



GROUP GSA



SOUTHERN PARKLANDS M12 CORRIDOR REVIEW

Submission to RMS

For: Western Sydney Parklands Trust

Date: 18.11.2019

Southern Parklands M12 Corridor Review RMS Submission

For Western Sydney Parklands

Issue	Title	Date	Prepared	Checked
1	Preliminary Issue	08.03.2018	LI / SH	SH
2	Client Issue	22.08.2018	LI / SH	SH
3	Client Issue	20.09.2018	TF / SH	SH
4	EIS Review	15.11.2019	LI / SH	SH
5	EIS Review	18.11.2019	LI / SH	SH

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1.0 SOUTHERN PARKLANDS OVERVIEW

This chapter summarises the current planning proposals for the Southern Parklands within the Western Sydney Parklands Corridor.

SOUTHERN PARKLANDS IN PARKLANDS CONTEXT

Context within the Western Sydney Parklands

The Western Sydney Parklands are located in the centre of Western Sydney. They comprise a 27km corridor stretching from Quakers Hill in the north to Leppington in the south. The Southern Parklands is a 1,500 ha area of the Western Sydney Parklands bounded by Elizabeth Drive in the North and Bringelly Road in the South.

The Parklands is characterised by its diversity, and is a multi-purpose corridor. The Parklands includes major recreation facilities, play areas, picnic grounds, employment, business and tourism as well as extensive bushland areas important for conservation and environmental values.

Planning the Parklands

The Plan of Management 2030 (POM) outlines the roles and future planning of the Parklands as a whole and including the Cecil Park and other Southern Parklands Precincts.

Objectives for the Parklands include :

- Planning for a variety of uses including recreation, tourism, business, farming and bushland.
- Making the Parklands enjoyable for all ages, cultural groups and backgrounds,
- Sustainability in the development and management of the Parklands,
- Making the Parklands welcoming and inclusive,
- Provide educational opportunities,
- Making the Parklands accessible to all,
- Ensuring the Parklands are developed in a viable manner,
- Developing the Parklands in partnership with stakeholders and community.

Planning by the RMS

The development of the M12 and upgrade of Elizabeth Drive is embedded in the Western Sydney Infrastructure Plan 2018. Infrastructure in this area of Western Sydney is servicing the Western Sydney Airport, Western Sydney Airport Growth Area and the South Western Growth Area.

SOUTHERN
PARKLANDS

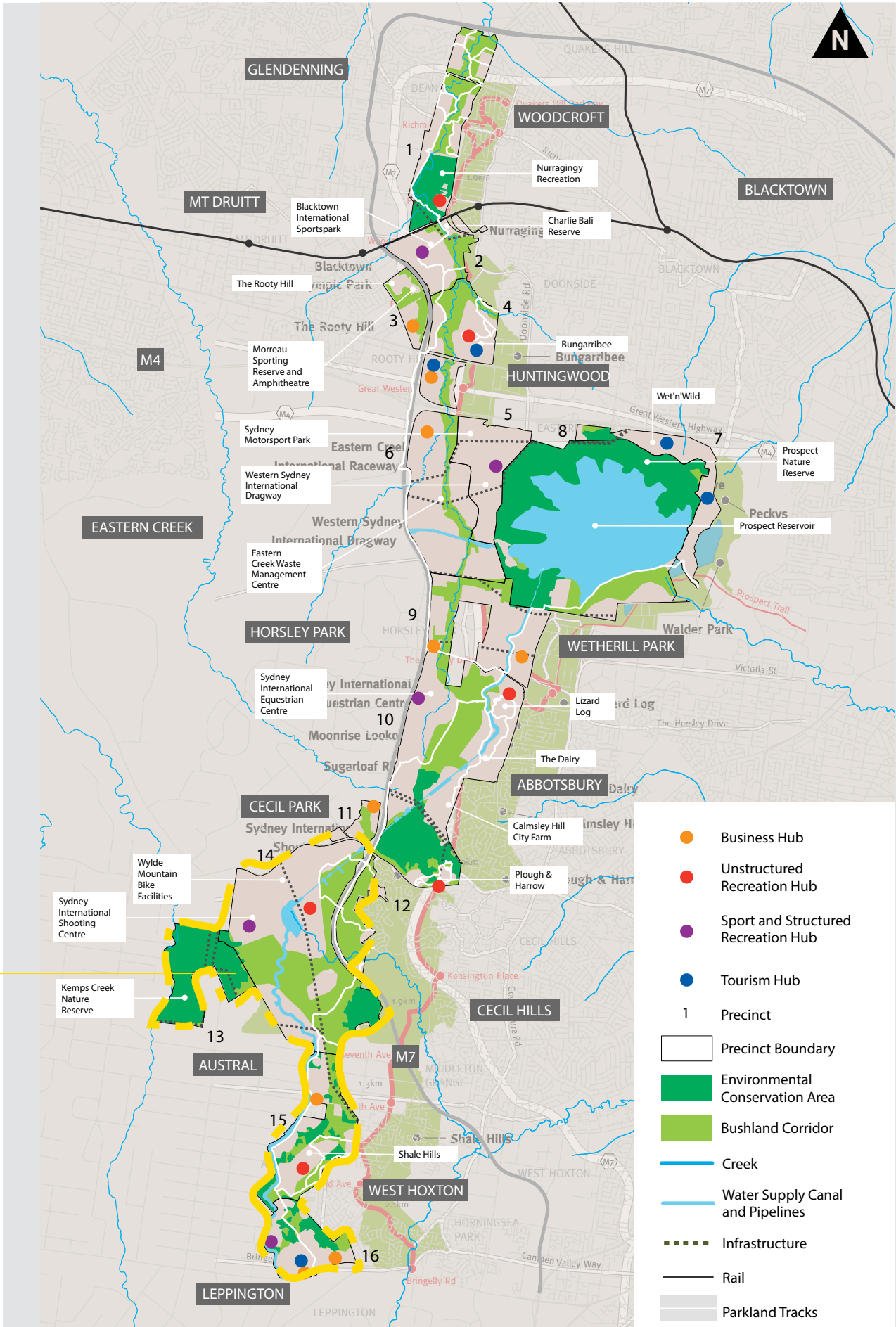


Figure 01
Western Sydney Parklands Corridor, Plan of Management 2020



Wooded hills and valleys of the Cecil Hills Precinct



District views from the Cecil Hills Precinct



Informal trails in the Cecil Hills Precinct



Wooded hills and valleys of the Cecil Hills Precinct

SOUTHERN PARKLANDS VISION 2036

Vision for the Southern Parklands

The Southern Parklands are currently some of the least developed parts of the Parklands. Key to the master plan for the Southern Parklands is the provision of recreation amenity for the City, District and Local communities. The Southern Parklands also has a strong emphasis on the conservation and enhancement of the natural landscape and ecological communities.

Refer Figure 2 for the Southern Parklands Vision Plan.

Cecil Park Precinct

The Cecil Park precinct is planned as a destination hub with a range of recreational and tourism uses including a venue for major outdoor events. The Wylde MTB is located in the Cecil Hills Precinct, located in the wooded hills area alongside Elizabeth Drive. The area is typified by scenic slopes and valleys, areas of Woodlands and an expanded focus on water.

Key objectives identified for the Precinct in the POM include:

- Create a major destination for recreation, sport, entertainment and tourism.
- Conserve and protect the natural landscape and ecological corridors as a setting for regional activities.
- Expand recreation and visitor accommodation opportunities around the Wylde MTB and Sydney International Shooting Centre (SISC).

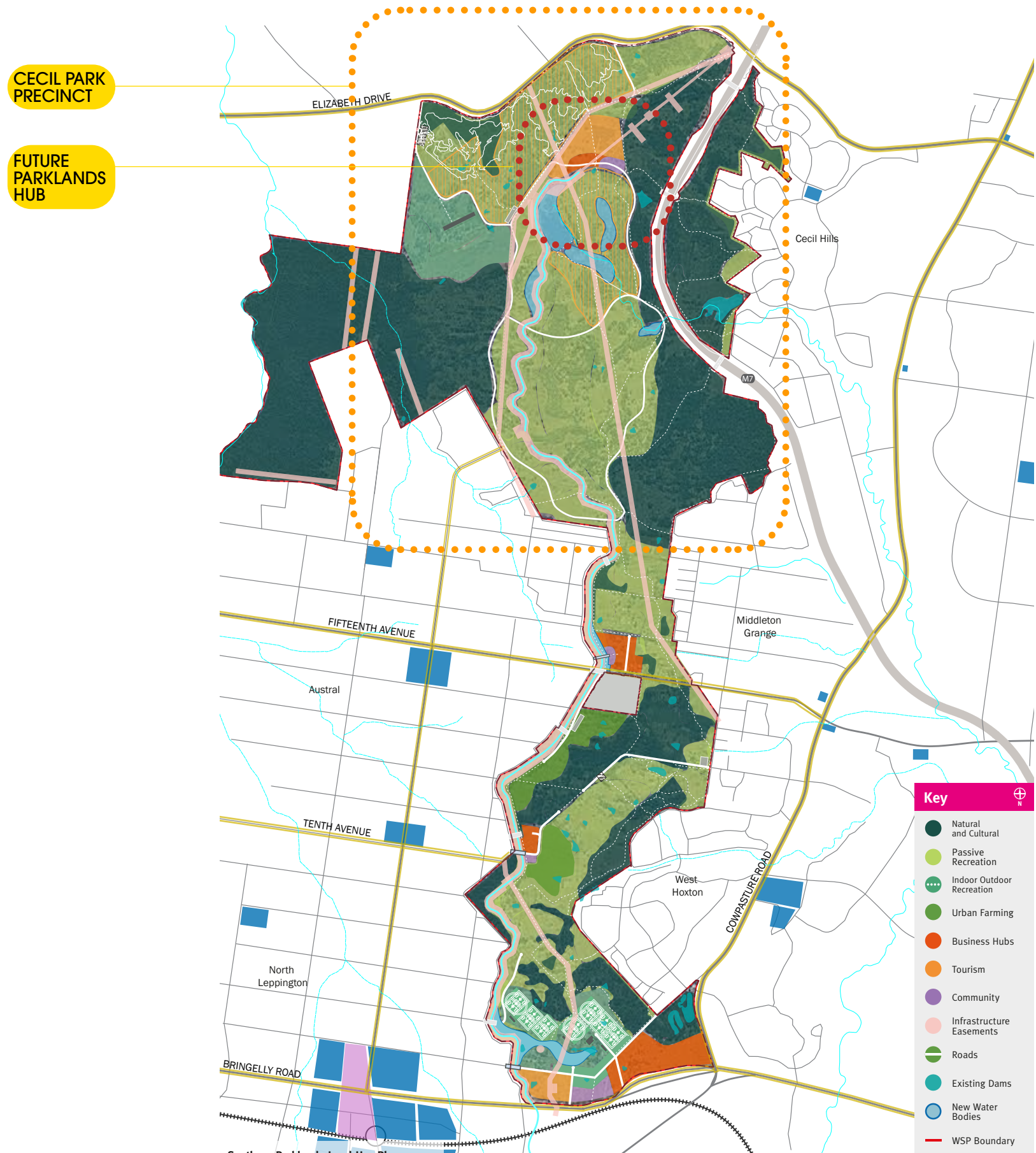


Figure 02
Southern Parklands Vision Plan 2036

SOUTHERN PARKLANDS LANDSCAPE FRAMEWORK

The Trust is currently preparing a landscape framework that further develops the Vision 2036 document and will form the basis for the detailed planning and staged development of the Southern Parklands.

Framework of Land Uses

The Cecil Park precinct in the northern area of the Parklands is strongly focussed on sports and recreation, along with associated tourism opportunities. These uses are framed within a hilly and wooded landscape.

Opportunities for the Parklands in the Cecil Park Precinct include :

- A major unstructured recreation hub for picnic, BBQ, play, cycling and walking.
- Dog exercise areas.
- Cafe and food outlets.
- A major active recreation and sports hub including the Wylde MTB, SISC and varied destination activities such as parkour, climbing and indoor sports.
- Tourism including hotel, camping ares, and entertainment venues.
- Retention and protection of areas of natural and cultural importance.



Figure 03
Southern Parklands Landscape Framework Plan / WSPT - Tyrell Studio

WYLDE MOUNTAIN BIKE TRAIL AND FACILITIES

MTB Facilities

The Mountain Bike Trail (MTB) site is located on Elizabeth Drive, with the entry from the Range Road which is shared with the Sydney International Shooting Centre (SISC).

The MTB facilities includes various trail types, entry precinct and an adjacent open and flexible area for event use.

Trail Types

- Kids Loop - Small loop for beginners and inexperienced riders.
- 3km Loop - Single trail. Also suitable beginners and inexperienced riders.
- 6km Loop - Single trail for higher level of skill and fitness.
- 12km Loop - Higher level of skill and fitness
- Jump Run - Two separate take-off mounds and many steps, for practice before hitting the MTB Trail.
- Pump Track - Track mounds for practice before entering the MTB Trail

MTB Activity and Entry Precinct

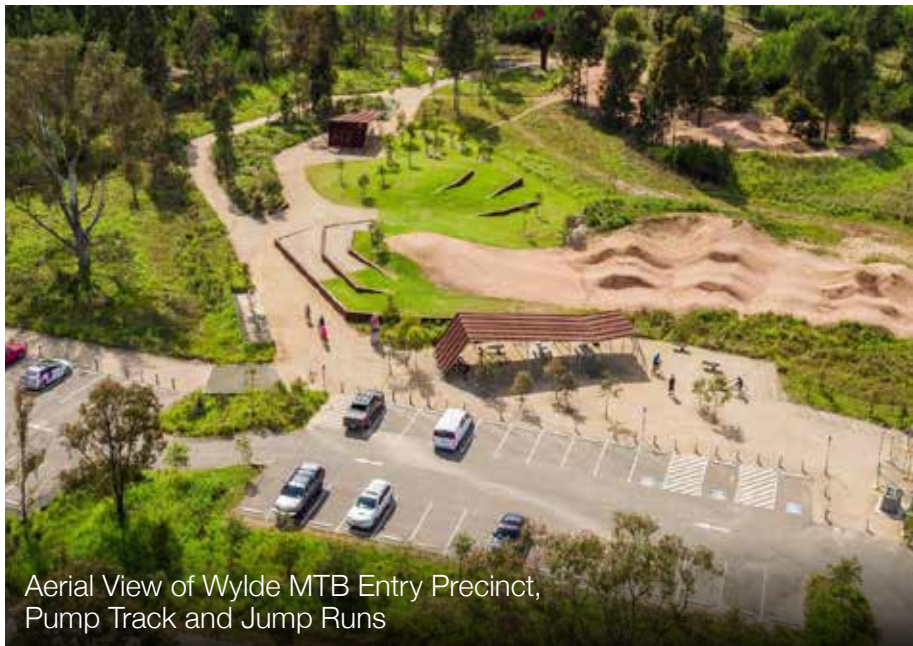
- Training area with jump runs and pump track.
- Orientation and socialising area and shelters.
- Permanent car parking.
- Toilets



Wylde MTB Entry Precinct Shelters



Wylde MTB Entry Precinct



Aerial View of Wylde MTB Entry Precinct, Pump Track and Jump Runs



Wylde MTB Trails



Wylde MTB Entry Precinct



Wylde MTB Entry Precinct

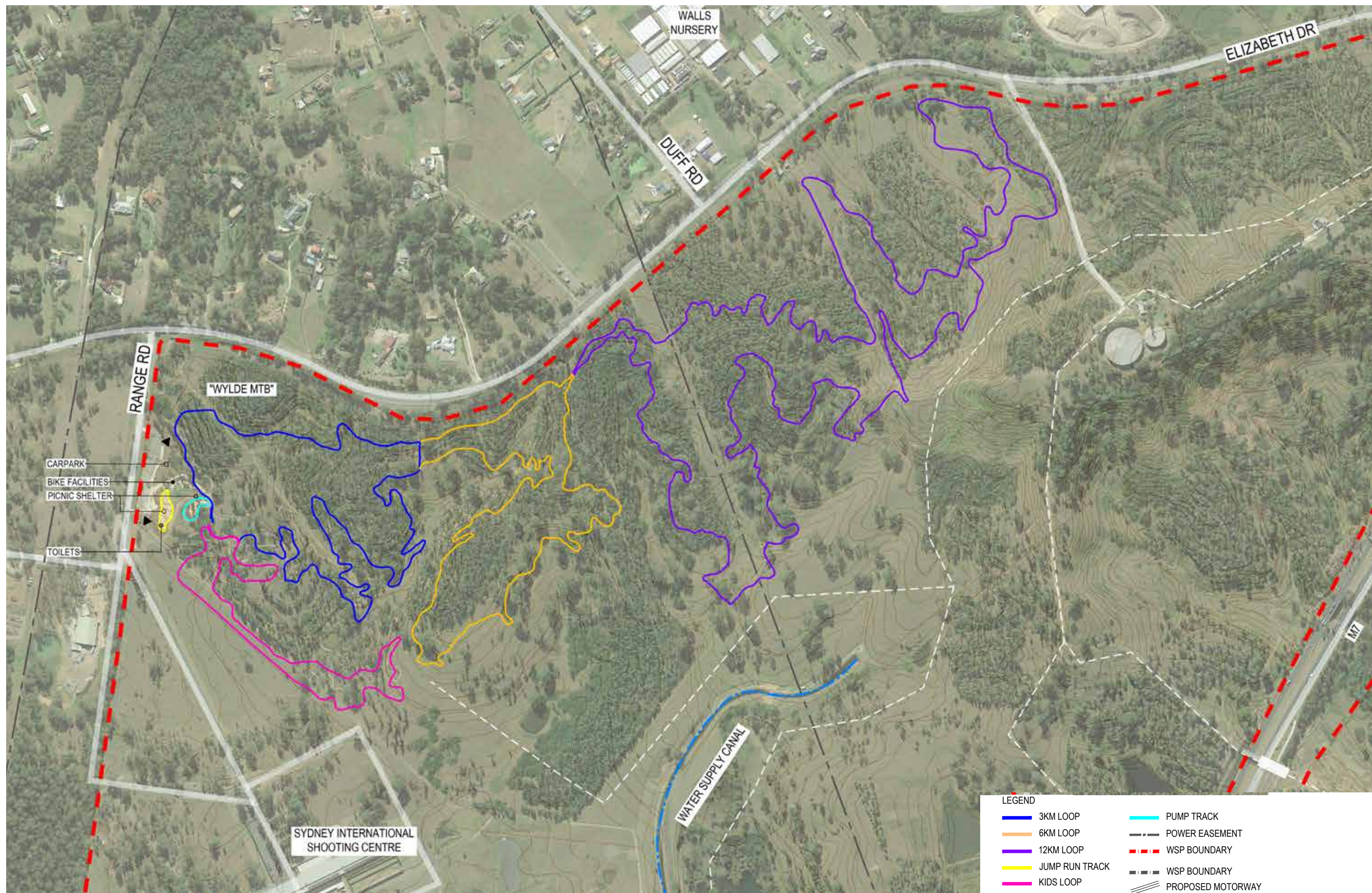


Figure 04
Wylde MTB Entry Precinct and Trails



ENTRY PRECINCT, PUMP TRACK + JUMP RUNS

MTB Entry Precinct

The entry precinct establishes the identity for the trail precinct. The entry precinct is a focus for the day to day use of the site.

Key features of the concept plan include:

- Jump run start mounds defined as iconic landmarks in the site.
- Structures provided for gathering, shade and shelter, and iconic landmarks in the landscape.
- Central pedestrian spine links the entry area with the activity nodes of the jumps runs, pump tracks and to the trail start.
- Car park for 82 car spaces
- Toilets located near car park.
- Signage and mapping information.
- Bike wash down area.
- Public art totem.
- Site planned for possible expansion of facilities.



Figure 05
Entry Precinct Plan

EVENT USE

Event Types and Scales

The MTB trail operates in various modes with different access and use requirements

Large Event Mode:

- Up to 1500 riders partaking in races.
- Attracts sponsors and spectators.
- Large proportion of the riders will camp at the site.

Mid Size Event Mode:

- Up to 500 riders partaking in races.
- Attracts sponsors and spectators.
- Large proportion of the riders will camp at the site.

Programming Events

During mid to large race events the use of the site changes to accommodate the requirements of the volume of race participants, organisers, support staff, sponsors, and visitors. Race events of this type generally occur over the course of a weekend.

The operation of the precinct during event mode is based on:

- The permanent hard stand car parking in the main precinct would be used for staff and organisers.
- Secondary temporary ‘event’ entry established in adjacent lands.
- Utilisation of the adjacent lands for race organisation, marshalling, camping.
- For weekend events, approx 80% of participants would camp overnight.



Figure 06
MTB Event Mode Plan



2.0 REVIEW OF THE M12 PROPOSAL

This chapter summarises the proposed M12 alignment and impacts on the Parklands. Principles are developed for mitigation of the impacts and compensatory works identified.

M12 AND ELIZABETH DRIVE IMPACTS

Overview of Impacts

Design Height of the M12 Roadway

- The final design height of the M12 roadway impacts the extent of cut either side of the roadway.
- At the crossing of Range Rd, the roadway is an elevated bridge, approx 8m above road level.
- Opportunities for crossing the M12 are influenced by height relationship between M12 and Elizabeth Drive and Parklands levels.

Restricted Ability to Connect from Elizabeth Drive

- The primary entry to the northern precinct of the Southern Parklands will be from Elizabeth Drive.
- Entry roads into the Parklands include Duff Road alignment and Range Road.

Realignment of Elizabeth Drive

- The future realignment would likely encroach towards the Parklands in some areas.

Road Alignment Impacts on the MTB Trail

- The proposed M12 alignment overlaps the Wylde MTB Trail, and will effectively remove the area of existing trail which runs along the northern edge of the Southern Parklands. Refer following pages for more detailed review.
- There is potential to reinstate MTB Trails in the Range Road proximity, between the M12 embankment and Elizabeth Drive, which would be reinstated following the M12 construction.

Direct Impact on the Existing MTB Entry Precinct

- The planned M12 roadway alignment overlaps the current entry, parking, pump track / jump run areas, which effectively requires the removal of the MTB entry precinct to construct the M12 Bridge.

Construction

- The impacts on construction, and the requirements for storage, management and safety curtilages will impact the operation of the MTB facility in the construction period.

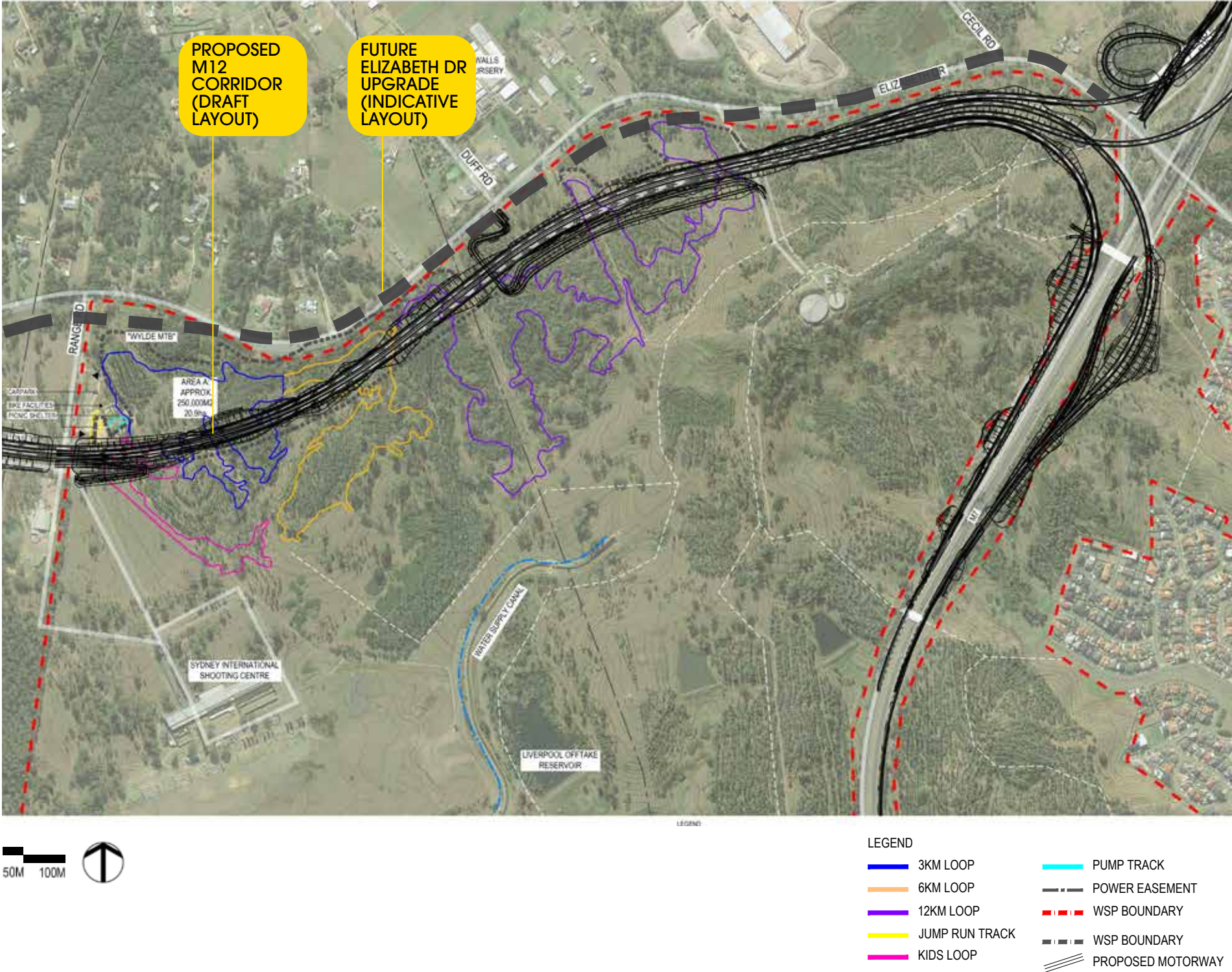
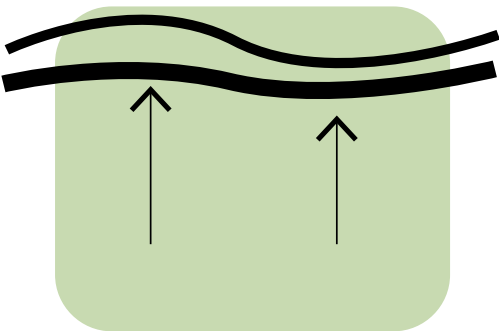


Figure 07
Overlay of M12 on to Northern Precinct

DESIGN PRINCIPLES; PARKLAND AND ENTRY

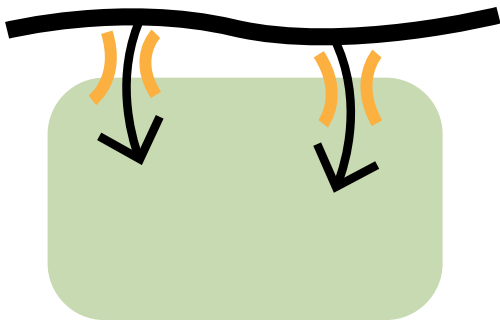
Protect Park Edges

- Align the Motorway as close to Elizabeth Drive as possible to maximise the usable land within the Parklands and minimise superfluous land within the Parklands.



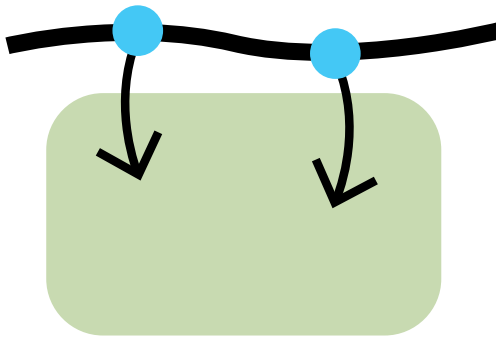
Park Entry Experience

- The entry experience to the Parklands to be a quality outcome enhancing the sense of arrival.
- Provide quality culverts or bridge underpasses connecting to the Parklands.
- Entries to cater for future planned venues and destinations within the Parklands.



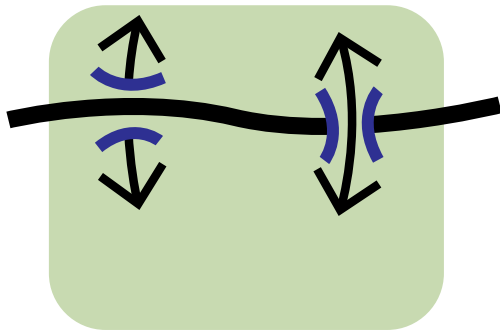
Legible Park Entries

- The main entry for the Northern Precinct of the Southern Parklands will be accessed off Elizabeth Drive.
- Ensure the entry to the Parklands has a generous clear and legible connection.
- Provide a minimum of two main Parkland entry points, with signalised intersections to facilitate safe egress into and out of the Parklands.
- Main entries to cater for vehicle, cycle and pedestrian connections separated by landscape buffers.
- Secondary entrance to Parklands either off Range Road or Mamre Road.
- SISC to be connected with a direct and legible park entry.



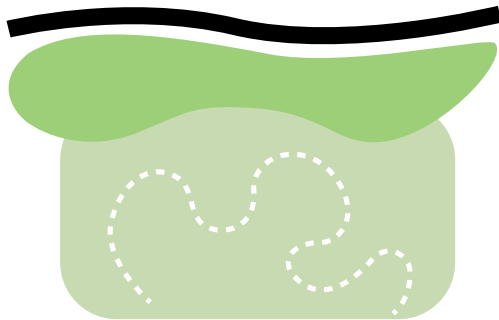
Permeability Within the Parklands

- Ensure underpasses or bridges are provided over and under the M12 to ensure permeability for park users and to facilitate the movement of fauna.



Minimise Visual Impact Of Motorway

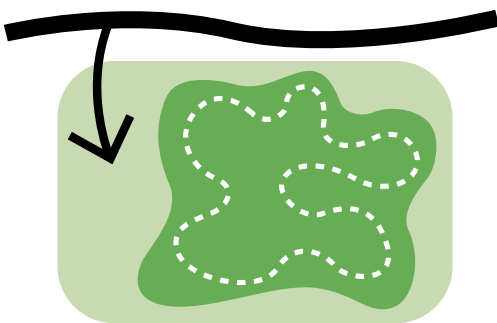
- Ensure well planted landscape treatments to the edges of the Motorway.
- Create sufficient landscape buffer and transition between the Motorway and the park uses, using endemic Cumberland Plain plant species.
- Retain as many existing mature trees as possible within the Parklands.



DESIGN PRINCIPLES; MTB TRAIL

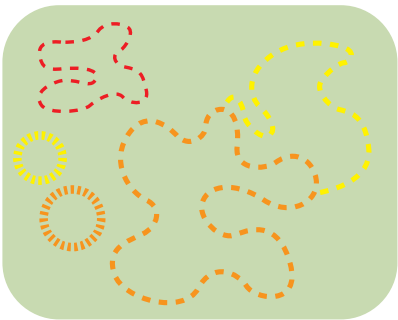
MTB Trail Experiences

- Ensure sufficient area within the dedicated trail areas for the trails to be contained within the woodland and undulating landscape
- Provide sufficient buffers to other land / park uses or Motorway.



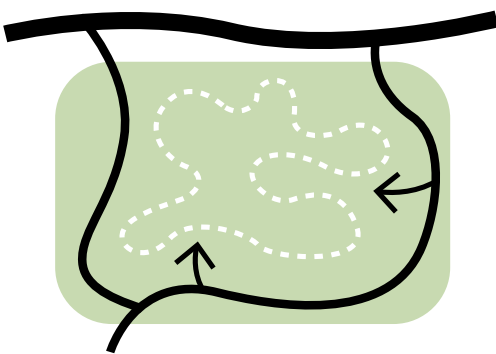
MTB Facilities and Trail Quality

- Ensure the new Wylde is a high quality recreation experience equal to and better than the current Wylde, with design inclusions to meet above expectations for mountain biking riding experiences available in 2018



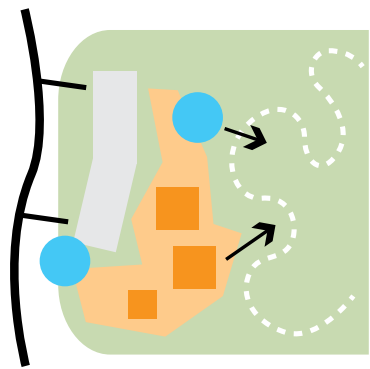
MTB Contiguous Trail Areas

- Ensure the areas allocated for the MTB Trails are contiguous and are not interrupted by road crossings or other park trails.
- Provide bridges or underpasses if needed to achieve contiguous travel for MTB trail users that enhance the existing natural setting and park experience.



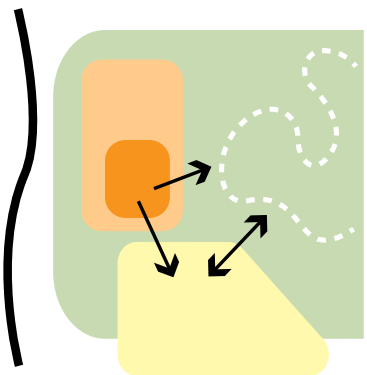
MTB Entry Precinct.

- Ensure the new Wylde entry precinct is a high quality recreation experience equal to and better than the current Wylde,
- Entry Precinct to include areas for carparking, public toilets, shaded seating areas.
- Connection to trail head.
- Connection to the event use area



MTB Flexibility for Event Use

- Area required for event use , with flat open grassed areas suitable to camping, stalls and gathering areas.
- Event use area to be connected to entry precinct
- Ensure access for future event use to allow traffic flow for community events with visitation numbers ranging in scale from 5,000 to 20,000.



AREAS OF IMPACT

Impact of the M12 on Northern Edge of Parklands

The alignment of the M12 Motorway is concentrated along the northern edge of the Parklands. The benefit to the Parklands is a consolidated impact.

The loss of usable park lands includes the M12 Motorway itself, as well as the embankments either side of the roadway, which will form the corridor for the M12.

Elizabeth Drive Realignment

It is planned that Elizabeth Drive will be realigned to provide a more even and consistent road geometry. The likely impact of this will be that Elizabeth Drive will be closer the Parklands - and the M12 - in some areas. An estimated road geometry for Elizabeth Drive is been shown on Figure 08.

Impacted Areas of the Existing MTB Trail

The direct impact on the loss of usable areas for the MTB trails is shown on Figure 08. The areas of impact include:

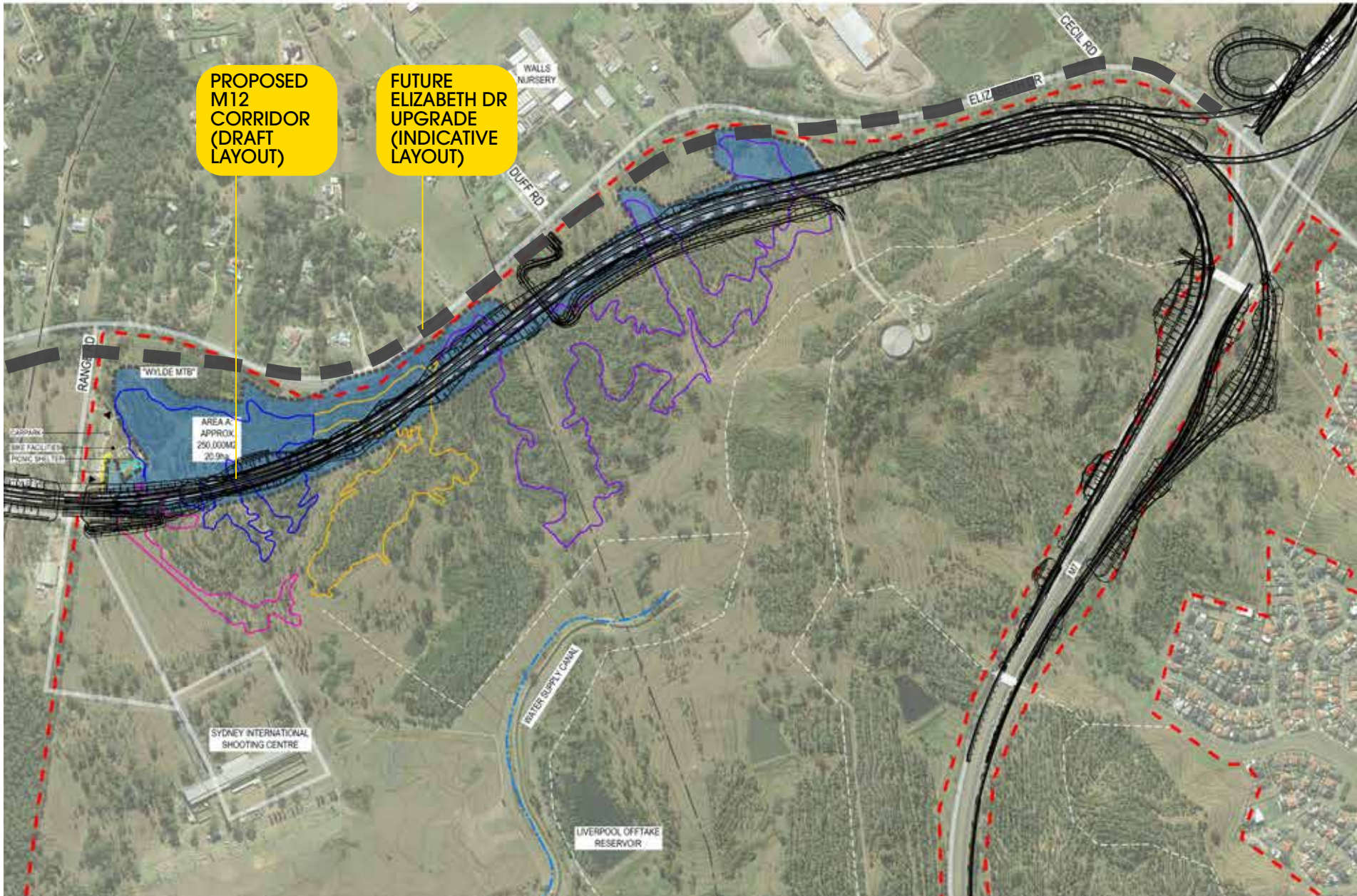
- Areas of the MTB Loop trails.
- Entry precinct, including car parking, toilets, signage, pump tracks and shelters.

Schedule of Works to be Reinstated

To avoid prolonged impacts to the operation of Wylde MTB, it is planned to relocate the entry precinct and tracks to a new location prior to the commencement of the construction of the M12 Motorway.

Reinstatement works to include:

- + Car park - Fencing, lockable gates, gabion wall entries, car parking with one-way circulation. Capacity 82 including; 75 light vehicle, 3 disabled, 4 long spaces
- + Two shelters, viewing areas, landscaping and corten walling
- + Public art element.
- + Furniture including bike racks, bench seating, bins, 3x Bubblers, bollards
- + Bike wash down facility.
- + Toilets and associated brown water septic/irrigation system
- + Signage / wayfiind signage.
- + Revegetation and planting areas.
- + Kids Loop Trail- Small loop for beginners and inexperienced riders.
- + 3km Loop - Single trail. Also suitable beginners and inexperienced riders.
- + 6km Loop - Single trail for higher level of skill and fitness.
- + 12km Loop - Higher level of skill and fitness
- + Jump Run - Two separate take-off mounds and many steps, for practice
- + Pump Track - Track mounds for practice before entering the MTB Trail.



LEGEND	
— 3KM LOOP	— PUMP TRACK
— 6KM LOOP	--- POWER EASEMENT
— 12KM LOOP	--- WSP BOUNDARY
— JUMP RUN TRACK	--- WSP BOUNDARY
— KIDS LOOP	--- PROPOSED MOTORWAY

Figure 08
Areas Impacted by M12

LANDSCAPE FRAMEWORK INTEGRATION

The Southern Parklands Landscape Framework proposes the following uses in this area of the Parklands;

- Structured Recreation and Sports,
- Tourism, and
- Unstructured Recreation.

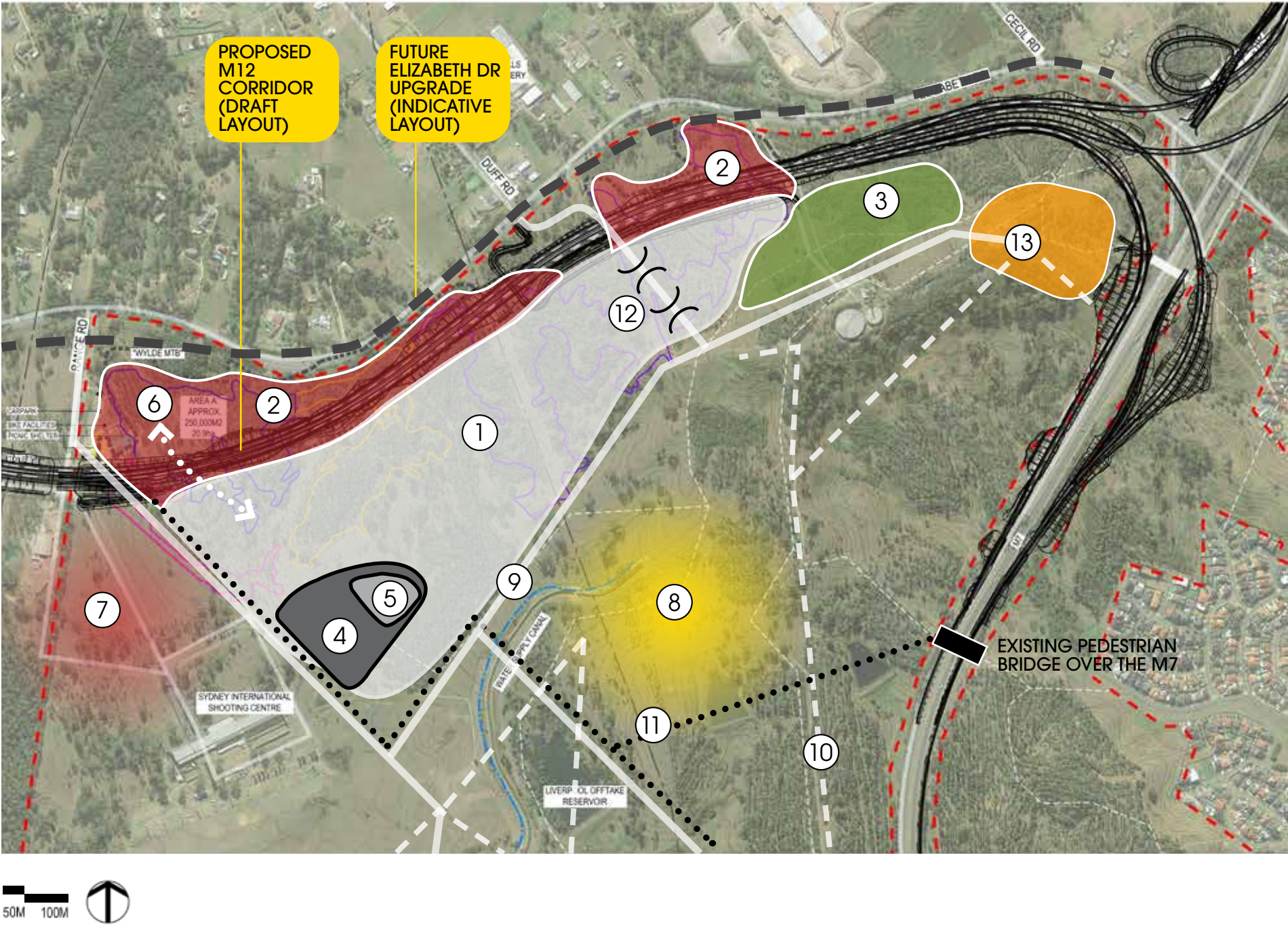
The Wylde MTB is an anchor use in the structured sports hub of the Parklands. The co-location of the MTB Entry precinct with the SISC and other new uses will further enhance the northern area of the Parklands as a major sports and recreation destination.

Opportunities for tourism, entertainment and accommodation will also be focussed in the northern area of the Southern Parklands.

Implications for Wylde MTB

Within the Landscape Framework, Wylde MTB provides a strong destination anchor which is co-located with other active recreation uses. The following principles underpin the planning for the rebuilding of Wylde and are shown on Figure 09.

- Maintain existing MTB Trails where possible.
- Construct new trails connecting to the existing trails, focused on the sloping and wooded hills on the northern edge of the park.
- Locate the Wylde Entry precinct in proximity to the SISC and future Unstructured Recreation Hub, with the primary entry off Range Road.
- Plan for parking and other visitor amenities to benefit other nearby destinations.
- Plan for event uses to utilise the tourism and accommodation opportunities.
- Integrate the MTB trails Duff Road entry design to achieve separation between MTB and vehicles.
- Utilise new road layout to connect to the relocated Wylde entry precinct.



- | | | | |
|----|------------------------------|-----|---|
| 1. | EXISTING MTB TRAILS | 7. | SPORT AND STRUCTURED RECREATION HUB |
| 2. | AREA OF REMOVED TRAILS | 8. | UNSTRUCTURED RECREATION HUB |
| 3. | NEW MTB TRAIL AREA | 9. | PARKLANDS ROAD |
| 4. | NEW WYLDE MTB ENTRY PRECINCT | 10. | CIRCULATION PATHWAYS |
| 5. | POTENTIAL BMX FACILITY | 11. | CYCLE ROUTE |
| 6. | POTENTIAL MTB TRACKS | 12. | MTB TRAIL CULVERT OR LAND BRIDGE CROSSING |
| | | 13. | POTENTIAL TOURISM / HOTEL SITE |

Figure 09
Northern Parkland Framework

ENTRY ROADS

Duff Road Entry

Connection to Elizabeth Drive and Bridge Over the M12

The proposed Duff Road entry off Elizabeth Drive will be a major entry point for visitors to the Parklands . The Duff Road entry is via a bridge over the M12, with a new signalised intersection at Elizabeth Drive.

As a major park entry, the built outcome of the road entry, embankment and bridge needs to reflect the Parklands design character and quality. The bridge form, alignment and road geometry is to be developed with the WSPT to ensure an integrated and cohesive outcome will be achieved.

The performance criteria of the bridge is to cater for two traffic lanes in each direction, entering and leaving the Parklands. The intersection with Elizabeth Drive is it cater for a signalised intersection with two lanes each direction, to accommodate visitation during events and peak periods.

The Duff Road entry will also need to cater for shared pedestrian and cycle entry to the Parklands.

Duff Road Entry Within the Parklands

Within the Parklands, the new Duff Road entry is located within undulating and sloping landform. To accommodate the road within the Parklands will require earthworks, and bridging treatments.

The Duff Road entry connects to the Parklands in the location of the proposed MTB trails. Due to operational requirements, the MTB tracks cannot cross the entry road. The MTB trail will need to be separated from the road with bridges or underpasses.

Principles

- Provides major connection to the future Parklands Hub.
- Provide safe ‘all movement access’ signalised intersection at Elizabeth Drive.
- Bridge over the M12 provides elevated views over the Parklands
- Bridge over the M12 to be a high quality design outcome and reflects design language of the Parklands.
- Bridge over the M12 to support future access capacity requirements to the Parklands.
- Parklands gateway treatment along the Elizabeth Drive roadway, integrated with bridge abutment and embankment treatment.
- Include pedestrian / shared cycleway across bridge.
- Opportunity to identify the Parklands through the bridge design when traveling along the M12.
- The road within the Parklands will connect through hillside, creating a memorable ‘landscape’ experience.
- Separation is required between the MTB trails and road.

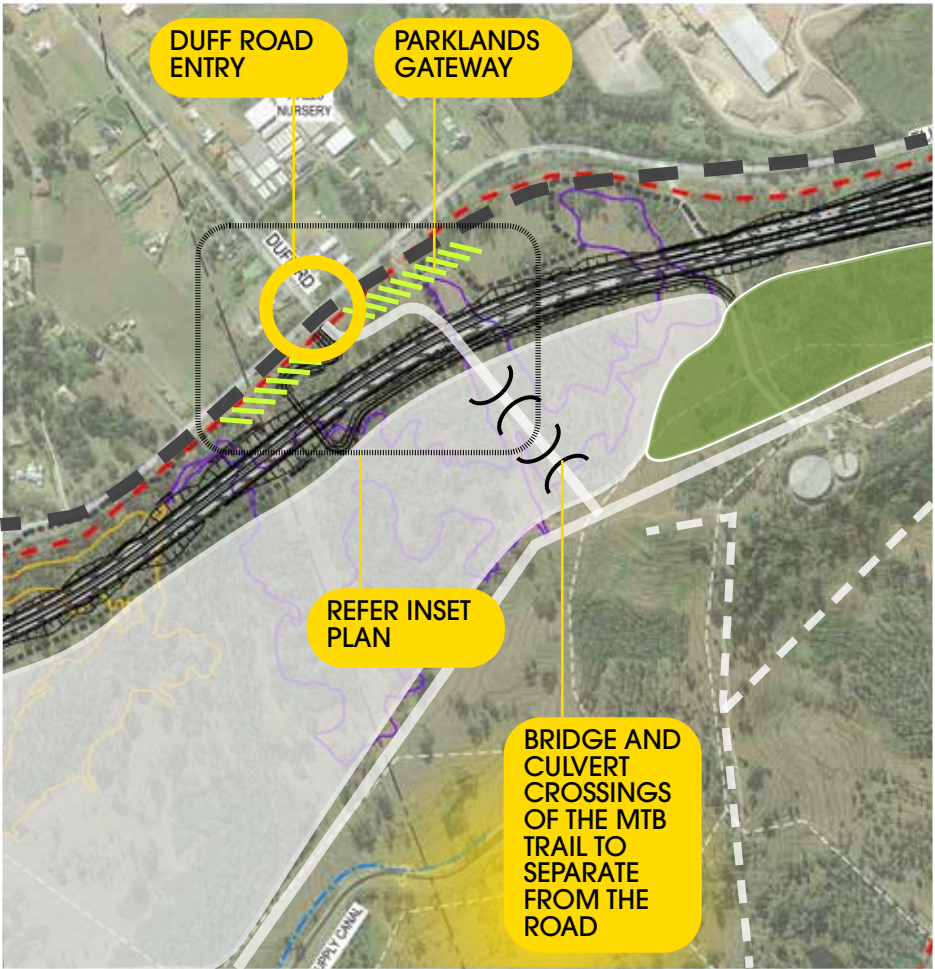


Figure 10
Duff Road Entry Parklands Connection

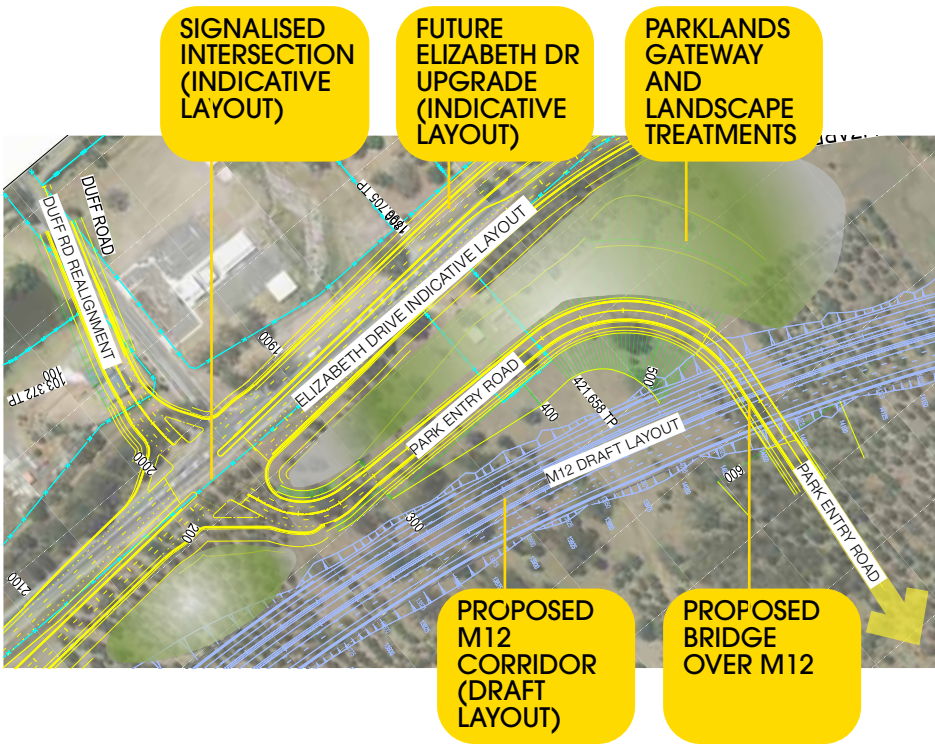
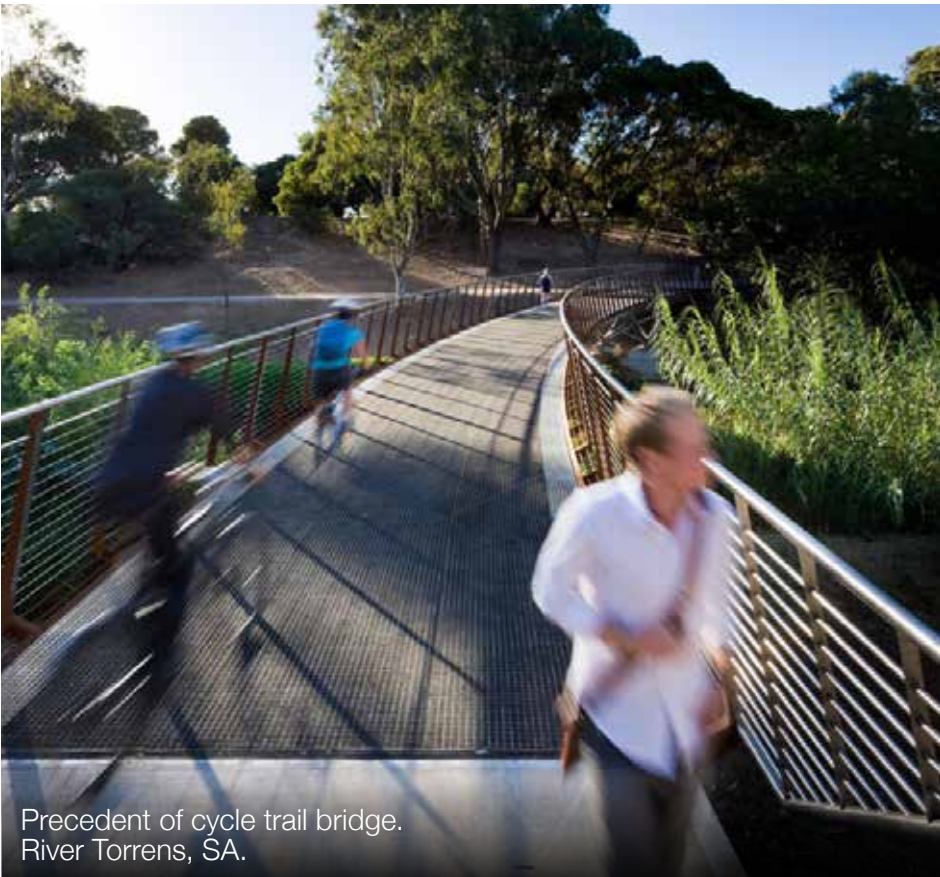


Figure 11
Preliminary Intersection Design (RMS) Duff Road Entry



ENTRY ROADS

Range Road Entry

Connection to Elizabeth Drive and Under the M12

The reconfigured Range Road off Elizabeth Drive will be another key entry point for visitors to the Parklands. The Range Road entry is under the elevated M12. The M12 bridge is approx 8m higher than Range Road at the crossing point.

The intersection with Elizabeth Drive is to be a signalised intersection to include all traffic movements, to allow connectivity and safe egress to and from the Parklands.

As a key park entry, the experience of the bridge underpass needs to reflect the Parklands character and quality. The bridge underpass needs to establish a quality public domain outcome for visitors entering the Parklands in vehicles as well for pedestrian / cycle amenity.

Principles

- Provide safe 'all movement access' signalised intersection at Range Road and Elizabeth Drive.
- Provides a clear gateway to the future Parklands Hub.
- Connects well to the SISC, Wylde MTB Trail and future Parklands Hub.
- Underpass under the M12 bridge provides a quality entry experience.
- Provides provision for the cycleway shared path through the Parklands.
- Cycleway connects to the M12.

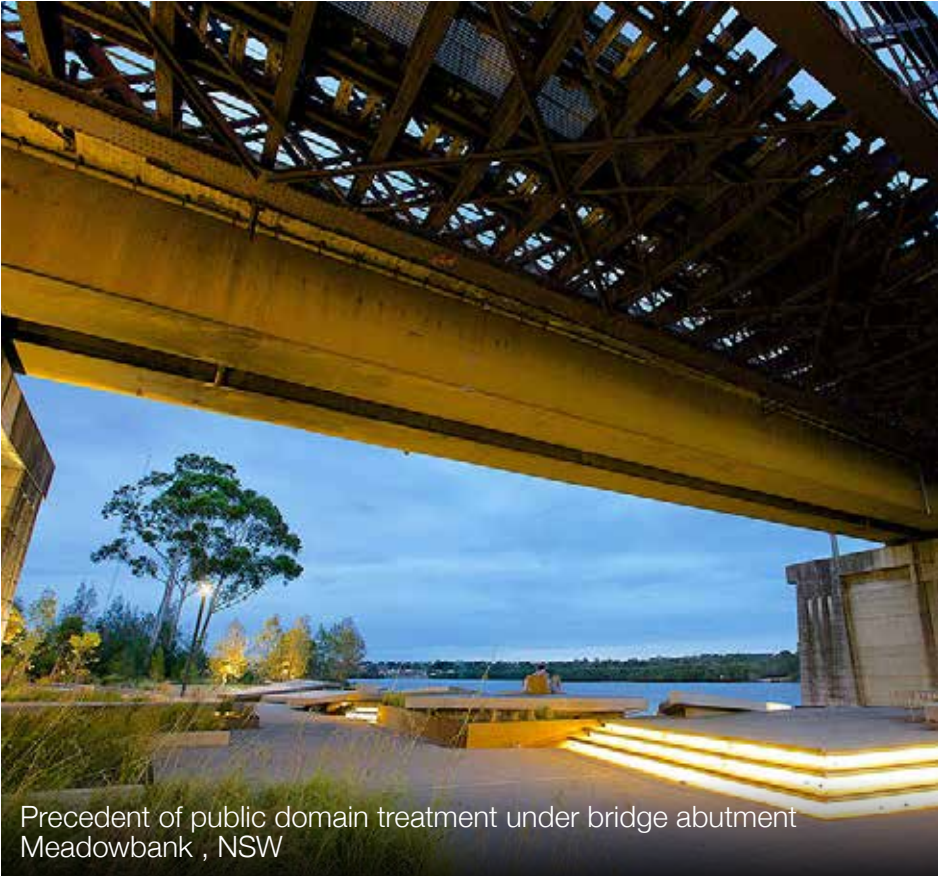
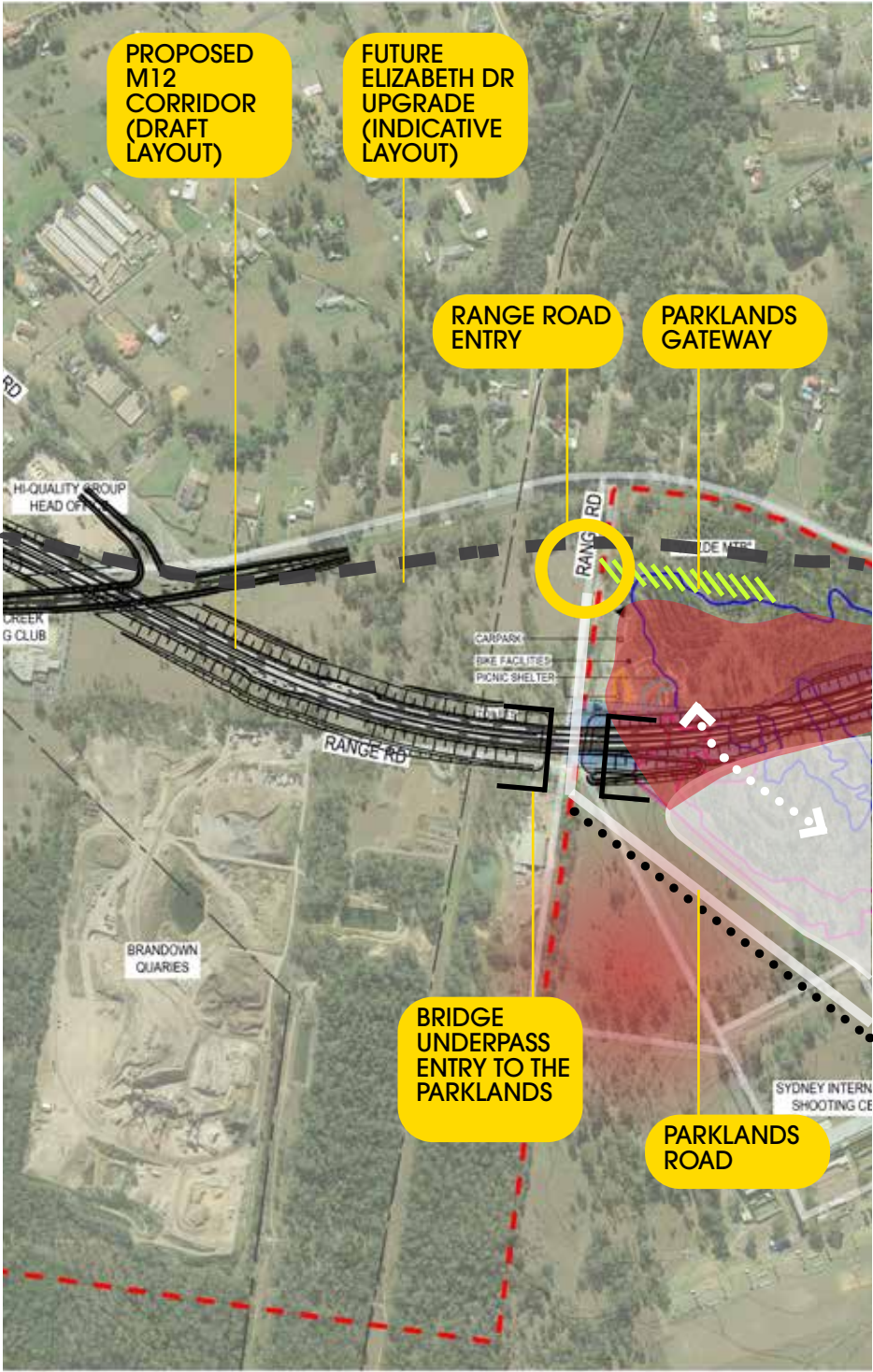


Figure 12
Range Road Entry Parklands Connection

POTENTIAL CYCLEWAY LINKS

There are a network of recreation paths planned in the Southern Parklands which cater for cycle and pedestrian use. The paths create circulation within the Parklands connecting to different uses and destinations.

Outside the Parklands a regional Shared Path currently runs alongside the M7. This Shared Path provides connection to other precincts of the Western Sydney Parklands, surrounding residential areas and other local parks. The paths are currently connected to the Southern Parklands with three bridges over the M7.

Shared Path Link Within the Southern Parklands

RMS requested that the Trust review the potential opportunity to accommodate a shared path linking the M12 to the M7 through the Parklands.

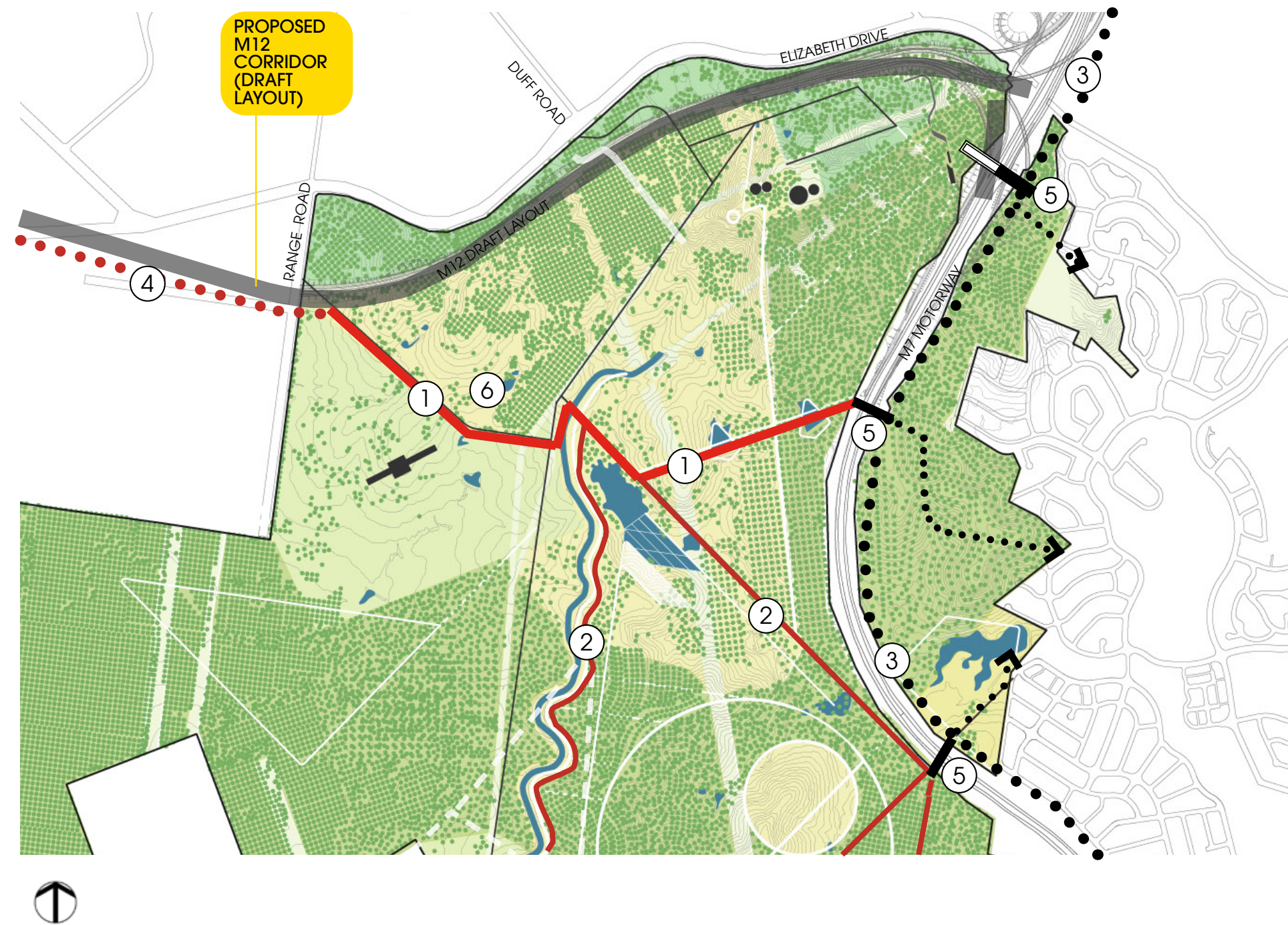
The options provided by RMS did not align with the future master planning for the precinct, and was therefore determined to not be a suitable option. The Trust has developed a potential suitable alignment for consideration.

The proposed main link through the Southern Parklands would accommodate the regional shared path function. This shared path connects the M7 to the proposed M12 shared path.

This path would accommodate faster speed cyclists passing through the Parklands. The shared path would be lit to the standard of the M7 shared path to allow function for recreation and commuter users.

The alignment for the shared path connects along the proposed Mirror Dam Path to the central area of the Parklands, past the proposed new Wylde MTB Entry Precinct to the Range Road entry and would create a memorable experience.

If the RMS does not wish to pursue this alignment then it is recommended that the cycle link be provided next to the M12 within the proposed road corridor.



- 1. POTENTIAL SOUTHERN PARKLANDS CYCLEWAY - MAIN LINK BETWEEN M7 AND M12
- 2. FUTURE SOUTHERN PARKLANDS CYCLEWAYS
- 3. EXISTING M7 SHARED PATH
- 4. PROPOSED M12 SHARED PATH
- 5. EXISTING PEDESTRIAN / CYCLE BRIDGES OVER THE M7
- 6. FUTURE WYLDE MTB ENTRY PRECINCT

Figure 13
Northern Parklands Cycleway Connections

FUTURE VISITATION TO THE SOUTHERN PARKLANDS

Projected Visitation

Long term it is anticipated that the Southern Parklands (1,500ha) will receive more than 20million visits per annum. The visitation in the early years of the Southern Parklands will be less than this figure, but will grow over time as the facilities within the Parklands are developed.

It is anticipated that the Cecil Park Precinct (600ha) adjacent to the proposed M12, will receive over 10million visits per annum.

The following figures provide a comparison to other Parklands with mixed uses and regional amenity ;

Bungaribee Precinct in WSP:	216 ha
Phase 1 2020 : Projected Visitation	1.6 million visits pa
Phase 2 2025: Projected Visitation	4.5 million visits pa
Centennial Parklands:	360 ha
(Centennial, Moore and Queens Park)	
2017 Visitation	31 million visits pa

Requirements for the Southern Parklands

Given the projected visitation of the Southern Parklands Precinct, it is imperative that effective entries are provided, connecting to the surrounding road network, and providing safe and efficient egress.

GTA Consultants have provided input into the proposed Parkland road network and the required entries into the Parkland. The northern area of the Parklands (Cecil Park Precinct) has less opportunities to create connections to the surrounding roads due to areas bushland, the M7 and the M12 corridors. Therefore it is important to achieve signalised intersections at the intersections nominated at Duff Road and Range Road.

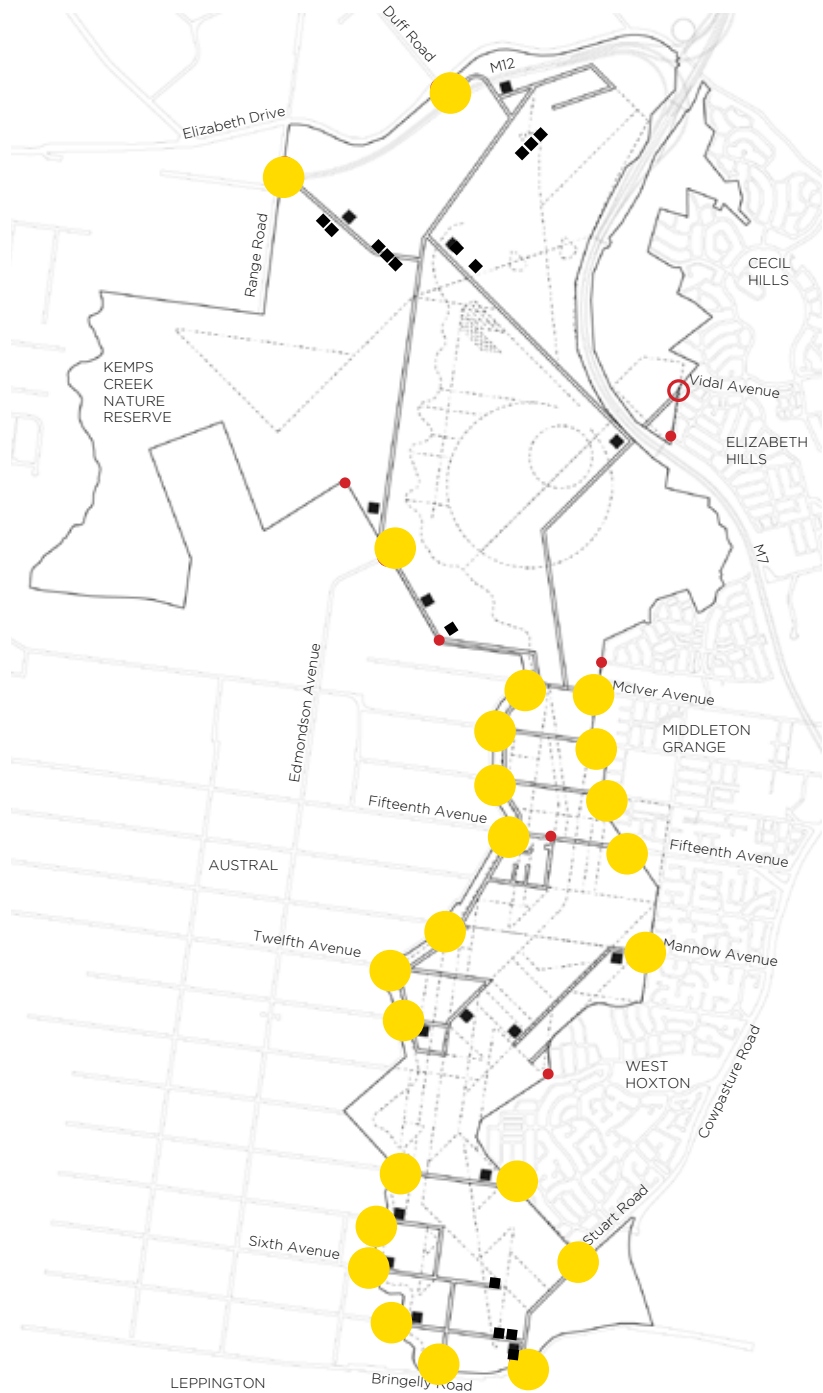
- UNSTRUCTURED RECREATION:
- ACTIVE RECREATION AND SPORTS:
- NATURAL AND CULTURAL HERITAGE CONSERVATION:
- URBAN FARMING AND RURAL:
- COMMUNITY FACILITIES:
- TOURISM:
- BUSINESS HUBS:
- LONG TERM INFRASTRUCTURE:

Figure 14
Draft Southern Parklands, Land Uses Plan by Tyrell Studio



- Vehicular Park Entries
- Car Parking
- Parkland Roads

Figure 15
Draft Southern Parklands, Road Network and Park Entries



IMPLEMENTATION

The implementation of the rebuilding of the Wylde MTB Trail and Entry Precinct will be impacted by the works outlined below, which need to be considered in the project planning of both Wylde MTB rebuilding and the M12 construction.

In general, Wylde MTB Trails and Entry Precinct rebuilding will be undertaken prior to the building associated with the M12 works.

Range Road Entry

There will be a period of building associated with the Bridge over Range Rd for the M12. The timeframe for road closure or road restrictions on Range Road is to be confirmed.

There are likely to be temporary access roads to the Wylde Precinct required during some of the Range Road Entry Road construction to maintain access to the entry.

M12 Construction Impacts and Timing

There will be an impact along the edge of the Parklands during the construction period of the M12. This will need to be managed to ensure that amenity and operation of the Parklands in maintained.

Duff Road Bridge and Entry

The Duff Road Bridge will be required for utility providers to access areas in the Parklands. The timeframe for closure or access restrictions until the bridge is built is to be confirmed.

The Duff Road bridge will need to be designed to accommodate the planned Elizabeth Drive intersection requirements as well as future road connections through the Parklands.



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