

City of Ipswich

# White Rock-Spring Mountain Conservation Estate Master Plan

2020–2040





## **TRADITIONAL OWNER ACKNOWLEDGEMENT**

Trails across White Rock-Spring Mountain Conservation Estate and beyond traverse the cultural landscape of the Traditional Owners. The estate has cultural significance for the Traditional Owners who have always had and have maintained a spiritual connection with their country. This relationship remains strong and important to the people today. The Infrastructure and Environment Department of Ipswich City Council, who produced this master plan, recognises and respects the connection between Traditional Owners and their country.

## **PREPARED BY: INFRASTRUCTURE AND ENVIRONMENT DEPARTMENT**

### **DATE: 2020**

This master plan has been developed by council's Infrastructure and Environment Department.

Acknowledgement needs to be given to the extensive input and expertise provided by council staff in the development of this master plan.

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# 1. EXECUTIVE SUMMARY

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This master plan outlines a proposed vision for natural and cultural values protection and best practice visitor management.

The purpose of the White Rock-Spring Mountain Conservation Estate (WRSMCE) Master Plan is to facilitate a planned approach in protecting conservation and cultural values. This will provide a safe and accessible location for nature-based recreation as the surrounding areas develop and visitors are attracted to the estate.

The management of the ecological health of the estate is important not only in a local context but on a broader scale. WRSMCE is part of the Flinders Karawatha Corridor. The corridor extends from Flinders-Goolman Conservation Estate in Ipswich through to Karawatha Forest in Brisbane and is the largest remaining stretch of open eucalyptus forest in South East Queensland (Department of Environment and Science). Maintaining and enhancing the health of the estate contributes directly to the health of the corridor.

Land use and values have been mapped to illustrate the current and assumed impacts on the estate.

Topics investigated include:

- land management
- natural environment and wilderness values
- geological, scenic and historical features
- Aboriginal cultural heritage and cultural landscape values
- utility infrastructure
- service track network
- recreation and trail network.

This work has informed stakeholder engagement and the development of themed trails and additional nature based recreation areas in stage 1 of the Implementation Plan. Informal tracks will be identified and assessed for formalisation on a case by case basis following required surveys such as cultural heritage, threatened species, unexploded ordnance, erosion and intent of use.

In order to implement this, Ipswich City Council will:

## **Install Visitor Infrastructure**

The installation of site responsive infrastructure will be to show case and protect the elements of the

natural and cultural values of the estate.

This includes:

- upgrade to Paperbark Flats amenity area
- boardwalks and stairs
- interpretive signage
- way-finding signage
- viewing/resting point
- upgrade to existing track where required
- planning, design and installation of new tracks
- use of local endemic species in landscaped areas to show case native plants that can be used in an urban setting.

## **Monitor and Measure Use and Impact**

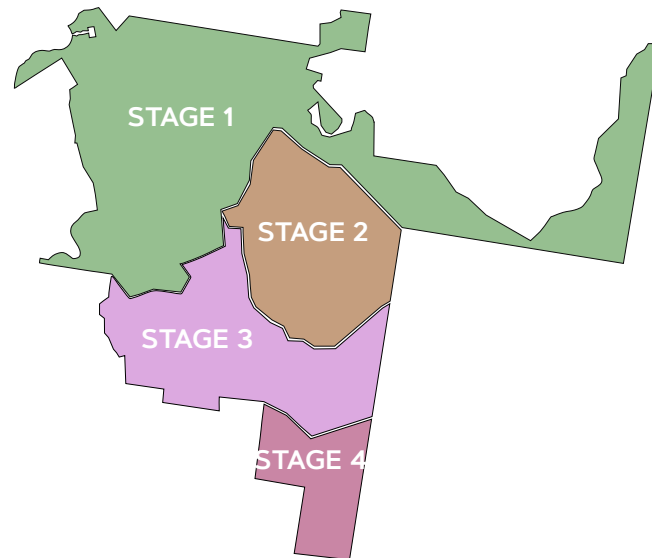
- Undertake condition audits of existing tracks and trails to decide on suitability for development of themed trails
- Undertake cultural heritage surveys and threatened species surveys around agreed points of interest
- Undertake unexploded ordnance investigations around agreed points of interest and new or formalised trails
- Establish flora and fauna surveys and monitoring programs to measure existing conditions and in future compare any changes to understand the ecological health of the estate.

## **Engage the Community**

- Develop stakeholder and community engagement strategies to educate visitors and local community, in protecting the natural and cultural values, while enjoying the nature-based recreation and education opportunities available.
- Ground truth proposed themed trails for points of interest that will enhance the visitor experience and promote 'takeaway' knowledge of stewardship of conservation estates.

This will be implemented over four stages as illustrated and described on the following page.

## 1.1 White Rock-Spring Mountain Conservation Estate Master Plan – Four Stages



The implementation of the estate master plan is proposed to be undertaken in 4 stages over 20 years. This approach will ensure the works are focused and delivered within the relevant stage while works in future stages are being planned to properly investigate and rehabilitate the areas. Current programs such as fire management, pest animal and plant management will continue in the future stages. This will provide the opportunity for rehabilitation of degraded areas as well as planning and implementing visitor management strategies prior to opening for nature-based recreation and visitor access.

### STAGE 1

Proposed works for Stage 1 includes upgrading the Paperbark Flats entry, connecting Springfield trail heads on the east to Ripley trail heads on the western boundary. Connecting trails from Ripley to Springfield will pass by White Rock providing the visitor with a variety of nature based experiences with changes in elevation, vegetation communities and rock formations. As White Rock is the focal point of the estate and is culturally significant to the Traditional Owners of the area, the protection through installation of boardwalks and interpretive signage is important. Other sites such as The Bluff and Little White Rock are culturally significant and will require similar installation of infrastructure. A Long Walk and Ride loop track will pass White Rock and follow the track to Spring Mountain. From here the track will traverse the estate to the southern border before going north to head back to Paperbark Flats. Further information for the proposed works for Stage 1 is outlined in 4.1 White Rock-Spring Mountain Conservation Estate Master Plan – Stage 1.

### STAGE 2

As Stage 1 is being developed, it is proposed that Stages 2 to 4 be evaluated for further embellishment. During this time, assessment of ecosystem health and rehabilitation strategies will be developed and some areas may be closed to the general public. Continuation of current programs such as fire management, pest animal and plant control and monitoring of unauthorised access will be undertaken in parallel with track and trail condition audits. Following this, planning for installation of interpretive and way-finding signage will be undertaken and implemented.

### STAGE 3

As Stage 2 is being developed, it is proposed that Stages 3 to 4 be evaluated for further embellishment so rehabilitation works can be undertaken. Continuation of current programs such as fire management, pest animal and plant control and monitoring of unauthorised access will be undertaken. Further investigation and planning of track and trail upgrade, installation of interpretive and way finding signage is required.

### STAGE 4

Stage 4 will be closed to the public during works to other stages. Further investigation and planning of this area is required.

## 1.2 Vision Aims and Guiding Principles

Ipswich City Council's Open Space and Recreation Strategy guiding principles and Nature Conservation Strategy provide management objectives for key natural and cultural values. These management objectives are incorporated in the vision, aims and guiding principles for the master plan.

### VISION

White Rock-Spring Mountain Conservation Estate is a rich, biologically diverse and attractive natural environment sustaining a broad range of ecological systems, cultural values and diverse nature-based recreation for the local and broader community.

### AIM

The aim of the master plan is to provide a well-considered, consolidated 20-year vision for the conservation and protection, enhancement and enjoyment of the estate by the Ipswich and broader community.

### GUIDING PRINCIPLES

- Protect, manage and enhance the diversity and health of native flora and fauna species, vegetation communities and waterways within the estate
- Identify, protect, promote and embellish culturally significant sites. Reflect and include Traditional Owner knowledge and interests in the estate planning and management
- Allow for public appreciation of the estate by providing appropriate outdoor and sustainable nature-based recreational opportunities
- Conserve the geological, scenic and landscape features of the estate. Minimise and mitigate erosion within the estate
- Provide opportunities for community engagement and education that are compatible and complementary to the important conservation values contained within the estate
- Landscape connectivity – maximise the connections between the estate and surrounding areas.

### OPPORTUNITIES

- To provide themed trails that showcase the natural, cultural and historical values of the estate
- To provide sustainable infrastructure that guides visitors and offers protection for culturally significant areas and habitat for native flora and fauna species
- To rehabilitate areas suitable for koala release and provide visitor education in relation to koala habitat requirements
- To rehabilitate waterways and associated vegetation communities which will contribute to the ecological health of the estate
- To establish east-west connections to contain access and movement to the northern part of the estate while developing strategies in line with the vision for future stages of the master plan.

### CHALLENGES

- Achieving a balance between nature-based recreation and educational uses and the natural assets of the estate without degradation of natural and cultural values
- Improving management of access points to prevent unauthorised access to the estate
- Monitoring and managing access points that result in eliminating construction of unauthorised trails.

## 2. LOCAL CONTEXT

WRSMCE is located approximately 15km south east of the Ipswich CBD. Redbank Plains and Springfield are located to the northern boundary of the estate with Brisbane City Council's Greenbank to the north east. Logan City Council adjoins the south-east and southern boundaries. Ripley borders the west of the estate with South Ripley adjoining the south western boundary (Refer to 2.1 Local Context Map).

The estate covers 2,633 ha and contains rocky outcrops and caves that are culturally significant to the Traditional Owners of the area. The associated remnant vegetation provides habitat for local native fauna. In the late 1800's areas of the estate were heavily logged of valuable timbers including Red Cedar, Black Bean and Hoop Pine for the building of the new cities of Ipswich and Brisbane. The unrestrained logging practice removed important elements from the ecosystem causing environmental damage such as erosion, loss of top soil and habitat fragmentation. This opened up the area to invasive and weedy species.

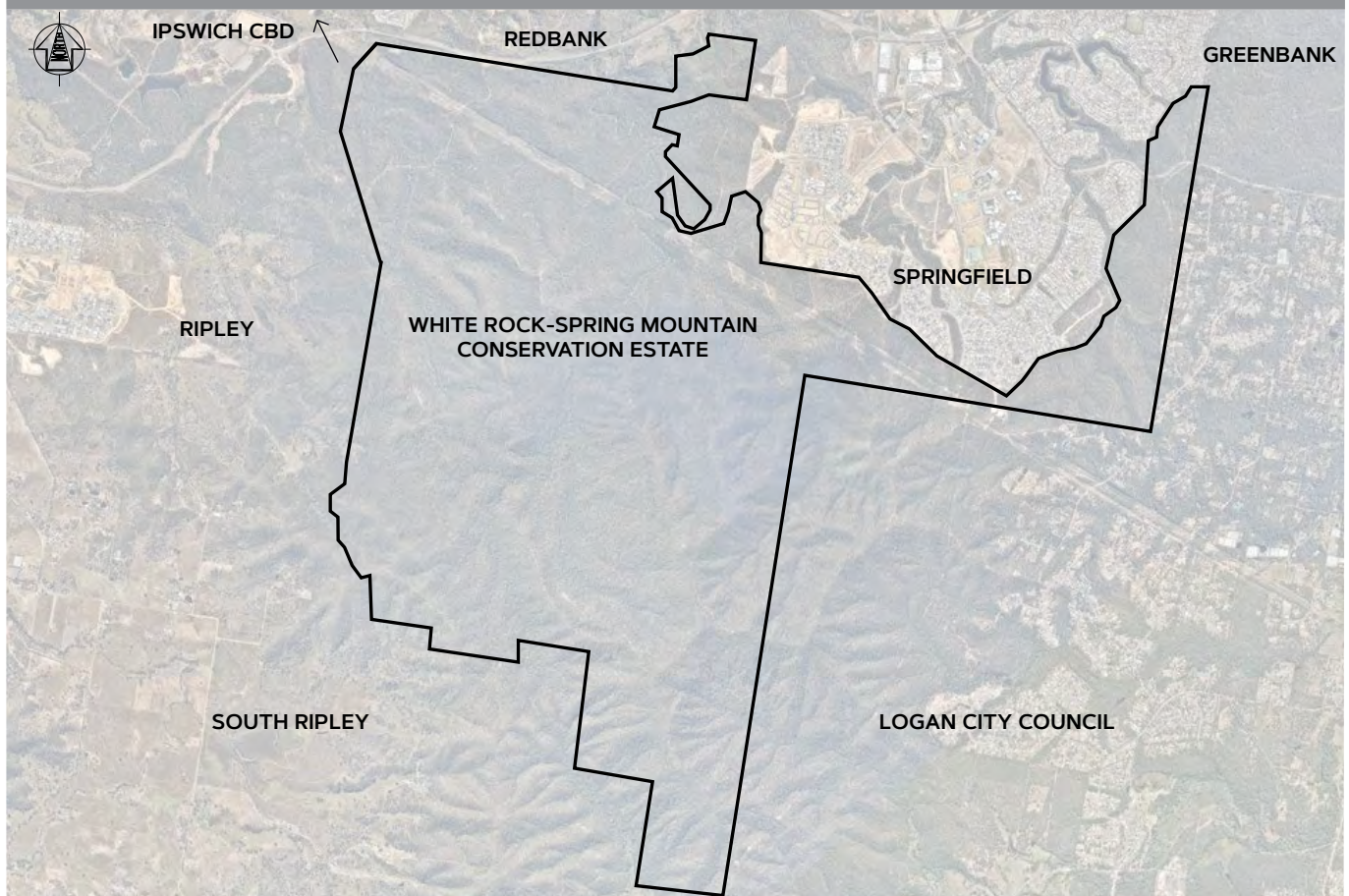
Additionally, some physical evidence of existence within the estate by Traditional Owners was disturbed. It is important to note that the cultural significance of the estate remains.

Later in 1942–1943 US troops used the estate as a military training ground. There is evidence of this in the form of gun pits along the trail to Gun Pit Ridge. In 1966 Australian soldiers trained at Spring Mountain before being sent to the Vietnam War.

Current authorised activities include walking, horse riding and mountain biking. Council offers guided interpretive night walks that highlight the natural and cultural values as well as previous early settlement uses within the estate.

By 2036 the population of Ipswich is estimated to reach 480,000 (Ipswich Operational Plan). With this estimate and potential visitors as well as the adjacent areas to the estate developing, it is estimated that there will be approximately 3,000 visitors from adjacent developments weekly to the estate. This will have significant impact on the integrity of the estate if not managed well. This staged master plan aims to provide a balance between the natural and cultural values of the estate and nature-based recreation and educational activities while improving the overall ecological health of the estate.

### 2.1 Local Context Map



# 3.0 HOW TO USE THIS DOCUMENT

The overarching purpose for the master plan is to protect and enhance the natural and cultural values within the estate. In order to achieve this and to accommodate visitors within the estate, the master plan aims to implement safe and accessible nature-based recreation and education opportunities within the estate as well as promoting and improving the natural areas.

The following sections illustrate the background information that underpins the master plan and associated phases for future recreation and trail opportunities. This document has been organised into three sections.

## SECTION 1: MASTER PLAN – THEMED TRAILS AND NATURE-BASED RECREATION

This section outlines four stages in the master plan over the next 20 years. The first five years focuses on the embellishment of proposed trails and other nature based recreation activities for Stage 1 only. The associated trails planned for Stage 1 are illustrated in more detail in 4.1 on page 11, with the common destination point being White Rock as shown in maps 4.2 to 4.5. The intention for staging the proposed work is to strengthen the connection between Springfield in the east and Ripley in the west and Paperbark Flats to White Rock while track condition auditing and rehabilitation work is undertaken in parallel within future stages.

## SECTION 2: WHITE ROCK-SPRING MOUNTAIN CONSERVATION ESTATE PROJECTS PLAN

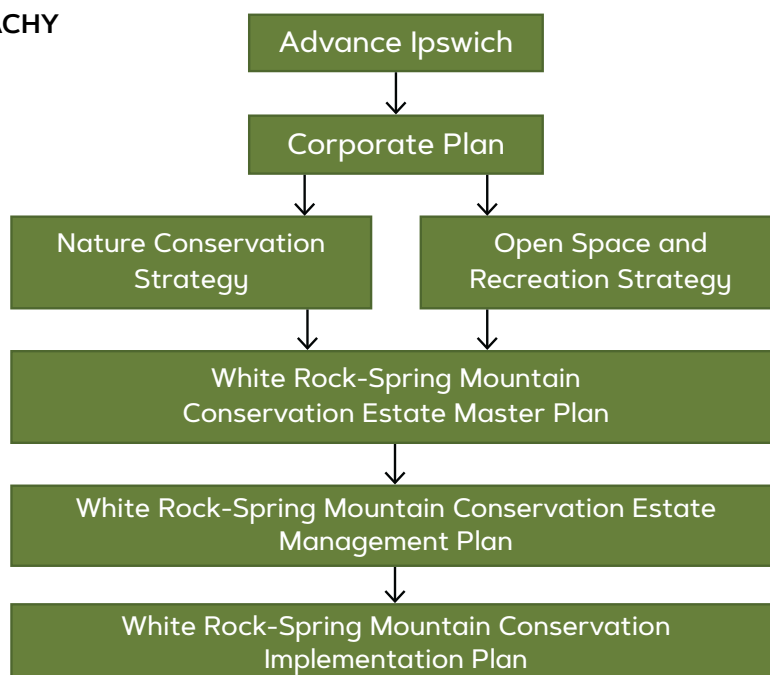
This section shows a proposed planning of tracks and trails over the next five years. The activities include multi use (walking, horse riding and mountain biking), single use walking and single use mountain biking. The Projects Plan for elements described in Stage 1 of the master plan, outlines actions, program and reporting responsibilities, budget area, priority and performance measures. This is intended to assist with the development of capital and operational works budgeting and programming over the next five years.

## SECTION 3: CONTEXT AND SITE ANALYSIS

The context and site analysis section demonstrates the research undertaken to understand current conditions and potential points of interest. The topics of landuse and values which have been mapped are derived from various council strategies and in particular the White Rock-Spring Mountain Conservation Estate Management Plan (refer to 3.1 Document Hierarchy below). This, in conjunction with stakeholder consultation, site knowledge and ground truthing points of interest, forms the basis for the development of the staged master plan and themed trails and nature-based recreation. Key challenges are addressed and actions provided in order to inform a considered direction forward in the realisation of the master plan. The actions are included in the Projects Plan.

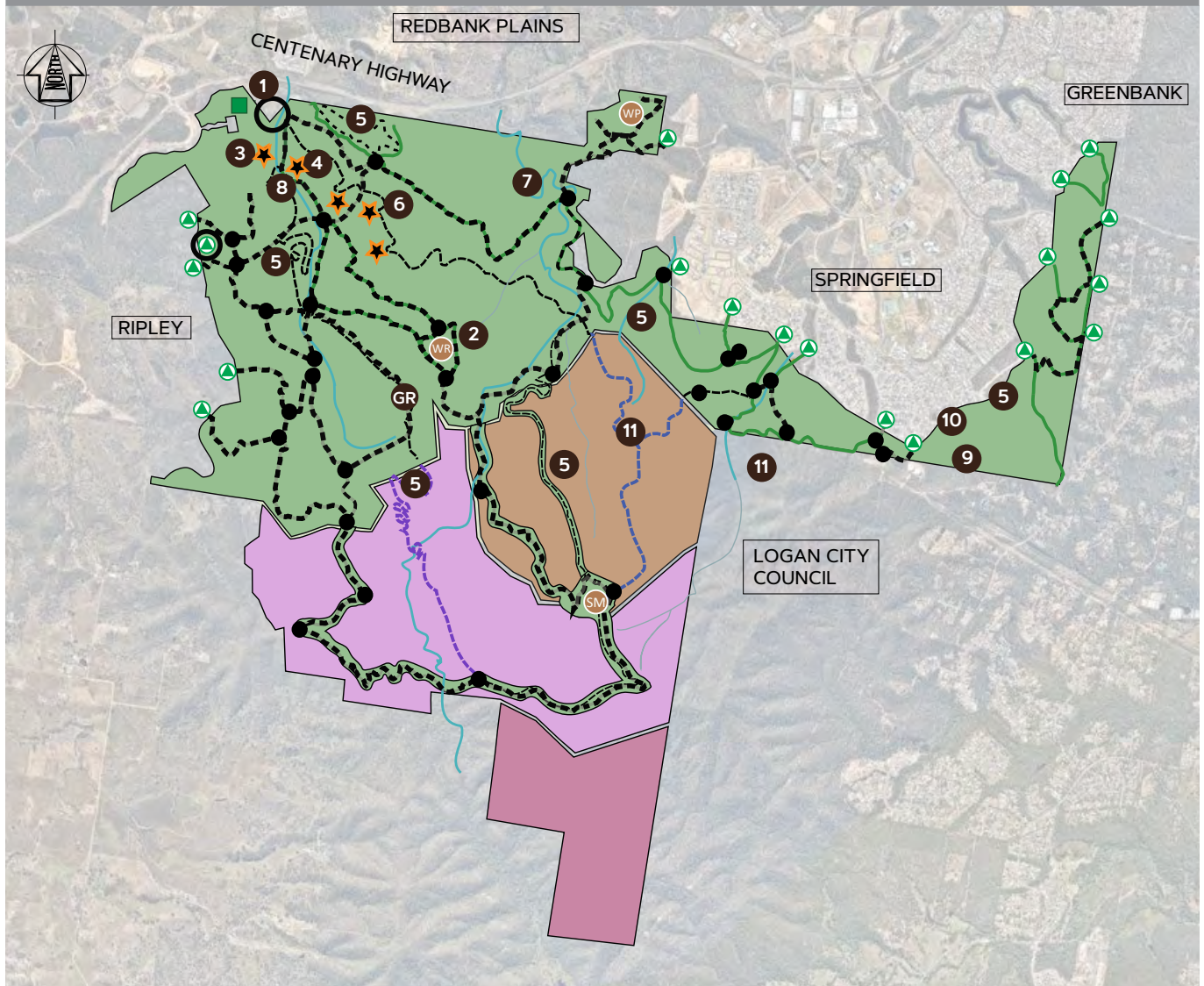
This document is to be reviewed yearly and to be updated every 5 years.

### 3.1 DOCUMENT HIERACHY





## 3.2 WHITE ROCK-SPRING MOUNTAIN CONSERVATION ESTATE MASTER PLAN



### LEGEND

- EXISTING PRIMARY CONNECTIVITY TRAIL NETWORK
- - - STAGE 1 TRAILS, NATURE-BASED RECREATION
- STAGE 2 TRAILS
- STAGE 3 TRAILS

- 1** SCHOOL ROAD ENTRY  
Paperbark Flats – Major Node upgrade.  
Includes future Discovery Centre site and future district park
- 2** WHITE ROCK – Installation of stairs; boardwalk, interpretive and way finding signage and viewing/resting point, bike racks
- 3** THE BLUFF – Installation of stairs; boardwalk; interpretive signage and viewing/resting point. Bouldering suitability to be undertaken by geologist
- 4** LITTLE WHITE ROCK – Installation of stairs, boardwalk and interpretive signage and viewing/resting point. Investigation of bouldering site
- 5** Investigation of site suitability for installation of various skill level mountain bike trails
- 6** Site analysis, interpretive and regulatory signage for bouldering sites

- 7** WOOGAROO CREEK – Site investigation and analysis for koala habitat rehabilitation and waterway rehabilitation
- 8** SIX MILE CREEK – Waterway rehabilitation
- 9** INTERFACE TREATMENT WITH SPRING MOUNTAIN LINEAR PARK – Trail Heads and Hubs
- 10** CONNECTING TRAIL – Investigate site for new connecting trail
- 11** CONNECTING TRAIL – Investigate site for new connecting trail from Balancing Rock to Springfield
- ★ PROPOSED BOULDERING SITES
- MAJOR ENTRY NODE UPGRADE
- ▲ TRAIL HEADS
- HUBS – WAYFINDING SIGNAGE
- FUTURE DISTRICT RECREATION PARK
- SM SPRING MOUNTAIN
- WR WHITE ROCK
- WP WOOGAROO PEAK
- GR GUN PIT RIDGE

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## **4.0 MASTER PLAN IMPLEMENTATION – STAGE 1 (0–5 YEARS)**

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The implementation plan has been developed to guide and prioritise the construction of Stage 1 of the master plan. The following areas are intended to be planned and implemented within the first five years. The works include:

- enhanced entry zones
- establish themed trails
- formalise Long Walk and Ride, investigate new mountain bike trail locations, bouldering and new walking trails
- design and construction of the Discovery Centre.

### **Enhanced Entry Zones**

There are three entry zones to be enhanced over the next five years. The entry zones are Paperbark Flats, Springfield and Ripley. Paperbark Flats amenities to be upgraded include shelters, toilets, parking, updating the existing information hut, associated signage and landscaping. Springfield trail heads and wayfinding signage will be reviewed and updated where necessary. A new major entry node and trail heads connecting the western entry into the estate from developing areas in Ripley is planned.

### **Establish Themed Trails and Nature-Based Recreation Locations**

The estate contains many areas of interest including natural history in land formations, native flora and fauna, Aboriginal cultural connection, early settlement history and military history. In order to showcase these elements along existing trails, ground truthing for points of interest will be undertaken. This will establish the themes which are intended to provide interesting and informative trails on existing service tracks/trails and new trails in the natural setting for visitors (refer to 4.1 White Rock-Spring Mountain Conservation Estate Master Plan – Stage 1). The themed trails and nature based recreation are:

- Military History Trail
- Aboriginal Cultural Heritage and Landscape Values Trail
- Natural Environment and Geological History Trail
- Long Walk and Ride Trail
- Bouldering sites
- Mountain Biking Trails which will be investigated for experienced and beginner riders.

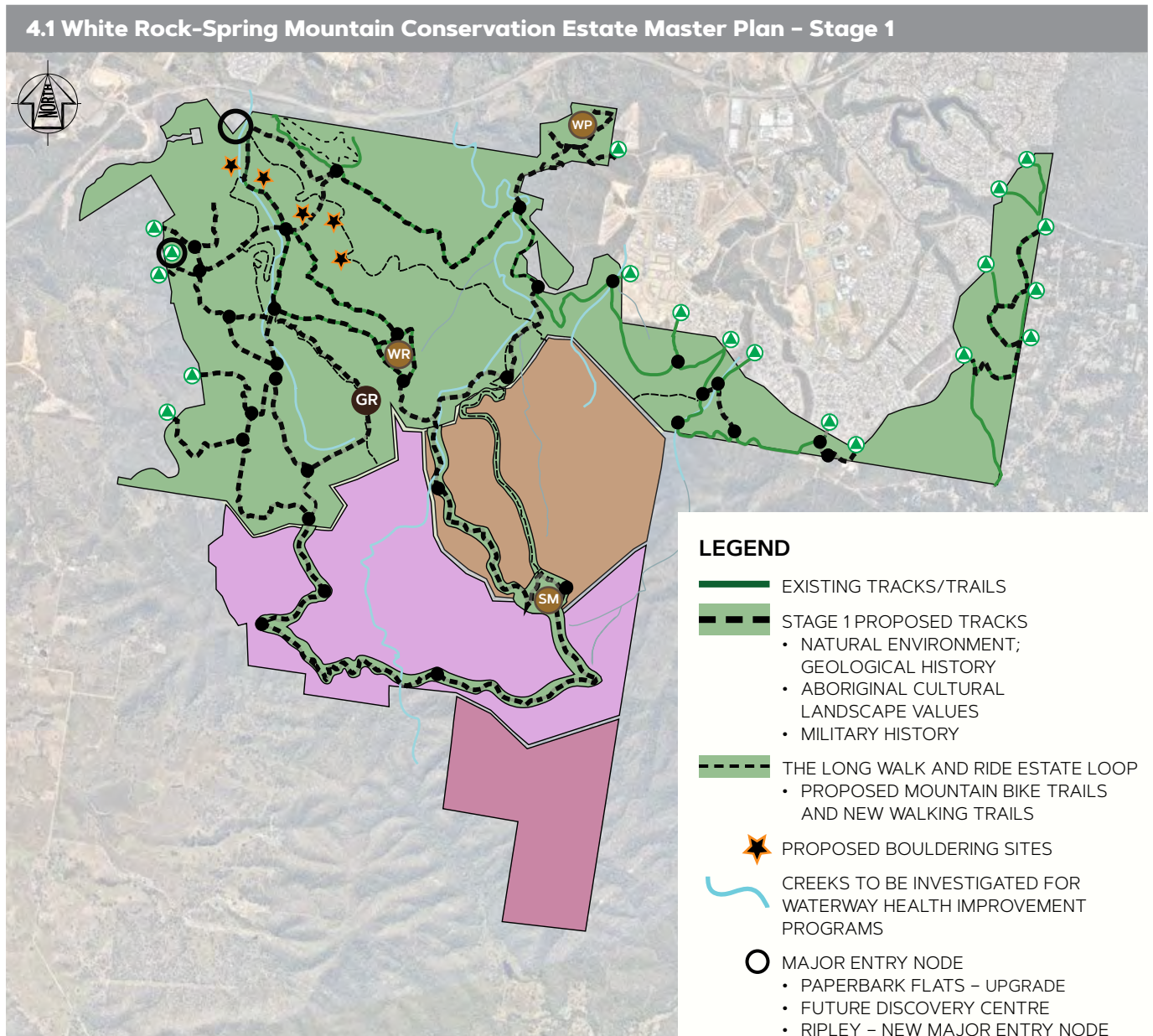
### **Formalise Long Walk and Ride**

The Long Walk and Ride concept was developed in order to provide an experience over a greater distance for visitors who are looking for a challenge. This trail takes them away from the well used trails of The Bluff, Little White Rock and White Rock and further into the lesser frequented areas of the estate. The vegetation communities and associated fauna change through open forest species to closed forest species.

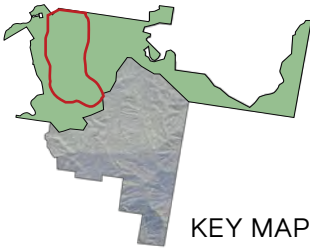
The change in elevation provide great vantage points to take in the views to Flinders Peak and beyond to the landscape of Scenic Rim in the south west. As the trail winds around to the south and south east of the estate, view sheds to the D'Aguilar Range and Brisbane's CBD will be enjoyed at viewing/rest points strategically placed along the track. Cultural Heritage clearance is to be undertaken by Registered Native Title Party in early planning phase where new tracks are being planned. The track winds its way to the north passing Spring Mountain heading towards White Rock. Wayfinding signage will be installed at intersections to direct the visitor towards Paperbark Flats. Interpretive and wayfinding signage will be planned and implemented in conjunction with information on level of difficulty, potential hazard identification and safety warnings.

## Discovery Centre

Within the first five years of implementing the master plan, the proposed Discovery Centre will be designed and constructed. The Centre will be located at the current horse float parking area at the School Road entrance to the estate. The purpose of the Discovery Centre is to educate visitors in the conservation and biodiversity values, Aboriginal cultural heritage and landscape values of the estate. The Discovery Centre will provide meeting spaces that will facilitate education in areas of natural history, Aboriginal cultural heritage, early settlement, military history, conservation and sustainability of native flora and fauna and the living cultural landscape that remains today.



## 4.2 Paperbark Flats to White Rock Connection Projects Area

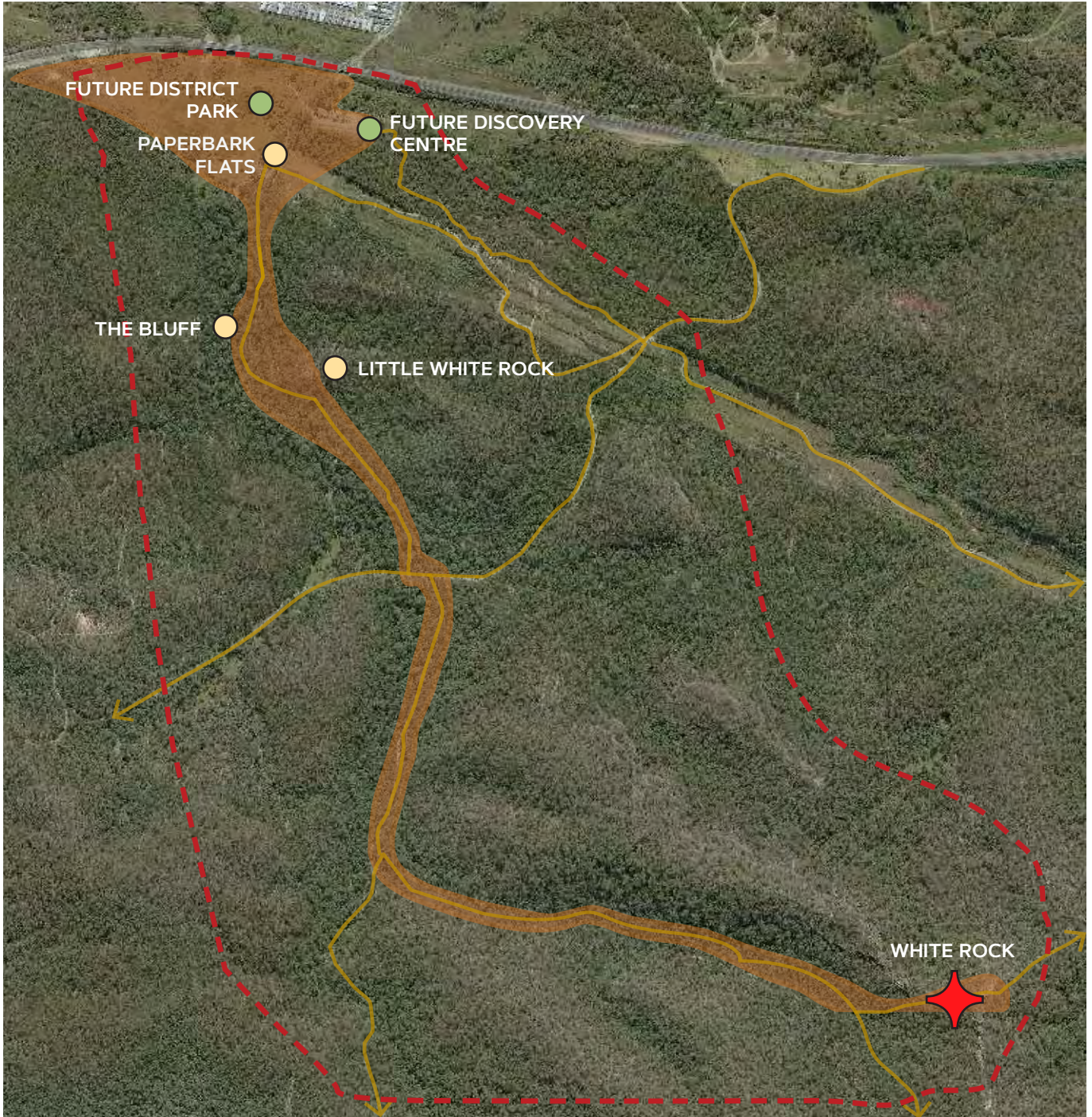


### Linking Paperbark Flats to White Rock.





Upgrade to Paperbark Flats and trail head. Location for future Discovery Centre and location for potential future district park.

Investigation and approval process for nature based recreation including mountain bike trails, bouldering sites and walking trails.

Koala rehabilitation and waterway health programs.

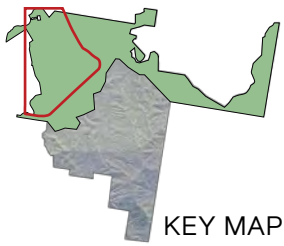


### LEGEND

-  WHITE ROCK DESTINATION POINT - INSTALLATION OF BOARDWALKS, INTERPRETIVE AND WAY FINDING SIGNAGE
-  THE BLUFF AND LITTLE WHITE ROCK - INSTALLATION OF BOARDWALKS, INTERPRETIVE AND WAY FINDING SIGNAGE
-  DISCOVERY CENTRE AND FUTURE PARK
-  PROJECTS AREA



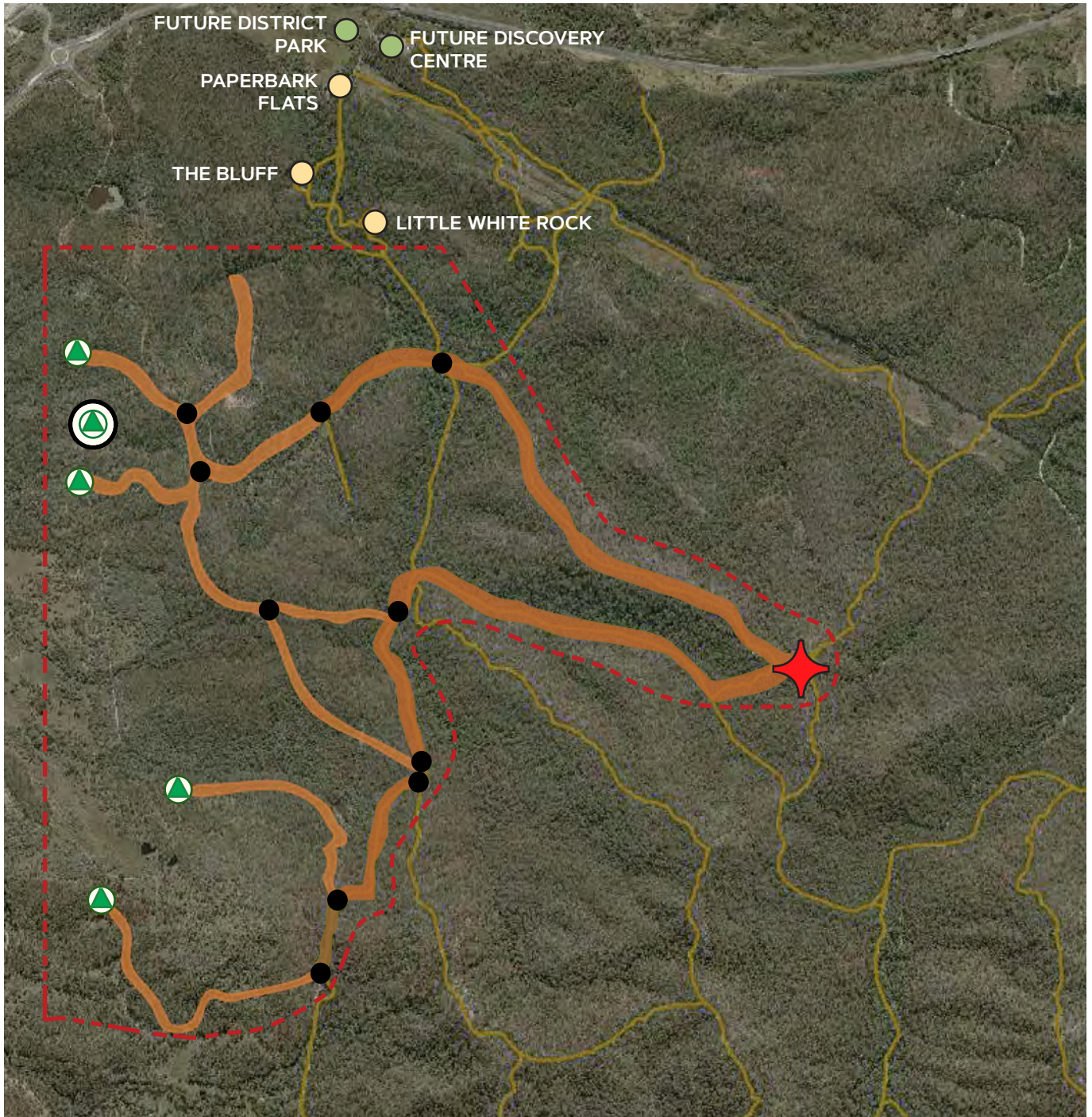
### 4.3 Ripley to White Rock Connection Projects Area



#### Linking Ripley to White Rock

Installation of major entrance node and information hub. Proposed installation of boardwalks, interpretive signage and way finding signage, view/rest points. Locations to be determined.

Investigation and approval process for nature based recreation such as new mountain bike trails, bouldering sites and walking trails.

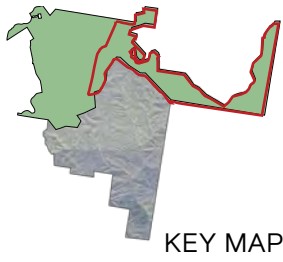


#### LEGEND

- WHITE ROCK DESTINATION POINT - INSTALLATION OF BOARDWALKS, INTERPRETIVE AND WAY FINDING SIGNAGE
- PAPERBARK FLATS HUB DELIVERABLES
- FUTURE DISCOVERY CENTRE AND FUTURE PARK
- PROPOSED TRACKS AND TRAILS
- EXISTING TRACKS AND TRAILS
- PROJECT AREA
- MAJOR ENTRY
- TRAIL HEADS - INCLUDING INFORMATION HUTS
- INFORMATION HUBS



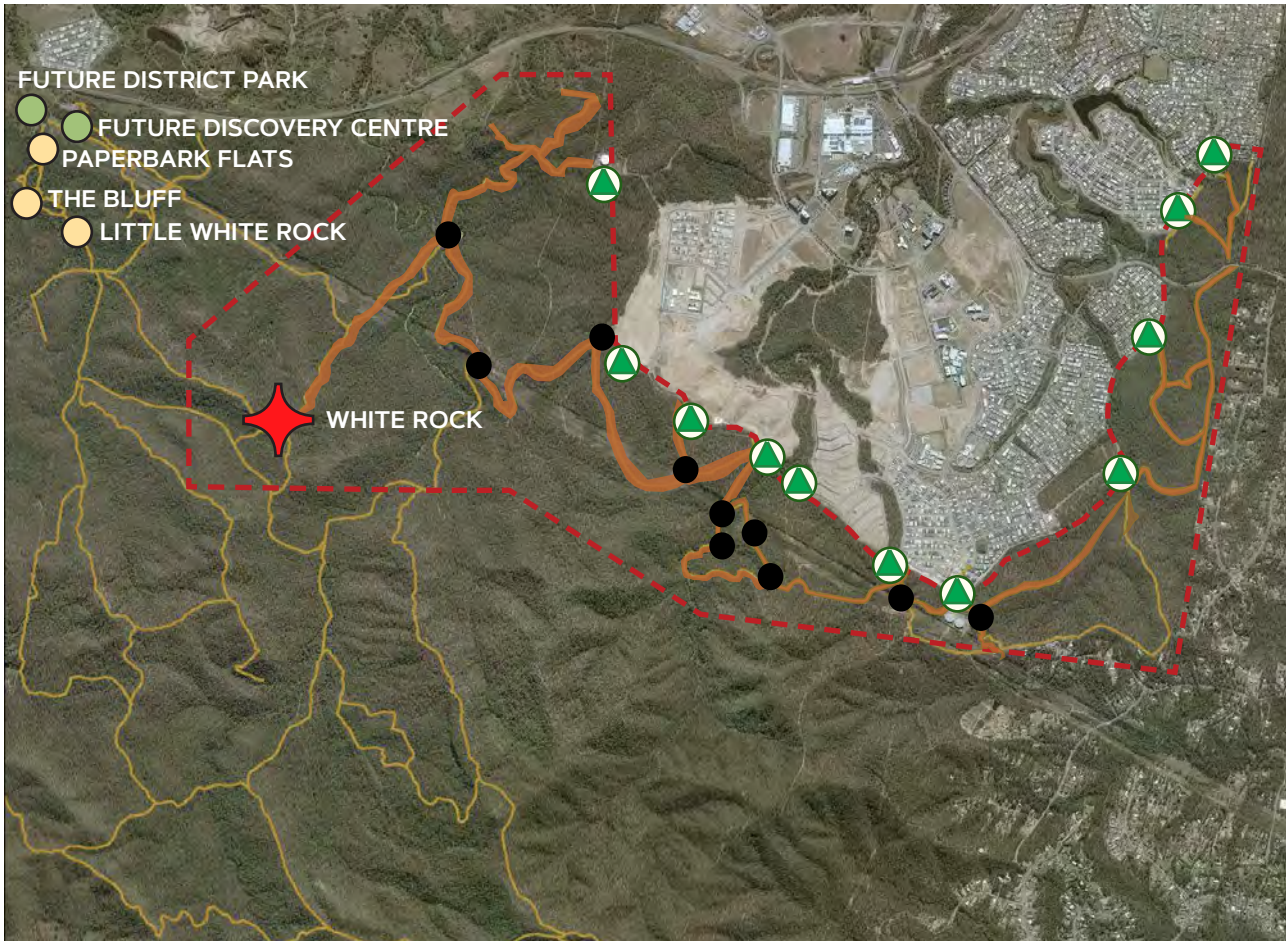
## 4.4 Springfield to White Rock Connection Projects Area



### Linking Springfield to White Rock

Installation of major entrance node and information hub. Proposed installation of boardwalks, interpretive signage and way finding signage, view/rest points, locations to be determined. Investigation and approval process for nature based recreation including mountain bike trails, bouldering sites and walking trails.

Koala rehabilitation and waterway health programs.

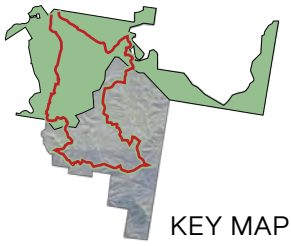


### LEGEND

- ★ WHITE ROCK DESTINATION POINT – INSTALLATION OF BOARDWALKS, INTERPRETIVE AND WAY FINDING SIGNAGE
- ▲ TRAIL HUB/MULTI DIRECTIONAL SIGNAGE
- INFORMATION HUB
- PAPERBARK FLATS HUB DELIVERABLES
- PROPOSED DISCOVERY CENTRE AND FUTURE PARK
- PROPOSED TRACKS AND TRAILS
- EXISTING TRACKS AND TRAILS
- ▭ PROJECT AREA



## 4.5 The Long Walk and Ride Estate Loop Projects Area

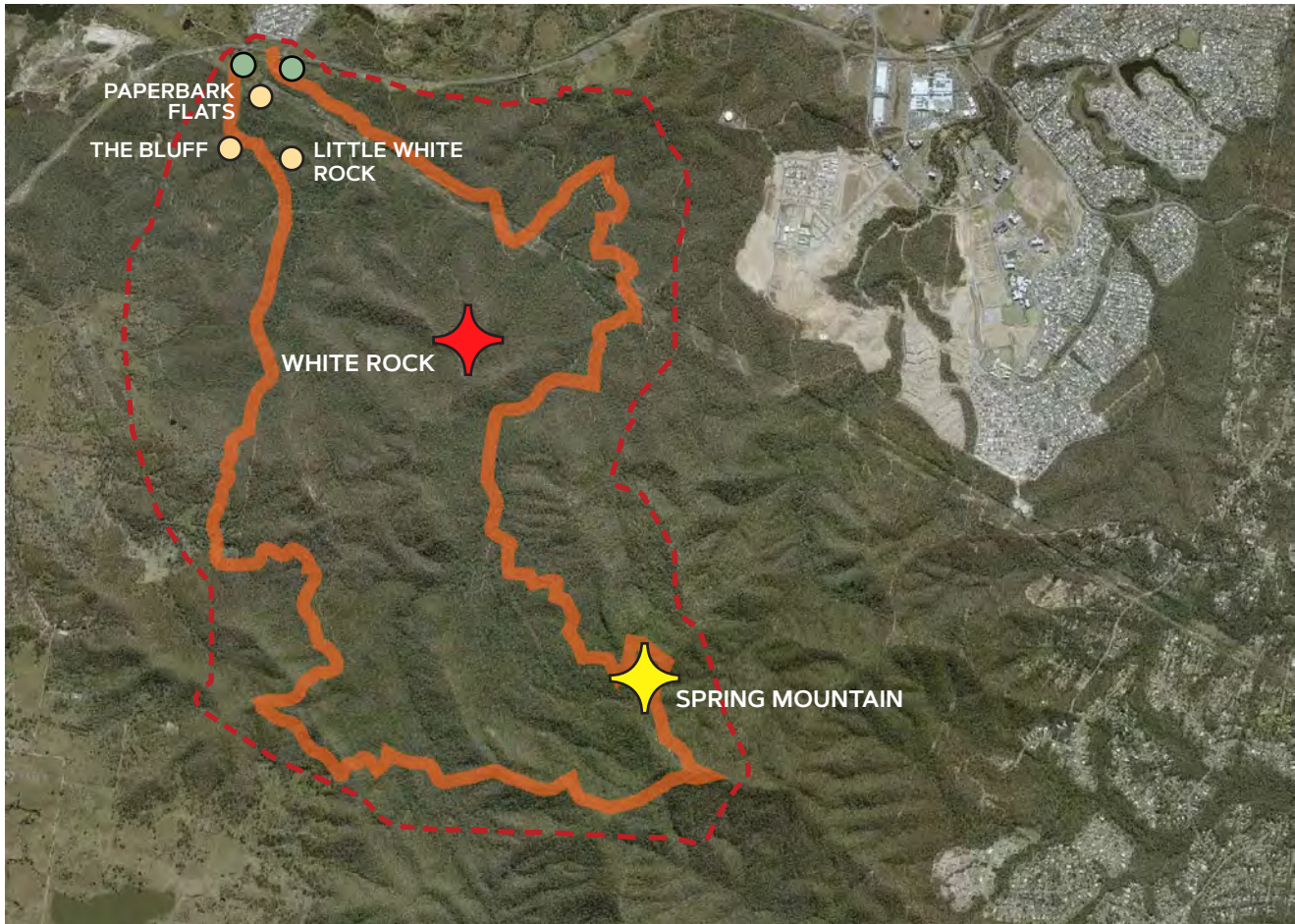


### The Estate Loop








Proposed installation of way finding signage, view/rest points and track information. Locations to be determined. Rehabilitation program for Spring Mountain; boardwalk; interpretive and way finding signage.

Investigation and approval process for nature based recreation such as new mountain bike trails, bouldering sites and walking trails.

Koala rehabilitation and waterway health programs.



### LEGEND

-  PROPOSED DISCOVERY CENTRE AND FUTURE DISTRICT PARK
-  THE BLUFF; LITTLE WHITE ROCK WAY FINDING AND INTERPRETIVE SIGNAGE
-  PAPERBARK FLATS HUB DELIVERABLES
-  WHITE ROCK
-  SPRING MOUNTAIN
-  PROPOSED TRACKS AND TRAILS
-  PROJECT AREA



## 5.0 THEMED TRAILS

The master plan recommends identifying themed circuits that celebrate the natural, geological and Aboriginal cultural landscape values of the estate.

### NATURAL ENVIRONMENT, GEOLOGICAL HISTORY AND ABORIGINAL CULTURAL LANDSCAPE VALUES

The natural and geological history trail will provide spectacular views and interesting insights into the geological formations and associated flora and fauna of the estate.

The trail begins at Paperbark Flats trail head and follows the track through Paperbark forest and slender milk vine of Six Mile Creek. The Bluff and Little White Rock provide interesting rock formations and with an elevated view into surrounding vegetation. The trail heads in a south easterly direction towards White Rock, passing caves and geological features of interest. The caves and rock formations are culturally significant to the Traditional Owners, specifically White Rock. Therefore installation of boardwalks and viewing points are imperative to safe guarding and respecting the cultural values while visitors enjoy the natural surrounds.

There are plantings of *Plectranthus habrophyllus* found around rocky outcrops. *Plectranthus habrophyllus* is listed as endangered in the *Environment Protection and Biodiversity Conservation Act 1999*. Having this plant along proposed trails provides an opportunity to educate visitors. Interpretive signage will illustrate the importance of maintaining healthy ecosystems in order to provide the right habitat for endangered listings such as *Plectranthus habrophyllus*.

The trail winds north adjacent to Woogaroo Creek passing through Koala habitat. This follows on to join the established Yaddamun trail and crosses Woogaroo Creek again in amongst further vegetation suitable for Koala habitat. Interpretive signage will be installed informing visitors on Koalas and their habitat requirements. Additionally, information on what is required to keep the ecosystem healthy in order to increase the Koala population within the estate will be included. The Yaddamun trail leads back through open forest to the future Discovery Centre site, just north of Paperbark Flats.

The proposed Aboriginal Cultural Landscape Values trail is to be considered and developed in consultation with Ipswich City Council's Natural Environment team, Native Title and Cultural Heritage Officer and relevant Traditional Owners.

The specific sites are yet to be formally developed but will include the following sites:

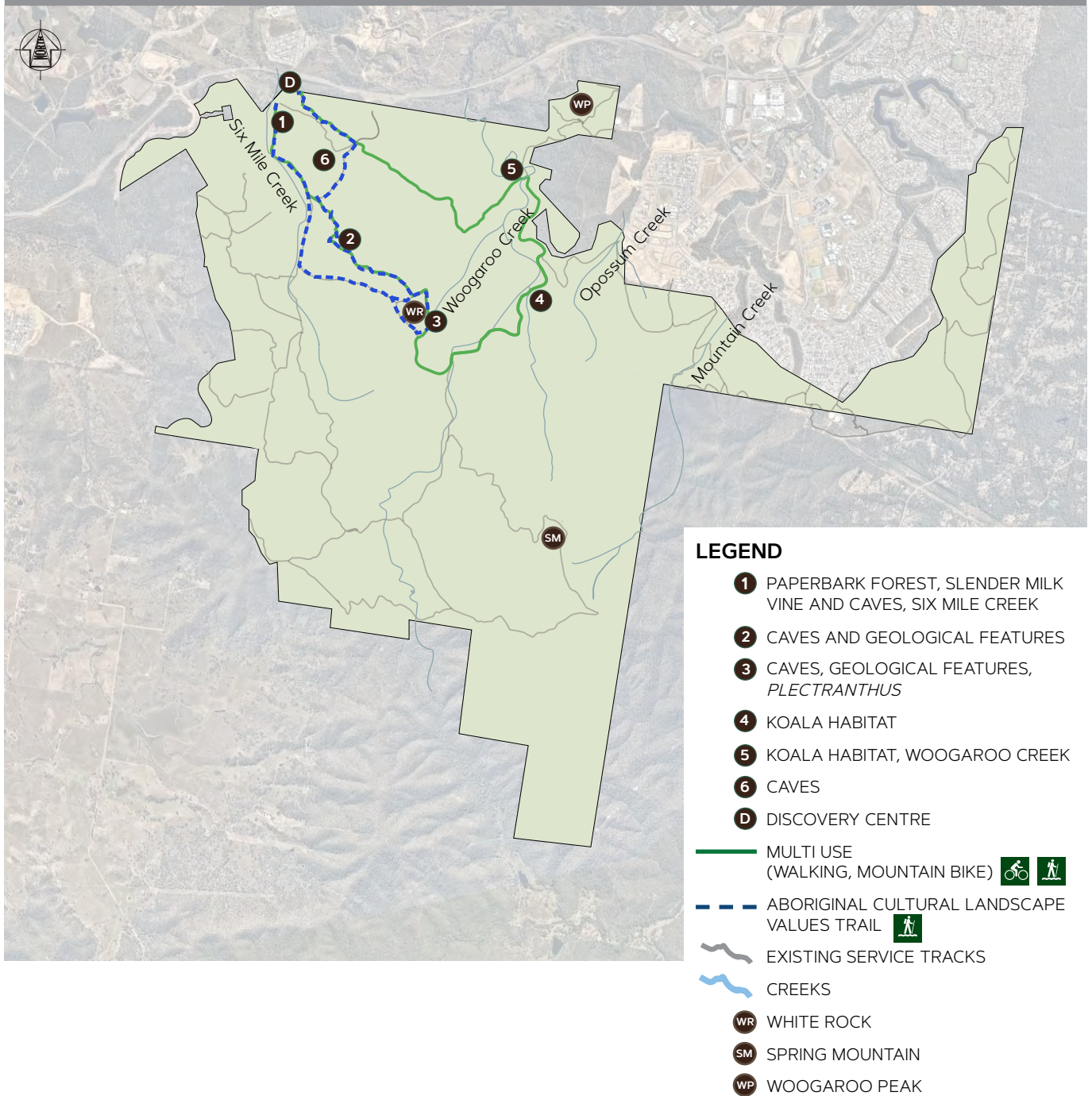
- Paperbark Flats
- White Rock
- caves.



Artists impression of view looking towards White Rock with viewing/resting seating and interpretive signage



## 5.1 Natural Environment and Geological History and Aboriginal Cultural Landscape Values



Artists impression of the view looking towards boulders of The Bluff with viewing/resting platform and interpretive signage

The master plan recommends identifying themed circuits that celebrate the natural, cultural and historical aspects of the estate.

## MILITARY HISTORY

In 1942–1943 US troops used the estate as a military training ground. Physical evidence of this is in the form of gun pits which were constructed from site sourced rocks, forming a barricade which soldiers would use for rifle training. In 1966 Australian soldiers trained at Spring Mountain before being sent to the Vietnam War.

There are two proposed Military History trails within the estate.

**Trail 1** begins at Paperbark Flats. Just inside the trail head is evidence of a gun pit (see image). It is proposed to install interpretive signage describing the use of the estate as a training ground by American and Australian military in the Second World War and Vietnam War. A viewing/resting point consisting of seating and the interpretive signage is proposed. This also allows views to Six Mile Creek, looking out from the gun pit.



*Remnants of a gun pit*



*Artists impression of visitors viewing the historic bridge*

Further along, connecting to the service track is an unauthorised track, Pyros, currently used by mountain bike riders and walkers. This track leads to Gun Pit Ridge where there is further evidence of past military training by the American and Australian troops. A cluster of remnant gun pits are off to the side of the track. Interpretive signage will be installed to illustrate the past use of this area. A condition assessment and relevant surveys are required to establish track authorisation.

Additionally, there are spectacular views to the east, looking over Springfield and on to the D'Aguilar Ranges. Currently, this is the destination point for council managed night walks.

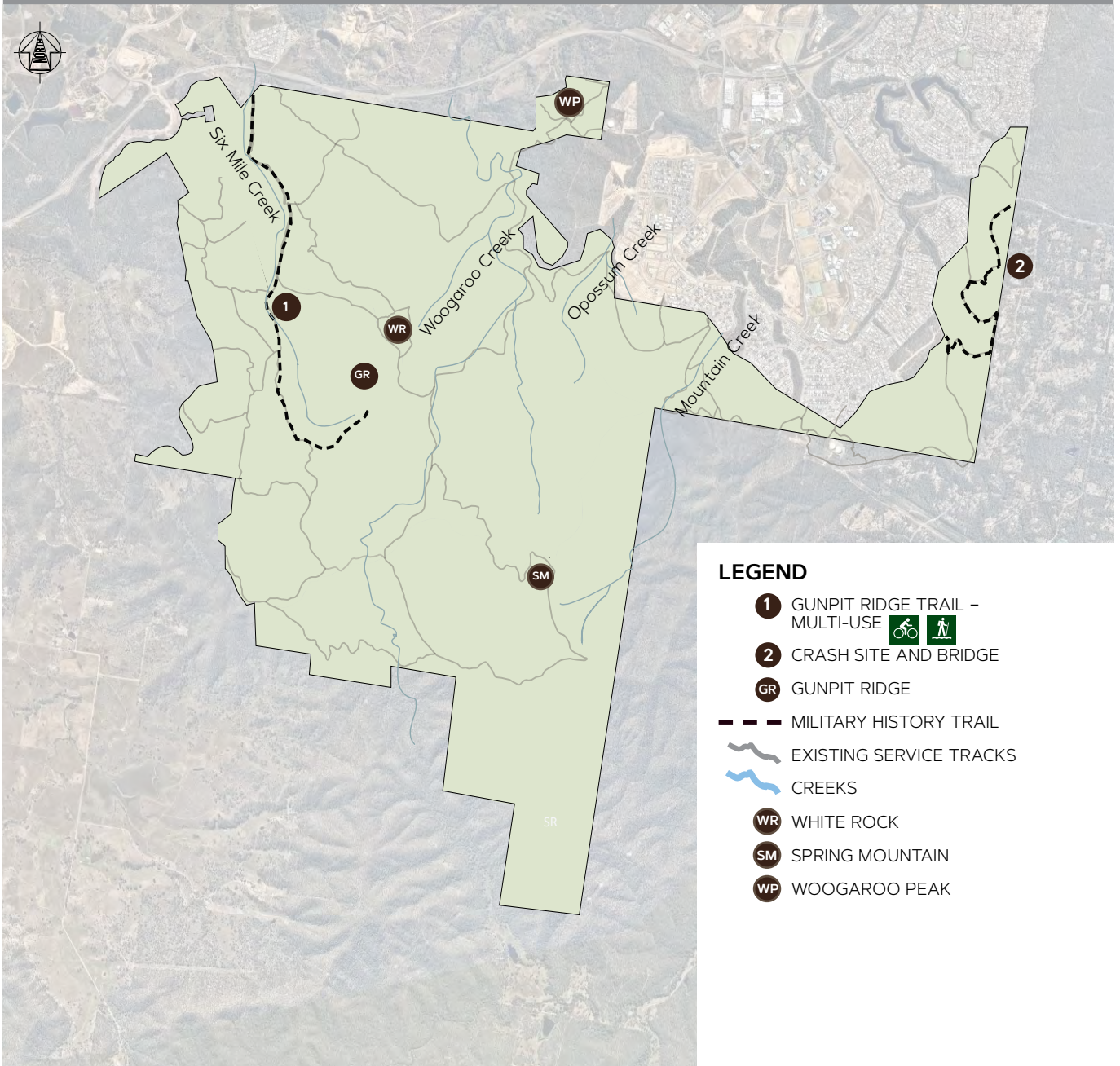
**Trail 2** is located on the eastern border with Greenbank Army Reserve. This trail passes the Beaufort Bomber crash site and an historic timber bridge that was used during the military training time. Physical evidence of the crash site has been removed, however, interpretive signage is proposed to mark the tragic event from 1945.

The historic bridge has been fenced off for visitor safety. Interpretive signage illustrating past uses will be installed for visitor information.



*Historic bridge*

## 5.2 Military History



The master plan recommends identifying points of interest along the proposed Long Walk and Ride, that celebrate the natural, cultural and historical aspects of the estate.

## THE LONG WALK AND RIDE

The proposed Long Walk and Ride trail begins at Paperbark Flats and passes the entrances to the The Bluff and Little White Rock trails. The vegetation communities and associated fauna change through open forest species to closed forest species.

As the Long Walk and Ride trail heads in a south west direction, the change in elevation provides great vantage points to take in the views to Flinders Peak and beyond to the landscape of Scenic Rim as the trail winds around to the south and south east of the estate, view sheds to the D'Aguiar Range and Brisbane's CBD can be enjoyed at viewing/rest points strategically placed along the track.

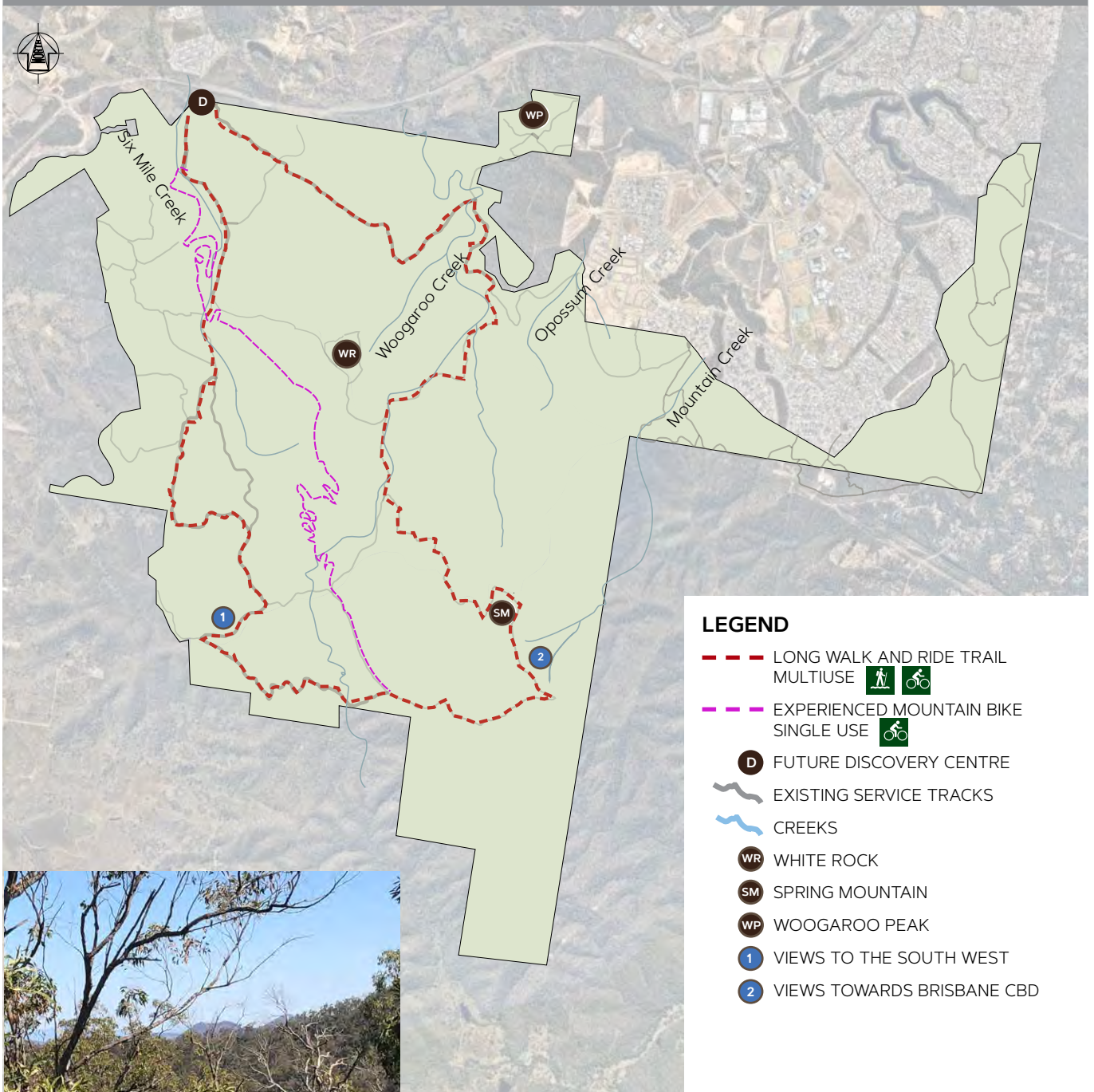
The track winds its way to the north passing Spring Mountain heading towards White Rock. Wayfinding signage will be installed at intersections to direct the visitor to the track which follows alongside Woogaroo Creek, connecting with the Yaddamun Trail and returning to Paperbark Flats.

Interpretive and wayfinding signage will be planned and implemented in conjunction with information on level of difficulty, potential hazard identification and safety warnings/information.

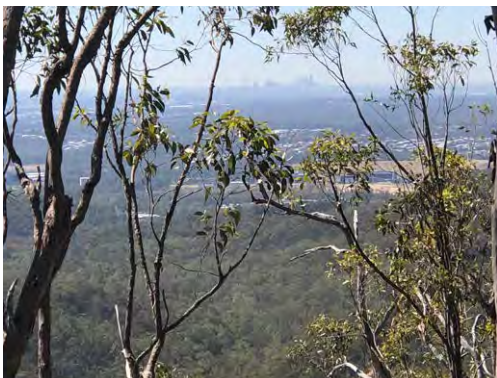
Additionally, a single use mountain bike track for experienced riders is proposed. Investigations which include cultural heritage survey, threatened species, flora and fauna survey, unexploded ordnance surveys as well as potential impacts such as erosion will be undertaken for any new tracks.



### 5.3 Long Walk and Ride



**1** VIEWS TO THE SOUTH WEST



**2** VIEWS TOWARDS BRISBANE CBD

### 5.4 PROJECTS PLAN

The Projects Plan for Stage 1 of the master plan, on pages 22 and 23, is the working component of the Implementation Plan. This section links the guiding principles, opportunities and challenges with the proposed actions for Stage 1. It also includes how performance associated with project actions is to be measured and the reporting responsibility within council.

The Projects Plan staging and timing is indicative only. Out of sequence planning and construction may occur from time to time as development progresses.

<b>PROJECTS PLAN STAGE ONE (2020–2025)</b>	<b>ACTION</b>
Installation of boardwalk and interpretive signage at White Rock.	Consultation with Traditional Owners is required in relation to placement of boardwalk and interpretive signage around White Rock.
Upgrade to Paper Bark Flats picnic shelters, toilet block, parking and amenity landscaping.	Decision required to determine if Paperbark Flats is to be upgraded separately from the Discovery Centre. Site analysis of current Paperbark Flats amenity area. Concept and detailed design required.
The Bluff – Boardwalks, viewing /rest points and interpretive signage. Investigate bouldering.	Consultation with Traditional Owners in relation to interpretive signage information. Audit current condition for visitor safety; engage geologist to assess The Bluff in relation to bouldering. Will there be damaged if bouldering is to be promoted.
Little White Rock – Boardwalks, viewing /rest points and interpretive signage. Investigate bouldering and new walking track alignment.	Consultation with Traditional Owners in relation to interpretive signage information. Audit current condition for visitor safety in relation to bouldering..
Investigation for installation of new beginners and advanced mountain bike tracks.	Investigation of site and general intent of mountain bike activity. Surveys are required for cultural heritage, threatened species, unexploded ordnance and erosion control.
Woogaroo Creek Rehabilitation. Investigation of suitable sites for koala habitat rehabilitation and waterway rehabilitation.	Develop and implement koala habitat rehabilitation plan. Develop waterway rehabilitation plan.
<p>Audit of authorised and unauthorised tracks.</p> <p>Condition assessment of authorised tracks for themed trails suitability.</p> <p>Prepare condition assessment strategy for Stage 2. Investigate suitable track alignment connection from Balancing Rock to Springfield.</p>	<p>Unauthorised tracks – decision to be made as to whether the track is to be opened for public use or closed.</p> <p>Themed trails – surveys required; cultural heritage, threatened species, unexploded ordnance and erosion.</p>
<p>Undertake audit and spatial mapping of authorised and unauthorised mountain bike tracks.</p> <p>Locate and prepare mitigation plan for unauthorised use and access into the estate.</p>	Condition assessment and relevant surveys to be undertaken on all mountain bike trails (surveys required; cultural heritage, threatened species, unexploded ordnance and erosion). Prepare mitigation plan for unauthorised access points.
Natural Environment and Geological History and Aboriginal Cultural Landscape Values Trail; Military History Trail; Long Walk and Ride Trail and directional and interpretive signage.	<p>Consultation with Traditional Owners is required in relation to placement of interpretive signage around cultural heritage sites (surveys required; cultural heritage, threatened species, unexploded ordnance and erosion).</p> <p>Develop and install directional and interpretive signage package for themed trails.</p>

**NOTE: PROJECTS PLAN TO BE REVIEWED AND DETERMINED FIT FOR PURPOSE EVERY FIVE YEARS**

<b>PROGRAM AND REPORTING RESPONSIBILITY</b>	<b>BUDGET AREA</b>	<b>PRIORITY</b>	<b>PERFORMANCE MEASURE</b>
Planning Officer (Natural Environment)	Capital expenditure	High	Design and construction of boardwalk and installation of interpretive signage.
Planning Officer (Natural Environment)	Capital expenditure and operational expenditure	High	Design and construction of upgrade to Paperbark Flats amenity area.
Planning Officer (Natural Environment)	Capital expenditure and operational expenditure	High	Construction of boardwalk and interpretive signage and receipt of geologists report in relation to bouldering.
Planning Officer (Natural Environment)	Capital expenditure and operational expenditure	High	Construction of boardwalk and interpretive signage.
Planning Officer (Natural Environment)	Capital expenditure	Low	Construction of mountain bike trail and relevant signage.  Completed reports on relevant surveys undertaken.
Planning Officer (Biodiversity)	Capital expenditure	Low	Implementation of rehabilitation plans. Collate base information for auditing purposes. Monitor and report annually. Address requirements accordingly.
Planning Officer (Natural Environment)	Operational expenditure	High	Completion of spatially mapped authorised tracks in ICC systems.  Plan for condition assessment of Stage 2 including investigation for walking track from Balancing Rock to Springfield complete.
Planning Officer (Natural Environment)	Operational expenditure	High	Authorised tracks are to be mapped spatially in ICC systems.  Completed reports on surveys undertaken.  Relevant signage installed.  Track condition/maintenance report required annually.
Planning Officer (Natural Environment)	Capital expenditure	Medium	Completed installation of directional and interpretive signage.  Completed reports on surveys undertaken.



*Iron Jack, White Rock-Spring Mountain Conservation Estate*



## CONTEXT AND SITE ANALYSIS

The following section demonstrates the research undertaken to understand:

- current conditions of the estate
- areas of conservation and cultural heritage value
- areas that require rehabilitation
- potential points of interest in relation to developing the master plan.

The topics of land use and values which have been mapped are derived from various council strategies and in particular the White Rock-Spring Mountain Conservation Estate Management Plan.

Some threatened flora and fauna species have been identified and maps developed from on site surveys. These maps will be updated as further data is made available.



*Old fence posts - Daisy's track*

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## 6.0 LAND MANAGEMENT ZONES

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The master plan recommends reviewing and adjusting the current land management zone boundaries in order to accommodate and protect residents and visitors in relation to fire management.

### EXISTING

The White Rock-Spring Mountain Conservation Estate Management Plan, 2015, defines land management zones as designated areas that are used to guide planning and delivery of plans, programs, projects and services. The estate consists of maintenance and management zones. The maintenance zones include the amenity zone and buffer zone. The management zones consist of conservation and biodiversity zones.

The zones are based on natural and visitor values, current and permitted use and preferred future use. The current land management zones are illustrated in 6.1 Existing Map. As visitor numbers and residential development increases on the west and north east of the estate, it is anticipated that the buffer zone will increase due to fire management requirements for fuel reduced zones adjacent to residential and amenity areas.

This is illustrated in 6.2 Indicative Future Map. The conservation zone will be reduced and replaced with a buffer zone. However, it is likely the biodiversity zone will remain the same.

### CURRENT KEY CHALLENGES

- Identification and preparation of fuel free zones for safety of adjoining current and future residential and amenity areas
- Managing unauthorised access.

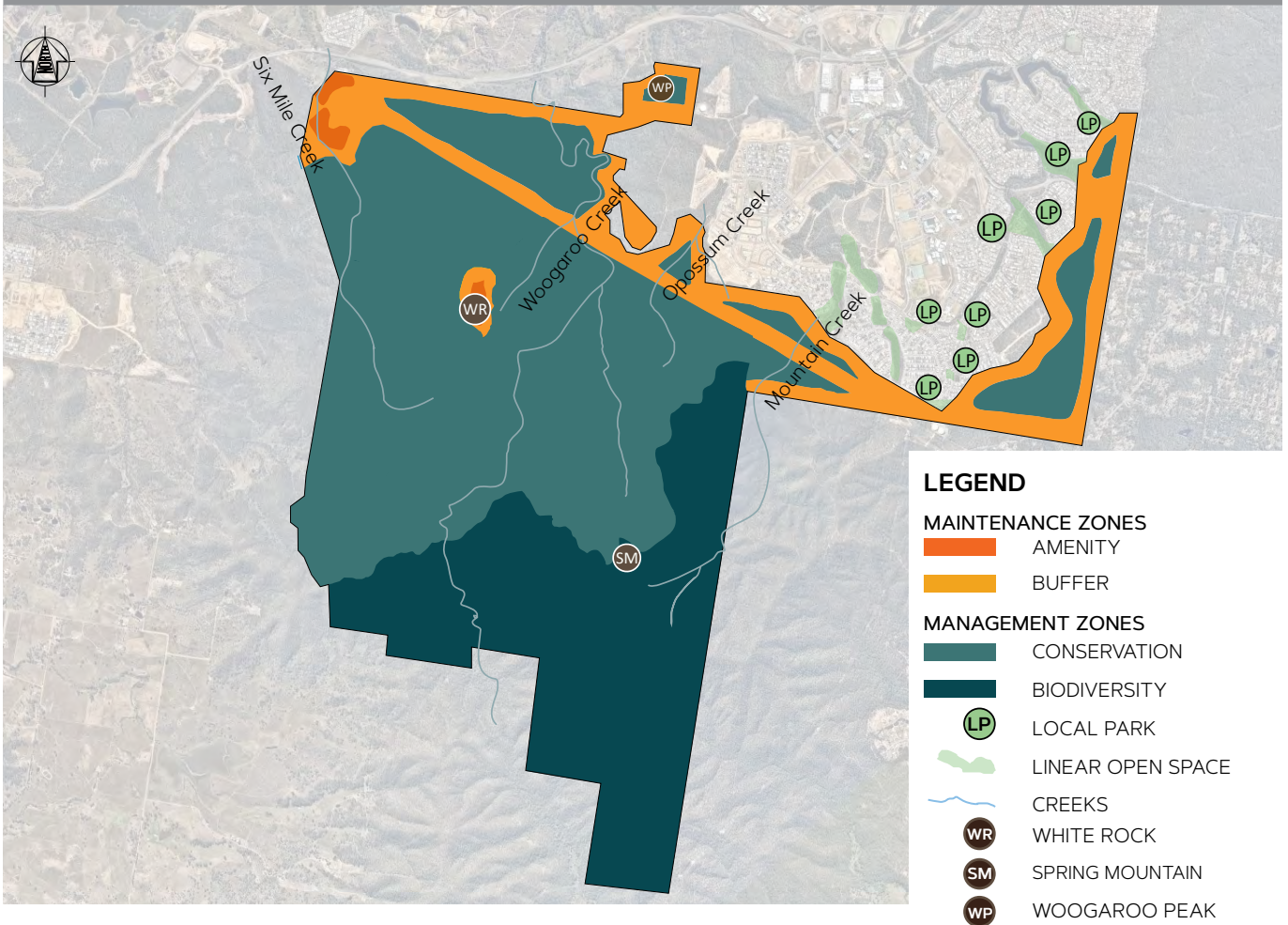
### FUTURE

The maintenance zone will increase in the estate on the north eastern boundary and western boundary in order to provide sufficient fire management practices. As a result of this, the conservation management value of the area will decrease.

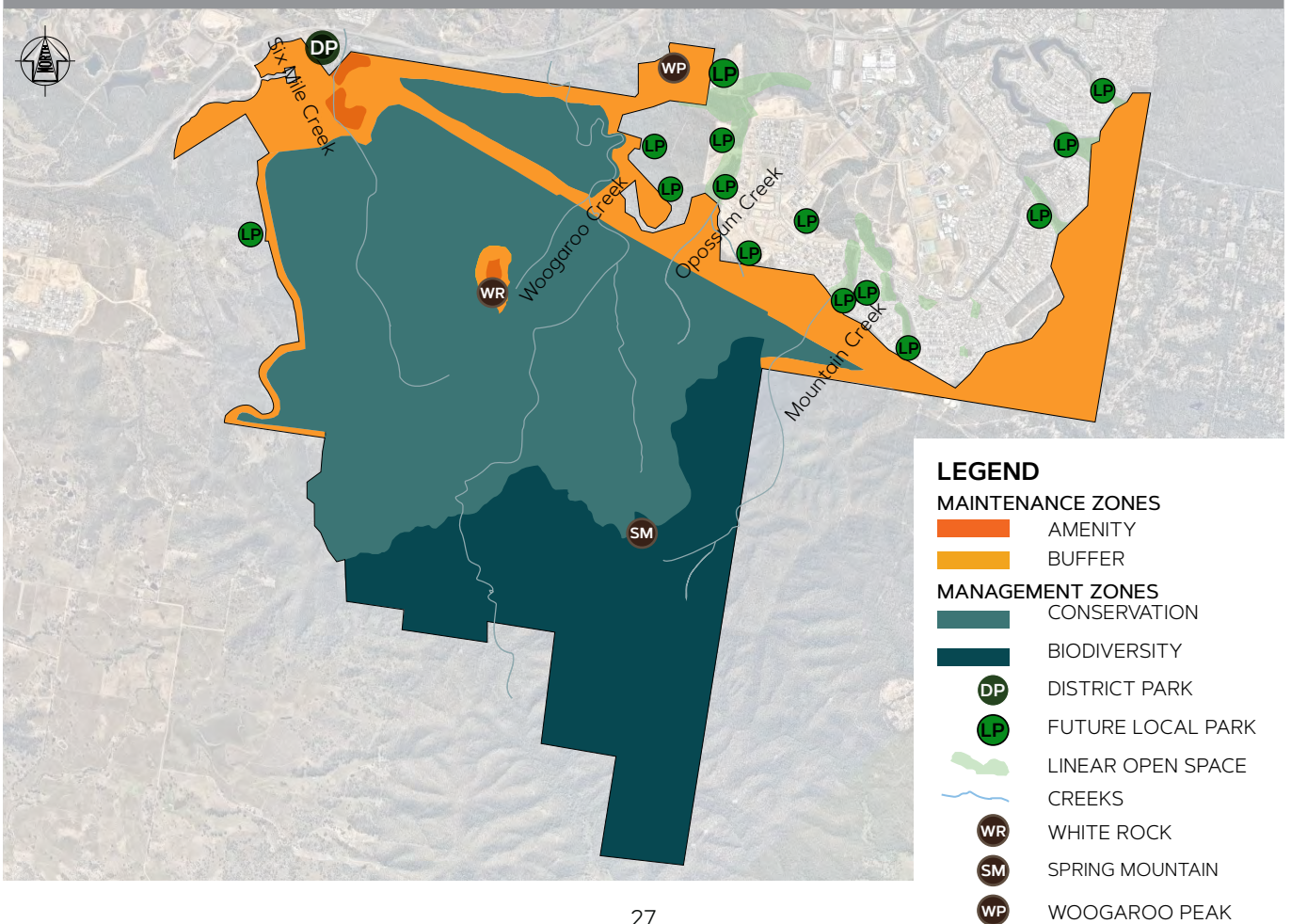
### ACTIONS

- Determine and document future amenity and buffer maintenance zones in relation to projected future visitor use and adjacent residential development
- Update fire management, pest, plant and animal management in accordance with amended maintenance zones.

## 6.1 Existing Map



## 6.2 Indicative Future Map



## 7.0 NATURAL ENVIRONMENT VALUES

The master plan recommends building a healthy natural environment for White Rock-Spring Mountain Conservation Estate, maintaining and protecting a broad range of vegetation communities, diversity of flora and fauna and rich ecological habitats.

### EXISTING

#### Connectivity

- Dense development occurs along northern boundary
- The 2,633 ha estate is Ipswich's biggest protected natural area and is a core node within a corridor connecting the Flinders-Goolman Conservation Estate in the south-west and the Karawatha Forest Park to the north
- Woogaroo and Six Mile Creeks, reserves through Springfield and Greenbank Military Training Areas provide minor vegetated linkages
- Areas to the east, primarily Logan City Council's Spring Mountain Forest Park to the south provide major vegetated linkages.

#### Native Flora and Fauna

- The estate supports a high diversity of flora and fauna species, along with important vegetation communities that provide habitat for significant wildlife
- Paperbark Closed Forests, Riparian Closed Forests and Montane Open Forests are key environmentally significant vegetation communities due to species diversity and legislative significance
- Of 14 significant species recorded within the estate, essential habitat areas for Slender Milk Vine *Marsdenia coronata*, *Plectranthus habrophyllus* and *Koala Phascolarctos cinereus* are key iconic species.

### CURRENT KEY CHALLENGES

- Gaps in environmental data to understand existing conditions
- Managing nature based recreation such as mountain biking and bouldering within essential habitat areas
- Degradation of vegetation communities due to unauthorised use, pest animals and weeds, erosion.

### FUTURE

Ultimately the estate will have dense development along the majority of the boundary with Springfield and the Ripley Valley.

For the protection against wildfire of the dense development along the northern boundary, the Spotted Gum/Iron Bark Open Forest north of the high voltage power line will become more akin to a woodland vegetation community. This will be primarily through the implementation of a fire management program. Establishing Eucalyptus woodlands in this area will benefit wildlife such as birds reptiles and mammals.

### ACTIONS

- Plan, design and implement flora and fauna surveys, monitoring and reporting on a regular basis
- Plan, design and implement rehabilitation programs in degraded areas including waterways
- Plan, design and implement fire management program.



*Cladonia floerkeana*

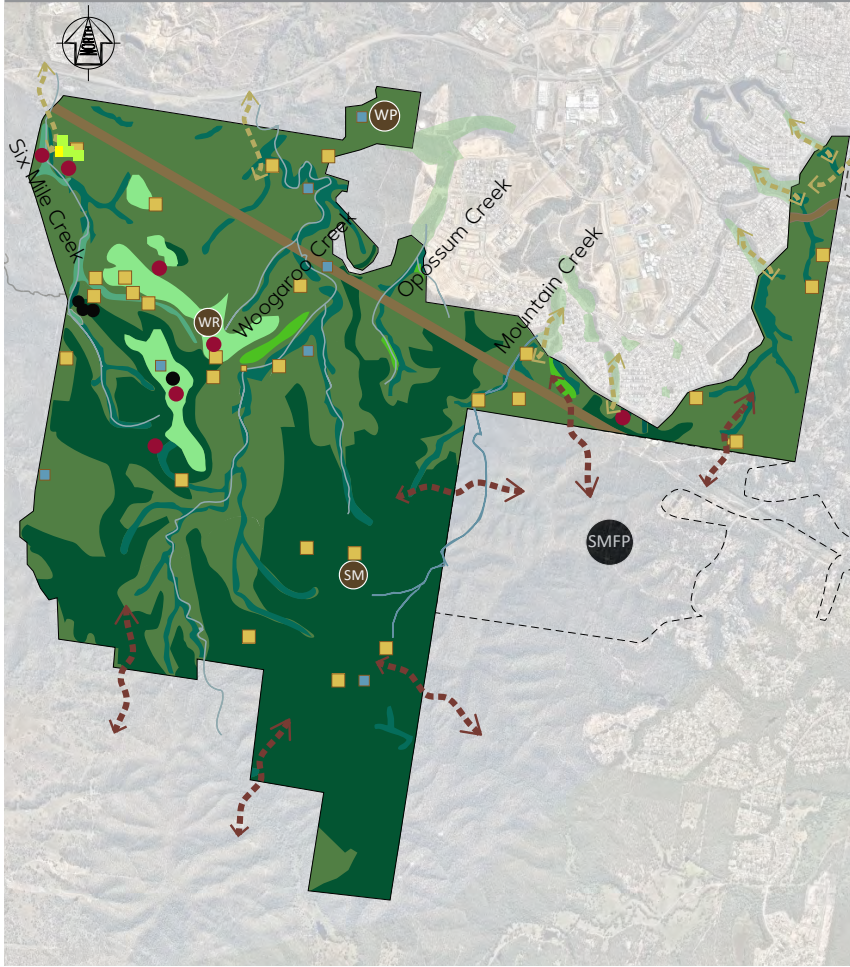


*Cryptandra sp*



*Hovea acutifolia*

## 7.1 Existing Map



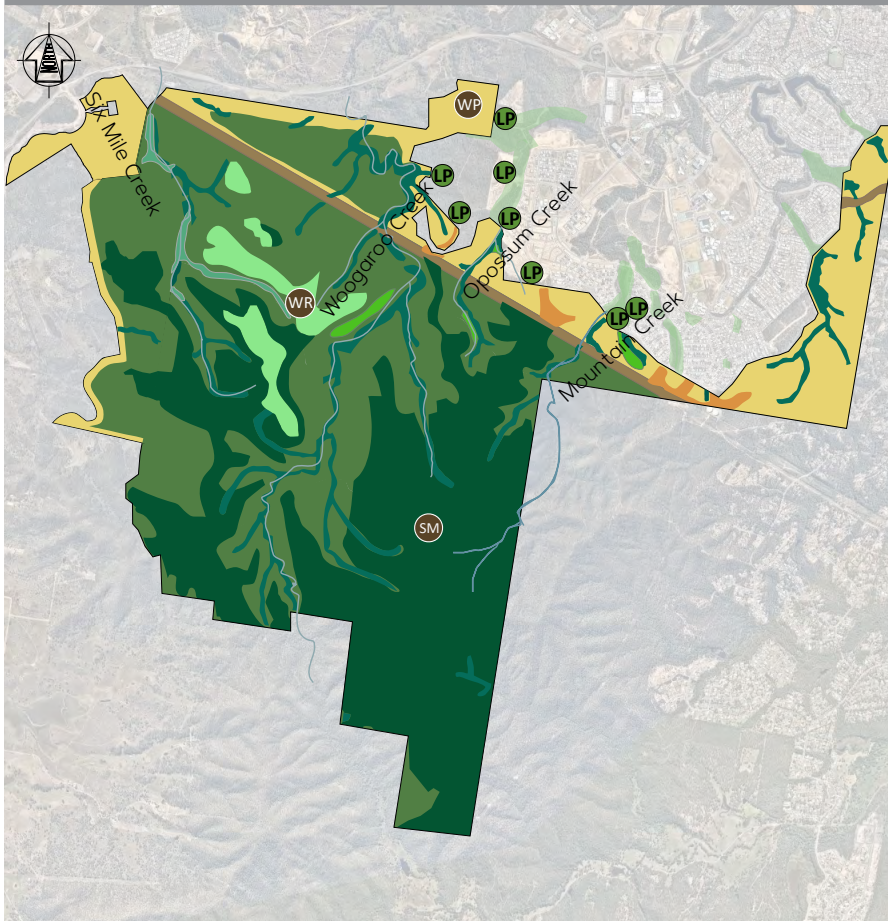
### LEGEND

- OPEN FOREST CORYMBIA HENRYI
- OPEN FOREST - SPOTTED GUM IRON BARK
- OPEN FOREST - MONTANE HEATH
- CLOSED FOREST - BRUSH BOX GULLY
- CLOSED FOREST - PAPERBARK
- CLOSED FOREST - RIPARIAN
- DEVELOPED

### SIGNIFICANT FLORA AND FAUNA RECORDS

- KOALA (PHASCOLARCTOS CINEREUS)
- SLENDER MILK VINE (MARSDENIA CORONATA)
- PLECTRANTHUS HARBROPHYLLUS
- OTHER
- LINEAR OPEN SPACE
- CREEKS
- WR WHITE ROCK
- SM SPRING MOUNTAIN
- WP WOOGAROO PEAK
- SMFP SPRING MOUNTAIN FOREST PARK

## 7.2 Indicative Future Map



### LEGEND

- WOODLAND - SPOTTED GUM/IRON BARK
- WOODLAND - CORYMBIA HENRYI
- OPEN FOREST - CORYMBIA HENRYI
- OPEN FOREST - SPOTTED GUM IRON BARK
- OPEN FOREST - MONTANE HEATH
- CLOSED FOREST - BRUSH BOX GULLY
- CLOSED FOREST - PAPERBARK
- CLOSED FOREST - RIPARIAN
- DEVELOPED
- LP FUTURE LOCAL PARK
- LINEAR OPEN SPACE
- CREEKS
- WR WHITE ROCK
- SM SPRING MOUNTAIN
- WP WOOGAROO PEAK

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## 8.0 THREATENED SPECIES

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The master plan recommends building a healthy natural environment for White Rock-Spring Mountain Conservation Estate, maintaining and protecting a broad range of vegetation communities, diversity of flora and fauna and rich ecological habitats.

### EXISTING

The estate contains a high number of threatened species of both flora and fauna. It holds the largest and most stable population of several plant species such as *Plectranthus habrophyllus* and *Marsdenia coronata*.

Further investigation is required to understand the status of fauna such as greater gliders. The estate has an extremely high level of bird and shrub diversity and is a potential breeding site for Powerful Owls. Vegetation surveys are required to understand the current health of the habitats in order to protect and enhance existing habitat which contribute to the overall health of the ecosystem.

The Threatened Species Map 8.1 illustrates known locations of foraging habitat for Glossy Black Cockatoos. Further investigation and monitoring is required to understand how frequent the birds forage and where the breeding areas are within the estate. Additionally, the estate is a significant Flying Fox foraging habitat.

### CURRENT KEY CHALLENGES

Current challenges within the estate include but are not limited to:

- a lack of large tree hollows for nesting
- changing fire regime which is potentially damaging to trees with hollows
- unmanaged off track recreation (trampling of vegetation)
- hot fires occurring too frequently
- pest animal impacts on native flora and fauna
- weed incursion especially lantana, creeping lantana and passionfruit vines
- edge effect – Springfield e.g. street light spillage into habitat.

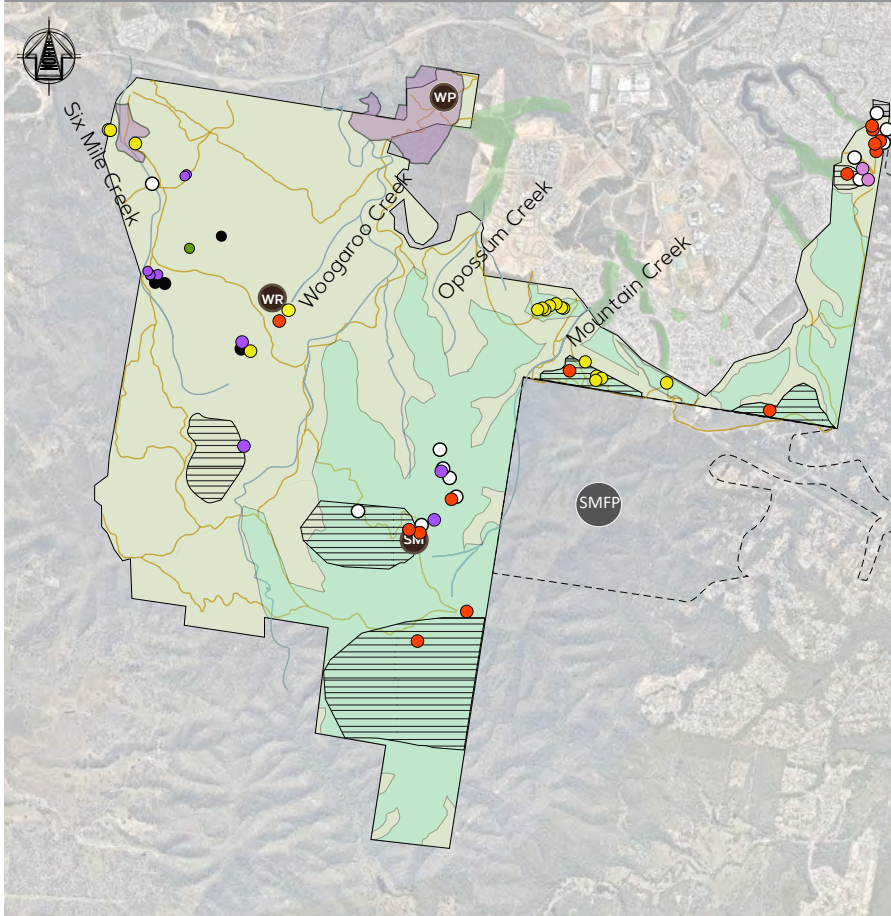
### FUTURE

- There will be a stable and well understood fire regime
- Suitable tree hollow habitat will be retained for Large Gliders, Owls and Cockatoos
- A recreation network that is planned and positioned in areas that is safely away from threatened species habitats.
- An effective pest management program will be in place that reduces weed infestations in key habitats.

### ACTION

- Implement targeted weed management and maintenance programs targeted to each species and priority areas
- Preservation of tree hollow during prescribed fire
- Develop and implement detailed and regular survey programs for Glossy Black Cockatoos, Greater Gliders and Powerful Owls
- Plan and implement a scientifically informed and prioritised fire management program
- Develop and implement strategies for streamlining pest animal management within the estate
- Develop, implement and monitor visitor management plans for recreation tracks in priority areas
- Establish and monitor processes for assessing the impacts of recreation verses biodiversity
- Develop and implement rehabilitation programs for threatened species habitat
- Provision of additional hollows where required
- Update this document with relevant survey information as data becomes available.

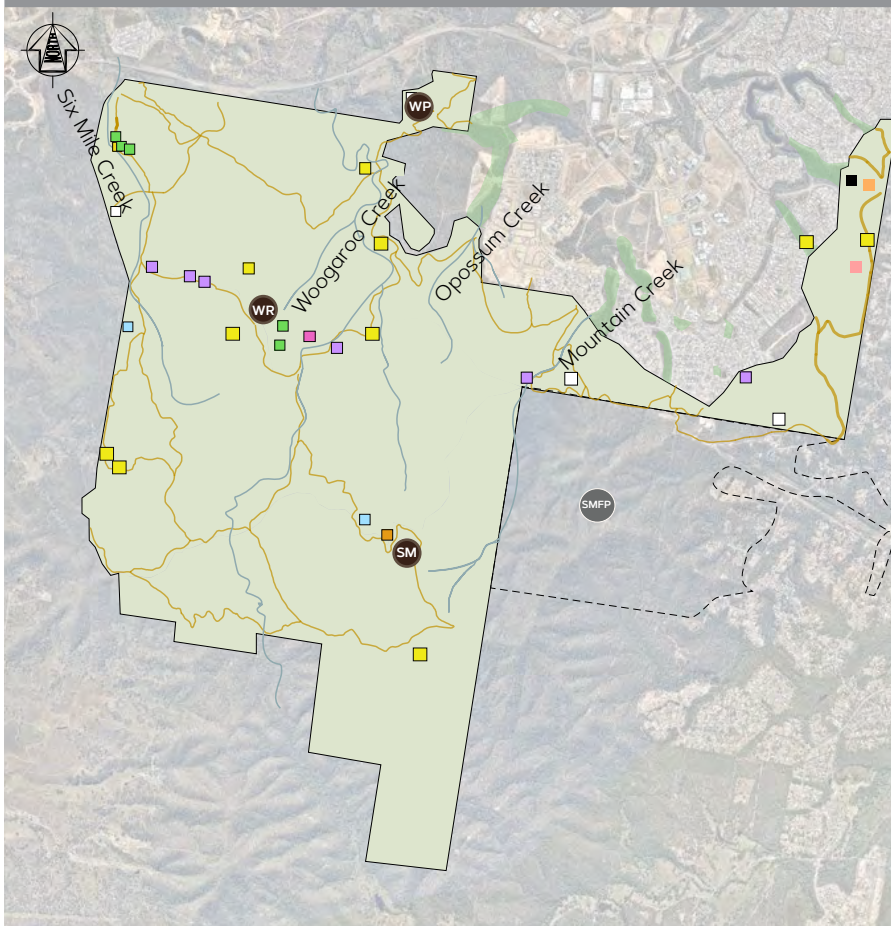
## 8.1 Threatened Species - Vegetation



### LEGEND

- ENDANGERED REGIONAL ECOSYSTEM
- CORYMBIA HENRYI REGION
- GLOSSY BLACK COCKATOO FEEDING
- SIGNIFICANT HOLLOW BEARING TREES
- LINEAR OPEN SPACE
- CORYMBIA HENRYI
- PLECTRANTHUS HABROPHYLLUS
- BORONIA ROSMARINIFOLIA
- MARSDENIA CORONATA
- EUCALYPTUS CURTISII
- NOTELAEA LLOYDII
- WR WHITE ROCK
- SM SPRING MOUNTAIN
- WP WOOGAROO PEAK
- SMFP SPRING MOUNTAIN FOREST PARK  
LOGAN CITY COUNCIL

## 8.2 Threatened Species - Fauna



### LEGEND

- BLACK FACED MONARCH
- BRUSH TAILED PHASCOGALE
- LEADEN FLYCATCHER
- GREY HEADED FLYING-FOX
- POWERFUL OWL  
SATIN FLYCATCHER
- GREATER GLIDER
- GLOSSY BLACK COCKATOO
- KOALA
- LINEAR OPEN SPACE
- WR WHITE ROCK
- SM SPRING MOUNTAIN
- WP WOOGAROO PEAK
- SMFP SPRING MOUNTAIN FOREST PARK  
LOGAN CITY COUNCIL

## 9.0 WATERWAY HEALTH VALUES

The master plan recommends establishing waterway health programs for waterways within the estate that improves and benefits ecosystems and contributes to downstream health.

### EXISTING

Waterways have intrinsic ecological value. Waterway health values include both riparian and instream habitats. Indicators of riparian habitat include the width, continuity, extent of shading and species composition. Indicators of instream habitat include measures of the extent of scouring and bank erosion and the presence of woody debris (fallen trees, etc) that provide important habitat for many species.

The estate contains headwaters that support a number of creeks including Six Mile, Woogaroo, Opossum, Mountain, Bundamba Creeks and O'Briens Gully.

Sections of these waterways are degraded due to past and current uses such as logging, military practices, unauthorised use by motorised vehicles as well as natural processes such as erosion.

Map 9.1 shows stream order and stream catchments within the estate. By auditing conditions of the waterways and developing rehabilitation programs within the estate, the lower catchments will benefit, potentially creating a healthy waterway environment in a broader context. Refer to Ipswich City Council's Waterway Health Strategy for further information.

### CURRENT KEY CHALLENGES

- Gaps in estate waterway health and auditing
- Erosion control from past logging practices including track installation and unauthorised vehicle use that damage riparian areas and ephemeral waterways.

### FUTURE

The estate will have healthy waterways that support the creeks that flow into associated urban areas of Ipswich.

### ACTION

- Map and audit waterways including riparian zones to understand current health
- Plan and implement a waterway health rehabilitation and monitoring program to improve waterway health within the estate and external associated creeks
- Investigate potential partnership programs within council such as the stormwater offsets program to achieve best practice waterway health outcomes. Sketch on page 33 illustrates the proximity of Woogaroo Creek within the estate to developed areas downstream as an example of a potential partnership rehabilitation project within council.



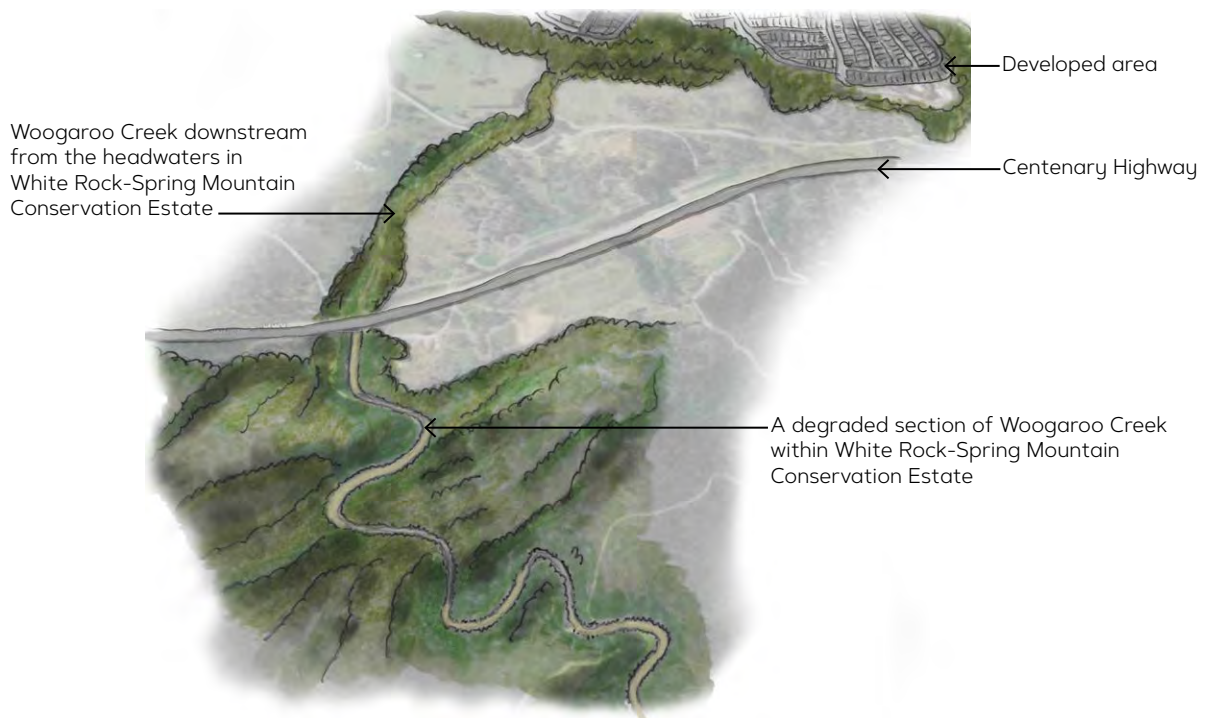
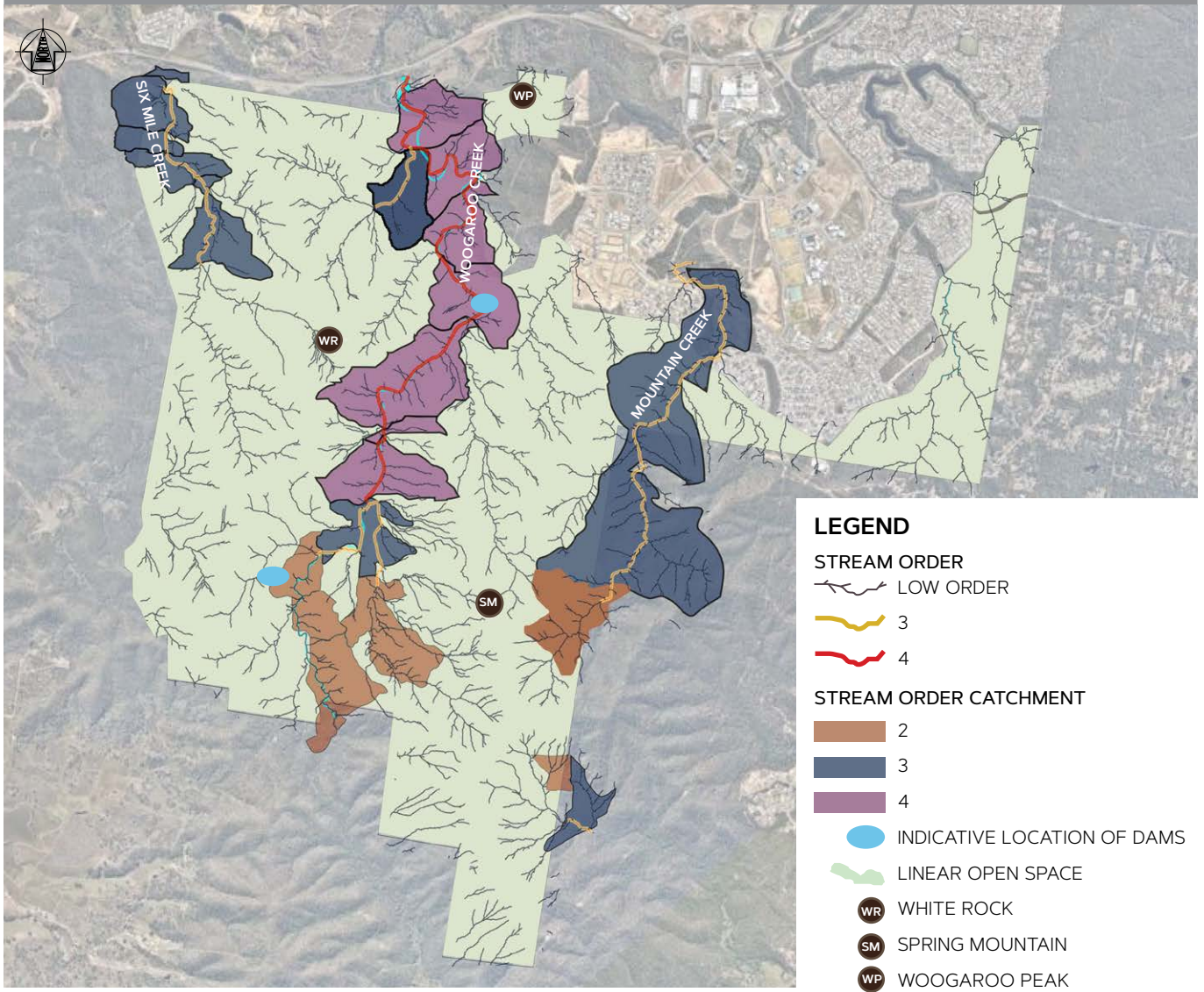
*An estate waterway with established riparian habitat*



*An estate waterway with eroded creek bank*



## 9.1 Waterway Health



Sketch shows potential waterway rehabilitation site to improve waterway health within the estate as well as downstream

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## 10.0 WILDERNESS VALUES

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The master plan recommends undertaking flora and fauna surveys to identify and monitor wilderness values. This survey information will provide base data towards investigating suitable areas for new trails and also monitoring visitor impact.

### EXISTING

The existing Map 10.1, shows indicative wilderness ratings within the estate. Low wilderness ratings are illustrated around the northern section of the estate including Paperbark Flats and areas adjacent to Springfield. This is due to previous land practices of timber logging, military use and visitor impact.

Higher wilderness ratings are illustrated in areas to the north of Spring Mountain. Additionally, the southern section of the estate is not frequented by visitors therefore shows a higher wilderness rating.

### CURRENT KEY CHALLENGES

- Gap in current wilderness values data
- Unknown impact on wilderness value from increased visitor numbers and nature based recreation use such as mountain biking, trail running as well as unauthorised use such as motorised vehicles and unauthorised track construction. Surveys and regular monitoring required.

### FUTURE

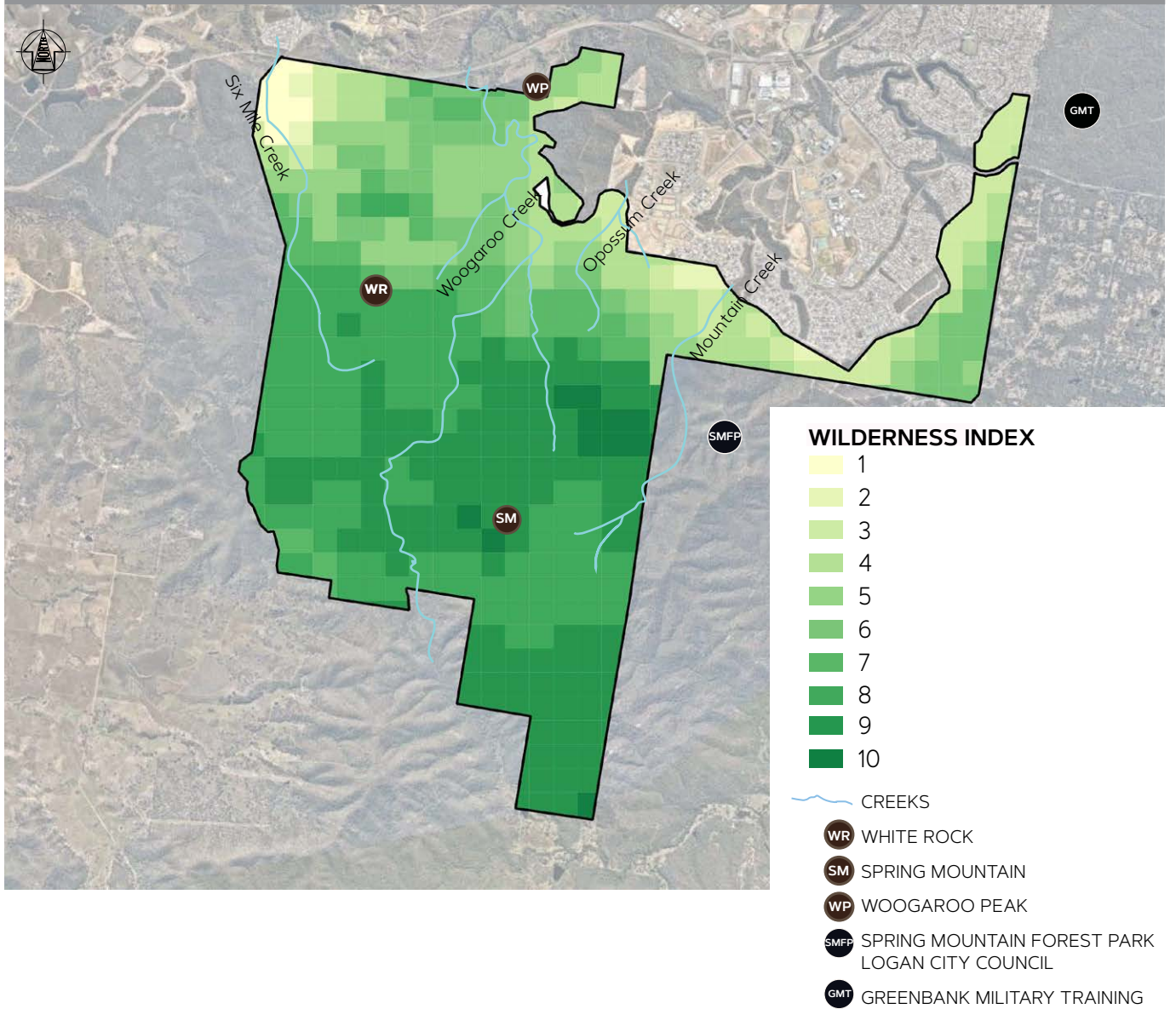
The Wilderness Map will be updated when further data is collected and collated, providing accurate information on the wilderness values of the estate.

The information will be used to assess and monitor future ecosystem health as well as providing a basis to determine locations for nature based recreation within the estate while protecting and promoting conservation values.

### ACTION

- Flora and fauna surveys to be undertaken to understand accurate wilderness values
- Monitor surveyed results in order to identify areas suitable for rehabilitation
- Rehabilitate areas suitable for koala release and food source.

## 10.1 Existing Map



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## 11.0 GEOLOGICAL, SCENIC AND HISTORICAL FEATURES

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The master plan recommends information hubs at trail heads and interpretive signage along trails describing the estates geological, scenic and historical features.

### EXISTING

The geological, scenic and historical features within the estate are a draw card for visitors. Rocky outcrops such as The Bluff and White Rock through to Spring Mountain and Balancing Rock provide points of interest for visitors. Changes in elevation contribute to the scenic amenity in that high points provide views to the west including Flinders Peak through to Scenic Rim, D'Aguilar Range and Brisbane CBD to the East. The estate adds to the scenic amenity of the region as it is part of the Flinders Karawatha Corridor. The scenic amenity of the corridor is characterised by a network of peaks, creeks, lowland forests, forested ridges and semi-cleared valleys.

Ground truthing undertaken for this trail included:

- Paperbark Flats, The Bluff, Little White Rock and White Rock
- European heritage – bridge and logging camp.
- military history – gun pits, Gun Pit Ridge
- geological features e.g. caves
- scenic opportunities from Spring Mountain, Woogaroo Peak and White Rock.

### CURRENT KEY CHALLENGES

- Gaps in cultural heritage data that may be attached to geological sites. Cultural heritage surveys required prior to any works being undertaken
- Gaps in geological data and the suitability/safety of potential recreation such as bouldering.

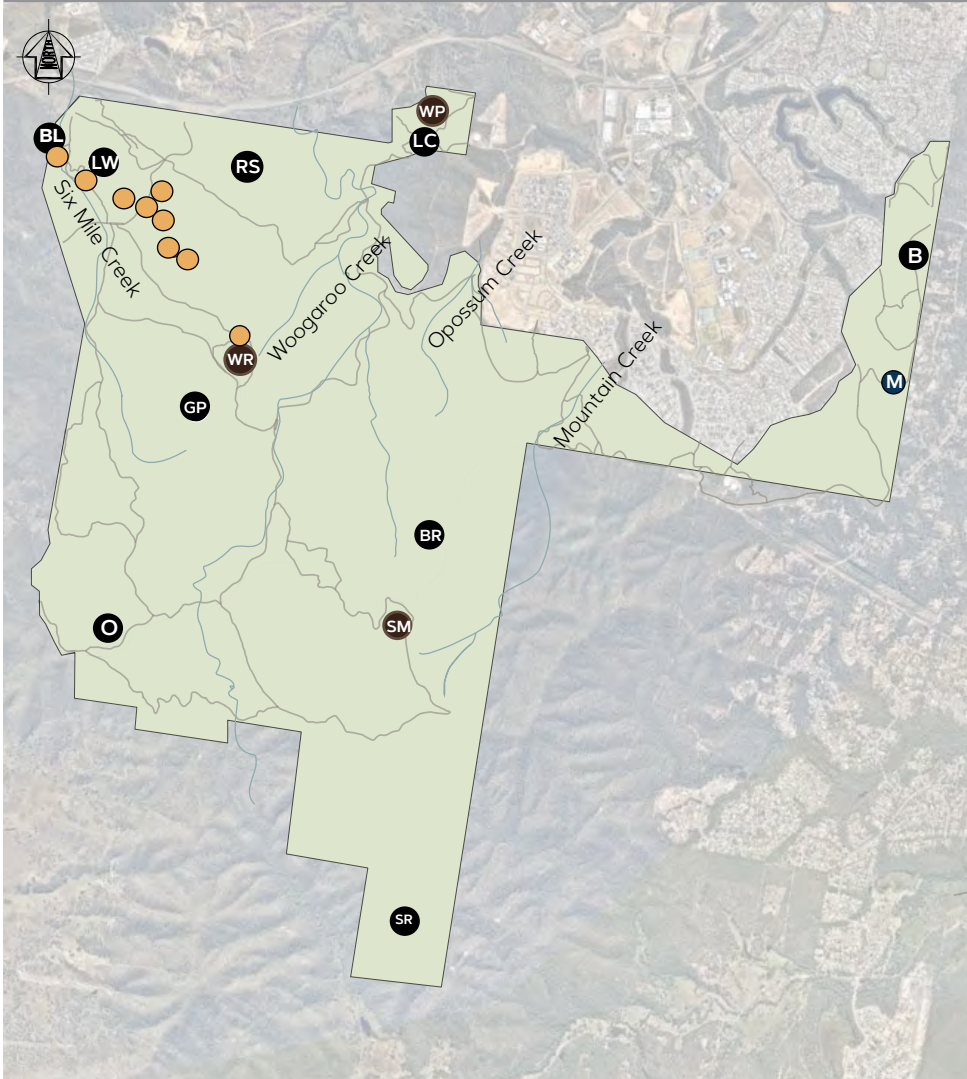
### FUTURE

Stairs and boardwalks will be installed around White Rock, Little White Rock and The Bluff with collaborative planning with Traditional Owners is required.



### ACTION

- Consultation with Traditional Owners is required in relation to placement of boardwalks, interpretive signage around cultural heritage sites
- Cultural heritage surveys to be undertaken on identified areas prior to works being undertaken
- Geological surveys and suitability studies for geological sites
- Installation of information hubs detailing geological features along the trails e.g. caves, rocky outcrops
- Provision of interpretive signage in proximity to historical military sites
- Provision of directional signage to scenic opportunities.

## 11.1 Existing Map



### LEGEND

- LW** LITTLE WHITE ROCK
- BL** BLUFF LOOKOUT 
- GP** GUNPIT RIDGE  **M**
-  CAVES
- O** OUTCROP 
- BR** BALANCING ROCK 
- RS** ROCK SLAB 
- SR** SOUTHERN RIDGE 
- M** MILITARY HISTORY **M** 
- B** BRIDGE **M** **L**
- LC** LOGGING CAMP **L**
-  EXISTING SERVICE TRACKS AND RECREATIONAL TRAIL NETWORK
-  CREEKS
- WR** WHITE ROCK 
- SM** SPRING MOUNTAIN 
- WP** WOOGAROO PEAK  **L**



## 12.0 ABORIGINAL CULTURAL HERITAGE AND LANDSCAPE VALUES

The master plan recommends protecting cultural areas while enhancing wider appreciation and understanding of the values and sensitivity through installation of boardwalks, viewing/rest points, interpretive signage and guided walks.

### EXISTING

The estate is culturally significant to the Traditional Owners of the area. As a sacred site, White Rock does not stand alone but forms a cultural landscape with the Camira Bora Ground to the north and Ivory's Rock and Flinders Peak to the south. White Rock is known as Nugum or Boogun (dog) and is culturally known as a Women's area. (WRSMCE Operational Management Plan).

Existing Map 12.1 shows areas where cultural heritage surveys have been undertaken and artefacts have been discovered and added to the State Government's Cultural Heritage Register. This illustrates evidence of existence by the Traditional Owners. This register also includes landscape features and caves which have cultural significance.

### CURRENT KEY CHALLENGES

- Gaps in cultural heritage data. Cultural heritage surveys required prior to any works being undertaken
- Impact of bouldering prior to surveys
- Insufficient surveys identifying significant sites
- Deliberate collection of artefacts, vandalism of sites, trees and other natural objects of cultural and historic value
- Uncoordinated development or maintenance that could damage or destroy unidentified historical sites
- Removal of historical material by trophy collectors
- Loss of knowledge through the passing of older residents before the information could be recorded
- Inappropriate preservation of cultural heritage sites through a lack of knowledge
- A lack of cultural heritage awareness by the public and staff.

### FUTURE

Guided walks will be designed and implemented to educate visitors on tangible and intangible areas of Aboriginal cultural heritage with focus on cultural landscape features within the estate.

This will include signage that is interpretive, educational and directional and includes traditional names and stories.

Boardwalks will be installed in suitable locations for the protection and respect of cultural values. Visitors will be able to view the features from the boardwalks.

Cultural design elements will be incorporated into hardscape treatment such as structures, seating and signage.

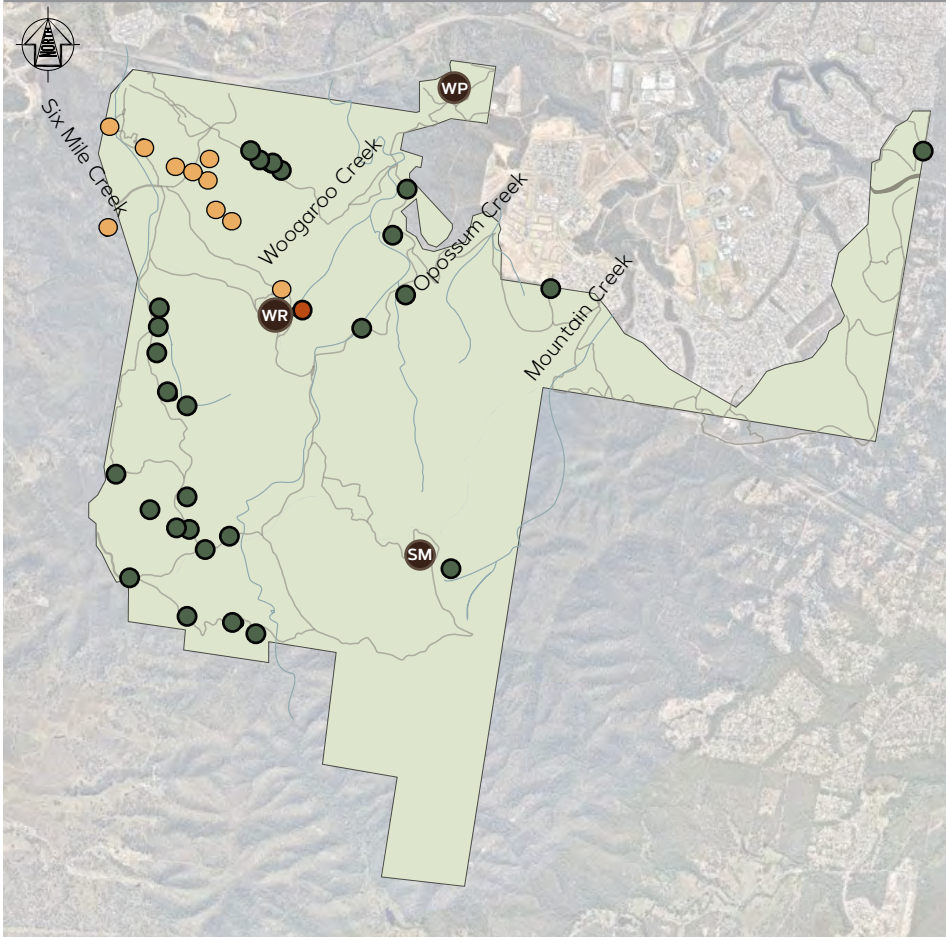
### ACTION

- Consultation with Traditional Owners is required in relation to planning and implementation of suitable sites of interest for visitors and associated infrastructure.



*Caves within the estate*

## 12.1 Existing Map



### LEGEND

- STATE RECORDS
- LANDSCAPE FEATURES
- CAVES
- EXISTING SERVICE TRACKS AND RECREATIONAL TRAIL NETWORK
- CREEKS
- WR WHITE ROCK
- SM SPRING MOUNTAIN
- WP WOOGAROO PEAK



Artists impression: viewing platform and interpretive signage

## 13.0 UTILITY INFRASTRUCTURE

The master plan recommends developing a revegetation program within the transmission corridor in preparation of future decommissioning of high voltage lines.

### EXISTING

The Utility Infrastructure Existing Map 13.1 shows the location of a high voltage transmission line diagonally placed through the estate from north west to south east of the northern portion of the estate, dissecting connectivity. Again from south east to south west on the southern most boundary of the estate.

Springfield-Greenbank Arterial crosses the north eastern corner of the estate, once again dissecting connectivity with the majority of the estate.

Other utility infrastructure at the interface of Springfield and the estate are water main and water tanks.

### CURRENT KEY CHALLENGES

- Disconnection of habitat connectivity for smaller mammals.

### FUTURE

There is potential for the high voltage transmission lines to be de-commissioned in the future. This will open the transmission corridor to be revegetated for koala habitat. It will provide the opportunity for koalas to expand their population and provide new opportunities for releasing orphaned, displaced and rehabilitated koalas. Revegetation will improve habitat connectivity for smaller mammals as well.

### ACTION

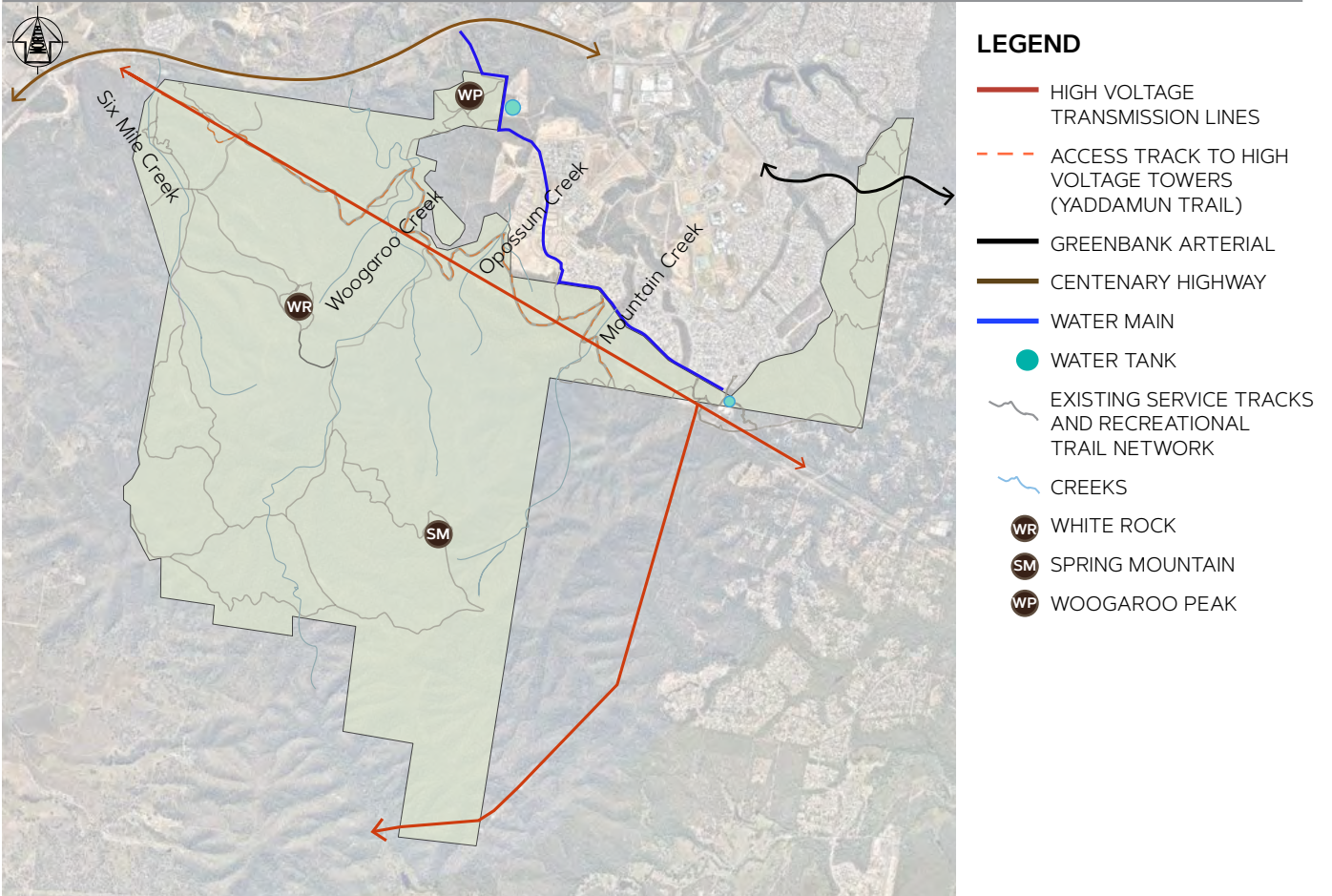
- Liaise with State Government representative to be up to date with the future planning program for high voltage transmission
- Investigate fauna crossing infrastructure at Springfield Greenbank Arterial.



*View along part of the high voltage transmission line in the estate*



### 13.1 Existing Map



#### LEGEND

- HIGH VOLTAGE TRANSMISSION LINES
- ACCESS TRACK TO HIGH VOLTAGE TOWERS (YADDAMUN TRAIL)
- GREENBANK ARTERIAL
- CENTENARY HIGHWAY
- WATER MAIN
- WATER TANK
- EXISTING SERVICE TRACKS AND RECREATIONAL TRAIL NETWORK
- CREEKS
- WHITE ROCK
- SPRING MOUNTAIN
- WOOGAROO PEAK

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## 14.0 SERVICE TRACK NETWORK

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The master plan recommends investigating the utilisation of the service trail network connections from Ripley, to the service track network within the estate to be utilised for authorised visitor use. Additionally, identification and securement of unauthorised access points will be undertaken in order to protect and enhance the conservation and cultural heritage values of the estate.

### EXISTING

The existing Service Track Network Map 14.1, illustrates the current service track network within the estate and the indicative future service track network from the Ripley development area.

The intention for the master plan, is to investigate the benefit of integration of the service track network with the recreation trails to fill any gaps in trail connectivity. This will reduce construction of new trails which will minimise disturbance to habitat and overall ecosystem health.

Additionally, the Indicative Future Map 14.2, illustrates the fencing and barriers to the boundary of the estate, which has increased compared to the Existing Map 14.1.

This is intended to protect and enhance conservation and cultural heritage values through identifying, removing and monitoring unauthorised access points as well as protecting fauna from moving into the developed areas adjacent to the estate.

### CURRENT KEY CHALLENGES

- Timing for undertaking condition assessment of service tracks to determine suitability for inclusion into recreation trail network, in line with visitor increase
- Identification of unauthorised access points, removing and monitoring these areas
- Protection of fauna; ability for fauna to move into areas due to lack of suitable fencing where vehicles and dogs pose threats.

### FUTURE

In future, the commissioning of service tracks from Ripley trail heads will integrate with existing track network. The service track networks will have dual use as recreation trails where suitable, in order to minimise disturbance to the estate's conservation and cultural heritage values.

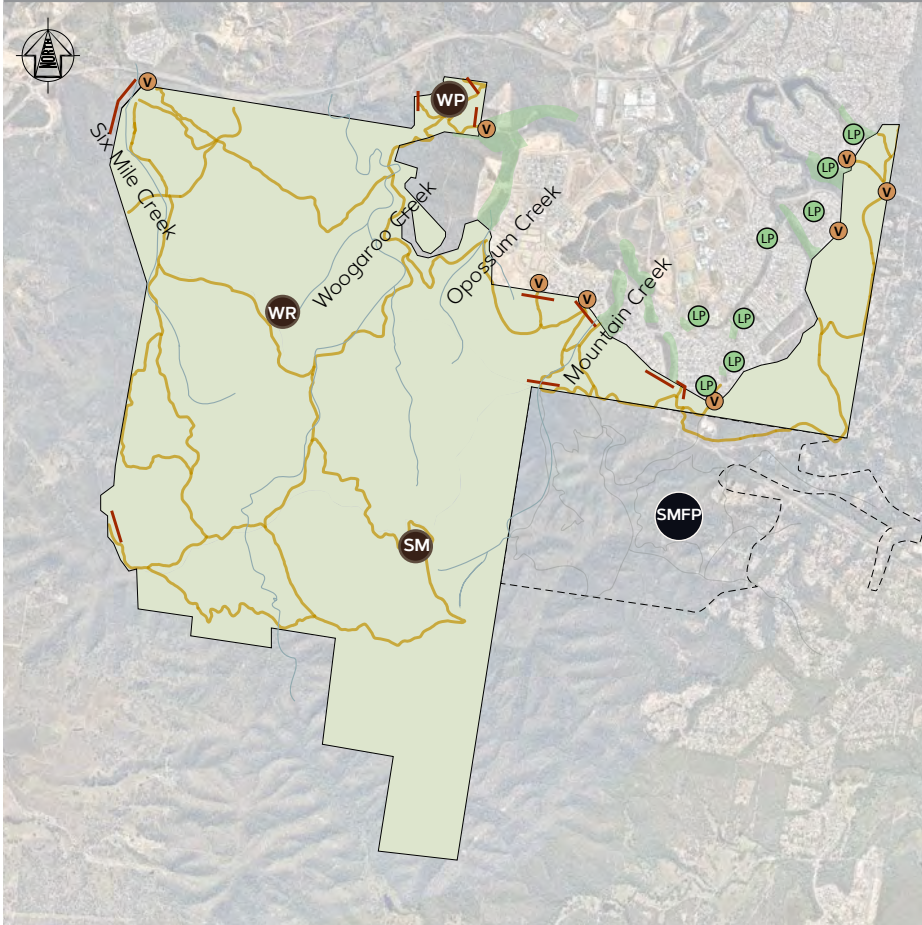
Additionally, the service track network will assist in filling track network gaps. Once the complete track network is identified, unnecessary tracks will be decommissioned and rehabilitated which will enhance the ecosystem health of the estate.

Unauthorised entrance points will be secured and monitored. Barriers and fencing will be condition assessed and results addressed accordingly.

### ACTION

- Audit condition of existing service track network in relation to conservation protection, cultural heritage protection and visitor safety if tracks are to be integrated into trail network
- Update land management requirements to be in line with service track audit outcome
- Development and implementation of information and wayfinding signage to new trail heads, trail hubs and tracks. Signage design to reflect Ipswich City Council Natural Areas Signage Manual
- Audit connectivity of service track network and decommission unauthorised tracks
- Develop rehabilitation programs for decommissioned tracks.

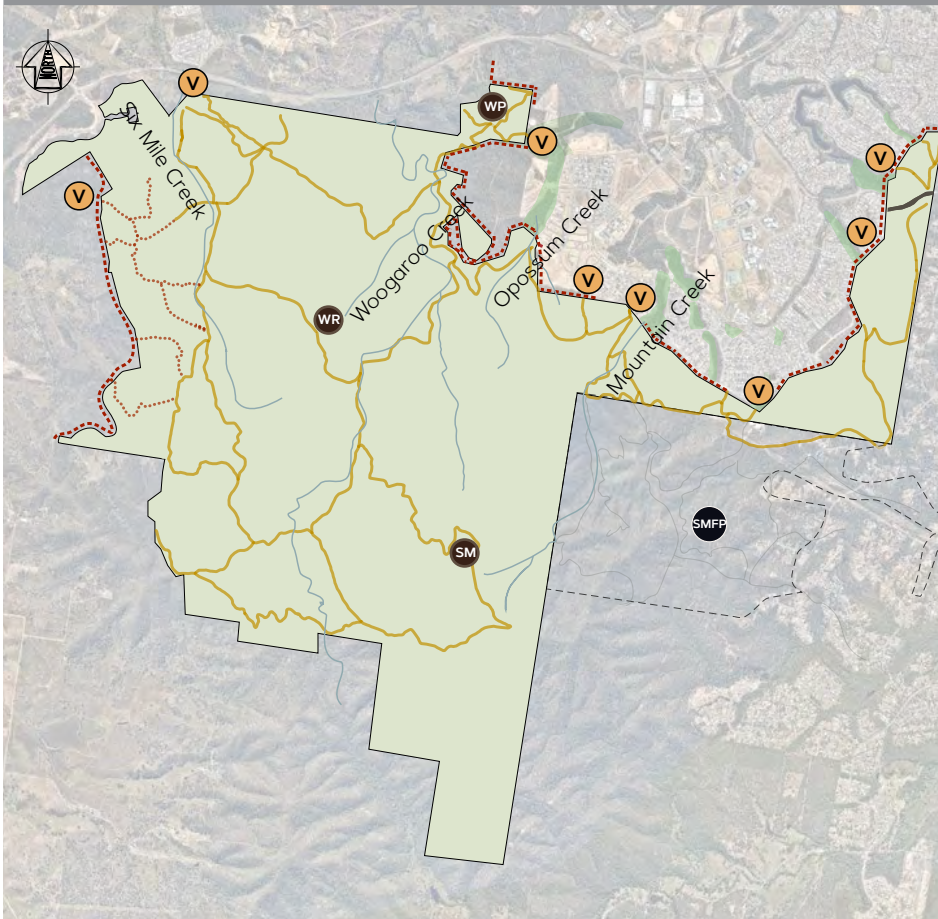
## 14.1 Existing Map



### LEGEND

- SERVICE TRACKS
- FENCING/BARRIERS
- EGRESS
- LOCAL PARK
- LINEAR OPEN SPACE
- CREEKS
- WHITE ROCK
- SPRING MOUNTAIN
- WOOGAROO PEAK
- SPRING MOUNTAIN FOREST PARK LOGAN CITY COUNCIL

## 14.2 Indicative Future Map



### LEGEND

- SERVICE TRACKS - EXISTING
- SERVICE TRACKS - FUTURE
- EGRESS
- BARRIER FENCING
- EXISTING FENCING/BARRIERS
- FUTURE LOCAL RECREATION PARK
- LINEAR OPEN SPACE
- CREEKS
- WHITE ROCK
- SPRING MOUNTAIN
- WOOGAROO PEAK
- SPRING MOUNTAIN FOREST PARK LOGAN CITY COUNCIL

# 15.0 RECREATION AND TRAIL NETWORK

The master plan recommends condition assessment of the recreation and trail network to determine compatibility with proposed recreation and trail upgrades.

## EXISTING

The Existing Map 15.1 illustrates the current nature-based recreation and trail network which provides for horse riding, mountain bike and walking trails. Bouldering and rock climbing has also been identified, however further investigation is required to authorise areas. Once authorised, planning and installation of relevant signage will be undertaken.

## CURRENT KEY CHALLENGES

- Management of future direction for increasing recreation and trail network within the estate
- Timing of investigation into compatible recreation sites that don't conflict with conservation and cultural heritage values
- Potential conflicting use of visitor activities in shared tracks such as mountain biking and walking and at points of interest such as The Bluff and bouldering.

## FUTURE

Areas within Stage 1 will be explored and assessed in order to add new trails to the existing trail network where suitable.

The exploration of potential future commissioning of service tracks from Ripley development trail heads will be undertaken, in order to intergrate with existing tracks/trails for recreation use as well as servicing the estate.

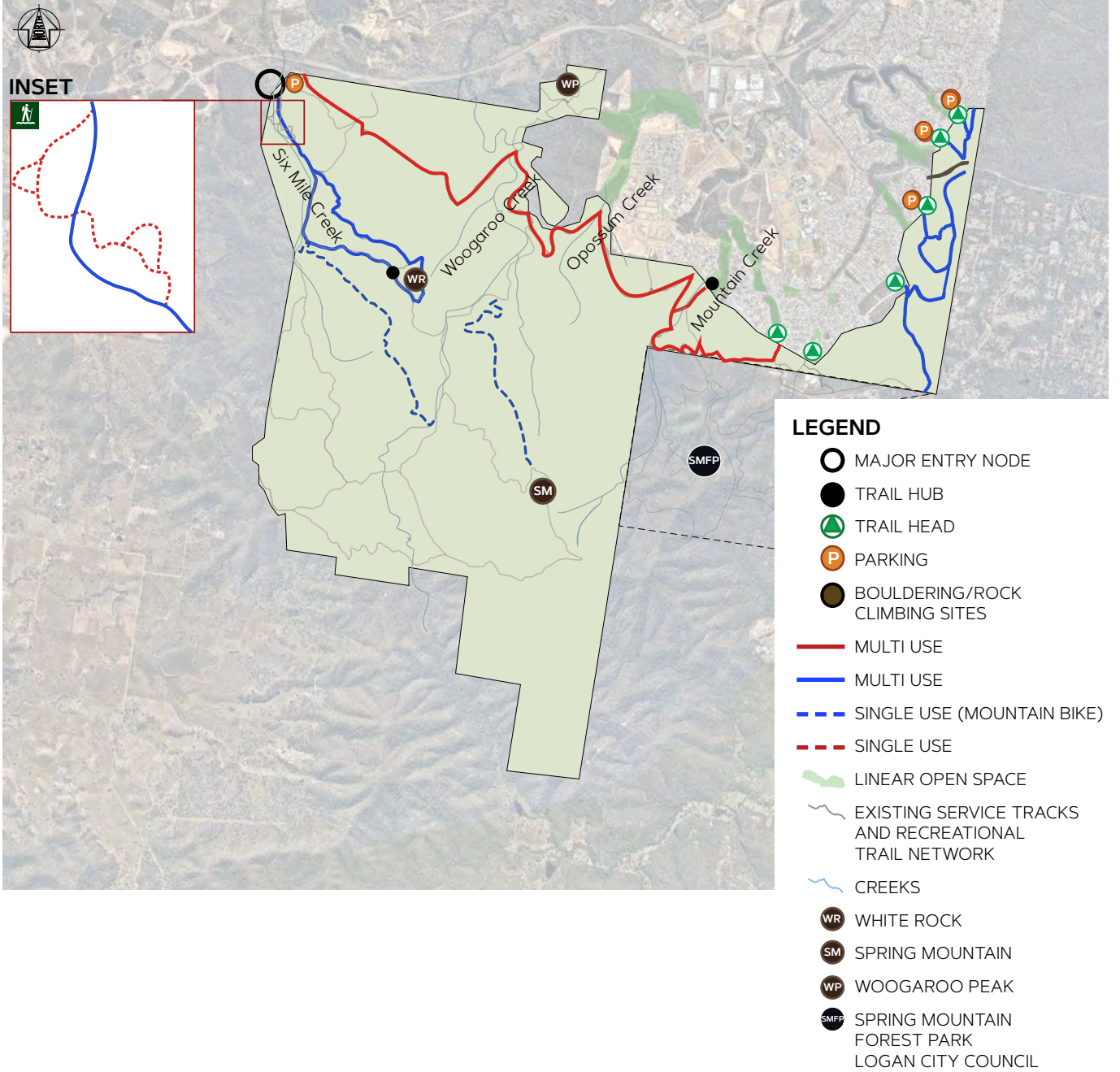
## ACTION

- Condition assessment of existing service track network will be undertaken in relation to conservation protection, cultural heritage protection and visitor safety if tracks are to be integrated into trail network
- Update land management requirements to be in line with service track audit outcome
- Development and implementation of information and wayfinding signage to new trail heads, trail hubs and tracks. Signage design to reflect Ipswich City Council Natural Areas Signage Manual
- Investigate total securement of estate boundary
- Undertake program to gain total boundary securement of estate.



Artists impression of the boardwalk across Six Mile Creek towards The Bluff, through Paperbark forest and Slender Milk Vine

# 15.1 Existing Map





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