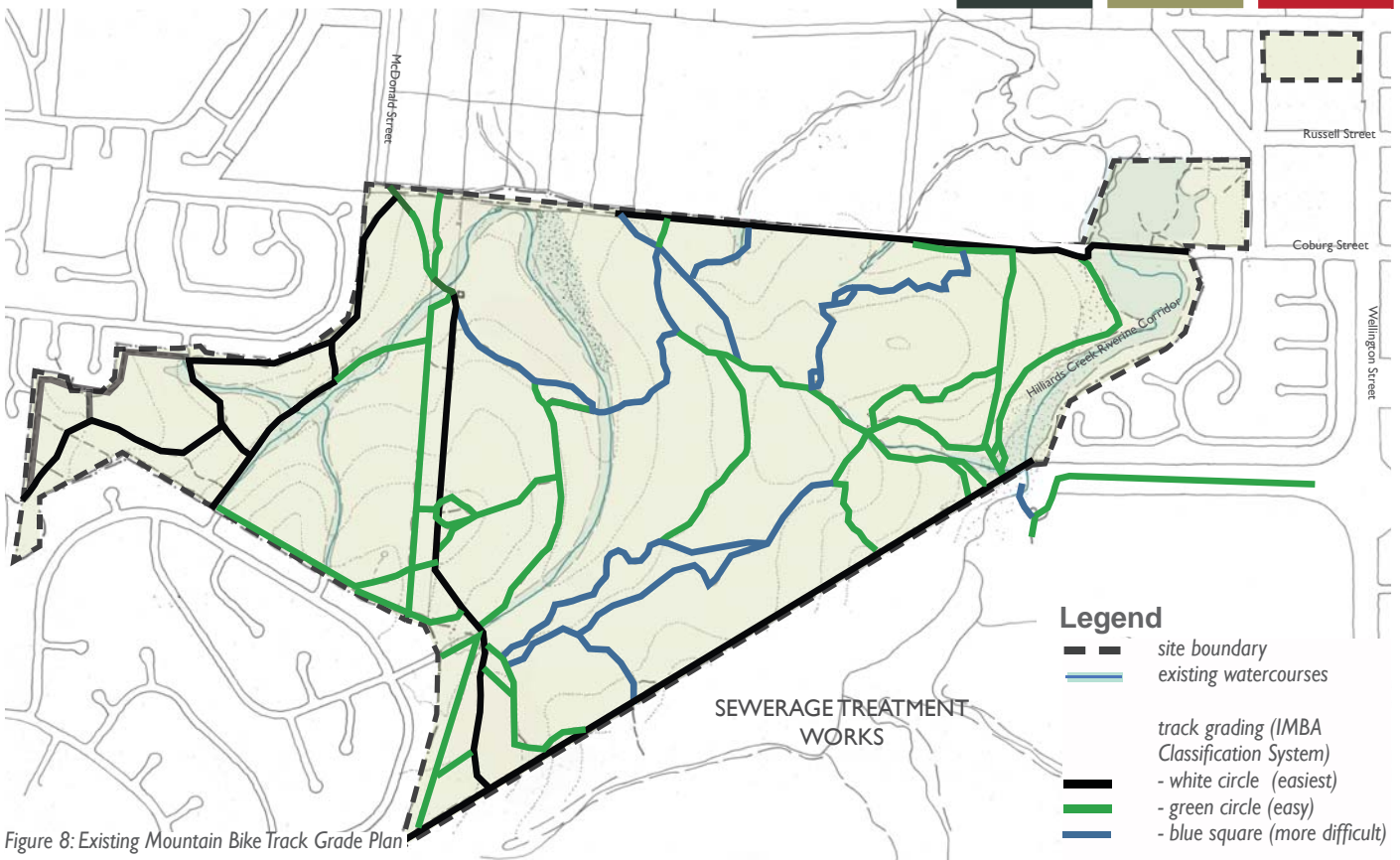


Figure 8: Existing Mountain Bike Track Grade Plan  
(Cleveland Track Park Project, Rob George)

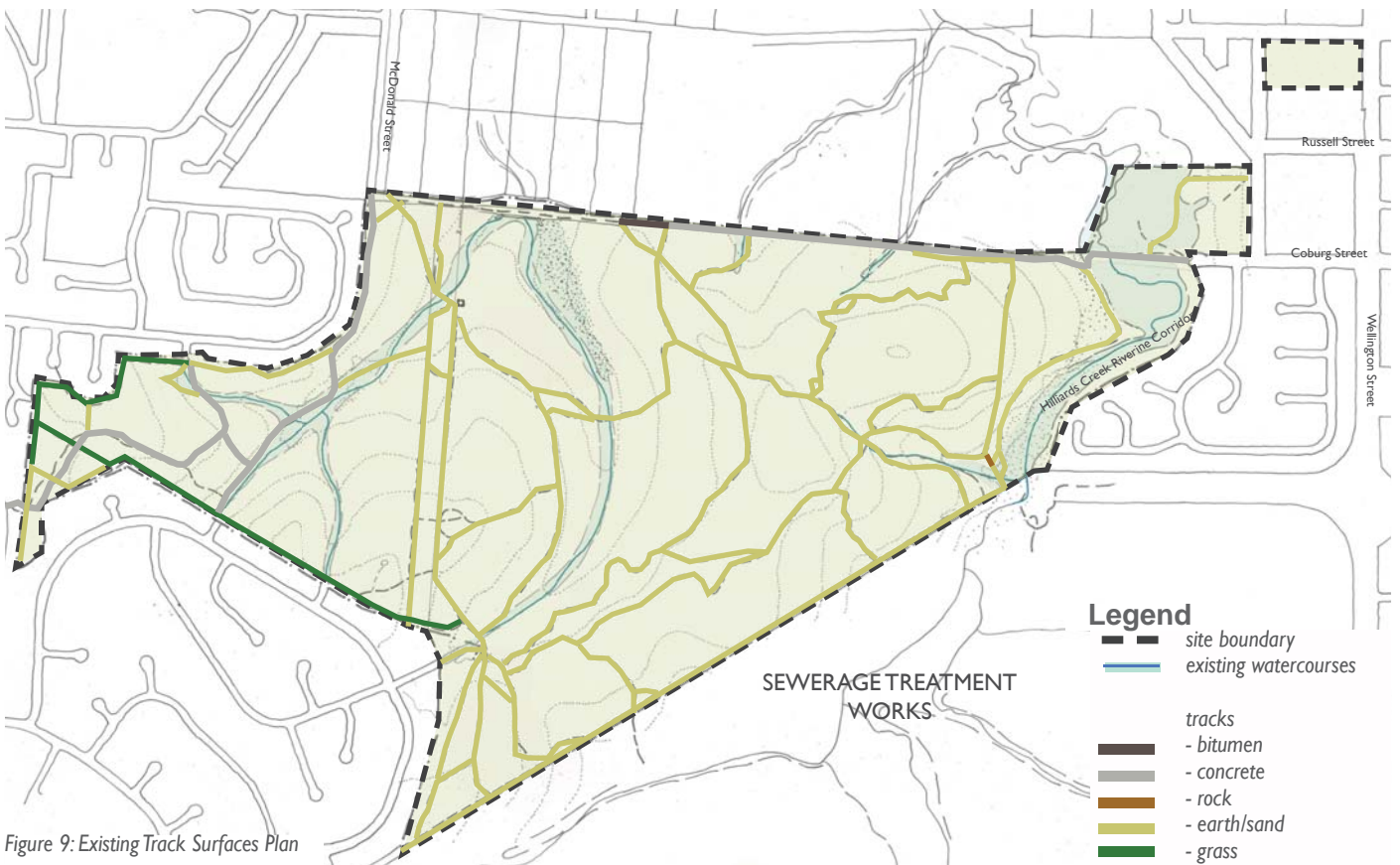


Figure 9: Existing Track Surfaces Plan  
(Cleveland Track Park Project, Rob George)

# Consultation

## Previous Consultation (from Redland Track Park Draft Report 2011)

The table below is a summary and findings of the previous relevant consultation conducted for the Redland Track Park Draft Report.

Table 1: Consultation findings from the Redland Track Park Report 2011

'User Group'	Design Drivers
Mountain Biking Australia	<ul style="list-style-type: none"> <li>• Create network and circuits- not out and back style trails</li> <li>• Keep trails far enough apart so that riders cannot see any other trails (helps with creating natural setting experience and reduces the creation of new trails as shortcuts to others)</li> <li>• All trails are to be named with a basic map</li> <li>• Could hold events if a trail length of 4-6km could be established</li> <li>• Can include: mountain cross track, MTB Trials, dirt criterium</li> </ul>
Queensland Outdoor Recreation Federation (QORF)	<ul style="list-style-type: none"> <li>• Ensure trails are not too close to adjacent residents' backyards</li> <li>• Some trails should be dedicated for walkers and some for mountain bike riders, rest for shared use</li> </ul>
Multi Terrain Bike Orienteers	<ul style="list-style-type: none"> <li>• Want an interconnected track network - more extensive if possible</li> </ul>
Queensland Rogaine Association	<ul style="list-style-type: none"> <li>• Could be used for Metrogaine, however the area is too small for regular Rogaine</li> </ul>
Cleveland Aquatic Centre	<ul style="list-style-type: none"> <li>• Ramp Park to be relocated to ambulance side so that it is visible from Wellington Street. If it needs to stay where it is then they would be happy about a traverse wall as a screen</li> <li>• Centre could provide drinks, coffee and food including takeaway food. They could carry a small selection of spare parts, however would not be in favour of hiring bicycles</li> </ul>

## Current Consultation

Consultation was undertaken with the following:

- Redland City Council Staff
- Local Councillors (Divisions 2 and 7)
- Queensland Outdoor Recreation Federation (QORF)
- State Government (Department of Environment and Resource Management, Department of Primary Industries and Fisheries, Department of Communities (Sport and Recreation Services))
- External stakeholder groups and individuals (including local bike shops, relevant organisations and user groups)

The full consultation findings can be found in Appendix I. Overleaf is a summary table of findings.

Figure 10: on site consultation workshop





Table 2: Summary of Consultation

Summary of Comments	Design Drivers
<p><b>Park Design</b></p> <ul style="list-style-type: none"> <li>create east/west link between Scribbly Gums Conservation Park and Redland Track Park</li> <li>create north/south link (to strengthen Thornlands/Capalaba Link), between residences and Creek (between Long and Coburg Street) to create safe shared link through Park</li> <li>current access from Long Street over the Creek is unsafe, especially being an important Park entry point</li> <li>DPI will not currently permit access through their site within Road Reserve</li> <li>relatively flat topography and small size of the Park offers restricted scope for increasing the technical content</li> <li>natural features (rocks and roots) to be retained to provide a challenge for intermediate riders whilst still maintaining access for families and beginners</li> <li>there are multiple entry and exit points into the Park</li> <li>for a greater technical challenge, a skills area could be added (similar to that recently completed at Gap Creek)</li> <li>Showgrounds along Long Street could be used for event parking, where there is not enough space near the Park</li> <li>in the near future, signs are going to be put up along Flinders Street as a part of the signage strategy as it lies within the Capalaba/Cleveland corridor. This corridor is recognised by the state for Cycling as a “Council trunk Cycle Network”</li> <li>the current park name may not be appropriate</li> <li>there may be an opportunity create a full interpretive centre within this large tract of bushland</li> <li>open space just south of Long Street Reserve (north of Hospital) could become a mountain bike cross track (note: this is not currently Council managed land)</li> <li>explore options of an environmental interpretation area. However, this should not compromise the natural feel and ecological nature of the Park</li> </ul>	<ul style="list-style-type: none"> <li>create east/west link, which will be secondary to Flinders Street, where it will be a shared natural off-road bush track, but with an easy grade from which trails can link back to, allowing a natural alternative east/west link</li> <li>create internal trails all with a natural bush feel, while allowing safe sightlines on shared paths. This also can be achieved by creating interesting gradients, surfaces and widths to create natural bush paths</li> <li>create north-south link between residences and the creek. This should be a shared path and link into the Park via Long Street and Coburg Street Park entries. This can be achieved without compromising the safety of the residents, nor the ecological values of the Creek</li> <li>create a narrow, natural looking pedestrian/cycle bridge over Hilliard Creek at the end of Long Street to allow safe access/crossing into the Park and also strengthening east/west bushtrack. Bridge to be an all weather link</li> <li>Road Reserve on DPI land could be explored again in the future (can be addressed through Priority Infrastructure Planning project)</li> <li>due to the nature of the site (size and topography), the Park provides an alternative to the other, more technical and challenging Track Parks, and therefore should be targeted at beginners to intermediates, using the natural features to give a range of obstacles for different abilities</li> <li>ensure that goals of “environmental sustainability” and a “rewarding ride” are met</li> <li>reduce entry points and unused tracks where possible while taking into account existing (small and large) fire trails and entrances, provide clear signage, access and mapping throughout the Park</li> <li>create a youth area at Wellington Park including the creation of a skills and trials area. This could aid in increasing the usage near the ramp park as well there being a group of activities supported by facilities such as amenities etc.</li> <li>all signage within the area should be coordinated not to ‘double up’</li> <li>the site could allow for smaller events, whereby the Showgrounds can be used to facilitate parking for larger events</li> <li>create mountain bike cross track south of Long Street that links to the trail network</li> </ul>
<p><b>Trail Design</b></p> <ul style="list-style-type: none"> <li>all tracks need to be rough/bush walking style with natural appeal</li> <li>create trail loops of the same grade</li> <li>trails to be measured and the lengths marked out</li> <li>there are currently a number of large log features which riders have the option of riding over or riding around</li> <li>Boystown currently assists Council within the Track Park doing volunteer trail care work</li> <li>wherever possible link trailheads to reduce signage needs</li> </ul>	<ul style="list-style-type: none"> <li>create natural bushland paths, whereby adjacent paths cannot be seen. Signage, furniture etc to also be appropriate for setting</li> <li>trails should provide loops which can be connected to provide a variety of different riding lengths. These should be designed to work with the existing tracks to provide flowing loops or sequences of trails, to increase the total length of tracks available. The current network should extend to approximately 20km to provide sufficient enjoyment for intermediate riders</li> <li>create clear signage on trails that indicate use (shared use etc) and wayfinding (how to get there, how to get back etc.)</li> <li>avoid blindspots to reduce conflict between commuters and off-road bikers</li> <li>tracks to be for beginners to more intermediate style with a variety of widths and obstacles. Access for all can be ensured by retaining optional lines around existing features such as large logs</li> <li>The use of ‘A’ and ‘B’ lines permits each rider to determine their own level of risk and ride accordingly, and should be incorporated wherever required. Identifying the style, number and difficulty of obstacles on any particular track will provide a sense of the track difficulty</li> <li>new trails should maximise the use of the Park elevation and technical challenges should be presented in the form of corners, series of corners and natural obstacles such as logs and rocks</li> <li>Boystown can assist with the future trail upgrade</li> </ul>
<p><b>Safety and Signage</b></p> <ul style="list-style-type: none"> <li>emergency exit and evacuation points need to be addressed in the design e.g. on signage in the Park</li> <li>residents use the perimeter trails as tracks for walking dogs. Address needs vs possible conflict with increased Park usage</li> <li>there is asbestos and hazardous material within Clarke Street Bushland Reserve (off the fire trail)</li> </ul>	<ul style="list-style-type: none"> <li>signage should have markers which can be used for emergency and ambulance e.g. with GPS coordinates or similar on signs at intersections so people can easily report their location</li> <li>develop a web page for the site (trails map, safety notices, etc)</li> <li>signage needs to be clear and describe the type of trail, the potential users and any possible risks (e.g. dogs to be on leash)</li> <li>hazardous material to be removed prior to public opening and use of Clarke Street Bushland Reserve</li> </ul>
<p><b>Facilities</b></p> <ul style="list-style-type: none"> <li>Track Park parking could be formalised along Clarke Street</li> </ul>	<ul style="list-style-type: none"> <li>create a safe formal parking area close to the Park entry and also at the Trailhead (Wellington Park)</li> </ul>



# Opportunities and Constraints

Below is a summary of the identified opportunities and constraints along with potential design solutions to be considered in the planning process. Following the table is a plan that depicts a number of these key considerations.

Table 3: Opportunities and Constraints

Consideration	Opportunities/Constraints	Desired Outcomes/Design Drivers
Access and Entry	<ul style="list-style-type: none"> <li>the site is somewhat difficult to find for those who are not familiar with the area</li> <li>there is no sense of entry into the Park, whereby there are multiple entries, some are not obvious or necessary and can make where to go confusing</li> <li>Park entries and trails are not sign posted, and therefore are not clear as to their direction or route, making it difficult to navigate as a first time user</li> <li>Road Reserve through DPI land and connects to a wider green network under Finucane Road</li> <li>there is no clear safe and direct link from Wellington Park to the Track Park. Russell Street is a busy through Street and can be unsafe to cross</li> <li>wide verge and parking adjacent to Clarke Street Bushland Reserve</li> <li>parking along Coburg Street can be an issue due to lack of parking bays and it is close to residences</li> <li>gate at Clarke Street is a locked vehicular gate, which is not conducive to bikes and walkers</li> <li>Coburg and Flinders Streets form an important (existing) non-motorised commuter corridor (Cleveland/Capalaba link)</li> <li>Cleveland/Thornlands link runs north/south to east of site, (presently only strategic -not existing/defined) entry from Long Street into Park is difficult as there is no crossing over Hilliards Creek</li> </ul>	<ul style="list-style-type: none"> <li>provide good signage to and within Trailhead and Track Park</li> <li>provide entry statements where required</li> <li>create main and minor entries only where required, for example by combining trails' entrances</li> <li>develop a signage strategy that provides good information and clear wayfinding to and within the Precinct. Signage should be located where required and should be designed not to clutter the area</li> <li>Road Reserve to be explored as possible connection in the future</li> <li>create a safe connection from Wellington Park (proposed Trailhead site) through to the Track Park. This should be done by creating safe crossings and obvious wide, well maintained paths</li> <li>create formal parking along Clarke Street adjacent to proposed entrance. Parking to be formalised at Wellington Park within trailhead precinct. Parking should not be encouraged along Coburg Street</li> <li>all entrances should allow for bikes and walkers only, with restricted vehicular access where required</li> <li>enhance the commuter corridor east/west so that it creates an all access route through the site. It should clearly link in with the pedestrian/cycle trunk infrastructure corridor/s</li> <li>create north/south link to east of site which connects to the pedestrian/cycle trunk infrastructure corridor/s</li> <li>create opportunities through the trail network to further links into adjacent bushland</li> <li>create a crossing over Hilliards Creek from Long Street</li> </ul>
Tracks and Trails	<ul style="list-style-type: none"> <li>no east/west trail between paths in Scribbly Gums Park and Redland Track Park</li> <li>erosion along trails especially close to waterways existing firebreaks give opportunities for wide clear bushland trail experiences</li> <li>many trails just end and do not form a continuous loop, thereby detracting from the biking/walking experience</li> <li>trails are not signed nor graded which can be difficult to navigate for new users</li> <li>no consistency in trail types, widths, surfacing etc, which can be confusing to users</li> <li>state owned bushland between Long and Weippen St</li> </ul>	<ul style="list-style-type: none"> <li>opportunity to create clear off-road east west link through Park from Long Street. (providing a natural bushland alternative to Flinders Street)</li> <li>where there is erosion along tracks near watercourses, the trails should be re-routed away from the watercourse. All trails should have appropriate erosion control measures (waterbars etc.)</li> <li>utilise existing trails where possible to provide minimal disturbance. Create loops, within existing trails and provide new trails only where required</li> <li>all trails to be clearly marked, designed and graded appropriately with A and B lines for more riding choices</li> <li>trail entrances should be rerouted where possible to meet at intersections to assist in clear wayfinding and to reduce signage</li> <li>investigate in future opportunity to create loop track within State owned bushland (between Long and Weippen Street)</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>The site contains high quality bushland. Hilliards Creek Corridor has ecological as well as cultural significance</li> </ul>	<ul style="list-style-type: none"> <li>opportunity to create public environmental awareness and education in park</li> <li>park design only provide low impact development. Any works within the Creek Corridor requires local Aboriginal consent</li> <li>ongoing maintenance is required to maintain environmental values</li> <li>Trailhead and infrastructure to be located away and out of the conservation areas with minimal facilities within the natural habitats</li> </ul>
Sense of Place	<ul style="list-style-type: none"> <li>parkland is a large tract of bushland with natural character within an urban setting</li> <li>unattractive fencing along Flinders Street</li> <li>barbed wire fence along northern boundary is unattractive and dangerous to fauna and users</li> <li>turf firebreak used by bike riders is very close to residences</li> <li>no meeting areas, or obvious gathering places</li> </ul>	<ul style="list-style-type: none"> <li>Track Park (including trailheads and trails) to create a natural bushland experience, with good sightlines to allow for bikers and walkers to share trails</li> <li>create an appropriate entry feature for the Precinct and for individual users to give sense of place</li> <li>install appropriate fencing, in keeping with natural theme, allowing safe movement of fauna, but keeping out trail bikes and vehicles</li> <li>create intersections and nodes for meeting and gathering</li> </ul>
Facilities and Infrastructure	<ul style="list-style-type: none"> <li>large amount of vacant open space at Wellington Park</li> <li>lack of parking at Aquatic/SES precinct</li> <li>Aquatic Centre area subject to vandalism due to lack of surveillance around Ramp Park</li> <li>condition of the Ramp Park is poor (poor asphalt surface, numerous drainage issues) as well as having poor integration into the surrounding landscape. There are no supporting facilities (toilet etc)</li> <li>Pump Track at Clarke Street is not supported by any facilities</li> <li>currently there are few parking opportunities to support the Track Park as a destination</li> </ul>	<ul style="list-style-type: none"> <li>Wellington Park, as a greenfield site has good opportunities to form the trailhead for the Park and provide facilities which can not only support the Park, but also the Ramp Park, Aquatic Centre and the SES building (e.g. providing a toilet, additional parking, picnic facilities as well as usual trailhead infrastructure (signage and information))</li> <li>improve the Ramp Park facilities (replace asphalt, improve drainage, add additional concrete embankments to improve flow, additional grindable seating box, shade and shelter)</li> <li>replace sign at Ramp Park, as it is in poor condition and indicates Ramp Park is located on Russell St. New sign should be same typology and style of whole of Track Park signage strategy and design</li> <li>relocate Pump Track to Wellington Park near Ramp Park and create skills and trials area, so that it becomes a youth precinct (bringing more people into the area will create less crime)</li> <li>increased parking at Wellington Park will give opportunity for more users to utilise the Park</li> </ul>

Figure 11: Opportunities and Constraints Plan

# Diagrammatic Concept Plan

## Vision

“to create a nature based recreation destination for walking and (beginner-intermediate) mountain biking, while providing environmental awareness and education, within a conservation area”.

This vision can be achieved by:

- protecting conservation and cultural values through planned and managed trails
- creating a trail system that is fun, engaging, with a choice of various challenges to create a satisfying outdoor natural experience
- creating a safe environment that is easy to navigate through
- creating adequate facilities that support the nature based recreation activities and park users

The main features of the Concept Plan are listed below.

### Wellington Park

- develop a Trailhead within Wellington Park including ample parking, picnic facilities and public amenities for the Track Park as well as for other existing/proposed infrastructure
- provide signage within the Trailhead precinct which includes maps as well as information pertaining to the Track Park, its facilities, trails and environmental and cultural significance. The signage should also include any risk or safety precautions and regulations
- create a youth precinct (including skills and trials area, Pump Track and upgraded Ramp Park) and supporting facilities (shade, shelter; furniture etc)
- provide parking for the Track Park, including parking provision for trailers and buses

### Clarke Street Bushland Reserve

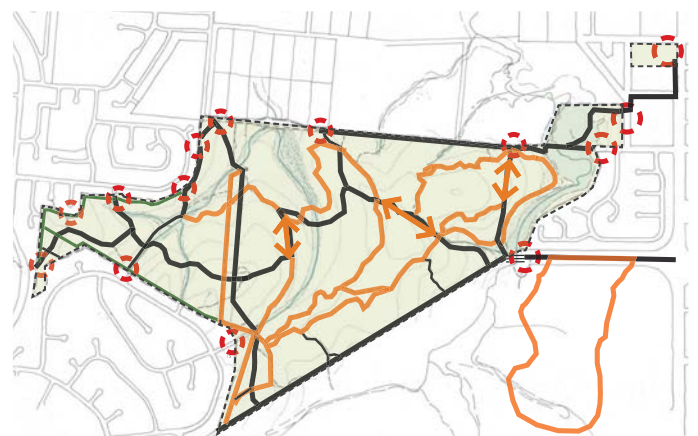
- provide the main off-street park entry off Clarke Street, which is clearly linked with a safe shared pedestrian/cycle route to/from Wellington Park Trailhead
- develop a secondary trailhead system along the Clarke Street Road Reserve including signage (maps and trail information), benches, tables, drinking fountains etc.
- provide formal parking along Clarke Street

### Track Park (including Hilliard Creek Parkland Area and Scribbly Gums Conservation Area)

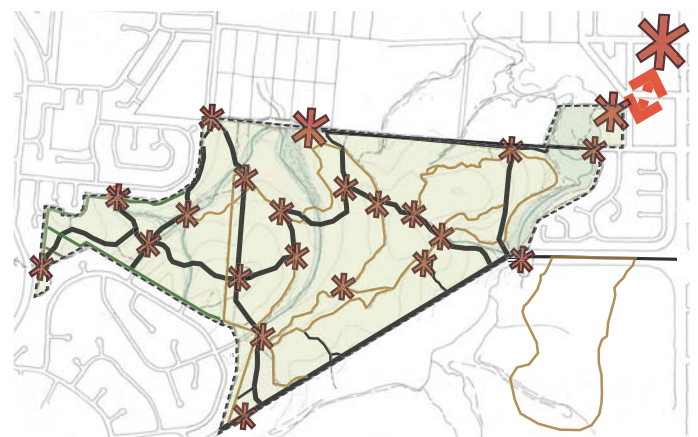
- link the three above parks to form one large tract of recreation space by linking trails and providing consistent furniture and signage
- create a central spine shared bush track (“Main Track”) that traverses the site, with trails that loop to and meet along the spine
- provide trails that link and loop and form a continuous connection of trails for walking and cross country style riding
- create adequate entries (15) and close those that are not required. Entries to have gates allowing walkers and mountain bikers to access the site while allowing restricted entry for vehicles
- plan for shared pedestrian/cycle bridge/crossing at Long Street over Hilliards Creek
- provide appropriate signage at intersections and entries
- develop tracks that are built appropriately with suitable width, surfacing and drainage/erosion prevention measures
- develop fun flowing trails, that are clear, without side tracks. (Fewer but more defined trails aids in clear trail direction and park wayfinding)



proposed tracks allow for clear, wide, shared movement routes creating east/west and north/south linkages



proposed tracks provide a variety of loops on trails (IMBA grading classification and walking classes). Trails to have “A” and “B” lines, to provide technical riding choice (see p 31 for “A” & “B” line explanation)



proposed entrances and tracks to be clearly marked and signed, so as to give clear wayfinding but not to detract from natural experience





Figure 12: Concept Plan

# Entries and Boundaries

## Park Entries

- create clear park exits/entrances for ease of wayfinding and to create clear emergency exits or evacuation points. Too many exits that are undefined can be confusing
- entries should all be clearly marked
- entrances should be able to be closed and cordoned off, for example during bushfires
- park entries to incorporate pedestrian/bicycle access gates but keep out vehicles and trail bikes. Bicycle access gates to be constructed with vandal proof materials (Figure 13)
- vehicular access gates to be placed at entries where restricted vehicular access is required (e.g. vehicular maintenance and emergency vehicle access). Gates should be constructed using galvanised steel (Figure 14)
- gate design and typologies to be consistent throughout the park
- gates to be constructed to Council's design Manual Standards, using a lock and key system

## Park Boundaries

- Park perimeter should be secured and delineated. In many places this is achieved by residences backing onto the park. Where necessary fence around Park to prevent trail bikes and other unauthorised vehicles from entering the Park unlawfully
- fencing must be safe (e.g. not barbed wire) and allow for faunal movement
- fencing must comply with all regulations, (e.g. post and wire with strainer or post and rail)
- fencing should be in keeping with the parkland setting and only placed where required. Any fencing that is not appropriate or unnecessary should be removed
- perimeter fencing should be consistent in type and appearance throughout park (Figure 15)

# Park Furniture

- ensure facilities and furniture are consistent throughout the Park and are in line with local bushland setting (standard park furniture does not always look suitable in a natural environment and should be avoided)
- ensure materials are durable and low maintenance (eg Fibre Reinforced Plastic (FRP)\*)
- should timber furniture be used, it should have ACQ treated Class 1-2 hardwoods. Timber should be dressed or have exposed surfaces sanded.
- site seats so that they are located in the shade and provide an interesting viewing point in close proximity to an interpretive sign. Seating should also be placed in areas where there is a long walk or a hill where people can have a rest (a simple log is sufficient in some areas)
- furniture to be sited within Wellington Park Trailhead, Clarke Street entrance, 5 ways intersection, end of McDonald Street Trailhead, along Flinders Street and Flinders Track
- incorporate bollards in areas where there is a risk of vehicles entering pedestrian areas. Bollards are an effective barrier to vehicular movement. Timber bollards are appropriate within the Park setting/character. (Figure 16).

\*FRP provides a virtually maintenance free alternative to traditional timber and/or steel construction. see [http://www.landmarkpro.com.au/index.php?option=com\\_content&view=article&id=2359&Itemid=1577](http://www.landmarkpro.com.au/index.php?option=com_content&view=article&id=2359&Itemid=1577)



Figure 13: Brisbane Valley Rail Trail at Coominya. Pedestrian/Bicycle gate where cyclists can negotiate without having to dismount (though they still need to slow down). Access for trail bikes is prevented due to narrowness of openings



Figure 14: This is a standard galvanised gate used at many reserves and trail entrances



Figure 15: Post and wire 4-strand fence. The picture shows a split post. Corner tensioning can be achieved by use of simple logs



Figure 16: Bollards can be mass-produced or individually designed for use in high profile areas.



Figure 17: Timber platforms are an example of low cost, appropriate bushland furniture



# Signage

The signage strategy discussed in this section, is based on best practice park signage typology.

Signage should be standardised within the Track Park and be in accordance with relevant Council standards or practices. Chosen colours and colour scheme should be uniform. The Track Park should have a logo and colour scheme identifying the Park and its trails. Refer to page 65- 69 of Redland City Council's Conservation Land Management Strategy for Council-specific signage principles.

The signage strategy should also be developed in conjunction with the signage for the Capalaba/Cleveland corridor (which will traverse the site along Flinders Street and Flinders Track).

Signage should be simple, informative and only used where required (mainly at entries and intersections). It should not create a negative visual impact and be in keeping with the natural bushland setting.

## Trailhead Sign

A trailhead sign is a large sign placed at the main park entrances and trailhead. It provides essential information to trail users and should be graphic, simple and concise (Figure 19). It might include:

- a map and trails description (landmarks, attractions, seats, shelters, viewpoints and interpretive panel locations)
- trail lengths, duration and difficulties
- etiquette, local rules or Code of Conduct
- emergency details and contacts (including phone numbers for maintenance and Council Call Centre)
- regulatory signage and personal safety precautions
- educational message and points of interest
- photographs of key features and attractions (optional)
- registration and reporting requirements
- equipment recommendations
- any specific conditions.

**Placement:** Wellington Park, Clarke Street Road Reserve, McDonald/ Flinders Street Entries, The signs should be clearly visible from adjacent parking areas. They can sometimes be covered with a shelter.

## Trail Entry Signage

Trail entry signage comprises a summary of the Trailhead signage. It is placed at all park entrances to inform visitors and create a sense of arrival. It also will include "a you are here" placement, as well as the name of the Park where the entry is taken from. Here there will also be information on trail closures. (Figure 20)

**Placement:** all park entries (not trailheads) and at 5 ways intersection.

## Trail Markers

Trail markers should be small and clearly placed. They should comprise vertical pine posts 1.5m high (Figure 21). They are to include

- trail name, grading (difficulty), route, direction (if applicable)
- navigational information (including exit route)
- GPS coordinates/numbers and emergency phone numbers

**Placement:** at the intersection of every trail.

## Warning Signs

Warning signs are used to caution trail users of upcoming hazards. They should be easy to see, and, where possible they should be integrated into other signage such as trail markers

**Placement:** Along trails well in advance of hazard at points of risk.

## Interpretive Signs

Provides information on matters of historical, cultural, natural and geographical interest (Figure 22)

**Placement:** At points of interest on a trail.



Figure 18: Entry signs can also be used to promote a reserve to passing traffic



Figure 19: Trailhead sign



Figure 20: Trail entry sign



Figure 21: Good use of pictograms gives clear meaning for trail users on trail markers (source Transplan PTY Ltd)

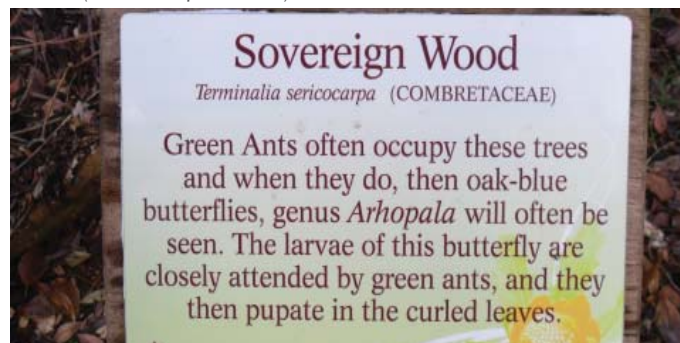


Figure 22: Interpretive sign placed next to tree (close to ground)



# Design Considerations

## Tenure Implications (Land Act 1994)

Property	Tenure
Lot 1, 4 & 5 SP234806 Track Park	Reserve: Council as Trustee Purpose: Open Space and Buffer Zones
Lot 1 SPI04046 Clark Street Bushland	Reserve: Council as Trustee Purpose: Environmental Purposes
Lot 1 CP910606 Wellington Park	Reserve: Council as Trustee Purpose: Local Government
Lot 129 SPI04063 Scribbly Gums	Reserve: Council as Trustee Purpose: Environmental Purposes
Lot 38 RP203884 Hilliard Creek Parkland	Redlands City Council (Parks & Conservation) Landuse/zone: Park

Abbreviated Definitions (from SLM/2004/1696 Queensland Government):

**Open Space:** includes land that provides “benefits to the community by virtue of their comparative lack of development....”.

**Buffer Zone:** “a barrier between parcels of land” ..that.. “should provide a benefit to the community”.

**Environmental Purposes:** “unallocated State land for Environmental purposes”... “it may be necessary for restrictions to be placed on the public’s access to or use of the whole or part of the trust land... a balanced assessment of the relative merits of all identified or potential community needs should be made..”

### Discussion

The proposed Redland Track Parks embellishments and activities support the Tenure and Lease agreements, where it will provide a nature based community open space recreation reserve for non-motorised track and trail based activities.

## Planning Scheme Implications

Refer accompanying plan extracted from the Redland Planning sheets.

The project area comprises the following zones:

- conservation zone (CN1 and CN2)
- community purposes zone (CP2 and CP8); and
- open space zone

### Conservation Zone

- Conservation Zone sub-area CN1 applies mainly to environmental and drainage constrained land where protection of the environment values and associated habitats is paramount. Uses must minimise adverse impacts on the environment and its scenic values. Any activities must be low-key, have a very low impact on environmental values and cover a small proportion of the land. Activities that encourage enjoyment of the natural environment including recreational and tourism uses that contribute to the public and private landscape network may be permitted.
- Conservation Zone sub-area CN2 permits uses and development limited to recreational activities that are based on an appreciation of the environment and protect the capacity of the land to be used for nature-based recreation purposes.

Within Conservation Zone sub areas CN1 and CN2,

- any structures must minimise adverse impacts on environmental values and the landscape setting
- uses and structures achieve a high standard of environmental and visual amenity
- within Conservation Zone sub-area CN2 pedestrian and cycle paths and associated facilities may be provided that are suitably designed to limit environmental impact and allow access opportunities.

### Discussion

Both CN1 and CN2 allow for activities that have a low impact on the environment. Mountain biking and walking tracks are low impact activities and are therefore compliant. (Note that the larger service vehicle tracks within the site are already in existence and therefore

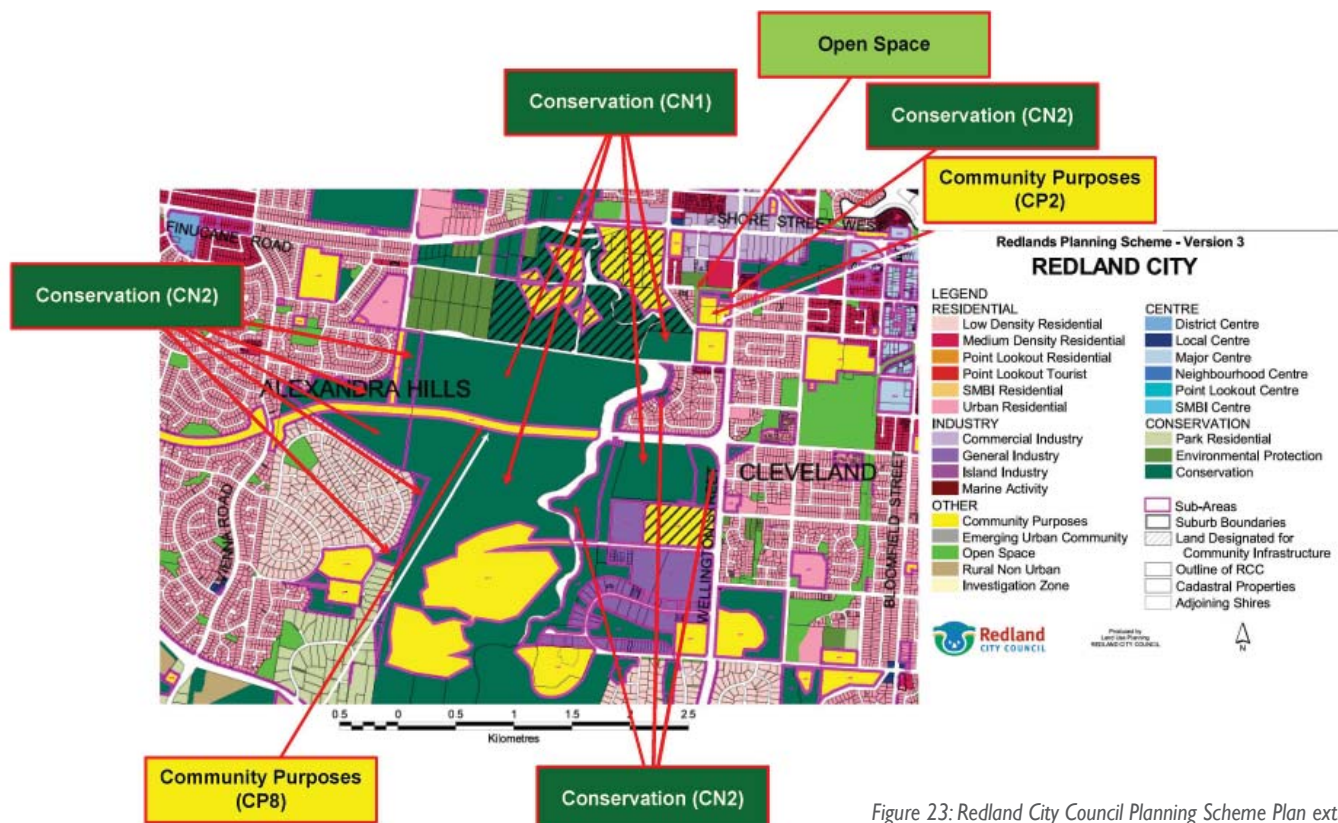


Figure 23: Redland City Council Planning Scheme Plan extract

there would be no alteration to the vehicle access tracks, apart from regrading and minor overhang clearing.

There is no proposed infrastructure within the Track Park itself (except for a sign and some seating logs at the 5 ways intersection (refer pg 38)).

### Community Purposes Zone

Within the Community Purposes Zone two sub-areas are identified:

- CP2 - allows for the provision of community facilities such as halls, childminding and community health centres or the like.
- CP8 - allows for the provision of future Transport/Greenspace/Trail corridors.

#### Discussion

The proposed activities within Wellington Park (zoned CP2) include the trailhead and picnic facilities, youth facilities, public amenities and parking.

The transport corridor across the Park (CP8) has been resumed to become an active recreation corridor and is no longer for the purpose of future transport.

### Open Space Zone

The Open Space Zone allows for the provision of a range of open space and recreational users that meet the active or passive recreation needs of residents and visitors to the area. This includes a range of movement modes including the provision of pedestrian, cycle and vehicle movement networks that maximise connectivity, permeability and ease of mobility throughout the site and adjoining areas.

#### Discussion

The Open Space Zone falls outside the areas to be developed (Clarke Street and Queens Street Road Reserves) and, therefore, pose no concerns.

## Natural Environment and Cultural Heritage

### Native Flora and Fauna

- in the development of the Track Park, consideration needs to be made ensure the protection and conservation of the natural environment. Human activities must not compromise the ecological functioning within the conservation areas
- provide interpretive signage pertaining to the native fauna and flora to aid in providing community awareness regarding the natural environment, thereby minimising impact
- all works to be in accordance with Council's Conservation Land Management Strategy
- track and trail design to ensure large blocks of land are left in between them to allow for fauna to be able to have areas with no human contact
- relevant adjacent properties (eg. schools) should be encouraged to join programs such as Land for Wildlife, Your Backyard Garden etc.
- all barriers that restrict faunal movement and create a hazard to fauna (e.g. barbed wire) need to be removed and replaced with fauna friendly fencing
- the potentially contaminated land within Clarke Street Bushland Reserve needs to be addressed and completely removed prior to opening it to the public
- care needs to be taken with regards to acid sulphate soils during development
- care needs to be taken not to disturb and endangered or environmentally sensitive habitats/species within the Park. Works in these areas should be done under the supervision and in agreement with relevant Council officers

### Weeds and Pests

- Conduct weed and pest surveys. Results and recommendations will identify strategic weed and pest strategies.
- dogs walking in the Park should be on a leash at all times. Signage should indicate this clearly. Facilities for dogs such as litter bags and dog drinking fountains should be provided at entrances to reduce their impact on the native fauna.

### Fire

- The existing Fire Management Plan should be updated (last one conducted in 2000) to incorporate the whole of the Track Park area, incorporating the new proposed tracks.

### Cultural Heritage

- Should any cultural heritage sites or objects be found during or post site works, local indigenous groups must be consulted in accordance with the relevant heritage legislation.

## Infrastructure

All recreation infrastructure works is to be conducted in accordance with Council's Conservation Land Management Strategy -Infrastructure and services section.

### Buildings and Facilities

- Public amenities at Wellington Park will require relevant urban utility connections (water, electricity and sewerage connections)
- Trailhead sign shelter at Wellington Park will be an open structure with informative and interpretive signage
- picnic tables, chairs and shelters with drinking fountain and bins to be located at Wellington Park Trailhead, the end of McDonald Street Trailhead and the Clarke Street Park entrance. Electric barbecues will be located at Wellington Park only
- facilities to also include dog tie up areas, dog drinking fountain and dog litter bags.

### Water and Power

Water and power will be required for lighting and drinking fountains at:

- Wellington Park Trailhead and youth facility (including for electric barbecues)
- the end of McDonald Street Trailhead
- Clarke Street Park entrance.

### Vehicular Movement and Parking

- Parking should be formalised at the end of McDonald Road including the provision of a trailhead facility (trailhead sign, seating, shade, water, (basic) picnic chairs and tables)
- provision of parking at Wellington Park will assist in providing increased number of visitors to the Track Park
- formalise parallel parking along Clarke Street to allow for (limited) nearby Park parking.

### Pedestrian Movement

- Formal path along southern Russell Street Road verge will give safe access to Clarke Street Entrance. The path should continue down to Flinders Street Entrance at Coburg Road, along Clarke Street verge to provide a sealed off-road pathway to Flinders Street from Wellington Park
- sealed off-road path linking Flinders Street (West) to Flinders Lane will give safe off street access into the Park.

### Easements, Access Tracks and Road Reserves

- Existing active recreation reserve running east to west strengthens the proposed concept of an off-road "Main Track" east/west link. This should tie into adjoining paths and trails
- Road Reserve through DPI land should be considered in the future as a recreation corridor linking the site to the large open space network to the north. This link will not only provide connectivity between various parks, but the route along the Creek also provides an aesthetic pleasing corridor.



# Risk Management

## Risk Management

Risk should be minimised on site by ensuring safety measures are in place. Park users should be made aware of all the hazards and risks associated with the site. (Refer Appendix 3 Risks and Management)

### Park

In order to create a safe, low risk Track Park, there are measures which must be adhered to. These include:

- proper initial trail construction and design, whereby the construction adheres to all relevant standards
- trails, with obstacles should be designed to the standard IMBA guidelines, under the supervision of an experienced person
- mountain bike trails should always have an optional easier line at technical features to reduce risk for those that are not that confident (see Figure 44)
- regular trail inspection and maintenance (e.g. pruning of vegetation to allow for clear sightlines, clearing out drainage features and grade reversals, removing any fallen trees (those that are not placed technical features))
- identifying any key hazards on site, which then are addressed immediately (responsive management) -e.g. after heavy rains/winds immediately clear tree limbs or repair water damage)
- providing an effective signage system within the Park. The signage will give clear direction of the type and usage of the trails, provide regulatory information, any warnings of the hazards and risks on site and indicate exit routes. Signage should also provide contact details of relevant persons/Council Department for public to report any issues
- providing clear maps within the Park at strategic locations
- provision of adequate water and shade in appropriate locations
- build partnerships between, and communicate with interested groups to avoid any conflicts on site. This is also particularly important during the construction phase, for example:
  - within culturally sensitive areas, such as along Hilliards Creek Corridor whereby the traditional (Aboriginal) owners need to be involved and consent to the works
  - where land may become disturbed, environmental officers will need to consent to and advise on the work to be done prior to commencement
- cyclists must give way to walkers on multi-use tracks to reduce track user conflict
- track closures or prescribed burns should be displayed clearly to the public. For example, updated information to be displayed on all park entries and could be made available on the Council's website. A website (e.g. Parks for People) would also allow the public to comment, report and give ideas on the Track Park

### Road and Park Access

Access between Wellington Park and the Redland Track Park should be as safe as possible for walkers and bicycle riders to minimise risk pertaining to vehicular/pedestrian/cycle conflict.

The route to and from the Park should also be very clearly delineated through a dedicated path and wayfinding (signage/totems etc) system. Below are some guidelines to ensure pedestrian/bike safety is not compromised along Wellington Street and Russell Street:

- ensure a dedicated pathway is constructed that is clearly connected between the two sites (along Wellington Street and the southern verge of Russell Street). Ensure they are setback an adequate distance from the roadway
- the path should be of a high standard material (e.g. concrete) so that it is attractive to use by walkers/cyclists. It should be smooth and slip resistant. Pits for utilities should be avoided in the pathways where possible
- ensure that the path width meets shared path standards (min 2m preferably >2.5m)

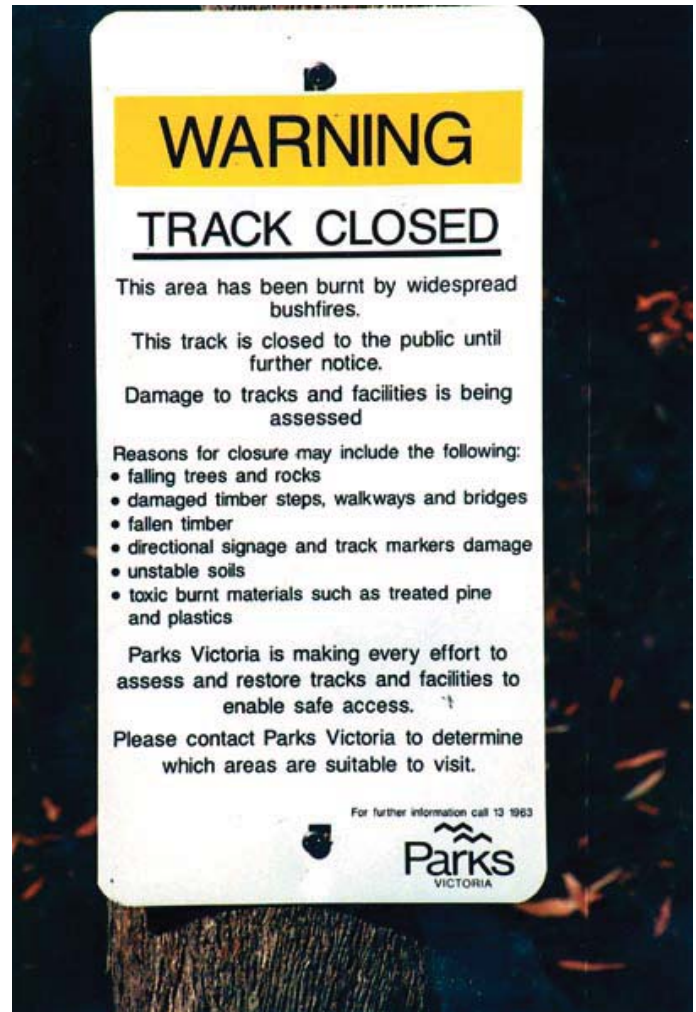


Figure 24: track closure sign at park entrance



Figure 25: example of a sign indicating priority users within a park (unlike Redland Track Park, this sign includes horses)



- ensure that there are vertical clearances, completely free of overhanging projections and obstructions
- ensure that the road crossings can safely be crossed by pedestrians, wheelchairs and cyclists (e.g. kerb ramps with a smooth change, painted crossings)
- place appropriate signage at Russell/Clarke Street intersections to give priority to people crossing.

## Personal Safety Management (CPTED)

People will frequent a park where they feel that their personal safety is not compromised. A safer environment can be created by adopting the CPTED (Crime Prevention Through Environmental Design) Guidelines.

### Surveillance

The guidelines recognise that crime is less likely to occur when there are other people around. If there are people within an area they can see what is happening (passive surveillance). By bringing more people into an area, offenders are discouraged and users sense of security is increased (which in turn encourages people to use the space).

Vulnerability can also be reduced by limiting hiding places and introducing lighting in potentially precarious places. The Redland Track Park has a relatively open understorey, which aids in reducing hiding places. Lighting in areas such as Park entries and trailhead areas will also assist in personal safety management.

### Legibility

Creating a legible site will create a safer area. This will ensure that people know where to go, how to get there and know where the route goes. This allows people to make a safe choice, whereby they can take an appropriate route. They also are less likely to get lost. This is where a good signage and wayfinding strategy is crucial. The Redland Track Park is surrounded by suburban areas with street names reducing the likelihood of users getting lost.

### Facility Conditions

Places that are broken down, dirty or vandalised are less likely to encourage legitimate use by most groups. It also does not give a community or users a sense of pride or urge to look after or respect a place. This is evident at the Ramp Park at Wellington Park, where the facilities are run down and the area is not safe or welcoming.

Routine maintenance is required and good quality facilities installed to evoke a sense of pride and care within the community.

## Emergency Management

Management of an emergency is important in an environment such as the Redland Track Park, whereby it is a large tract of relatively unpatrolled green bushland, in which a number of emergency situations can occur. Procedures need to be clear within the Park when there are emergencies. These procedures include:

- ensuring there are emergency phone numbers and contacts, as well as location points (eg GPS coordinates) on all signs and trail markers, so that emergency response units can locate a person within the Park
- ensuring fencing and boundaries are secured and that entries are clear (so the Park is not too porous)
- regulated entries that are able to be closed off and signed, notifying users of the closure should a safety risk be too high (e.g. in the case of a bushfire, tree fall, stormy weather conditions, high winds etc)
- regular maintenance will ensure that the tracks that allow for emergency vehicles to enter the Park are clear and drivable
- provide Emergency Services with the relevant Park maps, vehicle access points and routes, keys, location point coordinates etc.



Figure 26: regulatory sign, Mountain Creek Recreation Trail, Caloundra



Figure 27: edge warning sign, The Riesling Trail, South Australia

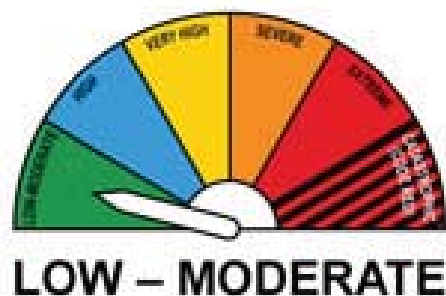


Figure 28: fire risk sign



Figure 29: signage indicating user groups allowed/not allowed in different areas

# Trailhead

The trailhead is a hardened area which gives users a defined starting and ending point to a park and its tracks and trails. It is a defined location for arriving, waiting and meeting as well as getting information. The trailhead is where the main facilities, signage and information is located.

Essential infrastructure within any trailhead include:

- comprehensive maps, signage and information (could include interpretive signage)
- ample parking
- picnic facilities and shelters
- rubbish bins, drinking fountains, bike racks.

## Trailhead Concept Design

The proposal identifies Wellington Park as the main trailhead facility for the Redland Track Park. Wellington Park is a relatively cleared greenfield site.

In addition to the standard infrastructure as bulleted above, it is proposed that Wellington Park also accommodate a skills and trials area as well as a Pump Track. This will be in close proximity to the current Ramp Park, which is proposed to be upgraded, creating a quality youth precinct. This has the advantage of bringing more people into one area, thereby reducing the inappropriate behaviour currently conducted within the Ramp Park, and creating a hub of activities. It also allows the sharing of facilities such as shade, shelter and furniture (rather than doubling them).

By relocating the current Pump Track to Wellington Park it also allows the Road Reserve in front of Clarke Street to become a bike-free trail entry area with a small arrangement of shelters, benches and tables and information signage.

Provision of ample parking within Wellington Park will also alleviate some of the parking issues surrounding the Aquatic Centre and SES building.

The trailhead area is to have park lighting for safety and surveillance. The main entrance is off Wellington Street. A minimum 2m (preferably min 2.5m) wide designated path would guide park users to the Clarke Street trail entry from Wellington Park.

Trailhead area is to include:

- Trailhead sign including comprehensive maps, signage and information (can also include interpretive signage)
- parking
  - approximately 45 no of bays (10 can accommodate trailers)
  - access and parking for 2 busses
- hardened and overflow area
- bike rack area
- picnic facilities and shelters (including some bbq facilities)
- bins
- drinking fountains (including for dogs)
- shade and simple logs for seating/tricks
- public amenities (also available to youth area)

Youth Area is to include:

- refurbished Ramp Park
  - asphalt replaced with concrete in basin
  - additional banks to improve flow
  - improved landscaping and drainage
  - additional grindable seating boxes
- seating and shade
- information and regulatory signage pertaining to the youth area
- skills and trials area
- Pump Track
- climbing wall.



Figure 30: Outdoor climbing wall



Figure 31: Skills and trials area with man-made structures to practice bike skills. Skills area to accommodate for all ages



Figure 32: Picnic shelter with solar panels for lighting is a sustainable solution to energy use (Colmslie Park Brisbane)



Figure 33: Pump Track to be relocated to Wellington Park and to be incorporated into Youth Area

Figure 34: A3 trailhead concept Plan



# Trail Benefits

## Economic Benefits

It is established that creating a well designed Track Park with good trail infrastructure and facilities, can attract economic benefit.

It also has the added (indirect economic benefits) of becoming an asset and attraction in the area thereby potentially increasing surrounding land value, as well as keeping the local community (who would frequent the Park) active (thereby reducing sickness and medical costs).

The 7 C's Connection Strategy Project discusses the benefits of well designed trails within an area, including:

- trails and pathways provide economic opportunities
- appropriately designed facilities add to the user's experience, making a trails and pathways package a much more enjoyable experience and helping foster return visits
- well planned, built and maintained trails and pathways provide attractions for residents, making places more attractive for potential job creation (and businesses).

Well designed trails and parks also can enhance the quality of life for the community and can create the need for new business ventures such as nearby coffee and snack shops or bike retail.

### Attracting people

The more people that the Park attracts into the local area, the more benefits the Park will generate for the local economy. Grants are also likely to be attracted for further improvement and development of the Park. Attracting people into the Park can be achieved by:

- creating quality trails and tracks with appropriate high quality facilities and effective signage
- creating a good park experience so that people come back (with more friends and family)
- sharing local knowledge, among users, e.g. with local rider groups and bike shops
- making the information regarding the Track Park available to the public, such as creating flyers to be put up in local bike shops or cafes, and/or developing a website or forum
- well signed trails well, not letting users have a bad experience e.g. getting lost or hurt, make sure signage is accurate.

Charging for small events, within the Park, such as sprint races or larger events, where the Track Park forms one of the race locations (e.g. a bush to sea race or larger multi sport event) can generate economic benefits for the Park, for the supporting (trailcare) Mountain Bike Club and to the local economy. It also provides opportunities for local businesses to become sponsors, for these events, thereby also advertising themselves.

## Other Benefits

Other benefits regarding creating a well designed track and trail park facility within Redland include:

- environmental and cultural benefits
  - opportunities for the community to experience natural and cultural environments
  - protection of adjacent environments by localising impacts and facilitating management of visitation effects
  - educational and interpretive opportunities and increased environmental and cultural awareness and appreciation
  - increased community ownership which helps to preserve natural and cultural values
  - opportunities for community participation in conservation and revegetation work
  - facilitation of carbon-free transport
- social and physical health benefits
  - providing communities with a diverse, free opportunity to explore and enjoy healthy recreational pursuits. Active recreation, in any form, will improve health and therefore reduce health expenditure
  - improving physical (through increased physical activity) and mental health and wellbeing (obesity consistently features in

the press as one of the major issues facing Australians. The obesity epidemic is now estimated to cost Australia \$1.3 billion/year (Australian Bicycle Council))

- facilitating participation and social interaction between a diversity of community members, age groups, individuals and families
- offering a wide range of opportunities to a diverse group
- participation in trail activities at a relatively low cost connecting people and places and to develop community pride
- local commuting and recreation benefits
  - improving bicycle and pedestrian access and allowing both commuters and recreational riders safe cycle routes
  - cycling and walking as recreation activities can be cheaper than alternative forms of exercise such as gym classes (though the initial entry costs of cycling may be higher)
  - the benefit of providing a safe off-road facility within easy access of schools for use by the schools for activities.

In addition, the Redland City Council Corporate Plan 2010-2015, outlines strategies that will "enhance community spirit, lifestyle and the natural environment" within the area. The Redland Track Park would also provide benefits, in line with the strategies of the Corporate Plan such as:

- 1.4- Improving residents' understanding, respect and enjoyment of the local environment through stewardship and partnerships
- 1.5- Co-ordinating effective management of the conservation estate on all (private and public) lands in Redlands, through a combination of incentives and various tenure and management arrangements to restore, maintain and plant new habitat
- 2.4- Providing and maintaining safe and attractive routes for people to walk and cycle throughout the city and to connect to nearby regional centres
- 5.10- Maintaining the quality and liveability of residential areas and protecting natural resources
- 5.13- Enhancing the city's liveability and enabling people to enjoy outdoor activities, social gatherings and community events through planning, providing and managing high quality parks and open spaces
- 7.5- Increasing the physical activity participation of residents and delivering programs and incentives that strengthen opportunities for sport and recreation.

## Measuring Usage and Benefits

While there is evidence that trails provide social and economic benefits to the community, many of these examples have been measured and taken from larger scale projects than this one, and so may not be very relevant. The benefits of the Redland Track Park should be measured, in its own right, to gain an understanding of how important this facility is and could potentially be to the community and local economy.

### Monitoring Usage

Usage can be monitored over a period of time to see whether the number of people using the Track Park is increasing or decreasing.

This can be achieved through:

- log books at the trailhead and trail population surveys
- counters on the trails and vehicle counts
- Track Park website strikes.

### Measuring Benefits

The benefits of the Track Park can be measured by:

- increased sales (for local businesses)
- undertaking a survey of the Track Park users, to gain an understanding of their spending within the Redland local area, before and after they use the Track Park
- using measures such as surveys, track counters etc to see whether there is increased participation and usage
- the number and size of events held at the Track Park, as well as the local profits generated from them.

# Trail Classification- a Summary

## Walking Trails

According to the Australian Standards for Walking Tracks (AS 2156.1-2001) there are six classes of walking trails. These are based on trail elements such as gradient, signage, infrastructure, terrain and weather.

Within Redlands Track Park only four trail types may be appropriate. They are illustrated below:

### Class 1 Walking Trail

Tracks provide opportunities for large number of visitors, including those with reduced mobility, to traverse the natural environment easily. They provide a high level of interpretation and facilities. Steps area allowed but only with adjoining ramp access. Users need no previous experience and are expected to exercise normal care regarding their personal safety. (Figure 35)

Width: minimum 1.2m

Surface: Well defined, firm even surface, (e.g. concrete, asphalt, fine gravel, sawn wood planking). Edges clearly defined

Grades: In accordance with the AS 1428

### Class 2 Walking Trail

Tracks provide opportunities for large numbers of visitors to walk easily in natural environments. They provide moderate to high level interpretation and facilities. Generally low gradients. Users need no previous experience and are expected to exercise normal care regarding their personal safety. (Figure 36)

Width: minimum 0.9m

Surface: Generally a modified or sealed surface. Well maintained with minimal intrusions

Grades: Generally no steeper than 10% but there may be short sections along the trail that exceed this gradient. There is minimal use of steps.

### Class 3 Walking Trail

Tracks provide opportunities for visitors to walk in slightly modified natural environments requiring a moderate level of fitness. Users need no bushwalking experience and a minimum level of specialised skills. Users may encounter natural hazards such as steps and slopes, unstable surfaces and minor water crossings. They are responsible for their own safety. (Figure 37)

Width: maximum 1.2m

Surface: Modified surface. May be rocky and uneven in places. Some mud and water to 10cm is acceptable in places. Extensive hardening is acceptable where required.

Grades: May exceed 10% for short sections but are generally no steeper than 10%.

### Class 4 Walking Trail

Opportunity for visitors to explore and discover relatively undisturbed natural environment along defined tracks with minimal (if any) facilities. (Figure 38)

Width: maximum 0.75m (distinct track without major modification)

Surface: Improved surfacing/drainage (minimal surfacing)

Grades: limited to environmental and maintenance considerations.

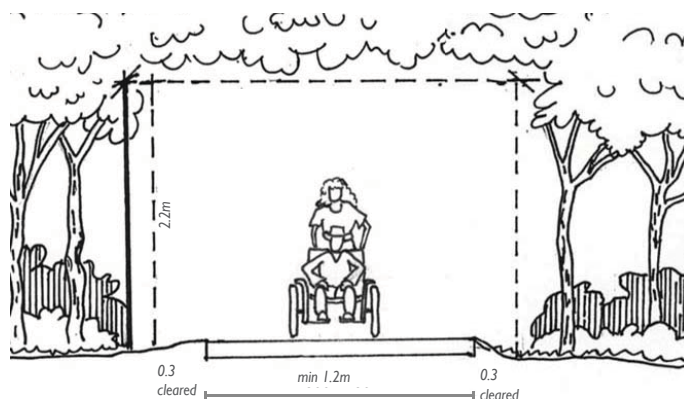


Figure 35: Class 1 Walking Trail

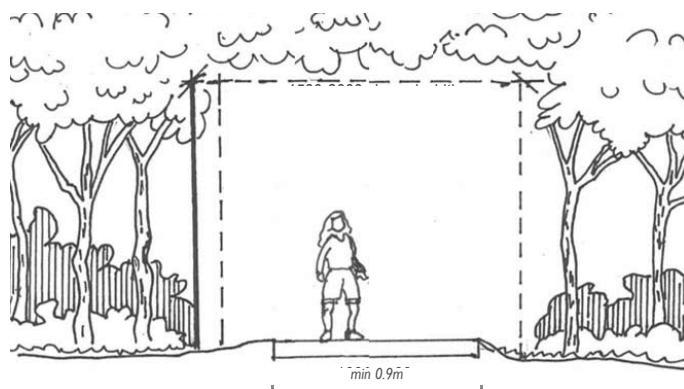


Figure 36: Class 2 Walking Trail

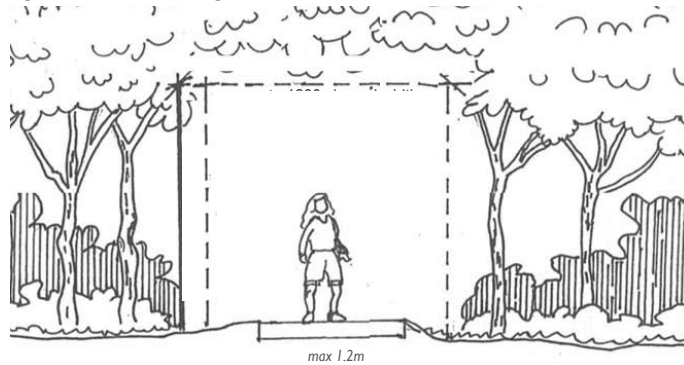


Figure 37: Class 3 Walking Trail:

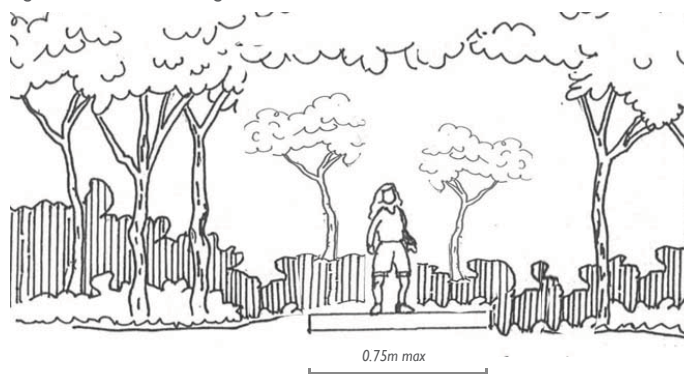


Figure 38: Class 4 Walking Trail

## Mountain Biking Trails

Construction of mountain bike trails should be based on the International Mountain Bicycling Association Trail Solutions (IMBA 2004, IMBA 2007).

Single track trails wind around obstacles and tend to slow cross country riders. The tracks should allow areas where people can pass.

Two way tracks are wide enough for two bikes to just pass.

Optional lines should be incorporated into trails (A and B lines-refer to Figure 44). These lines should have natural obstacles and technical features in accordance with the IMBA classification table below.

### IMBA Classification Table

According to the IMBA mountain bike classification system, there are five different difficulty grades, however within the Redland Track Park, which is a beginner to intermediate facility, only three grades will be relevant. These difficulty grades are tabled below.

	Trail Width	Trail Surface	Average Trail Grade	Natural Obstacles/ Technical Features
Easiest White Circle ○	>1.8m	hardened or surfaced	<5% (max 10%)	• none
Easy Green Circle ●	>0.9m	firm and stable	=<5% (max 15%)	• unavoidable obstacles <5cm high • avoidable obstacles
Difficult Blue Square ■	>0.6m	mostly stable	=<10% (max 15% of greater)	• unavoidable obstacles <20cm high • avoidable obstacles

### Shared Use Trails

Shared use trails are advantageous as they accommodate the needs of all of the users of the Park. Because they are shared, they are more cost effective as the infrastructure, such as signage are shared among all of the users. It also provides greater length of trail for all users.

Because these trails are shared, clear signage indicating risk, warning, permitted users and relevant regulatory signage are important at trail entries and intersections. Clear sightlines are also imperative to ensure all users can be seen from an adequate distance to be able to slow down or move to the side of the path.

A shared path can be constructed, for example with a full bench tread of 1.5m width. Once the leaf litter and ground cover returns, the trail will appear narrower, but the wider bench gives a safe shared path.

### Fire Trails

Class	Track Width	Vehicle Suitability	Average Trail Grade	Other Details
Class 3 Fire Trail	>3m	light 4x4 striker vehicles (Land-cruiser equivalent)	0-30 °	<ul style="list-style-type: none"> <li>• suit construction by D6 grader/dozer with angle tilt blade or other machines capable of meeting drainage requirements</li> <li>• appropriate drainage and erosion controls</li> <li>• trafficable in dry weather</li> <li>• one way tracks marked on map and track marker</li> <li>• entrance marked by YELLOW arrow/recreational trail marker (min 100x150mm)</li> <li>• passing facilities, where possible, every 200-400m</li> </ul>
Class 4 trails temp fire line	1-2m	firefighters on foot	0-50 °	<ul style="list-style-type: none"> <li>• may take form of chiplines, slashlines, trails or wet creek beds</li> <li>• temporary firelines should be marked by temporary measures (tape etc)</li> </ul>

Source: Redland City Council's Conservation Land Management Strategy 2009

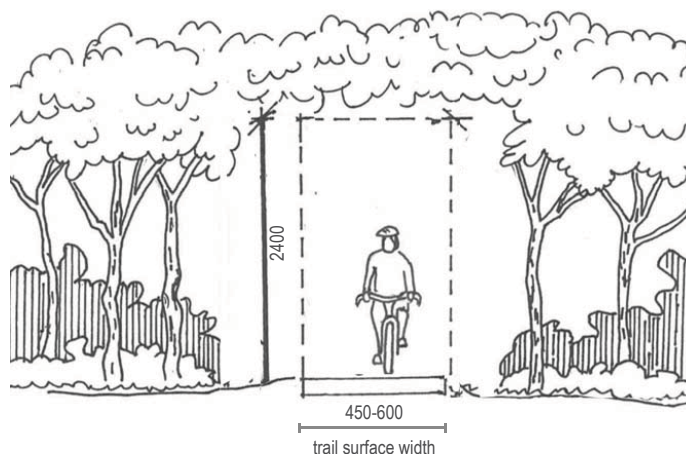


Figure 39: Mountain Bike Trail: Single Track (adapted from IMBA 2004)

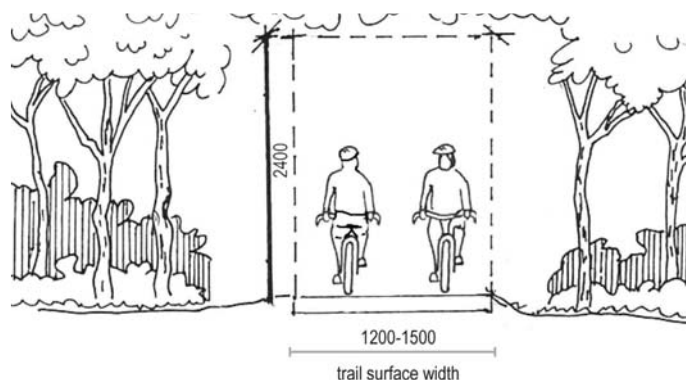


Figure 40: Mountain Bike Trail: Two Way (adapted from IMBA 2005)

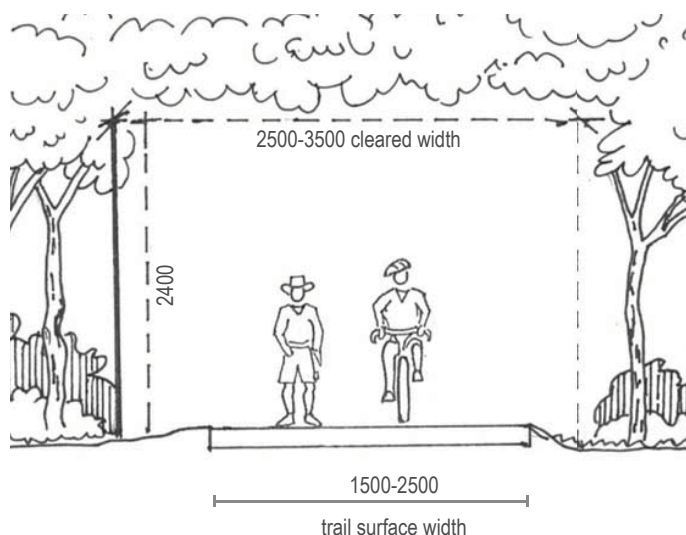


Figure 41: Shared Use Trail (adapted from Redland Shire Council 1998)



Figure 42: Concept Grading Plan

# Trail Design

Tracks and trails should be well designed, well constructed, provide interest for the user, protect the environment and provide improved value of the area.

The following guidelines provides direction on the siting, design, construction techniques and signage for a trail system.

## Trail Design Guidelines

- The Track Park should have trails with a variety of skill types ranging from not challenging to somewhat challenging
- follow existing trails (where possible) to minimise disturbance to the landscape, and re-align where it runs along a watercourse causing erosion
- create loops of the same grade so that longer continuous loops can be ridden by a rider with particular skill levels
- trails should meander or 'weave' across the landscape to take advantage of natural and constructed features and to create interest
- locate the trail near points of interest
- any environmental and cultural matters pertaining to the site should be treated with care (and accordance with the law) and interpretive measures (e.g. signs) should be incorporated to educate users if appropriate
- avoid poorly drained areas and areas with high erosion and landslide potential
- follow natural contours to ensure even trail grades
- avoid flat areas and fall lines as these are both areas where water potentially sits/flows
- water crossings to be sited to cross by the shortest and most environmentally considerate route, perpendicular to waterflow, and to be less than 8% grade
- allow clear sightlines, especially along shared trails. All overhanging vegetation should be cleared, and cutback on a regular basis to a height of 2.4m
- paths should not be seen from other paths to enhance the natural experience, as well as to prevent people seeing other paths and creating "shortcuts". However, there should be long, clear sightlines at intersections
- end of a trail should have a slow down zone adjacent to trail end and at trail intersections. A hardened connector trail should link to the Main Track/trail intersection (Figure 45).
- place signage along intersections and hazard signs in appropriate places along trails. Signage to include directional, risk, warning and regulatory, grading (technical difficulty), and permitted users
- new tracks should try to minimise disturbance as far as possible
- new tracks to avoid close proximity to residents where possible

## "5 Essential Elements of Sustainable Trails"

(source: IMBA'S Trail Solutions: Guide to Building Sweet Singletrack)

### 1. The Half Rule

- trail grades shouldn't exceed half the grade of the hillside or sideslope that the trail traverses

### 2. The Ten Percent Average Guideline

- generally an average trail grade of 10% or less is sustainable.

### 3. Maximum Sustainable Grade

- maximum grade is the steepest section of a trail that is more than 3m in length. Although maximum sustainable trail grade is 15-20%, it is site specific and fluctuates based on different factors

### 4. Grade Reversals

- most trails benefit from grade reversals every 6-15m depending on soil type and rainfall

### 5. Outslope

- all trail treads should be built with a 5% outslope

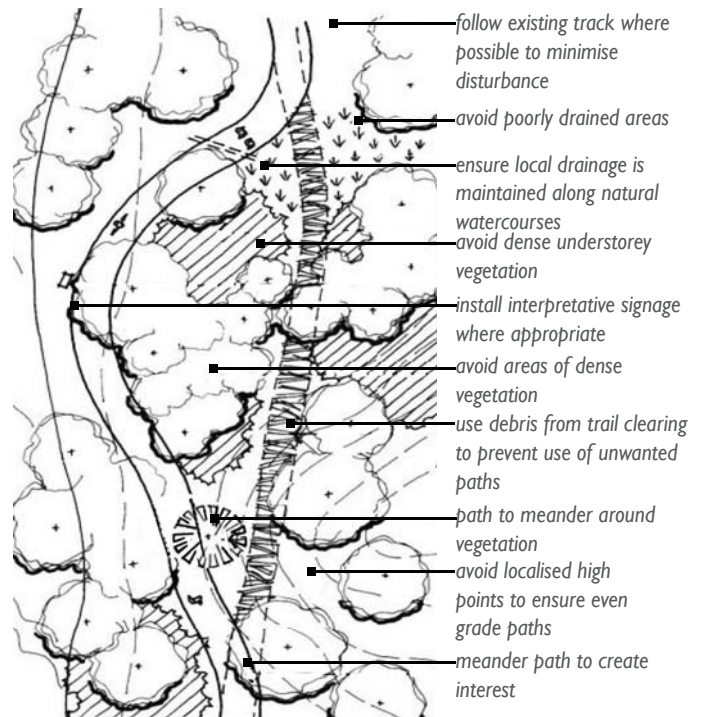


Figure 43: Trail Siting Guideline (adapted from Redland Shire Council 1998)

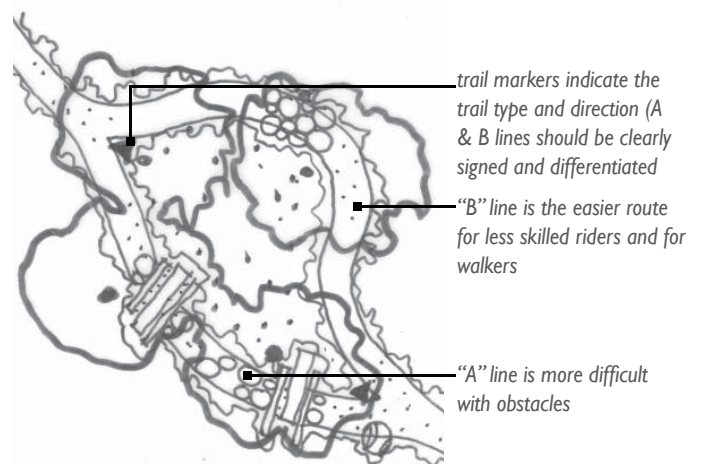


Figure 44: "A" and "B" Trail Lines

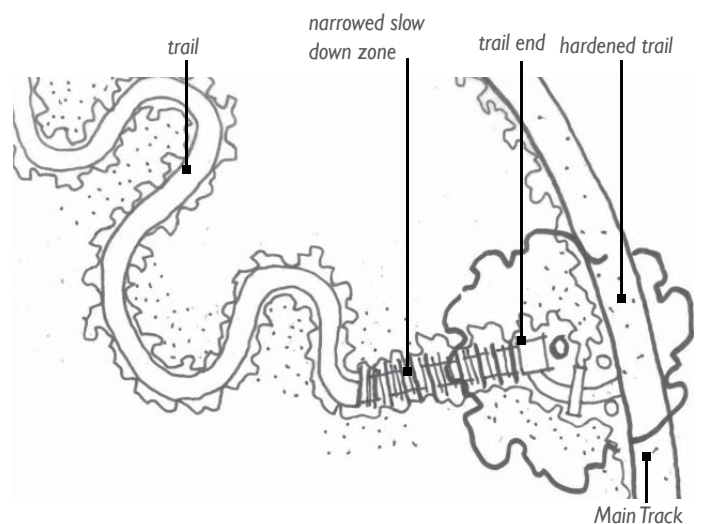


Figure 45: Trail End



## Trail Construction Guidelines

All trail construction should be done under the supervision of an experienced or professional trail designer/contractor, and should have an Environmental Officer on site (or alternatively have environmental works approval prior to the works being conducted). Construction should be guided by IMBA'S Trail Solutions: Guide to Building Sweet Singletrack.

Trail builders and designers should understand and be experienced in designing and constructing:

- trail flow, trail clearing (e.g. sightlines)
- appropriate trail widths and grade
- climbing turns and switchbacks
- retaining walls, trail surface,
- watercrossing placement and materials (armoured etc)
- drainage and erosion control.

Basic trail construction guidelines include:

- taking care to avoid removing any large trees or significant vegetation
- local natural or recycled materials (recycled timber, porous paving) should be used. This material should be durable, low maintenance, fire resistant and easy to replace
- create obstacles and narrow the trail just before a track intersection to slow down riders
- create passing lanes where necessary
- create "A" and "B" lines along trails for different skill variety (Figure 44)
- all revegetation works and replanting should be done in accordance with Councils' environmental section to ensure the right plants are planted in the right local ecosystems
- any work that needs to be done within Hilliards Creek corridor needs to be done in accordance with the Local Traditional (Aboriginal) Owners (refer appendix 2)
- choose appropriate surface materials for sub-base and topping to prevent erosion. Crossfall and grade dips need to be carefully designed. Where required, culverts and other drainage control measures (e.g. waterbars) should be used. Add rolling dips to fine tune drainage solution
- trails should be sited at least 10m away from waterlines and gullies and 30m of Hilliards Creek or other areas identified as sensitive.

Works are to be in accordance with the Redlands City Council's Conservation Land Management Strategy document.

### Safety

Safety procedures should be put in place prior to construction including:

- developing an emergency plan prior to the trail work construction.
- providing a safety briefing to trail builders and volunteers on the tools and equipment to be used on site, as well as any risks and emergency procedures
- ensuring everyone has the correct Personal Protective Equipment (PPE) e.g. sunscreen, water, safety goggles, gloves, long pants, overalls) prior to work commencement

All site work to be in accordance with Redland City Council's Workplace Health and Safety policies and guidelines.

## Trail Maintenance Guidelines

- undergo regular inspections on the tracks to remove any trees or branches that block access as well as fixing any erosion problems that may occur
- Class 3 fire access tracks are to be maintained by grading every 2-3 years and to be in accordance with Redland City Council's fire strategies
- all overhanging vegetation and those that intrude from the sides to be cut back on a regular basis. Care should be taken so that sharp and dangerous 'points' are not left in this pruning process.



Figure 46: Timber with rubber water bars. Regular maintenance is required to ensure the soil under which the timber is buried does not become exposed (as has occurred in the above photo) as such exposure creates a hazard or cyclists



Figure 47: A covered cross drain



Figure 48: Stepping stones. The stepping stones are strategically placed along the stream to form the trail



# Proposed Trails Concepts

The following section addresses each track individually. A page has been dedicated to summarise each of the tracks.

The overall concept of the trails aims to provide fun mountain bike and walking experiences, catering primarily for families and not so experienced riders. The trail classification of each track in the following individual trail concepts reflects the “A line” trail (more difficult line) for more experienced riders. The “B line” (easier line) will have no obstacles, thereby allowing inexperienced riders and walkers the opportunity to utilise the more advanced trails without having to encounter any technical obstacles.

The trails should be designed to satisfy IMBA Trail and Australian Walking Standards, however, in reality each of the trail siting will also need to take into account the more site specific aspects of the trail locations. This will only be able to be addressed when actually constructing the trails (e.g. trail widths may vary depending on site obstacles, gradients or natural features, however may still satisfy the level of ease for the classification it falls under).

The trail concepts in the following pages, also gives a required minimum clearance width. This is based on the minimum width required for a shared use trail. However, as mentioned, in reality, trail width may vary depending on site, track location and conditions, and therefore a minimum tree clearance and bench width has been recommended to satisfy the shared use trail width. This will ensure compliance as well as allowing clear sightlines and ease of passing bikes and walkers, and where required, vehicular access.

The total mountain bike and walking trail network covers a total distance of approximately 20km. The design allows for a flowing ride where different tracks start or end at common points to allow for a choice of continuous riding loops.



## Main Track

### Shared Trail

### Class 2/ White Circle/Fire Class 3

#### Proposed Trail Description

The proposed track is a wide easy bicycle/pedestrian track which is also the main fire trail through the site. The trail allows people to traverse east/west through the site and forms the main spine from which the shared and single tracks enter and exit from, and therefore becomes a clear location identifier (you know when you are back on the Main Track). The trail width could vary however it must be a minimum of 1.8m wide.

#### Proposed Trail Details

Approximate Length: 3.5km

Clearance: min 1.8m wide (3m for fire trail requirement)

Surface: compacted earth

#### Other Trail Features

##### Creek Crossing

Crossing at Hilliards Creek to have shared walk and cycle bridge over the pipes. The pathway from Long Street is to be stabilised and wind down to the proposed bridge. Bridge is to join Main Track. Upgrade existing mountain bike crossing to the south of the Creek. This should include placement of stepping stones. A single track should be created to link to the Main Track. (Note: the proposed bridge may require agreement with local Indigenous group). Careful treatment must be taken to minimise disturbance to Creek.

##### 5 Ways Intersection

The intersection is where 5 trails intersect and can become an internal meeting place, with seats (preferably simple logs) for sitting and waiting / resting. It is proposed to also have skills obstacles, e.g. logs, and a basic trailhead sign (with map and park information).

#### User Groups

restricted  
vehicular  
access

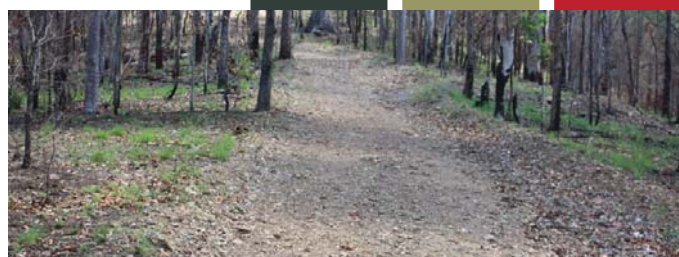


Figure 49: example of proposed Main Track



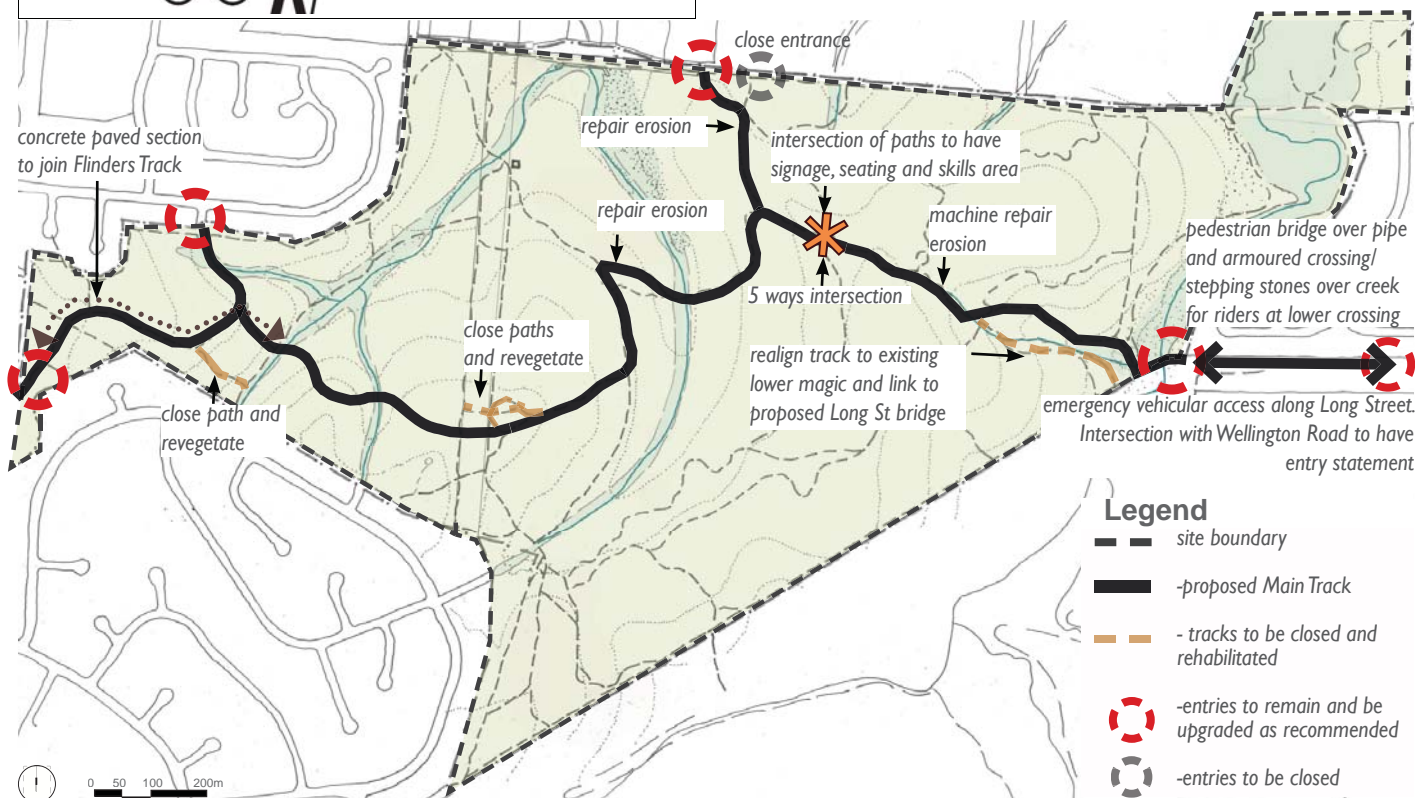
Figure 50: existing crossing area over Creek



Figure 51: crossing over Creek can have stepping stones for bike crossing



Figure 52: composite fibre shared bridge would be a durable and safe crossing





## Sewer Track

### Shared Trail

### Class 2/White Circle/Fire Class 3

#### Proposed Trail Description

The Sewer Trail is a major utility trail. The proposed track will remain to satisfy the access/clearing requirements, but will be graded to be a wide easy bicycle/pedestrian track and major fire trail. The trail will provide easy access along the southern border of the site as well as a north/south link.

The proposed alignment crosses the Main Track at the south east intersection.

#### Proposed Trail Details

Approximate Length: 2.1 km

Clearance: min 1.8m wide (3m for fire trail and sewer line maintenance requirement)

Surface: compacted earth

#### Other Trail Features

The trail width to remain as constant as possible.

Informal surrounding tracks are to be closed and rehabilitated.

Erosion control needs to be considered. This could be in the form of rolling grade dips, which are low in maintenance and an effective water control method. In areas where the path becomes wider ramps and log rolls can be placed on the edge to allow for vehicles but giving more experienced riders some skill variance.

Note: Because this Track is an easement, future track costs need to be co-ordinated with Redland Water.

#### User Groups

restricted  
vehicular  
access



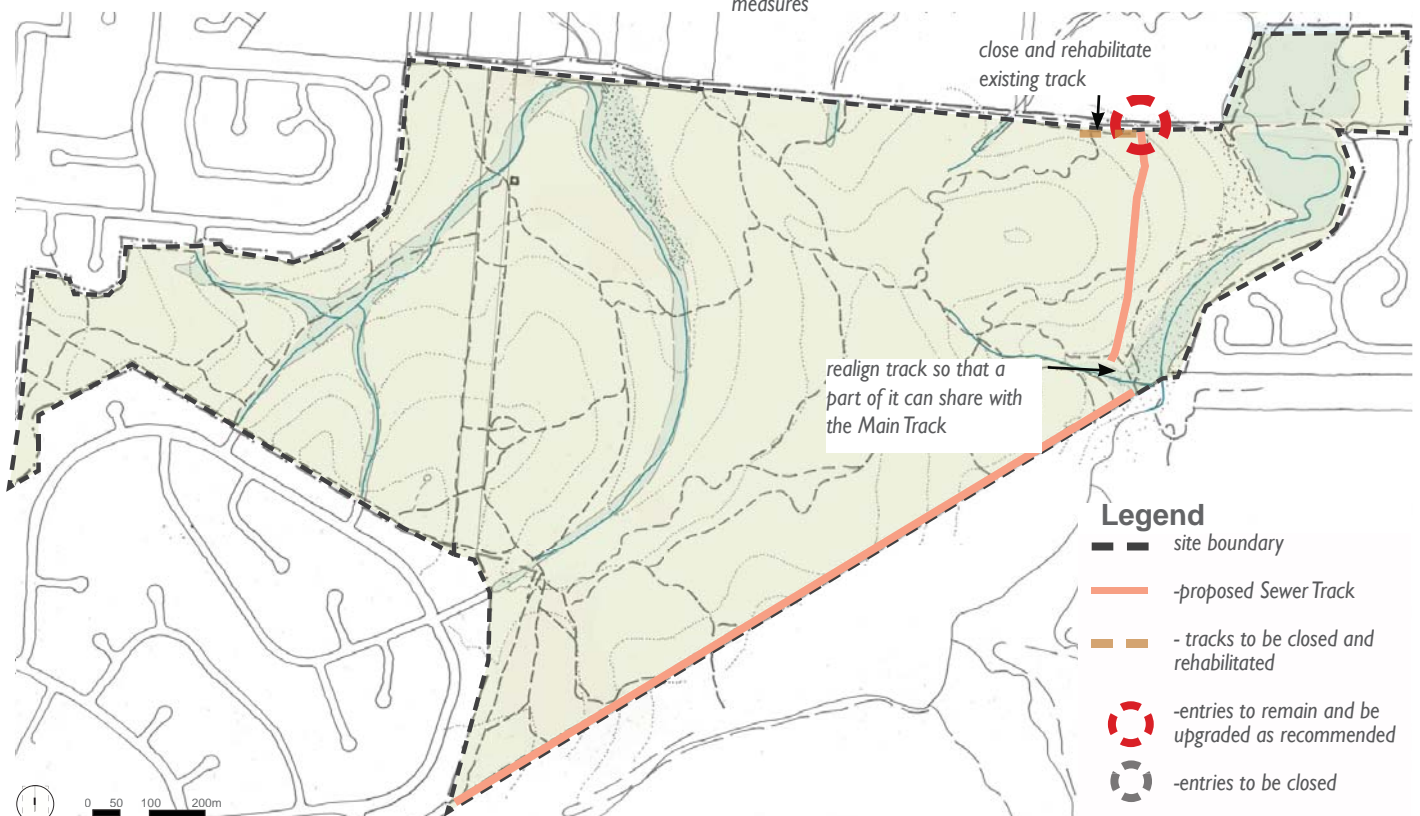
Figure 53: erosion along Sewer Track (photo courtesy of Rob George)



Figure 54: existing path parallel to Flinders Street to be closed (photo courtesy of Rob George)



Figure 55: rolling grade dips are low maintenance, attractive erosion control measures





## Flinders Street and Track

### Shared Trail

### Class I/White Circle/Fire Class 3

#### Proposed Trail Description

The proposed track is a wide easy bicycle/pedestrian track which forms a part of the East/West trunk connector route.

The signage along this route needs to be incorporated into the walking/pedestrian signage Capital Works Project

#### Proposed Trail Details

Approximate Length: 1.1 km (Flinders Street)

1.1 km (Flinders Track)

Clearance: min 2m wide, preferably min 2.5m  
(3m for fire trail requirement)

Surface: slip resistant concrete

#### Other Trail Features

Pathways to be upgraded to allow for wheelchair access and to incorporate seating along the route for less abled/elderly people to rest. Composite materials such as recycled timber should be used to reduce vandalism and maintenance. Benches should be designed for elderly people to be able to sit on easily.

The new off-road concrete pathway between Flinders Street (West) and existing Flinders Lane will form a continuous all access sealed connector route that is safe. It is anticipated it will be located to the southern verge of Flinders (vehicular) street

Entry signage should be placed at all entrances.

Casuarina needles fallen on the pathway, causing a slippery surface needs to be a part of the Park management.

#### User Groups

restricted  
vehicular  
access



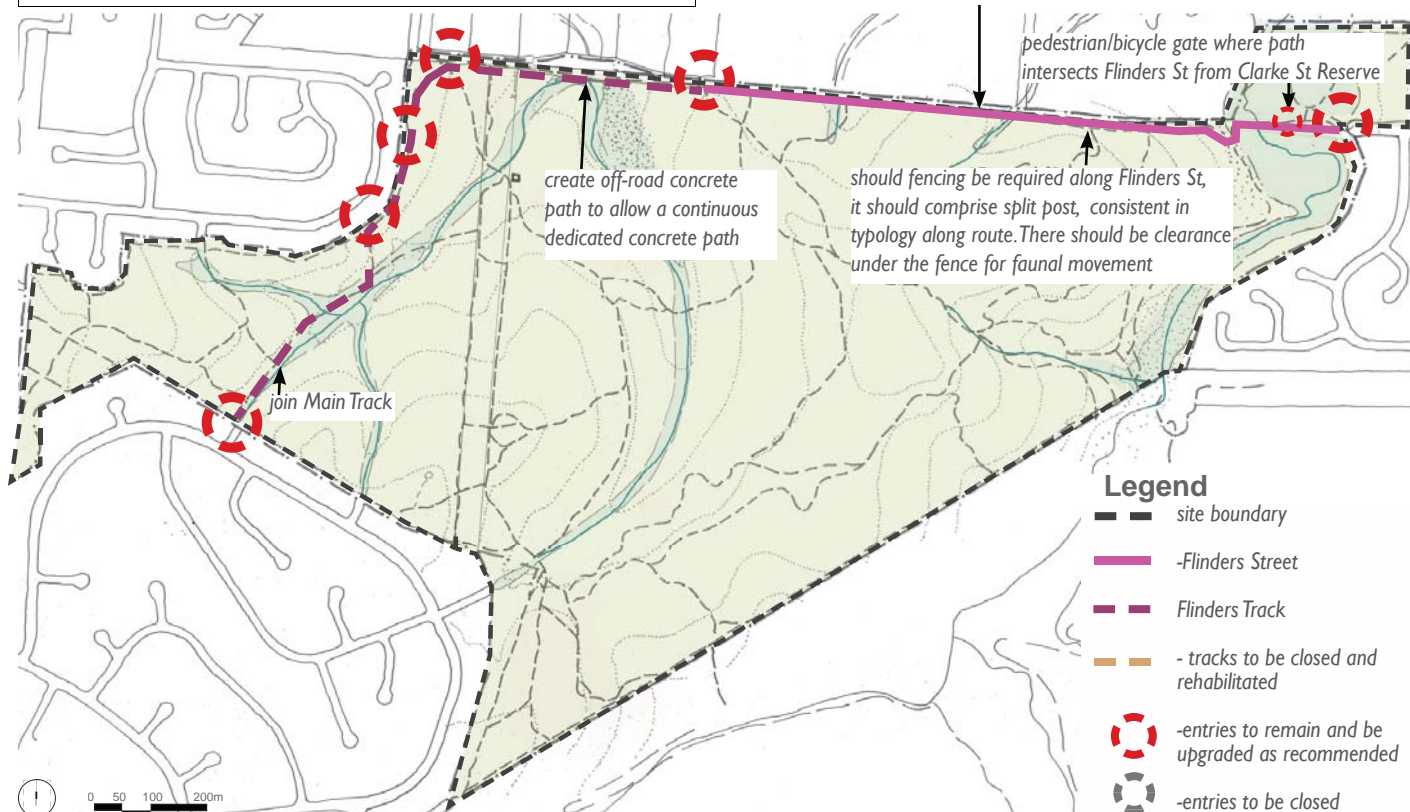
Figure 56: Example of Class I trail



Figure 57: Bench seat, Redlands Indigiscapes Centre, Capalaba, Qld. Similar seats could be placed along Flinders Street and Track



Figure 58: Should fencing be required along Flinders St, it should be split post and rail fencing, replacing existing fence to give a more natural Park feel





# Clarke Reserve and Hilliard Tracks

## Shared Trail

### Class 2/ White Circle/Fire Class 3

#### Proposed Trails Description

Clarke Reserve Track to become the main off-road entrance into the Track Park from Clarke Street, and joins Flinders Street just before the bridge on Flinders Street.

Where the Clarke Reserve Track meets Flinders Street there will be a pedestrian/mountain bike gate along the fence.

Hilliard Track is to form a minimum 1.8m wide shared track, with a restricted vehicular access gate and pedestrian/mountain bike gate at Coburg Street. The path will link to the Clarke Reserve Entry Track in Clarke Street Bush Reserve, and the proposed bridge at Long Street (Figure 56). It is intended that this path will form a part of the Cleveland/ Thornlands connector route.

The intersection of the pathways can be where the park entry signage, seating (for meeting people) could be located.

#### Proposed Trail Details

Approximate Length:	0.4 km (Hilliard Track)
	1.1 km (Clarke Reserve Track)
Clearance:	min 1.8m wide (3m for fire trail requirement)
Surface:	compacted earth

#### Other Trail Features

Clarke Road Reserve to have shaded seating and tables, bike racks as well as trailhead signage.

Fencing to the northern boundary of reserve to have barbed wire replaced with suitable environmentally sound park reserve fencing.

Hilliard Track is to be sited at least 30m away from the Creek.

#### User Groups

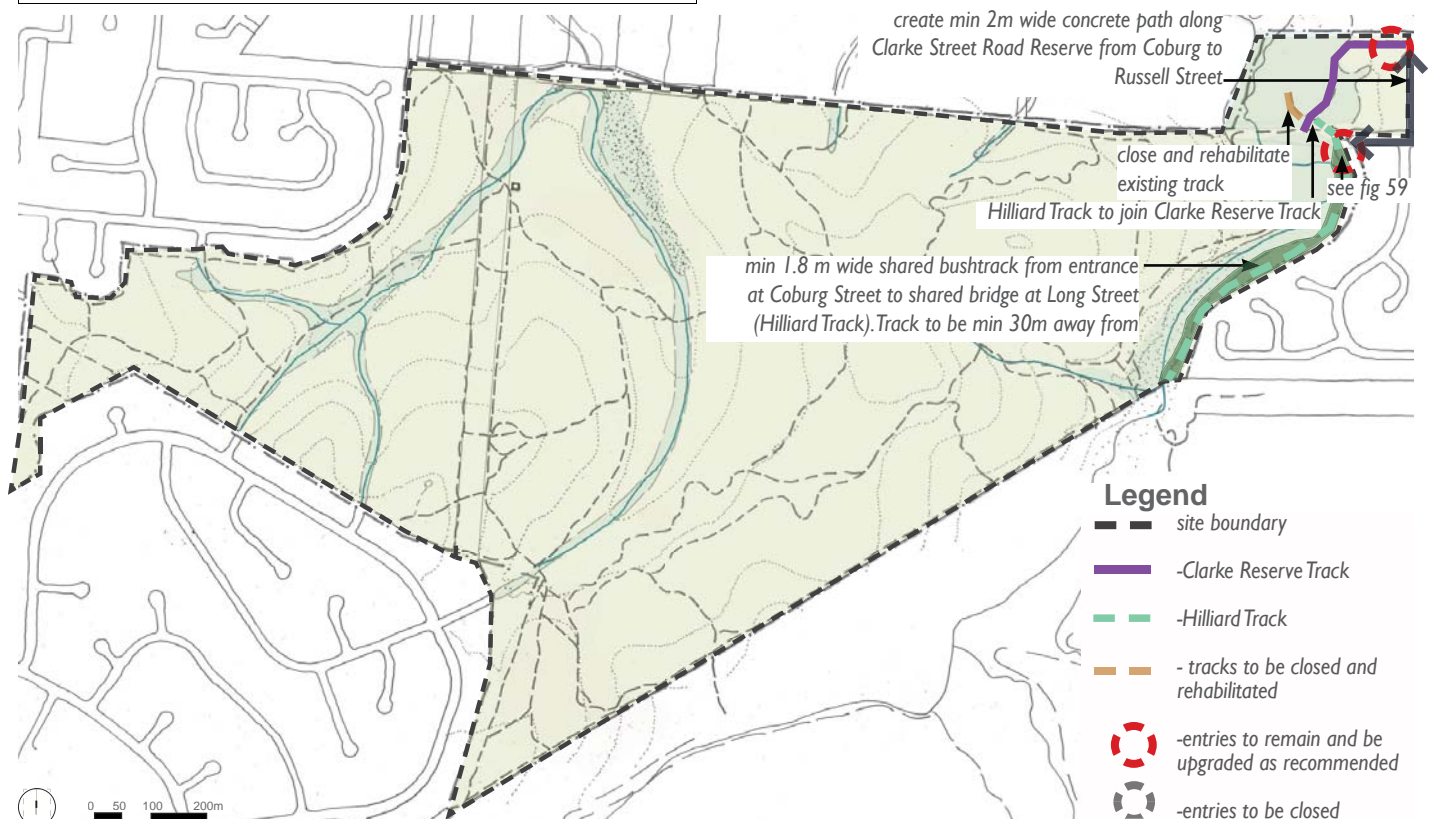
restricted  
vehicular  
access



Figure 59: end of Coburg Street to have an entry precinct where all pathways meet. Area to have bins, signage, shade and seating



Figure 60: existing firetrail from Clarke Street to become Clarke Reserve Entry Track, with smooth graded compressed earth surface.





## Power Track

### Shared Trail

### Class 2/White Circle/Fire Class 3

#### Proposed Trails Description

The Power Track is a utility fire road which is located under existing powerlines. It is proposed that the track will remain as is (to serve as a power easement) with minor repairs conducted as required.

#### Proposed Trail Details

Approximate Length: 1.7 km

Clearance: min 1.8m wide (3m for fire trail requirement)

Surface: compacted earth

#### Other Trail Features

The trail requires erosion control measures (grade dips) and erosion repair.

Close all unnecessary paths and entries to create one clear route.

Note: Because this Track is an easement, future track costs need to be co-ordinated with Redland Water.

#### User Groups

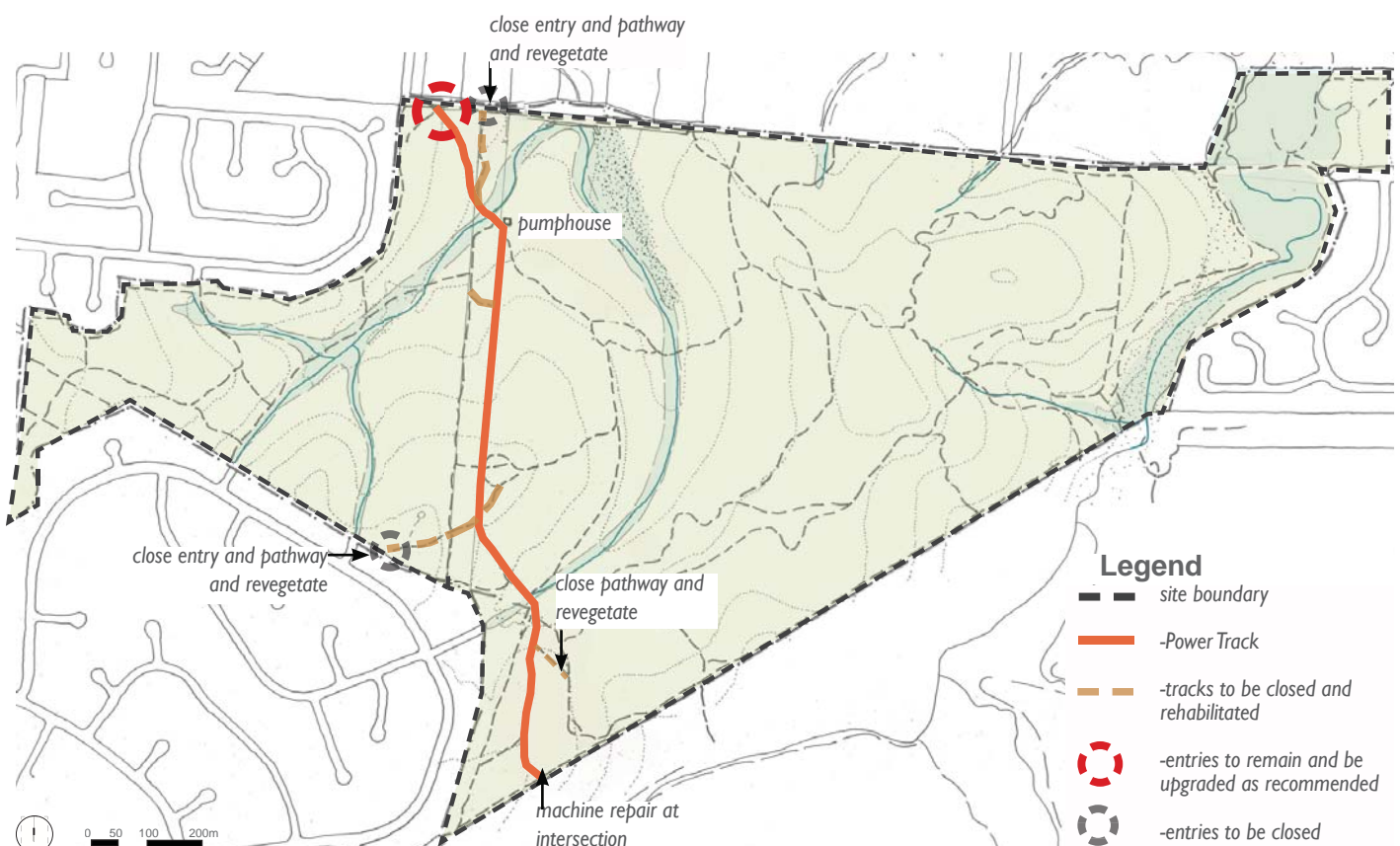
restricted  
vehicular  
access



Figure 61: existing Power Track to remain as power utility and major fire tracks



Figure 62: Pumphouse





## Water Track

### Shared Trail

### Class 3/Green Circle/Fire Class 4



#### Proposed Trails Description

The Water Track is currently utilised as a fire road utility trail. It is presently in poor condition and has had poor initial design and therefore has low usage.

Very rare vehicle access may be required (as there is good vehicle access proposed within the adjacent Power Track, however occasionally access may be required for utility services), where it may be designed to have a clear width for (occasional) vehicles however have a more narrow (visible) trail width.

It is proposed that the Track be turned into a "machine cut bermed fun trail" (Rob George, undated).

#### Proposed Trail Details

Approximate Length: 1.1 km

Clearance: approximately 1.8m track (with cleared width for vehicles)

Surface: earth/sand

#### Other Trail Features

Incorporating fun berms and other green circle mountain riding features and obstacles, while still allowing for vehicle access (the cleared width will allow this).

The dedicated track can appear narrower, through leaf litter edges and track turns, to create a green circle track).

Incorporate grade dips and waterbars where required.

#### User Groups

restricted  
vehicular  
access



Figure 63: Water Track has good tree coverage, however is poorly designed. The cleared width allows for vehicles however the track width appears narrower due to leaf litter

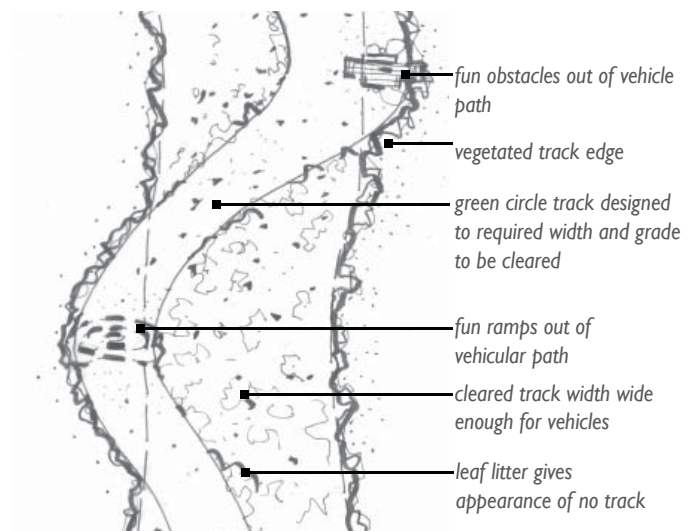
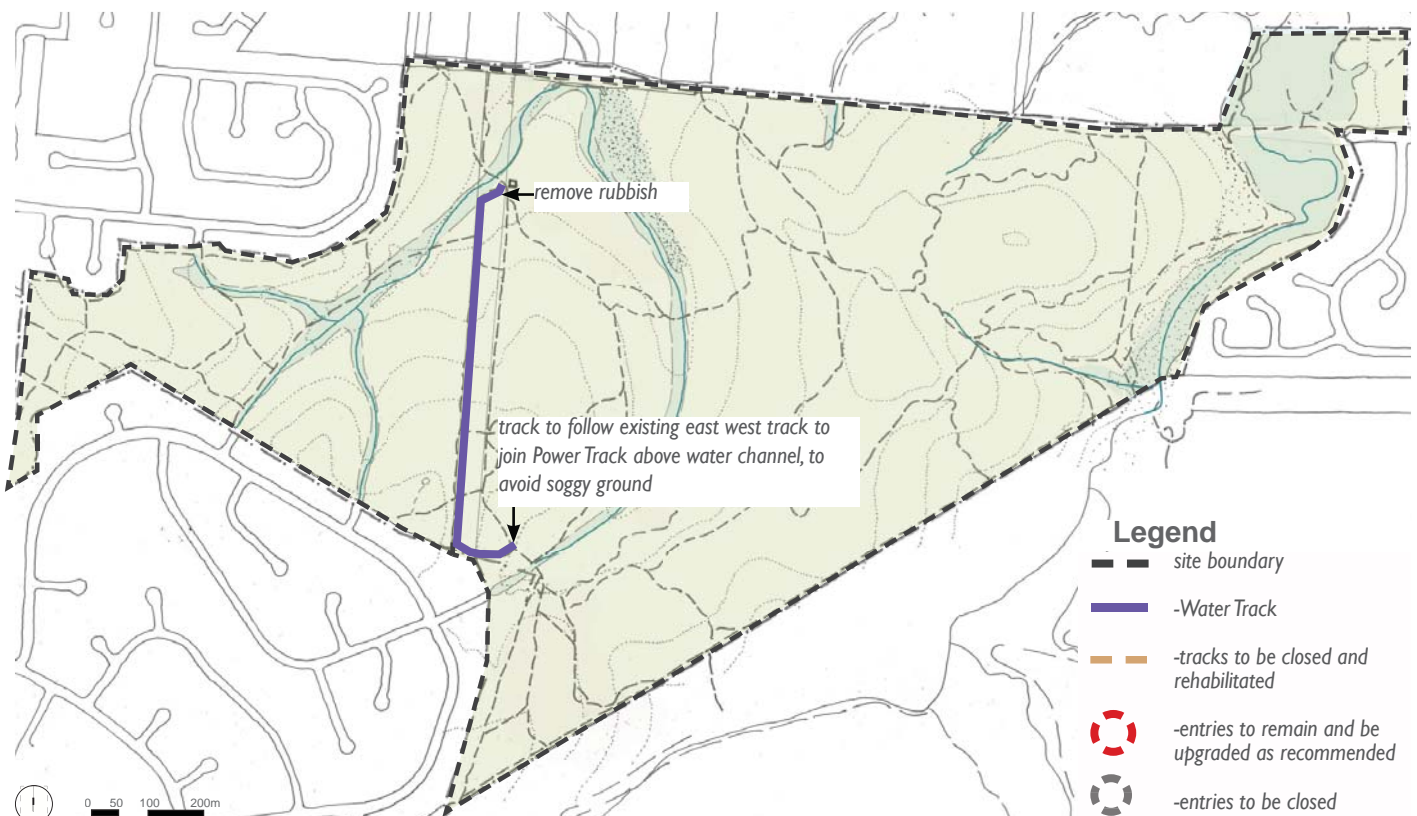


Figure 64: Clear width for occasional vehicles, while allowing a fun berm ride



## Swamp Track

### Shared Trail

### Class 3/Green Circle/Fire Class 4



#### Proposed Trails Description

The proposed Swamp Track is a fun short trail, linking the Power to the Main Track.

The proposed track south entry is to be realigned to intersect the Power Track opposite proposed Water Track entrance. This will allow for clear wayfinding and flowy rides, as well as relocating this boggy section of the Swamp Track away from the water flow line.

#### Proposed Trail Details

Approximate Length: 1.0 km

Clearance: min 1.5m cleared width

Surface: earth/sand

#### Other Trail Features

The trail requires some erosion control measures and erosion repair within certain areas.

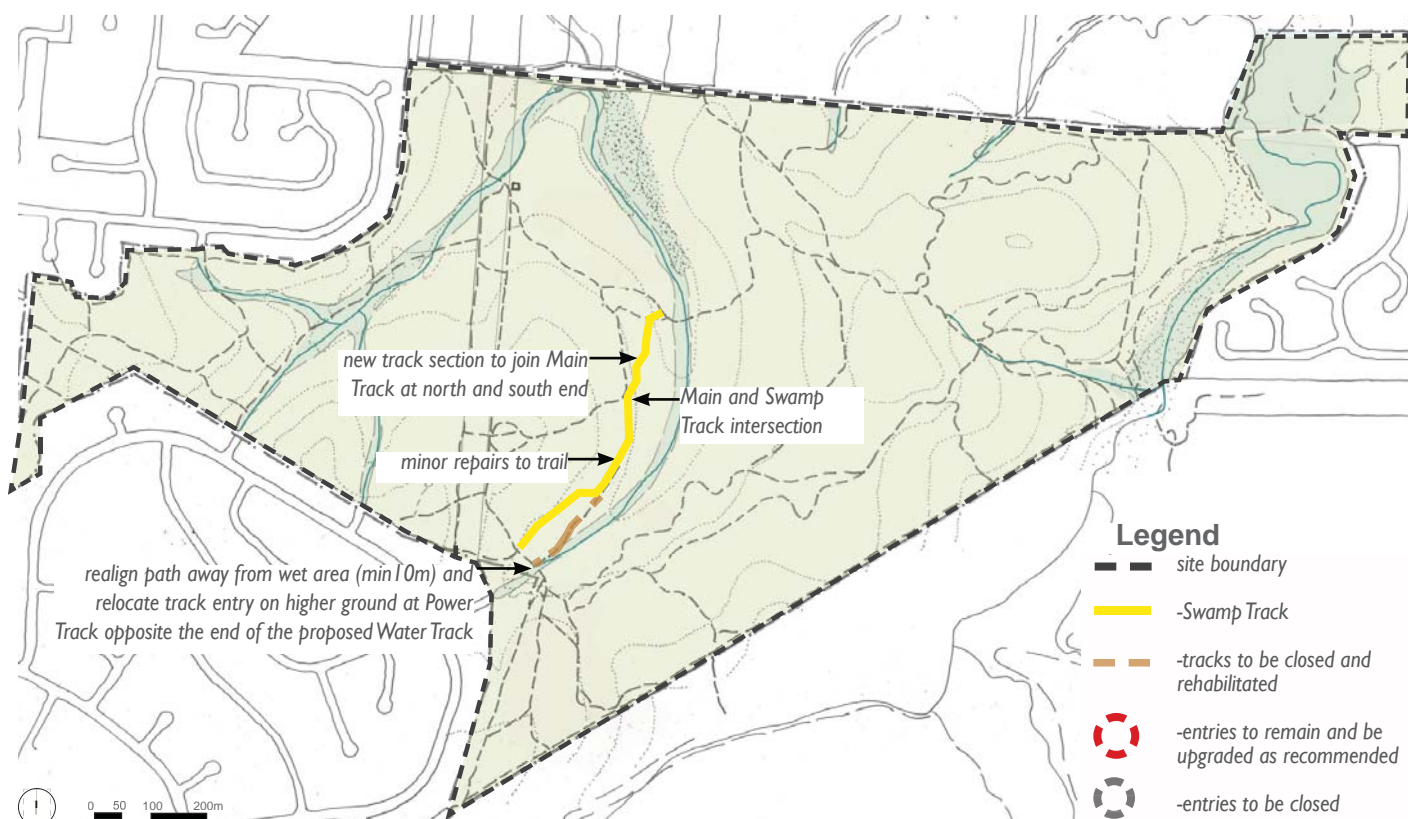
Clear sightlines are to be incorporated in this trail.

The track could be made more interesting by creating more turns and flows. Green A line obstacles are to be incorporated into trail.

#### User Groups



Figure 65: existing section of Swamp Track





## Magic Track

### Shared Trail

Class 3/Blue Square/Green Circle /



### Fire Class 4

#### Proposed Trails Description

Magic and Upper Magic are Blue Square Class, while Lower Magic falls into the Green Circle IMBA mountain biking Class.

Lower Magic to be realigned to meet the Sewer Track along the current eroded firetrail alignment. (It is currently impassable by vehicles due to severe erosion and therefore would do better as a Fire Class 4 trail, the Main Track forming the main vehicular route).

#### Proposed Trail Details

Approximate Length: 2.5 km

Clearance: min 1.5m clear width

Surface: earth/sand

#### Other Trail Features

The trail requires some erosion control measures and erosion repair within areas.

The lower section of Magic Track has severe erosion where the track runs along the fall line. The track should be re-routed in that it could have a few turns to avoid being straight down the slope. This could then also have more of a fun, flowy nature. Careful consideration will need to be taken with regards to crossfall and drainage.

Blue and Green A line obstacles to be incorporated into trail.

Close and rehabilitate any other existing tracks to give one clear Magic Track route.

#### User Groups



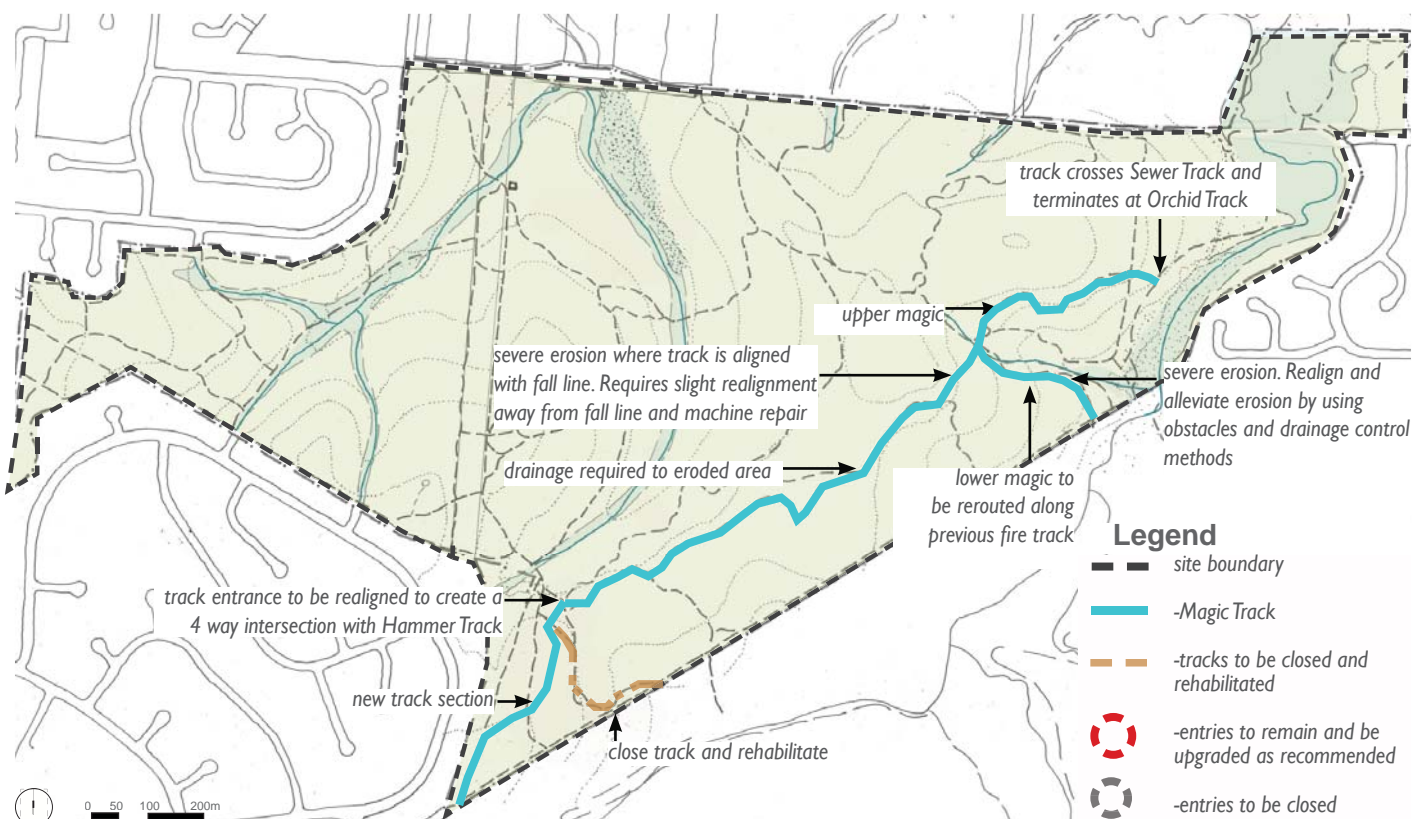
Figure 66: erosion on Magic Track- track can be realigned away from fall line



Figure 67: eroded existing firetrack to become Lower Magic. It can be redesigned with tree roots, water erosion control measures as riding obstacles



Figure 68: extension of Upper Magic to intersect Orchid Track





# Hammer Track

## Shared Trail

### Class 3/Green Circle/Fire Class 4



#### Proposed Trails Description

The proposed Hammer Track is a relatively long section of single track which runs between the Power and Main Tracks.

#### Proposed Trail Details

Approximate Length: 1.3 km

Clearance: min 1.5m cleared width

Surface: earth/sand

#### Other Trail Features

This track has some fall line issues which require rerouting. It also requires some erosion control measures and erosion repair in areas.

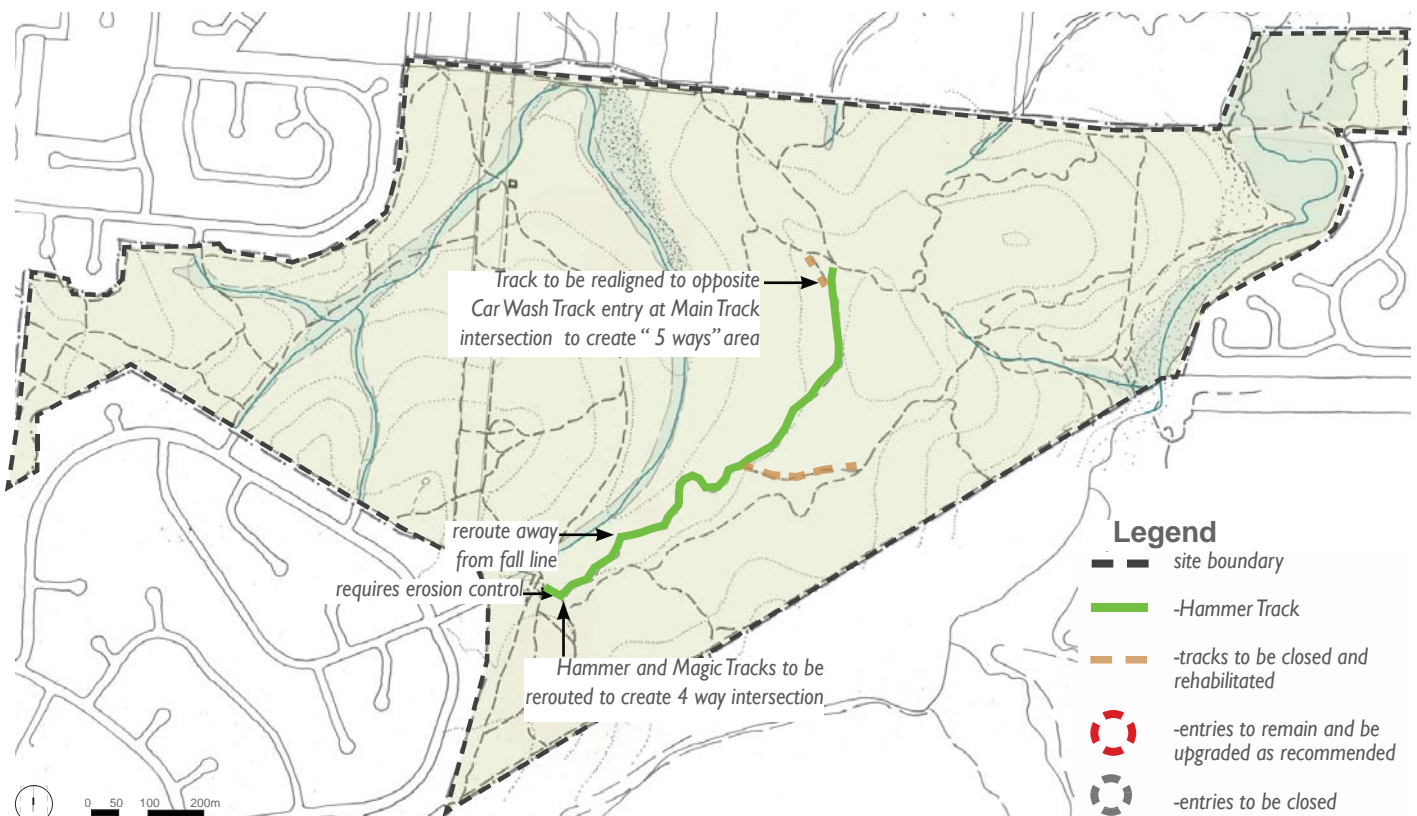
The current entry at Power Track also requires erosion control.

Green A line obstacles to be incorporated into trail. Use natural tree roots and other on-site natural obstacles where possible.

#### User Groups



Figure 69: existing section of Hammer Track



## Bondi Track

### Shared Trail

Class 3 / Green Circle/ Fire Class 4



#### Proposed Trails Description

This is a well constructed single track.

The proposed track alignment terminates at the southern end at the intersection of Main, Car Wash and Hammer Tracks (at the proposed 5 ways).

The northern end of the trail is to be realigned to meet the proposed Sewer and Orchid Tracks entrance gate

Where the trail splits, one trail becomes a blue square. This split and change in classification will need to be indicated on a trail marker.

#### Proposed Trail Details

Approximate Length: 0.8 km

Clearance: min 1.5m cleared width

Surface: earth/sand

#### Other Trail Features

Green A line obstacles to be incorporated into trail.

#### User Groups



Figure 70: Bondi Track can have clear sightlines with a flowy trail such as this track at Beerburum, Woodford

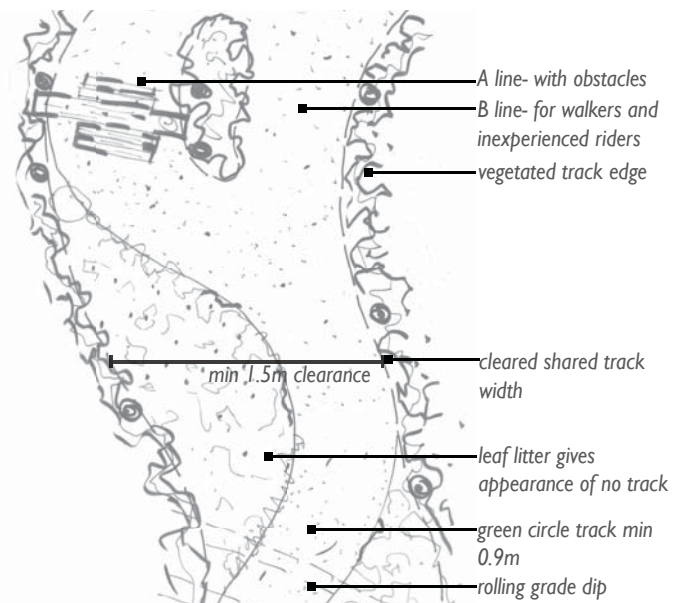
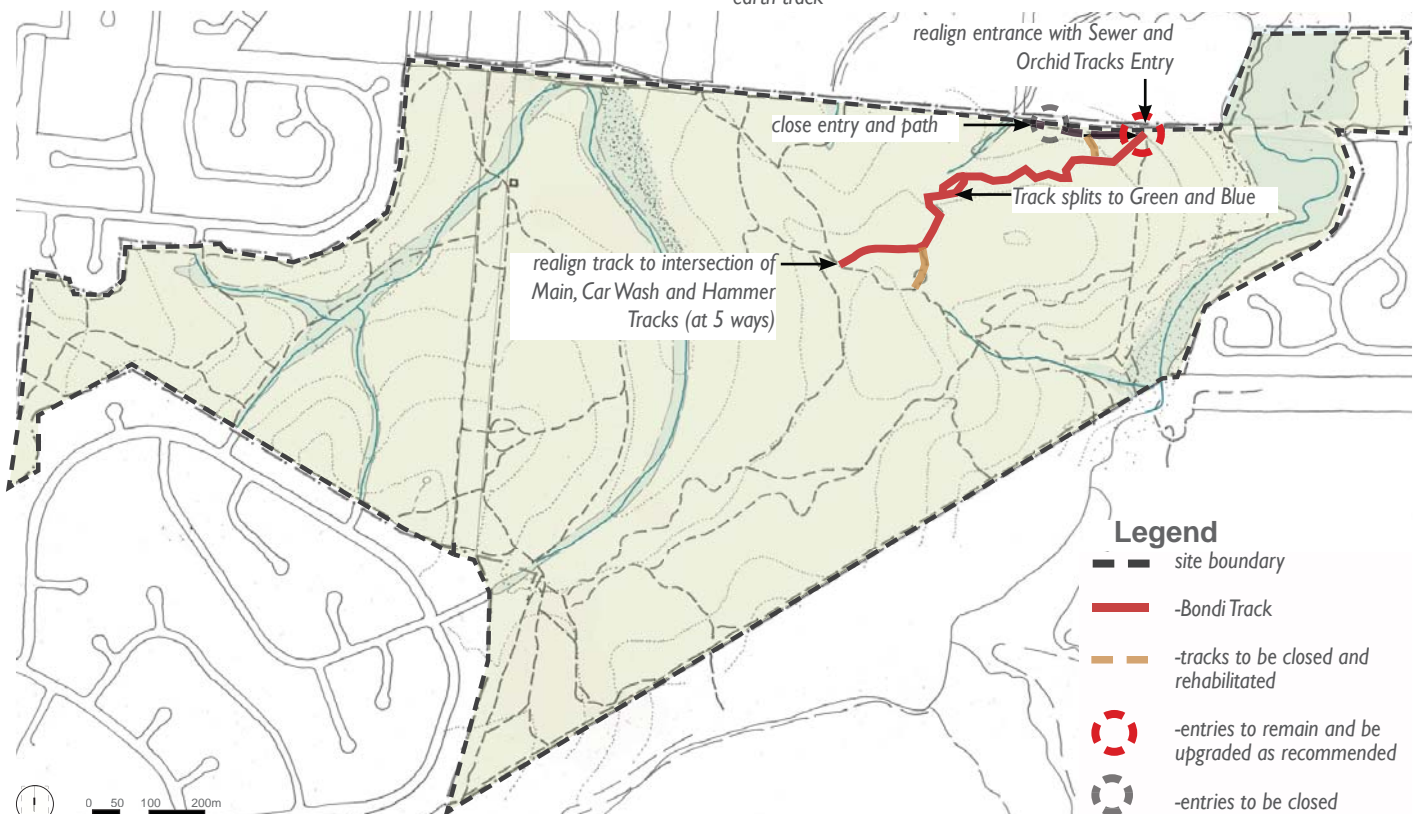


Figure 71: clear width of shared trail can be wider than the appearance of the hard earth track





## Orchid Track

### Shared Trail

### Class 4/ Blue Square/ Fire Class 4

#### Proposed Trails Description

Currently the Orchid Track is a single to multi-use trail that is subject to severe water flow and erosion.

The Track requires adequate alignment and erosion control measures in order for it to form a more sustainable route.

The proposed trail is to be realigned away from the Creek to join the proposed Sewer and Bondi Track entries to have fewer Park entrances, to avoid the existing eroded area (Figure 67) and Creek Corridor.

#### Proposed Trail Details

Approximate Length: 0.8 km

Clearance: min 1.5m clear width

Surface: earth/sand

#### Other Trail Features

The trail requires some erosion control measures and erosion repair within areas.

Blue A line obstacles to be incorporated into trail.

Close and rehabilitate other existing tracks to give one clear Orchid Track route.

When realigning the Track, care must be taken not to disturb the native orchid in this area, as well as the environmentally sensitive Creek Corridor. This should be done through careful planning and under the supervision of relevant environmental officers.

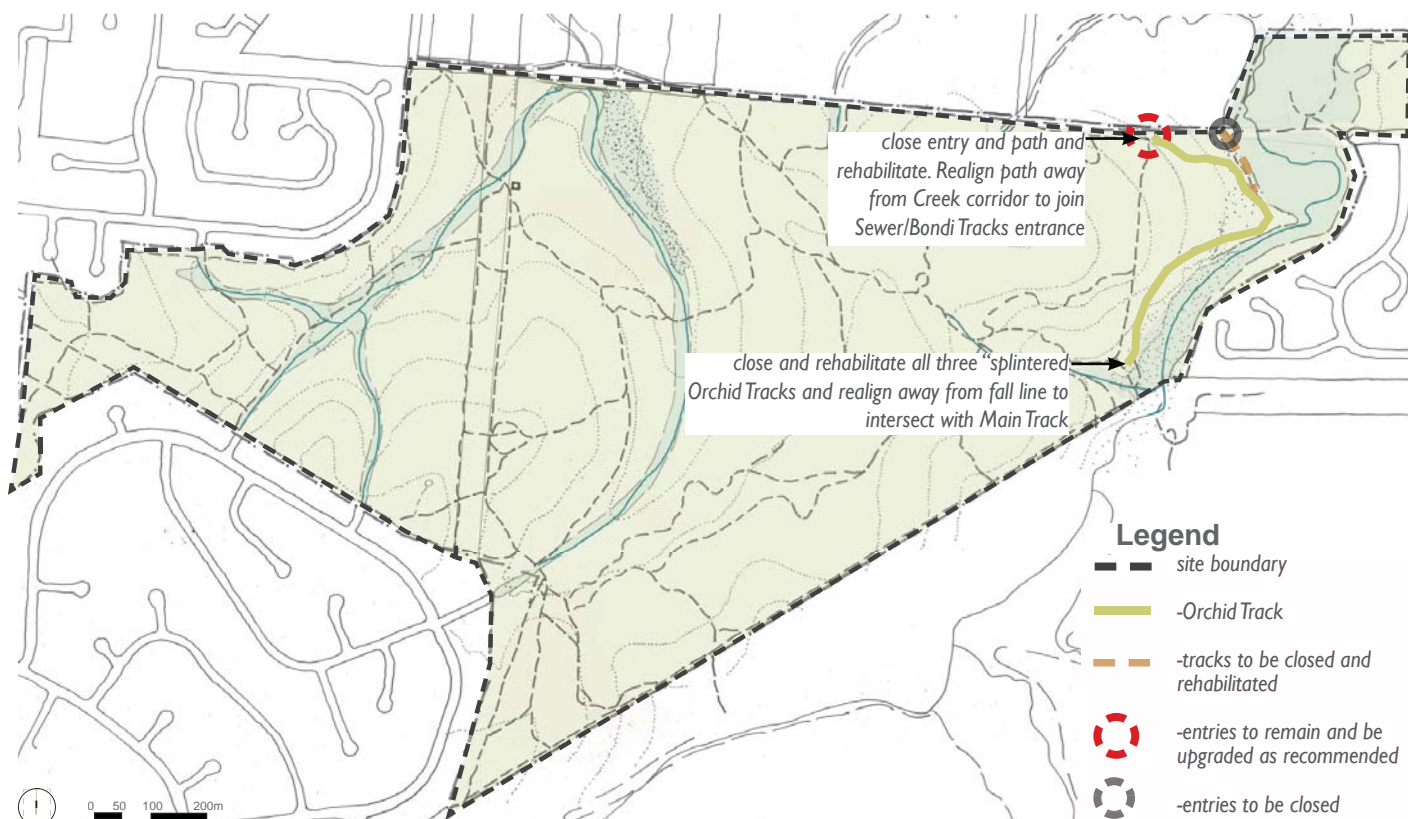
#### User Groups



Figure 72: Existing entry has severe erosion above gate. Close entry and path and rehabilitate. Realign path away from Creek corridor to join Sewer/ Bondi Tracks entrance



Figure 73: Track splinters three ways. Close one





## Creek Track

### Shared Trail

Class 3 / Green Circle/ Fire Class 4



#### Proposed Trails Description

The current Creek Track is a small stretch of single track giving an alternative to the existing firetrail.

It is proposed that the newly constructed Creek Track will form a long single track that connects the paths in the Scribbly Gums Conservation Park to the trails in the Redland Track Park, therefore creating more connecting flowy single track.

The track will be located away from watercourses and fall lines. It will continue along the main Track at 2 points to avoid multiple water crossings, whereby the Main track will form the crossing track.

#### Proposed Trail Details

Approximate Length: 1.3 km

Clearance: min 1.5m cleared width

Surface: earth/sand

#### Other Trail Features

The trail requires some erosion control measures and erosion repair within areas.

Some Blue A line obstacles can be incorporated into trail.

Close and rehabilitate other existing tracks to give one clear route.

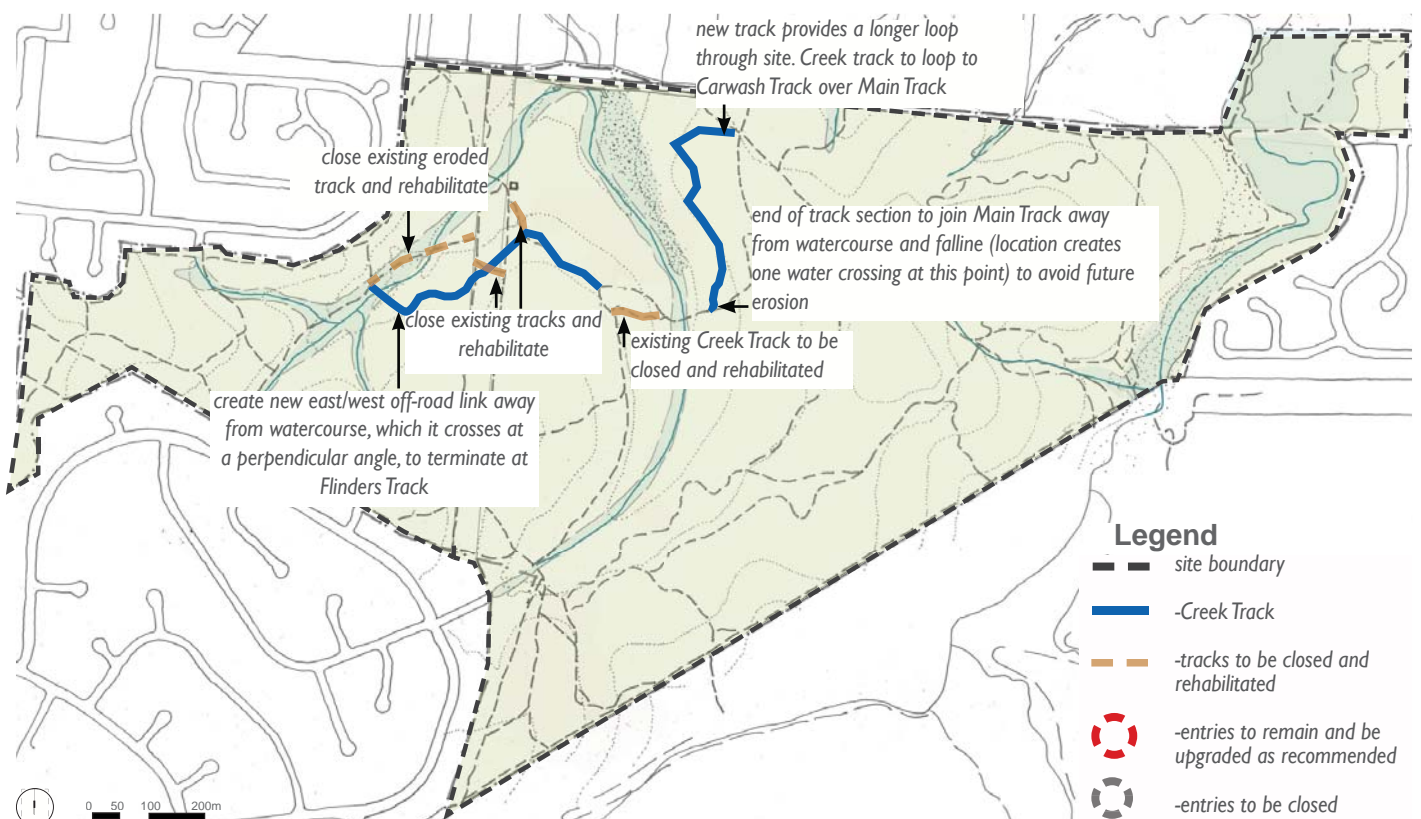
#### User Groups



Figure 74: eroded track along watercourse to be closed and rehabilitated



Figure 75: existing Creek Track forms excellent single track alternative to fire trail





## Car Wash Track

### Shared Trail

Class 3/ Green Circle/ Fire Class 4 ●

#### Proposed Trails Description

The Carwash Track is to provide a short single track alternative to the Main Track.

It requires alignment to terminate opposite the proposed northern Hammer Track exit at the 5 Ways intersection.

#### Proposed Trail Details

Approximate Length: 0.3 km

Clearance: min 1.5m cleared width

Surface: earth/sand

#### Other Trail Features

The trail should be made one way due to the poor sightlines on this track.

Green A line obstacles to be incorporated into trail.

#### User Groups

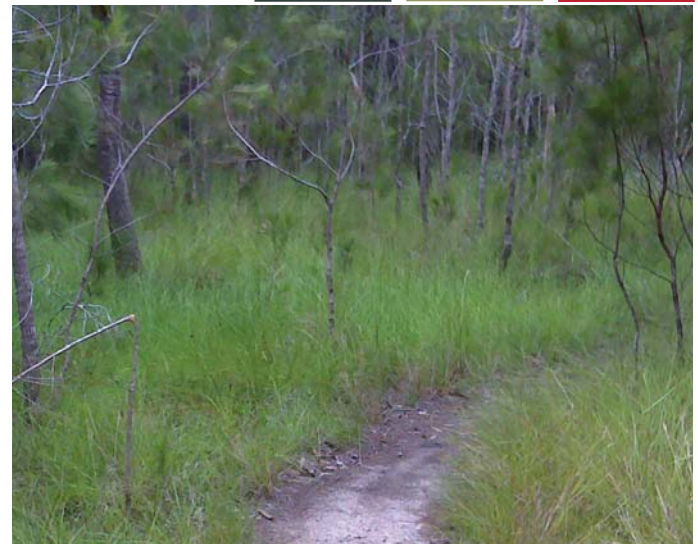
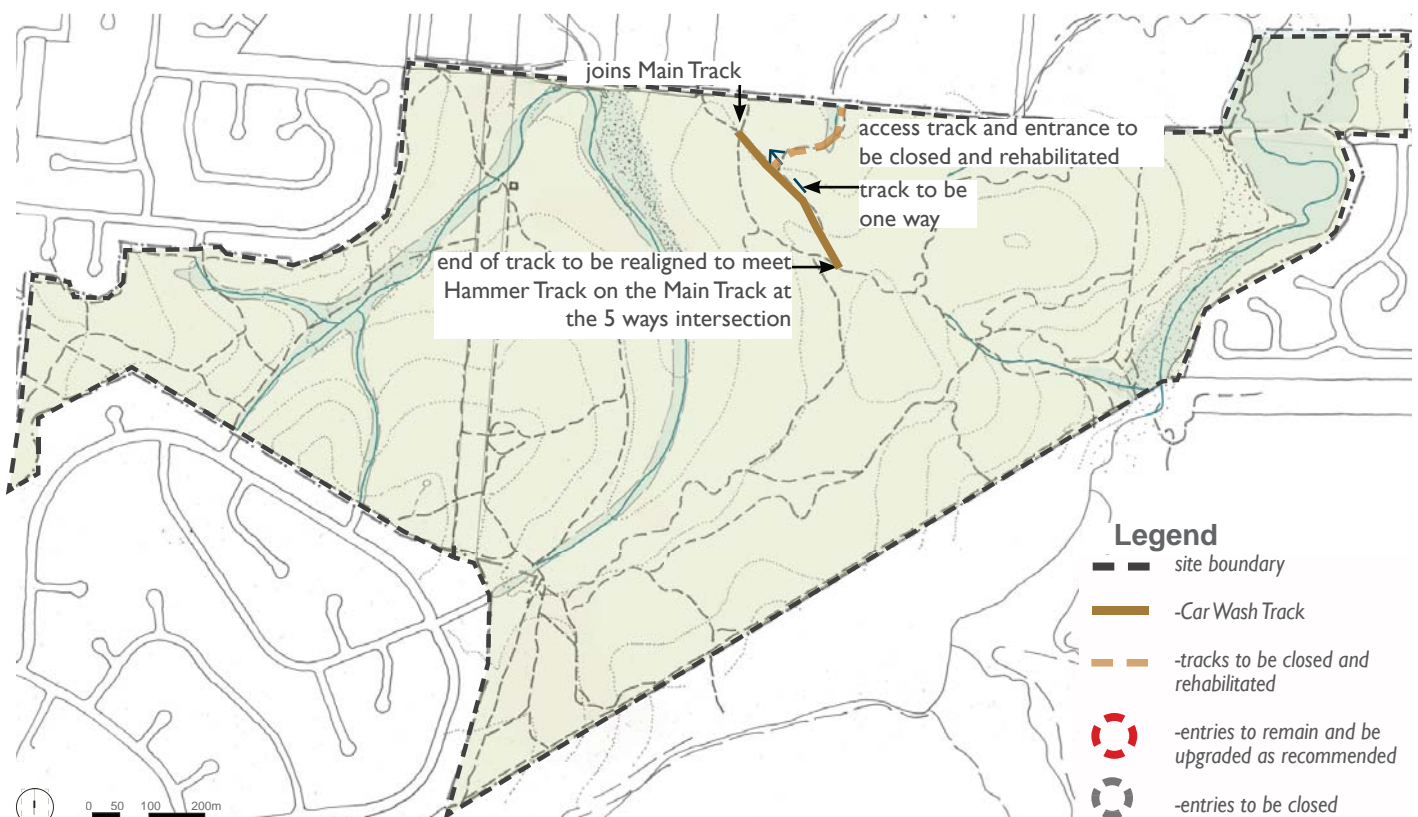


Figure 16: existing Car Wash Track

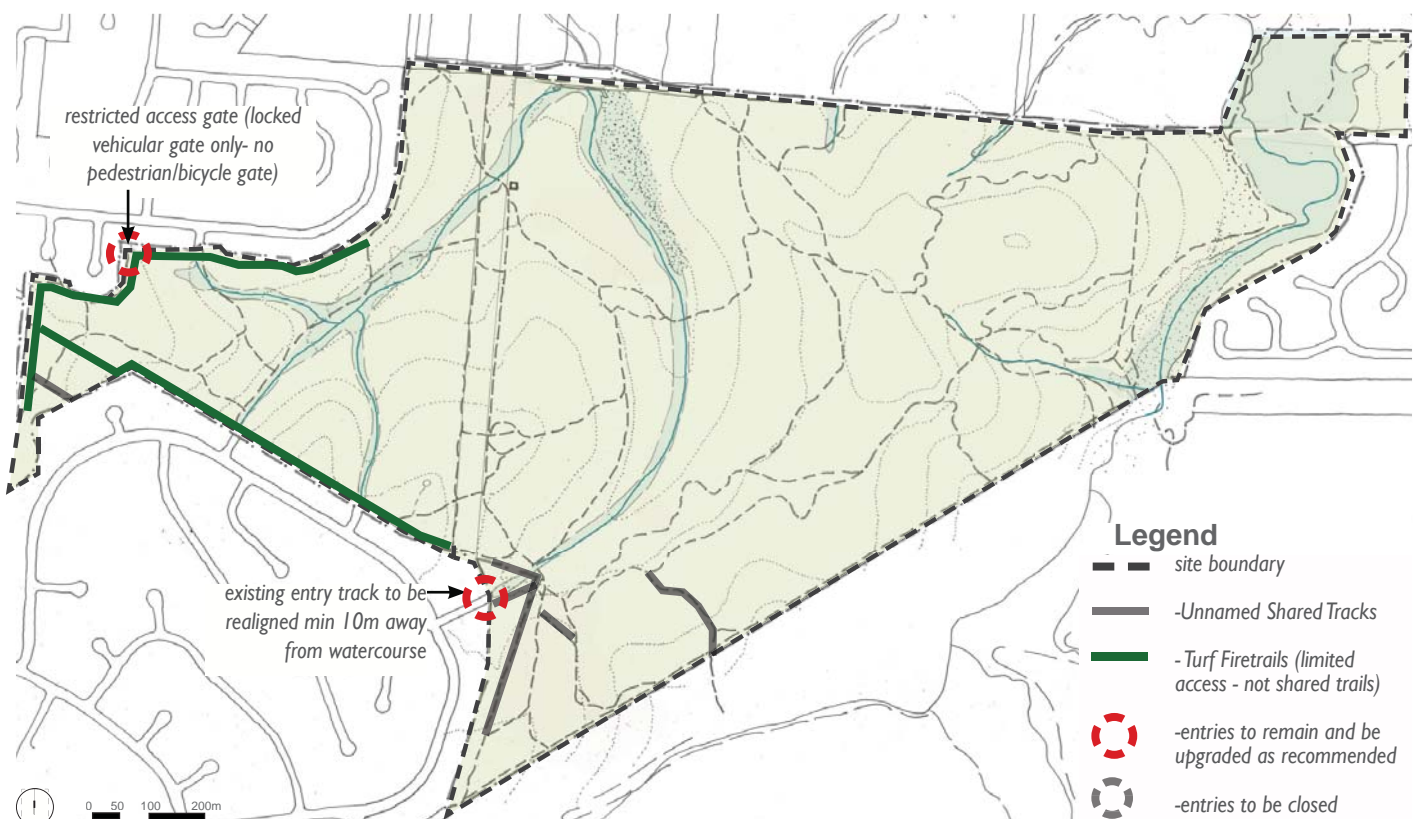


## Unnamed /Linkage Tracks

### Proposed Trails Description

Linkage Trails to be graded with erosion control measures as required.

Turf Fire control trails to be void of signage, where access along these trails should be discouraged.







# Costing and Staging

## Implementation

Below is a recommended indicative stage list that allows the functioning of the park to run smoothly (and unofficially until open). Some stages will run concurrently, depending on availability of resources and budgets.

In order to achieve the completed vision for the Track Park, budgets should be considered well in advance to be able to plan for each stage completion

### Stage 1

- prepare safety management plans prior to development
- formalise bushcare group for whole of track park site, including developing a weed and rehabilitation program
- remove all hazardous materials (rubbish, rubble and asbestos)
- form trailcare group, including appropriate training
- upgrade existing tracks
  - repair erosion. Construct armoured crossings and rolling dips where required
  - re-route tracks away from fall lines and watercourses
  - create appropriate track widths, clearing, sightlines and grading
  - place appropriate obstacles and natural features
- develop new mountain bike and walking tracks within the Park
- rehabilitate all old disused tracks (bushcare group, e.g. Boystown, can assist with bush rehabilitation)
- close unnecessary entries and replace gates with appropriate vehicular gates and pedestrian/cycle gates

### Stage 2

- develop Signage strategy (in collaboration with the walking/ pedestrian signage Capital Works Project) for the Track Park, including development of a park logo
- construct and place signage (e.g. trailmarkers) on completed tracks

### Stage 3

- develop a concrete path along Russell Street, including kerb ramps, crossing signage and painted crossings
- develop concrete path along Clarke Street to Coburg Street, including kerb ramps
- develop concrete path between Flinders Street (West) and Flinders Track
- develop Track and updated Fire Management Plan for the site

### Stage 4

- develop detailed master plan for Wellington Park Trailhead as well as plans for the placement of furniture and parking requirements for Clarke Street and McDonald Street Park entries
- create youth facility within Wellington Park including:
  - relocate Pump Track
  - upgrade Ramp Park
  - construct climbing wall
  - seating, shade, paving and other furniture
- develop Clarke Street entrance precinct including:
  - rehabilitate former Pump Track land
  - install furniture
  - landscaping as required
  - parking
- develop McDonald Street parking precinct including
  - formalising parking area (can be gravel)
  - install furniture

### Stage 5

- construct pedestrian bridge connecting Long Street to the Main Track
- place park seating along Flinders Track/Street and basic log seating within the 5 ways intersection

### Stage 6

- develop Wellington Park Trailhead precinct including
  - construct parking area
  - picnic and barbecue facilities
  - furniture (lighting, bike racks, drinking fountains etc)
  - construct trailhead sign

### Stage 7

- construct and place rest of signage throughout the park (e.g. trailhead signage and park maps)
- formally open the Park

### Stage 8

- promote Track Park
- engage potential partnerships

### Stage 9

- construct public amenities in Wellington Park
- replace fencing within Park to ensure the boundaries are secure and the fence typology is appropriate
- update Land Management Plan to incorporate asset management plan and management implementation strategies

### Longer Term Projects

- consolidate land around Track Park to become a larger green nature-based recreation area (Phase 2)
- negotiate with DPI to allow for a trail to run northwards under Finucane Road and link with other open spaces.

## Indicative Costing

The cost of the development of the Track Park is estimated to be in the vicinity of \$2,224,500. It should be noted that this total cost could be reduced significantly, should more of the work (e.g. track erosion, machine grading and clearing), be implemented by Council or volunteers.

The Concept plans have been costed by quantity surveyors, Davis Langdon (see Appendix 5). The table below summarises the indicative costs. The following have been excluded from the estimate:

- planning, design and masterplanning consultancy fees
- removal or treatment of any contaminated materials
- legal and Council fees
- goods and services tax
- funding application costs.



Stage	Description	Cost
1	Preparation of safety management plans	excl
	Formalisation of bushcare group	
	Remove hazardous materials	
	Form trailcare group	
	Upgrade existing and develop new tracks*	\$497,298
	Main Track	\$56,799
	Sewer Track	\$15,200
	Flinders Street Track	\$15,500
	Clarke Reserve and Hilliard Track	\$173,100
		\$17,700
	Power Track	\$22,900
	Water Track	\$10,500
	Swamp Track	\$21,700
	Magic Track	\$5,700
	Hammer Track	\$9,700
	Bondi Track	\$11,100
	Orchid Track	\$5,100
Creek Track	\$3,700	
Car Wash Track	\$31,800	
Unnamed Tracks		
On-Costs and Fees	\$96,799	
<i>Stage Total</i>	\$497,298	
2	Develop signage strategy for Track Park	excl
	Place trailmarkers and warning signs to constructed trails	\$19,400
	<i>Stage Total</i>	\$19,400
3	Develop track and fire management Plan	excl
	Concrete path along Russell Street	\$73,100
	Concrete path along Clarke Street to Coburg Street	\$68,000
	Concrete path between Flinders Street (West) and Flinders Track	\$107,525
	On-Costs and Fees	\$60,100
	<i>Stage Total</i>	\$308,800
4	Develop detailed master plan for	excl
	-Wellington Park Trailhead	
	-Clarke Street and McDonald Street Park entries	
	Develop Youth Facility	\$150,000
	Develop Clarke Street Entrance Precinct	\$50,000
	Develop McDonald Street Parking Precinct	\$40,000
	On-Costs and Fees	\$58,000
<i>Stage Total</i>	\$298,000	

Stage	Description	Cost
5	Construct pedestrian bridge	\$28,500
	Place basic log seating and obstacles within the 5 ways intersection	excl
	Stepping stones over creek bed	\$2,000
	Park seating along Flinders Track/Street	\$21,600
	On- Costs and Fees	\$12,600
	<i>Stage Total</i>	\$64,700
6	Wellington Park Trailhead precinct	\$422,200
	<i>Stage Total</i>	\$422,200
7	Construct and place rest of signage throughout the park. Place Bollards where required	\$110,600
	<i>Stage Total</i>	\$110,600
8	Promote Track Park	excl
	Engage potential partnerships	
9	Construct public amenities in Wellington Park	\$150,000
	Replace fencing within Park where required	\$255,500
	On- Costs and Fees	\$97,999
	<i>Stage Total</i>	\$503,499
<b>TOTAL</b>		<b>\$2,224,500</b>

# Management and Partnerships

## Track Park Management

There is no panacea for the management of track parks. What can work effectively in one local government area may be totally inappropriate in others due to Councils being influenced by a variety of factors, including their political, philosophical and financial positions.

Redland City Council, as Trustee of the site, is currently responsible for the development and management of the Track Park.

Management options for the Redland Track Park include:

### 1. Council Managed Land

Whereby Council is responsible for upgrading, managing and maintaining the Park (as is the current situation).

#### pro's:

Council has full control of the site and has full control of its future direction.

#### con's

This option is resource intensive. The community may also perceive it has little input into the Park evolution.

### 2. Council Managed and Volunteer Maintained Land \*

Whereby Council is responsible for major upgrades and management. Volunteers maintain the Park under Councils guidance.

#### pro's:

Council has great control of the site and has full control of its future direction. It is also less resource intensive than Option 1.

#### con's

Council still requires human resources. There is also a chance that the maintenance conducted is of poor quality.

### 3. Council and Volunteer Managed and Maintained Land \*

Whereby Council is responsible for major upgrades and volunteers manage and maintain the Park. Council is still ultimately responsible for the Park.

#### pro's:

This option is advantageous when there are limited resources from Council, it also gives the community more of a sense of ownership.

#### con's

Council have less control over the Park. There is also a chance that the management and maintenance is of poor quality and the volunteers are not fully aware of Council's holistic direction (e.g. environmental strategies not only recreation strategies).

### 4. Commercial Management and Operation Maintenance

Whereby Council puts management and operation out to commercial tender

#### pro's:

Requires little resources from Council.

#### con's

Council have little control over the Park.

Because the operator will be of a commercial nature there may be a charge for Park entry. This may go against the philosophy of "free access for all" as well as potentially having difficulty in policing the gated entries.

\* note: these options are un-viable at present for the Track Park due to Council being the trustee under the Land Act 1994, and not the land owners

The operator may also not have the same environmental/recreation balance and direction that Council wishes to adopt.

The final choice of management arrangement will depend on:

- The extent of control Council is obliged to exert over the operation of the site
- the extent that Council wants to distance itself from public liability risk
- the financial contribution Council is prepared to make to the development.

## Examples of Other Similar Parks Management Operations

### Gap Creek Reserve /Brisbane Forest Park

Mt Coot-tha and Gap Creek is currently being developed under a volunteer based 'Trail Care Group' involving the Brisbane City Council, GCTA (Gap Creek Trails Alliance) and mountain bike volunteers. This program, using IMBA guidelines and principles, is constantly upgrading and re-routing trails. (<http://www.gcta.asn.au>, <http://www.mtbdirty.com.au/brisbane-trails/view/trail/22>).

THECA (The Hut Environment and Community Association) is a registered Brisbane City Council Habitat Brisbane Group (HB) who generally take care of the weed control, some walking trail maintenance and the recovery of the forest areas.

### Daisy Hill Conservation Park

Daisy Hill is managed and operated by Department of Environment and Resource Management (DERM) Queensland Parks and Wildlife (QPWS). Trails are managed in conjunction with Mountain Bike Rider Groups (Brisbane South Mountain Bike Club and Daisy Hill Mountain Bike Club).

### Jubilee Park Mountain Bike Park (Toowoomba)

Jubilee Park is a cross country and downhill mountain bike park. It was designed by a local mountain bike club and constructed by Council with the assistance of volunteers. It is managed by Council, who also largely maintain it with the assistance of volunteers.

### Stromlo Forest Park (Canberra)

Stromlo Forest Park is a world-class multi-use, recreational sporting facility. It has a variety of quality sporting and recreation facilities including trails for mountain bike riders and walkers.

The Forest Park is managed by ACT Economic Development Directorate. They hold volunteer work days, whereby any member of the public can assist in trailcare.

The Forest Park also has a "Trail Support Program" which provides its partners with an opportunity and incentives to invest in the trails. It's a program designed to bring local businesses and clubs together with the common goal of creating more trails, and improving existing trails within the park. Those involved with the program receive benefits through supporting the park and through club or business recognition by the Park. All funds raised by the program go directly into the development of new and existing trails. (<http://www.stromloforestpark.com.au>)

## Adaptive Management

Due to the nature of the activities within the Track Park, the management approach needs to be adaptive and flexible so that, over time, the user needs and numbers and uses of the Park can change and evolve (in line with the trends in the activity and the Land tenure arrangements and agreements).

An "Adaptive Management" approach is primarily a coordinated, but flexible method, learning from doing, and responding to changing needs



within a changing environment. Whilst it offers the greatest flexibility and an evolving iterative approach in terms of management outcomes to deal with ever-changing external influences, it must be based on sound systems-monitoring to ensure the best decisions are made. Examples of system-inputs that Council needs to consider when employing an adaptive management approach include:

- partnership options
- recreation user management
- natural area management
- asset management and maintenance

These datasets will help Council make the best informed decisions regarding the use and operations of the Track Park. Each of these system inputs are discussed in more detail below.

## Partnerships and Community Stewardship

Partnerships are the key to a successful track park, whereby groups and/or the community can get involved, take ownership and pride, as well as provide assistance in project implementation and maintenance.

Getting community groups involved and creating partnerships can also open doors for community sponsors, donations and funding or joint venture proposals. These partnerships may include local tourism organisations, local mountain bike shops, food service providers and event organisers.

### Current Partnership

Redland City Council currently has a programme with Boystown, whereby they assist Council in undertaking track and trail construction within the Track Park. It is a part of Council's drive to enhance knowledge and understanding of work practices in conservation land management for youth.

These works are conducted under the "DEIR Skilling Queenslanders for Work-Work Placement Sub-Project Application" and "Approval Advice for Sub-Project BS5639 SQW & GA" requirements.

There is currently a "Bushcare Mountain Bike Trail Group" with approximately 30 people who meet for a couple of hours bimonthly to assist in trailcare within the local area. They operate under the Indigiscapes Bushcare Program. However their details are not available on the website-<http://www.indigiscapes.com.au/Programs/Bushcare/Pages/default.aspx>. By making this information available to the public interested members of the community can partake in these volunteer services. This group does not yet do trailcare maintenance at the Redland Track Park (currently the Redlands City Council Parks and Conservation Unit undertake all of the track maintenance there) but once the Track Park becomes more popular, this could form a part of the trail maintenance volunteer program.

### Potential Partnerships

Brisbane South Mountain Bike Club (BSMC) have offered their expertise to assist in trail care and construction at the Redland Track Park. They have experience in trail design and construction and have been involved in a number of mountain bike trail care projects around Brisbane (including the recent trail maintenance and construction at Cornubia Park). There is potential for BSMC to hold trail care days, where interested riders and other local unregistered groups can get involved (such as the Sewer Rats, who have a sense of Park ownership, local knowledge and skillset).

Involving BSMC could lead to an opportunity in the future to develop a MOU for trail management. Should this arrangement occur, Council would be in control and assume all of the risks associated with the operations of the site.

Logan Community Trailcare Alliance has a successful partnership with Logan City Council. A similar revegetation and bushcare volunteer partnership could form with Redland City Council.

Adjacent schools could also have some form of partnership, with Council whereby as a part of the school education curriculum

children could assist in weeding and litter pick up.

All volunteers are to be recorded in a register operated by Council's Risk and Liability Services as per Council's Volunteer Management Policy (refer Volunteer Management Section of Council's Conservation Land Management Strategy).

Partnerships to encourage environmental awareness as well as assisting in conservation within the greater area should also be considered. This includes promoting existing conservation private property programs including:

- Land for Wildlife
- Voluntary Conservation Agreement Program
- Your Back Yard Garden Program.

## User Management

No matter how well a track and trail park is designed and constructed, it is impossible to predict how, and how much, the trails will ultimately be used. For example, whether tracks, infrastructure (entry, signage facilities etc.) and regulations would need to be modified with increased usage.

Increased usage within the Park may potentially lead to conflict between users. Blindspots or steep turns within shared trails areas may pose potential risk with increasing visitors, and may only become evident over time.

Users can be effectively managed through site feedback and monitoring systems such as:

- allowing the users to have a voice, for example within a web forum environment, so that people on the ground can express their views and experiences (as it is most likely that only the users will be aware of any shortfalls)
- creating a system that tracks and records any trail incidences or accidents and their locations. This can aid in ameliorating any shortfalls and creating a better system based on use type
- using traffic counters along the trails to determine high traffic areas
- undertaking regular inspections and patrols to check that the tracks, signage and facilities are safe and well maintained.

These monitoring systems (along with having an adaptive management system) allow park managers to take effective action to resolve any park user issues as soon as they become apparent. This could be through simple trail care modification, creating one way tracks, creating bottle necks (to slow down traffic) or creating preferred use tracks. It must be noted that cyclists should always give way to walkers on shared tracks, and this should be clearly signed.

## Environment and Fire Management

All natural area management (native vegetation, weeds, fire, fauna etc.) should be done in accordance with Council's Conservation Land Management Strategy. An updated fire management plan (for the whole Track Park area) should also be incorporated into this report.

Some natural area tasks such as weeding and revegetation can be conducted with the help of volunteer group (see partnerships). This should be done in accordance with the Strategy and proposed Environmental Land Management Plan mentioned above. A weed action plan should form a part of this Plan.

## Asset Management and Maintenance

The Cleveland Track Park Report (2011) states that once the Park is constructed, an asset management plan should be developed to establish a level of service that Council requires from the assets. The inspections, maintenance and replacement cycles for assets in the Park (including the trails network) should then be detailed and recorded. A regular maintenance program/plan should also be established.

Both the asset management and maintenance plans should be updated and reviewed annually or as required.

# Awareness Raising and Funding

## Raising Awareness

Raising awareness for the Track Park can be achieved in a number of ways including:

- through flyers, which can be distributed at local cafes, schools, bikeshops, pools, training clubs (trail running, triathlon, orienteering, walking, mountain biking etc.) or can be inserted in local newspapers
- holding bike workshops, such as introductory mountain bike workshops within the Track Park (e.g. <http://www.roadierobsbicycleschool.com/>, <http://raceelements.com.au/Skills-To-Pay-The-Bills/MTB-Skills-Training>)
- guided rides round the park could be included within the Track Park. This can be run by a local mountain bike club under the auspices of MTBA. Wynnum Redlands Cycle Club (WRCC) rides mountain bikes through the Track Park area every Friday, whereby a local club such as this could run these organised rides. Websites such as those mentioned below, as well as those for BSMC and the WRCC could advertise these rides
- providing a website and forum with maps and park information. For example MTB Dirt Mountain Bike Forum (<http://www.mtbdirt.com.au/brisbane-trails/view/trail/65>) has a page on "Scribbly Gums Conservation Park" (Redland Track Park) however it has little information to date, but does provide a basic trail map. This should be updated regularly. Council could also have a link on their website describing the Track Park and its features (<http://www.redland.qld.gov.au/RecreationFacilities/Parks/Pages/default.aspx>)
- the QORF website has a "get outdoors section" with a weekend and holiday activity section. Once the Track Park has been completed it could feature as an outdoor family recreation area ([http://www.qorf.org.au/01\\_cms/details.asp?ID=1525](http://www.qorf.org.au/01_cms/details.asp?ID=1525))
- Organised Grime have published "Where to go in South East Queensland" and have recently added "Scribbly Gums Conservation Park (Redlands Track Park)" in their latest edition. This can be updated with new park information, track names and grading information, which can be inserted into the following edition (<http://www.organisedgrime.com.au/fifthedition.php>)
- Briscycle is a website which contains cycling routes around Brisbane. Once the Track Park has been updated it can be updated on their website (<http://briscycle.com/>)
- holding events within the Park such as trail runs, small mountain bike events, sprints and orienteering. This can also aid in raising funds to assist in park and track maintenance (fees or donations)
- engaging larger professional event organisers (such as Tailwind Promotions) to hold larger events, whereby the Track Park could form one of the locations where the event traverses through (others could include Scribbly Gums, Days Road, Sandy Creek, D&C Burnett etc.). This could include a "Bush to Bay" event or a larger multisport event, whereby the nearby showgrounds could host the tent/registration/transition or parking area. Local businesses could also provide sponsorship for these events
- media releases during and post Track Park construction
- Department of Local Government and Planning website "Parks for People" (<http://www.dlgp.qld.gov.au/parks-for-people/interactive-map.html>) can have the updated information (or link to Redland City Council "Redland Track Park" data) uploaded on its website

## Potential Funding Sources

There are a number of external grants and funding sources available refer to Appendix 4 for a list of these sources.

## WHERE TO MOUNTAIN BIKE in SOUTH EAST QUEENSLAND

FOURTH EDITION fully revised and expanded  
74 pages of full colour detailed contour maps

Gillian Duncan and Mark Roberts



Purchase this book online at [www.organisedgrime.com.au](http://www.organisedgrime.com.au)

**Multi Terrain Bike Orienteers**


Invites you to

# Come And Try It

at

## Scribbly Gums Conservation Area

McDonald Road, Alexandra Hills



on

### Sunday 30<sup>th</sup> October 2011

Start any time between  
**8:30am – 10:00am**

Register at: [www.mtbo.com.au](http://www.mtbo.com.au)  
Online registration closes Midnight Wednesday 26<sup>th</sup> October  
\$5.00 per Map (pay on the day)

**Free Sausage Sizzle & Drink**

All you need is a bike suitable for riding on dirt, helmet and water



# Appendix I

# Consultation

ROSS Planning conducted consultation with the following groups. Below is a table of the consultation findings.

‘User Groups’	Comments
<p><b>Redland City Council Staff</b></p> <ul style="list-style-type: none"> <li>- Local Councillors (Divisions 2 and 7)</li> <li>- Planning and Environment</li> <li>- Open Space Planning</li> <li>- Cycling and Public Transport</li> <li>- Reserves Management</li> <li>- Parks and Conservation</li> <li>- Conservation Fire Management</li> <li>- Waterways Management</li> </ul>	<ul style="list-style-type: none"> <li>• generally Councillors and Council staff were very supportive of the project</li> <li>• need to create safe areas within the Park including reducing blind spots and conflict between commuters and off-road bikers</li> <li>• parking could be utilised along Clarke Street. It could be formalised for the Track Park</li> <li>• happy to consider creating a new off-road, natural east-west link between Scribbly Gums Conservation Park and Redland Track Park to get riders away from using turf firebreaks near residents on the Park edges</li> <li>• major issue with Hilliard Creek crossing at end of Long Street Road Reserve. Consideration should be made to incorporate a pedestrian bridge or low level crossing as this point. This is seen as being pivotal in connecting the Park with local areas</li> <li>• emergency exit and evacuation points need to be addressed in the design</li> <li>• opportunity for this to be a destination for smaller events, (e.g. maximum 4 hour events) for first time riders. A lot of other park designs has been driven by more experienced riders for more technical rides, and therefore this Park has the opportunity to target the “newbys”. It does not have to be as challenging, although numbers would probably have to be capped as there is not that much event space (parking event setup etc). Showgrounds along Long Street could be used for bigger events, with marshals guiding users into the Track Park during events</li> <li>• residents use the perimeter trails as tracks for walking dogs. The Report needs to address possible future conflict with the increased Park usage, e.g. by making some bike-only tracks. The use of signage will also be important</li> <li>• in the near future, signs are going to be put up along Flinders Street as a part of the signage strategy as it lies within the Capalaba Cleveland corridor as a part of the 2013/2014 Major Signage Budget. This corridor is recognised by the state for Cycling as a “Council trunk Cycle Network”. Signage should tie into the track signage so as not to double up</li> <li>• there is asbestos and hazardous material within Clarke Street Bushland Reserve (off the fire trail). This will need to be monitored further before consenting to using the Bushland Reserve as a safe entry point</li> <li>• the design needs to take into account existing fire trails and entrances (including the smaller trails)</li> <li>• Boystown currently assists Council within the Track Park doing volunteer trail care work. They will be assisting with the track upgrade</li> <li>• the Park is currently called Redland Track Park. This name is not appropriate as it is not in the suburb of Cleveland. It was previously called the Redlands Track Park. Does this name (Track Park) have connotations with trail bikes? Possibility of the Park being named “Scribbly Gums Recreation Park” so it is linked with Scribbly Gums Conservation Park, thereby seen as one whole site (note that this is only a part of a longer term project which includes including the adjacent bushland for recreation, such as the greenspace surrounding the Sewerage Works and Weippen Street Conservation Area, totalling an area of 225ha- refer Figure 2)</li> <li>• possibility of putting bike trials and skills area near ramp park at Wellington Park so that there are a group of activities supported by facilities such as amenities etc.</li> <li>• there may be an opportunity to create a full interpretive centre within this large tract of bushland, e.g. relocate Indigiscapes interpretive Centre to Scribbly Gums Conservation Park as it is a larger open space</li> <li>• open space just south of Long Street Reserve (north of the Redlands Hospital) could become a mountain bike cross track</li> <li>• Road Reserve through the site from Long Street to Vienna Road has been changed to “Active Recreation”. Opportunity to make a strong active off-road natural bushland link through the site as an (off-road) alternative to Flinders Street. This east/west link should not become secondary to the Flinders Street Link. Utilising the gradients/surfaces and widths should reduce the chances of this happening</li> <li>• identifying the style, number and difficulty of obstacles on any particular track maybe important in a ‘beginner’ facility like this one. Furthermore, linking overall track difficulty with appropriate difficulty of obstacles on that track is worthwhile considering, e.g. A green level track on ‘B’ line all the way but a ‘double arrow down’ obstacle on “A” line might not be appropriate. Give them a challenge but not too excessive for the track category</li> <li>• signage should have GPS coordinates on signs at intersections as a part of the risk management and safety strategy within the Park</li> <li>• look to the Parkland east of Hilliards Creek, between residences and the Creek to create a shared link through the Park, and Thornlands/Capalaba Link (between Long and Coburg Street)</li> </ul>
<p><b>Queensland Outdoor Recreation Federation (QORF)</b></p>	<ul style="list-style-type: none"> <li>• need to make loops that are of the same grade. They should be measured and the lengths marked out</li> <li>• create clear signage that indicates use (e.g. shared use, how to get there, how to get back)</li> </ul>
<p><b>State Government</b></p> <ul style="list-style-type: none"> <li>- Department of Environment and Resource Management</li> <li>- Department of Primary Industries and Fisheries</li> <li>- Department of Communities (Sport and Recreation Services)</li> </ul>	<ul style="list-style-type: none"> <li>• DPI will not support the idea of allowing people though their site along Road Reserve up to underpass at Finucane Road. The area is restricted due to the nature of their work and they would not want people entering their premises</li> <li>• Department of Environment and Resource Management (DERM) provided comment to Redland City Council on 13th May 2011 on the proposed Redland Track Park. DERM advised that this proposal will be consistent with the reserve purpose and consistent with the principles of Council’s Conservation Land Management Strategy 2010. DERM does not wish to provide further comment provided the proposed development of infrastructure such as trails, tracks, bridges and signage for the Park is within the Lots dedicated as Reserve for Open Space and Buffer Zone being Lots 1, 3, 4, 5, 6 and 7 on SP234806 (approximately 133.8ha) and Council as trustee is responsible for maintaining the site</li> </ul>



'User Groups'	Comments
<p><b>Other stakeholders and Interested Parties</b></p> <p>Bike Nirvana</p> <p>Bicycle Queensland</p> <p>Cycle City</p> <p>Bike Force</p> <p>Capalaba Cycles</p> <p>Brisbane MTB Club</p> <p>Sewer Rats</p> <p>Organised Grime</p> <p>Brisbane South Mountain Bike Club</p> <p>Outdoors Queensland</p> <p>Orienteering Queensland</p>	<ul style="list-style-type: none"> <li>• it would be great to have flowing access to the main area of the Park between Alexandra Hills and Weippin Street without having to ride through the creek, or walk along the slippery log. A small (very basic bridge) would mean that riders and walkers could enter the Park from either side of the reserve without breaking the flow of riding. This would also be safer for walkers</li> <li>• all internal tracks need to be rough/bush walking style with natural appeal. There should be more of a focus on beginners to more intermediate style tracks. The bridge at Long Street should be kept narrow</li> <li>• Brisbane South MTB Club (BSMC) would like to commend the efforts of Redland City Council to provide more facilities within the Redlands for mountain biking. As regular users of Redland Track Park they welcome the opportunity to be involved in the further improvement of the area</li> <li>• the current network is enjoyable for its 'natural' appeal, a status that is a very welcome contrast to the more established mountain bike trail networks at Daisy Hill and Gap Creek. The relatively flat topography and small size of the Park offers restricted scope for increasing the 'technical' content, and BSMC would suggest that this natural feel, including features based on rocks and roots, be retained to provide a challenge for intermediate riders whilst maintaining access for families and beginners</li> <li>• access for all can be ensured by retaining optional lines around existing features such as large logs. There are currently a number of large log features which riders have the option of riding over or riding around. This use of 'A' and 'B' lines permits each rider to determine their own level of risk and ride accordingly</li> <li>• multiple entry and exit points into the Park, good signage, access and mapping is essential to ensure that riders can navigate safely and also allows longer rides to be planned to link with other bicycle access paths in the area</li> <li>• there are opportunities for new trails to be constructed that maximise the benefits of the terrain, and again, as part of their ongoing efforts to maintain good quality sustainable trails in the South Brisbane area, BSMC would be pleased to offer advice and assistance to ensure that the dual goals of "environmental sustainability" and a "rewarding ride" are met</li> <li>• new trails should maximise the use of the Park elevation and technical challenges should be presented in the form of corners, series of corners and natural obstacles (such as logs and rocks). These should be designed to work with the existing tracks to provide flowing loops or sequences of trails, to increase the total length of tracks available. The distance between this park and other MTB-specific facilities such as those at Daisy Hill and Redland Bay (Bayview) means that longer rides which link these centres together are impractical and to provide sufficient enjoyment for intermediate riders would require the addition of more trails to extend the current network to around 20km</li> <li>• for a greater technical challenge, a skills area could be added, similar to that recently completed at Gap Creek. The use of natural materials provides the chance to try more advanced skills in a controlled environment</li> <li>• Bicycle Queensland supports Council in this project and believe it will be a great use for an urban bushland site</li> <li>• Sewer Rats would like the retrofitting of pipes at the end of Long Street to include an all weather link to the eastern side of the creek. This would aid movement and could also aid safety management</li> </ul>

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# **Appendix 2**

# **Heritage Management**

# **Protocol**

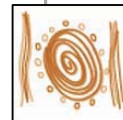


## Management Protocol – (PART B)

### B.3 The Broader Corridor

The broader Corridor includes areas not discussed in areas 1 & 2. It does not include the Bora Ring Area or rifle pit. Any work which is not specified for this area by this protocol should not be undertaken without direct consultation with the RCC Environmental Management Division. **Please refer to Part D of this protocol for specific advice relating to consultation with Aboriginal Parties.**

Work method	NO approval Required	RCC - EMG Approval	Aboriginal Party Communication	Aboriginal Parties Approval	Work Method Statement
Maintenance such as mowing and chemical weed control, removal of noxious species	✓		✓		C.1
Clearing of rubbish and general litter around the Corridor	✓		✓		C.1
Fuel load assessment and physical removal of vegetative matter to avoid risk of fire	✓		✓		C.1
Treatment of termites and other associated pest control for timber assets and vegetation	✓		✓		C.2
Pruning tree limbs less than 100mm in diameter or 20% from their overall height and width around walking tracks, fire breaks and access points within the Corridor	✓		✓		C.3
Cleaning of graffiti and repainting of previously painted surfaces	✓		✓		C.4
Revegetation (Planting of trees) within the Corridor		✓	✓	✓	
Creation of fire trails within the Corridor		✓	✓	✓	
Installation of signage, gates, bollards, slide rails and fencing		✓	✓	✓	
Pruning or tree care work required for significant trees (including Scarred Trees)		✓	✓	✓	
Removal of sick, dead or diseased trees within the Corridor		✓	✓	✓	
Pruning tree limbs greater than 100mm in diameter or 20% from their overall height and width around walking tracks, fire breaks and access points within the Corridor		✓	✓	✓	
Treatment of termites and other associated pest control for timber assets and vegetation		✓	✓	✓	
Any work not defined in this protocol		✓	✓	✓	



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# **Appendix 3**

## **Risk Management Table**



Risk	Possible Consequence	Prevention Measures	Outcome with Measures
<b>General Risk Management</b>			
Hazards in Park which has possible risks of accidents	<ul style="list-style-type: none"> <li>accidents may occur on tracks</li> <li>mountain bikers may injure themselves by being underskilled for the track they ride</li> <li>the track may be unsafe and hazardous to ride/walk on due to poor construction/maintenance</li> <li>accidents due to walkers and mountain bikers (at speed) colliding in blindspots</li> <li>inclement weather may make some facilities and tracks unsafe (tree falls, erosion, etc)</li> <li>lack of facilities resulting in overexhaustion or overheating by less abled users</li> <li>conflict of user groups resulting in a non-coordinated Park design and forward planning</li> <li>users may not be aware of Council work activities or programmes within the Park (e.g. prescribed burning) or track closers or hazards and may be at risk of an accident should they enter the Park at that area/time</li> </ul>	<ul style="list-style-type: none"> <li>proper initial trail construction and design (to all relevant standards and legislation)</li> <li>trails should be designed to the IMBA guidelines, under supervision of an experienced group</li> <li>mountain bike trails should always have an optional easier line for those that are not that confident</li> <li>regular trail inspection and maintenance</li> <li>regular tree inspection and maintenance (incase of limb drop from winds etc, causing a potential hazard)</li> <li>cyclists must give way to walkers on multi-use tracks to reduce track user conflict</li> <li>identifying any key hazards on site, which then are addressed immediately</li> <li>providing an effective signage system</li> <li>trailhead and entry signage to give clear direction of the type and usage of the trails, provide regulatory information, any warnings of the hazards (e.g. "avoid riding in high winds"), risks and rules within the Park (such as "night riders to utilise adequate head lamps", "riders to wear helmets at all times while on bicycles")</li> <li>provision of water and shade in adequate and appropriate locations</li> <li>build partnerships between, and communicate with interested groups to avoid any conflict on site</li> <li>track closures or prescribed burns should be displayed clearly to the public (information displayed on all park entries and available on the Council's website)</li> <li>Park to be able to be closed off completely or in sections should an area pose a safety risk</li> <li>provide contact details of Councils relevant persons/department for the public to report any issues on site</li> </ul>	<ul style="list-style-type: none"> <li>a safer park for riding, with few risks or hazards with users less likely to have accidents</li> <li>Park signs providing clear regulatory information, risks and warnings, safety rules, etiquette, maps and contact information will give users an informed user experience</li> </ul>
Unsafe access to the park, including vehicle and park user conflict, which may result in accidents or injuries	<ul style="list-style-type: none"> <li>accidents or injuries resulting from vehicular/pedestrian/cycle conflict</li> </ul>	<ul style="list-style-type: none"> <li>clearly delineated dedicated off road path between Wellington Park and Clarke Street.</li> <li>path to be constructed of high standard material, in accordance with all relevant standards and to be clear of all obstructions</li> <li>ensure that the road crossings can safely be crossed by pedestrians, wheelchairs and cyclists</li> <li>place appropriate signage at Russell/Clarke Street intersections to give priority to people crossing</li> </ul>	<ul style="list-style-type: none"> <li>a safe pedestrian and bike access between Wellington Park and Clarke Street</li> </ul>
<b>Personal Safety Management (CPTED)</b>			
An unsafe Park which compromises personal safety	<ul style="list-style-type: none"> <li>low patronage</li> <li>crime and vandalism</li> </ul>	<ul style="list-style-type: none"> <li>surveillance of Park by attracting more users and reducing hidden areas</li> <li>create a legible area so people know where to go and are less likely to get lost through good signage strategy and wayfinding</li> <li>create good facilities and routine maintenance to give a sense of pride within the community</li> <li>the Park, is surrounded by suburbia, with street names, reducing the chances of users getting lost</li> <li>the Park has a relatively open understorey, which aids in reducing hiding places</li> <li>introduce lighting in areas such as Park entries and trailhead areas</li> </ul>	<ul style="list-style-type: none"> <li>will create a safer environment by bringing more users into the Park</li> <li>will give people more of a sense of security so they know where to go and are less likely to get lost</li> <li>create a sense of ownership within a community, where the users will look after and respect the facilities</li> </ul>
<b>Emergency Management</b>			
Emergency situations occurring in a large bushland area	<ul style="list-style-type: none"> <li>an accident from a walker or mountain biker</li> <li>where injured people need to contact emergency services and may not be able to get out of the park</li> <li>users getting lost due to darkness or for other reasons</li> <li>park closure or part thereof due to regulated burns, stormy and unsafe weather, tree falls</li> <li>a bushfire, which requires park evacuation</li> </ul>	<ul style="list-style-type: none"> <li>ensure emergency response units can locate a person within the Park. This should be done by providing emergency phone numbers, contacts, and location points on all signs and trail markers to be able to give a persons location to the emergency service</li> <li>emergency services should also be given a clear park map which clearly indicates the vehicular park access and entry points, the roads on which they can travel and non-vehicular trails, as well as GPS coordinates of the location reference points, and vehicle gate keys</li> <li>regular track maintenance to allow emergency vehicles to gain easy access into the Park</li> <li>create clearly marked entrances that are able to be closed off and signed, notifying users of the Park/entry closure</li> <li>ensure fencing and boundaries are secured</li> </ul>	<ul style="list-style-type: none"> <li>will ensure that a lost or injured person can contact emergency services and that the response unit can easily access the Park locate where that person is within the Park</li> <li>emergency services can access a person within the Park due to the tracks being well maintained</li> <li>Park or areas thereof are able to be closed off,</li> </ul>

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# **Appendix 4**

## **Potential Funding Sources**



Subsidy/Grant	Aim/Criteria	Further information/																						
Federal Government: Department of Regional Australia, Regional Development and Local Government																								
Regional Development Australia Fund (RDAF)	<p>Provides funding to not-for-profit organisations and local governments towards the development or construction of infrastructure to enhance wellbeing and economic development.</p> <p>Grants of between \$500,000 and \$15 million are available. Preference is given to applications with dollar for dollar partnership funding for requests of \$5 million dollars or less. For grants requests of more than \$5 million, contributions of \$2 for every \$1 of RDAF are expected.</p>	<a href="http://www.regional.gov.au/regional/programs/rdaf.aspx">www.regional.gov.au/regional/programs/rdaf.aspx</a>																						
Qld Government: Department of Communities - Sport and Recreation Services																								
Sport and Recreation Infrastructure Program	<p>Provides funding to not-for-profit sport or recreation organisations, local governments, not-for-profit Aboriginal and Torres Strait Islander organisations, and Queensland State and Independent Schools towards the development or construction of infrastructure for participation in structured and unstructured sport or recreation.</p> <p>(please note that the funding may vary from year to year)</p> <p>Various levels of contributions are available across three levels of projects as follows:</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Total eligible project costs (\$)</th> <th>Max. funding contribution(\$)</th> <th colspan="2">Max. funding contribution (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1 (Minor)</td> <td rowspan="2">Up to \$400,000</td> <td rowspan="2">\$300,000</td> <td>Councils</td> <td>60</td> </tr> <tr> <td>Other organisations</td> <td>75</td> </tr> <tr> <td>2 (Medium)</td> <td>\$400,001 - \$1.25 mil</td> <td>\$240,000 - \$750,000</td> <td>All eligible organisations</td> <td>60</td> </tr> <tr> <td>3 (Major)</td> <td>Over \$1.25 mil</td> <td>\$750,001 - \$2 mil</td> <td>All eligible organisations</td> <td>50</td> </tr> </tbody> </table>	Category	Total eligible project costs (\$)	Max. funding contribution(\$)	Max. funding contribution (%)		1 (Minor)	Up to \$400,000	\$300,000	Councils	60	Other organisations	75	2 (Medium)	\$400,001 - \$1.25 mil	\$240,000 - \$750,000	All eligible organisations	60	3 (Major)	Over \$1.25 mil	\$750,001 - \$2 mil	All eligible organisations	50	<a href="http://www.sportrec.qld.gov.au/Funding/Overviewofallfundingprograms/InfrastructureProgram.aspx">www.sportrec.qld.gov.au/Funding/Overviewofallfundingprograms/InfrastructureProgram.aspx</a>
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Qld Government: Department of Transport and Main Roads																								
Safe Walking and Pedalling Program (SWAPP)	This program (SWAPP) is aimed at school students who walk or cycle to and from school. It involves the review of the footpaths, bicycle paths and infrastructure children use within 3.2 km of a school. Rather than simply making children adopt a particular safe route to and from school, the program also aims to increase the number of walking and cycling trips by children.	<a href="http://www.tmr.qld.gov.au/Safety/School-road-safety/Safe-school-travel-safest/Walking-and-pedalling-program.aspx">www.tmr.qld.gov.au/Safety/School-road-safety/Safe-school-travel-safest/Walking-and-pedalling-program.aspx</a>																						
SafeST Subsidy Scheme	SafeST is a collection of programs, schemes and initiatives designed to improve transport safety for all children regardless of whether they walk, cycle or travel as passengers in buses or cars.	<a href="http://www.tmr.qld.gov.au/Safety/School-road-safety/Safe-school-travel-safest/Subsidy-scheme.aspx">www.tmr.qld.gov.au/Safety/School-road-safety/Safe-school-travel-safest/Subsidy-scheme.aspx</a>																						
Transport Infrastructure Development Scheme (TIDS)	This scheme will fund dedicated bikeways, shared paths and on-road bike lanes.	<a href="http://www.tmr.qld.gov.au/About-us/Corporate-information/Publications/Transport-Infrastructure-Development-Scheme.aspx">www.tmr.qld.gov.au/About-us/Corporate-information/Publications/Transport-Infrastructure-Development-Scheme.aspx</a>																						
Qld Government: Department of Justice and Attorney-General																								
Gambling Community Benefit Fund	Provides funds to strengthen the capacity of non-government organisations to provide community services and activities that benefit their local communities. The Fund provides one-off grants of up to \$35,000 to Queensland based not-for-profit community groups. The closing dates for the grant rounds are: 28 February, 31 May, 31 August and 30 November.	<a href="http://www.olgr.qld.gov.au/grants/gcbf/index.shtml">www.olgr.qld.gov.au/grants/gcbf/index.shtml</a>																						
Jupiter's Casino Community Benefit Fund	The Jupiter's Casino Community Benefit Fund administers the community benefit levy paid by the Jupiter's and Conrad International Treasury Casinos. The Fund provides funds to community organisations that provide facilities or services of benefit to the community.	<a href="http://www.olgr.qld.gov.au/grants/JCBF/index.shtml">www.olgr.qld.gov.au/grants/JCBF/index.shtml</a>																						
Charitable Organisations																								
Communityhelp Grants Program	Supports local organisations that are working to make communities safer. Community organisations can apply to receive a grant of up to \$5,000 in the areas of crime prevention, road safety, injury prevention, emergency services or the environment.	<a href="http://www.nrma.com.au/about-us/community/help-grant/index.shtml">www.nrma.com.au/about-us/community/help-grant/index.shtml</a>																						

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# **Appendix 5**

# **Quantity Surveyor's Cost Estimate**

