Tract
Landscape Architects
Urban Designers
Town Planners

Tract

phillipisland
nature parks australia

Summerland Peninsula Trails Master Plan

Summerland Peninsula, Phillip Island

Prepared by **Tract Consultants**
for **Phillip Island Nature Parks**

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195 Lennox Street, Richmond, VIC 3121
T (03) 9429 6133 **F** (03) 9429 5925
www.tract.com.au

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01 INTRODUCTION

1.1 Purpose of this Document

The purpose of this document is to guide the Phillip Island Nature Parks (Nature Parks) staff involved in the design and construction of the Summerland Peninsula Trails. This document provides a series of trails and viewing platforms from the Penguin Parade to the Nobbies, and sets out the guiding principles for infrastructure design, along with the Phillip Island Nature Parks Design Guidelines 2015.

Figure 1 Summerland Peninsula

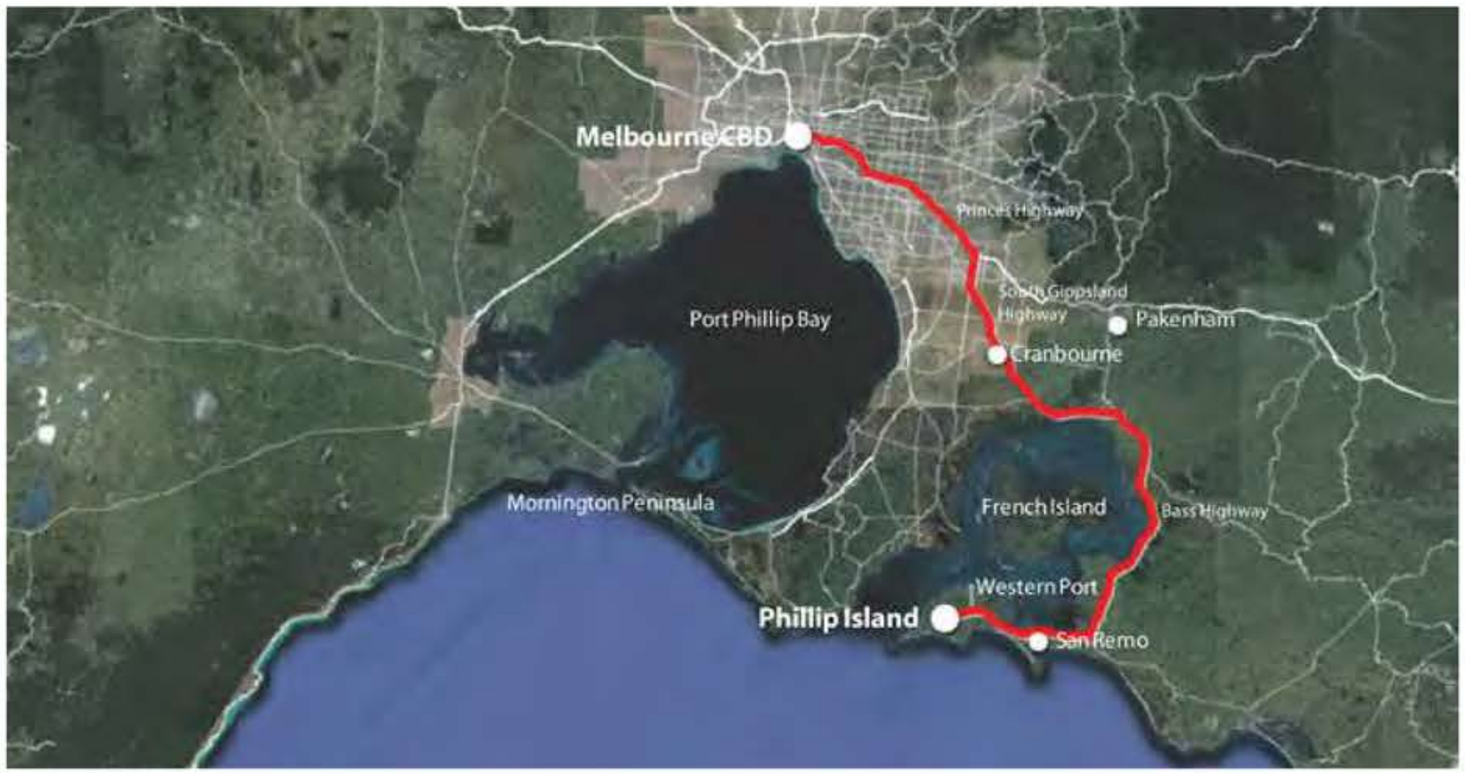


Figure 2 Site Location

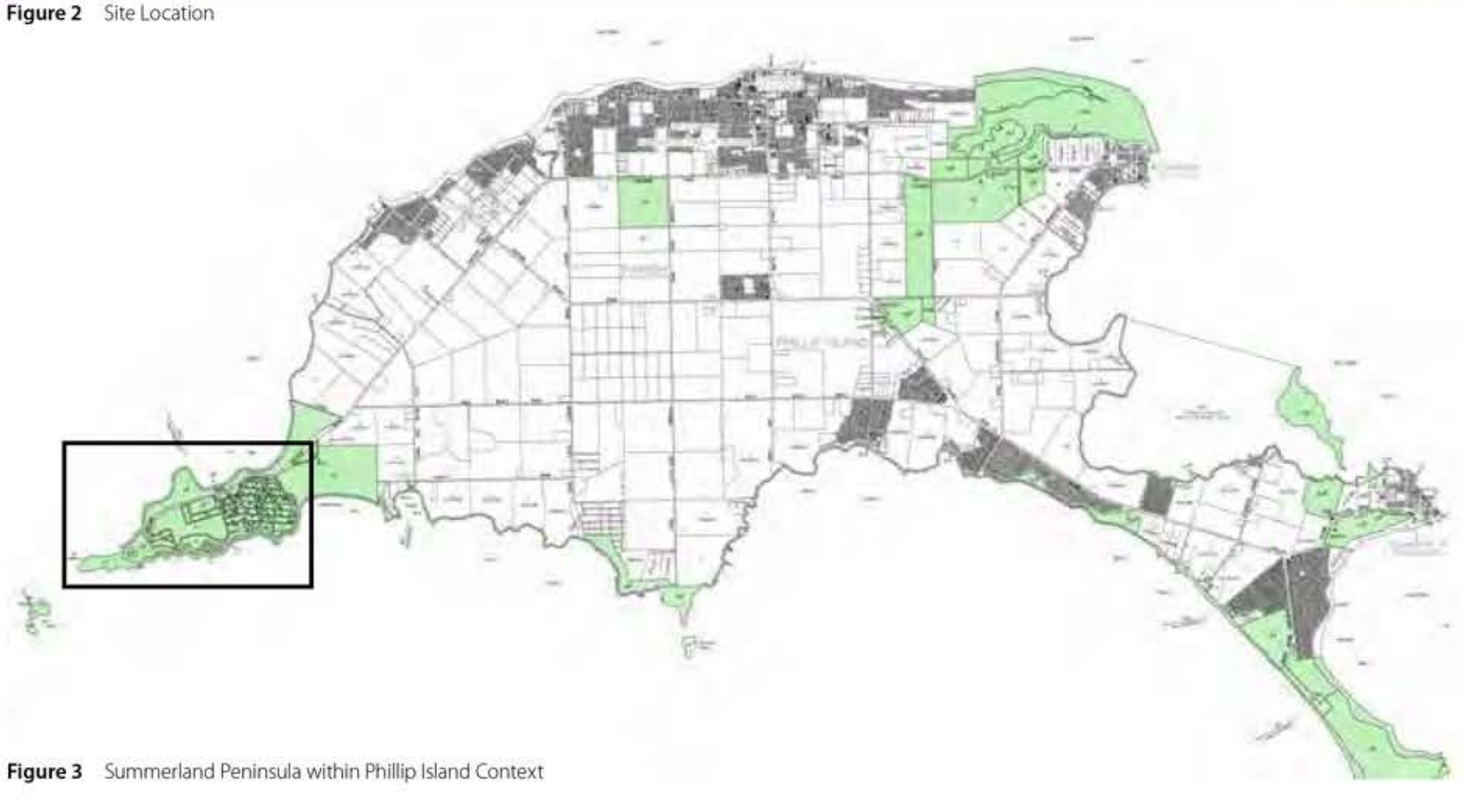


Figure 3 Summerland Peninsula within Phillip Island Context

1.2 Regional & Local Context

The Summerland Peninsula is at the western tip of Phillip Island, and is home to the number one natural wildlife attraction in Australia, the Penguin Parade. The Penguin Parade Visitor Centre currently receives approximately 600,000 paying visitors per annum (55% international) with thousands more experiencing the Summerland Peninsula for its recreational offer.

1.3 Background

The Summerland Peninsula is widely recognised as a future regional hub for nature based recreation, alongside the existing penguin tourism facilities. The existing infrastructure however, does not meet current international eco-tourism expectations, and is inadequate to cater for projected visitation growth.

The completion of the Summerland housing estate buy-back by the Victorian Stage Government in 2010 released further areas of land for integration back into Nature Parks public use and significantly changed site access and servicing requirements. This action provided a unique opportunity to reassess site design, site infrastructure and a range of values related to conservation, eco-tourism and recreation across the Summerland Peninsula.

In 2012, the Summerland Peninsula Infrastructure and Procurement Master Plan was completed, to guide the future development within the Summerland Peninsula. It is concerned with defining the nature of the Summerland Peninsula as a 'destination,' promoting its inherent values and unique qualities, and establishes a precinct wide vision that encapsulates the potential of the site for more diverse, layered, and world-class eco-tourism and recreational experiences.

There are a number of staged projects required to realise the vision of the Summerland Peninsula Infrastructure and Procurement Master Plan (2012). It was therefore critical to establish a set of Design Guidelines to provide a framework for the design and delivery of facility infrastructure and site development works. The Nature Parks Design Guidelines were completed in 2016 to provide a resource for the Nature Parks to guide and control infrastructure development across the Nature Parks network.

These two documents have been critical in guiding the development of the Summerland Peninsula Trails Master Plan – refer Section 2 – Planning & Regulatory Framework.

1.4 Study Area

The Summerland Peninsula Trails Master Plan study area is shown in Figure 4. The study area includes the entire Summerland Peninsula from the Penguin Parade Visitor Centre to the Nobbies Centre.

Note: The trail networks within and around the Penguin Parade and Nobbies Centres will be reviewed as part of future works, and as such, are not part of the scope of this document. In addition, all trails to east of the Penguin Parade Visitor Centre are not part of the scope of this document.

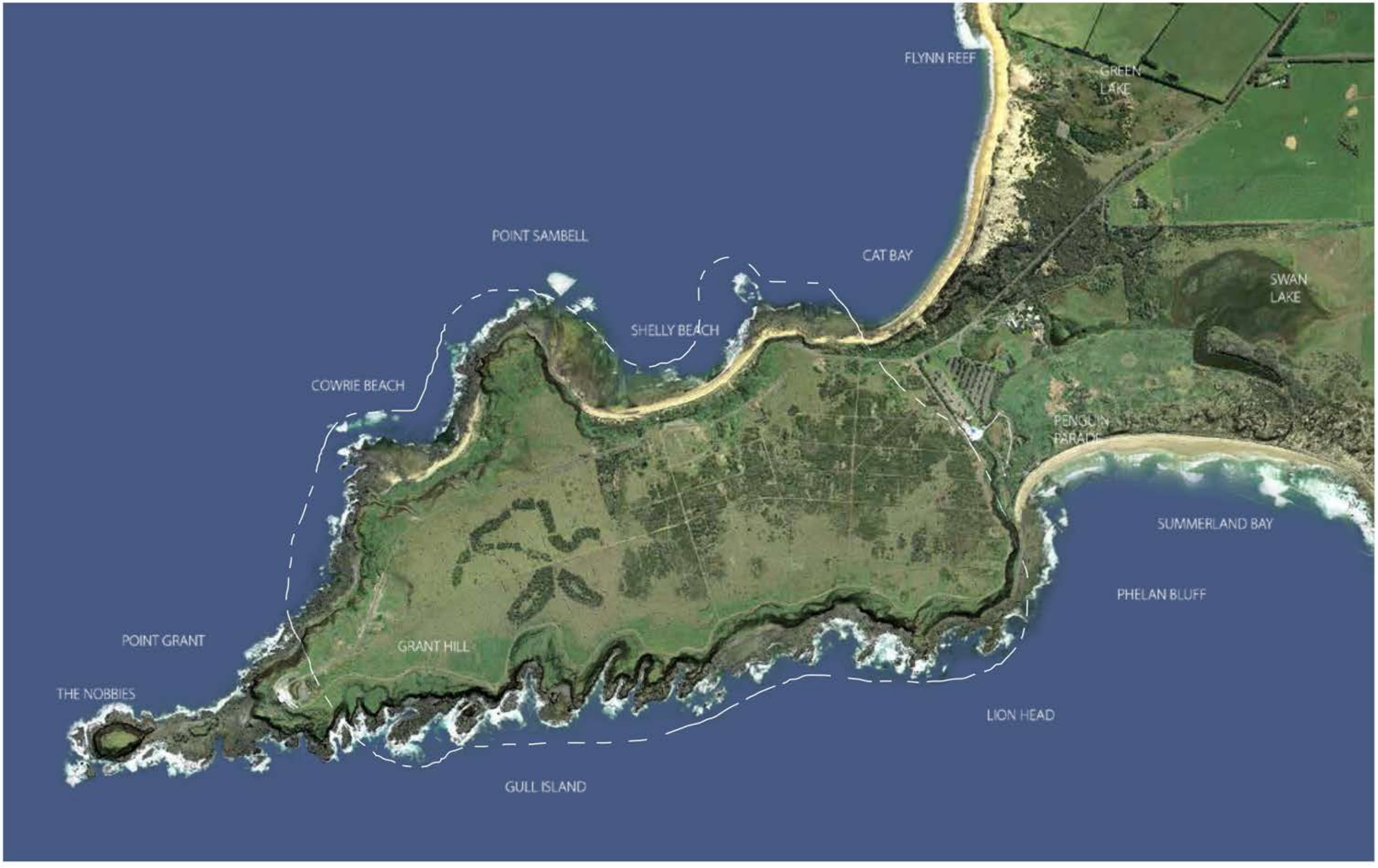


Figure 4 Scope Aerial Map

1.5 Key Drivers / Project Objectives

The Key objective of the Summerland Peninsula Trails Master Plan, is to provide a network of trails and tracks to encourage and promote visitation throughout the Summerland Peninsula. The trail network will:

- disperses visitors across the whole of the peninsula through path loops, and encourages an increased length of stay and further site exploration through alternative path options;
- respond to environmental, ecological, cultural heritage and public safety risks, including risks related to events such as fire, and vehicle / pedestrian conflict on roads;
- promote pedestrian friendly environments where visitors are encouraged to park their car at designated areas and explore the peninsula on foot or by bicycle, or through a variety of Ranger guided ecotourism tours

The Trails Master Plan will be sympathetic to the environment, and build on the unique natural and cultural features and qualities of the site, incorporating:

- shared trail loop networks for pedestrians and bicycles from the Penguin Parade Visitors Centre to the Nobbies;
- short trail loop networks of 1-2 hours walk from each visitor centre;
- elevated boardwalks within sensitive habitat areas and in scenic locations, and similar environments requiring greater pedestrian control;
- viewing platforms at scenic lookout and beach access locations;
- careful consideration of trail networks within areas of significant cultural heritage

1.5.1 Key Drivers

The implementation of a trail network within an area celebrated for its rugged scenic coastline, unique environment and habitat offering, must be driven by a set of guiding decision-making principles to ensure works occur consistently and in accordance with the vision and key objectives for the precinct.

Nature Parks Vision

To be a world-recognised place of conservation excellence, providing outstanding and authentic experiences for all.

2012 Master Plan Design Philosophy

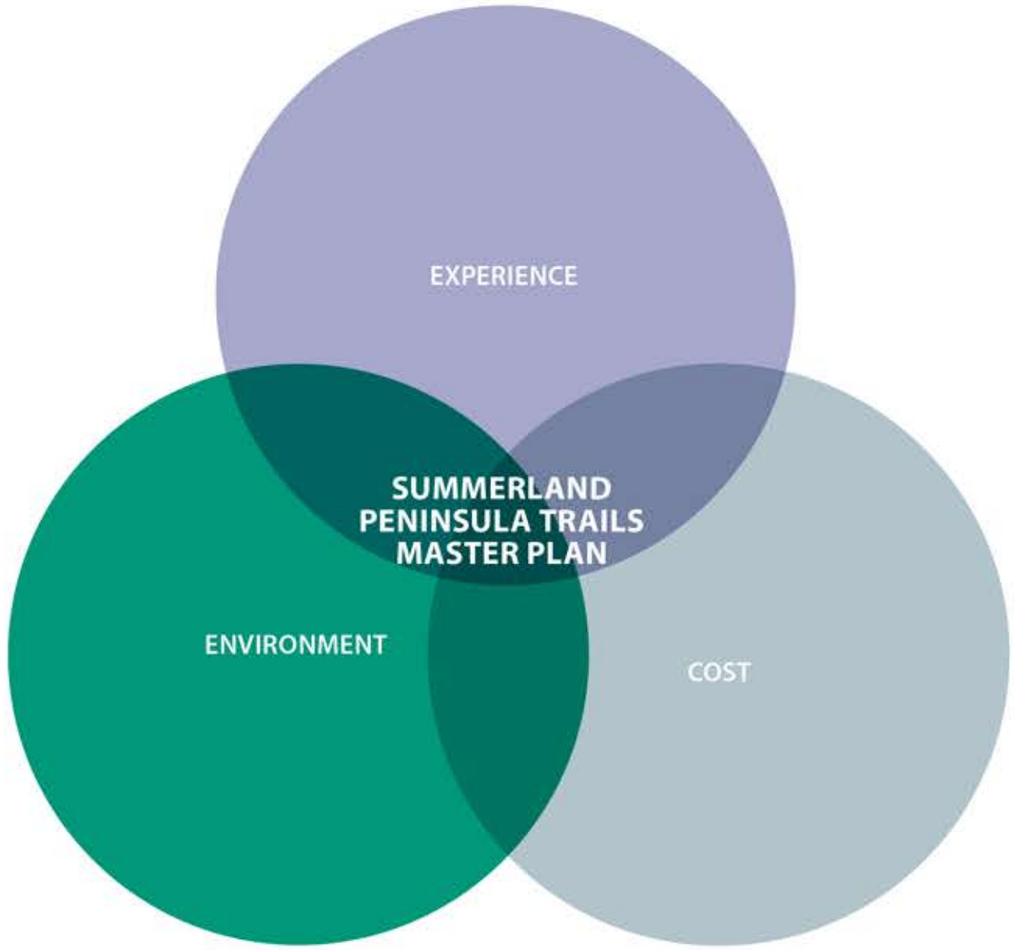
The Summerland Peninsula Infrastructure and Procurement Master Plan (2012) set a design philosophy for development within the Summerland Peninsula, that underpins the development of the Trails Master Plan:

The Summerland Peninsula is a powerful landscape that visually expresses the effects of its south coast location, its climate, geological history and the special nature of its ecological systems. This must be seen an authentic 'place' with special qualities and visitor experiences based around the qualities of the place and the environment, not as a generic 'park' venue.

Design must be place sensitive, memorable and visually communicate the fact that the visitor is in a unique physical, ecological and cultural setting.

Site Infrastructure must be designed to complement the qualities of the natural setting. This must be a place where infrastructure fits 'within' the natural landscape and is clearly shaped by natural systems. Above all, this must be a nature nominated setting where the visitor experience is dominated by the quality of the environment.

The essence of both the Nature Parks Vision and 2012 Master Plan Design Philosophy has been captured in a set of Key Project Drivers for the Trails Master Plan:



The key drivers established for the Summerland Peninsula Trails Masterplan are: Experience, Environment and Cost. The interplay between these key drivers will guide decision making in terms of path location and alignment, typology, design standards and materiality.

Figure 5 Key Drivers - Experience | Environment | Cost Diagram

ENVIRONMENT

Promote the Natural Environment

To provide a trail network that creates an immersive nature-based tourism and recreational experience. Site infrastructure must be designed to complement and enhance the qualities of the natural setting

Sensitive to the Environment

To design a trail network and viewing experience where infrastructure fits 'within' the natural landscape

To minimise vegetation loss where possible, and promote revegetation works in key locations to enhance the nature based trail experience

Minimise impact on habitat

To restrict access to sensitive areas, and where unavoidable, create elevated boardwalks over sensitive habitat locations

To ensure all new trail infrastructure maintains penguin movement paths throughout the Summerland Peninsula

COST

Feasibility

To create a Trail Network Master Plan that is feasible, costed and staged; and largely supported by key stakeholders, and community groups

Durability

The trail infrastructure should be robust and suited to the coastal environment. Designs should weather gracefully and require minimum maintenance.

EXPERIENCE

Authentic / Site specific

The trail network should provide an experience that is site specific and visually memorable, expressing the unique qualities of the site

Contemporary and world-class

To create world-class viewing experiences which promote and enhance the unique wildlife and spectacular coastal scenery, that represent best practice contemporary design standards for eco-tourism

Creating a destination

To establish the Summerland Peninsula as a key destination, and extend visitation throughout the peninsula from the main visitor hubs:

- To create a comprehensive coastal and inland trail network linking all tourism destinations, recreational offerings, and beach access locations
- To create a series of trail loops to encourage further site exploration and visitor interest, including a shared trail link from the Penguin Parade Visitor Centre to the Nobbies, and multiple short trail loops from each visitor centre

Diversity of user type

The trail network should accommodate a wide range of visitor types, interests and experiences; allowing for varying needs and abilities

Pedestrian Friendly

To establish the Summerland Peninsula as a pedestrian friendly environment where visitors will be encouraged to park at key visitor facilities (the Penguin Parade and Nobbies Centre), and then explore the peninsula on foot or by bicycle, or through a range of guided eco-tourism experiences

Minimise the visual impact on the landscape

Infrastructure design should have minimal impact on the site and its ecological and aesthetic values, promoting uninterrupted nature-based / coastal views.

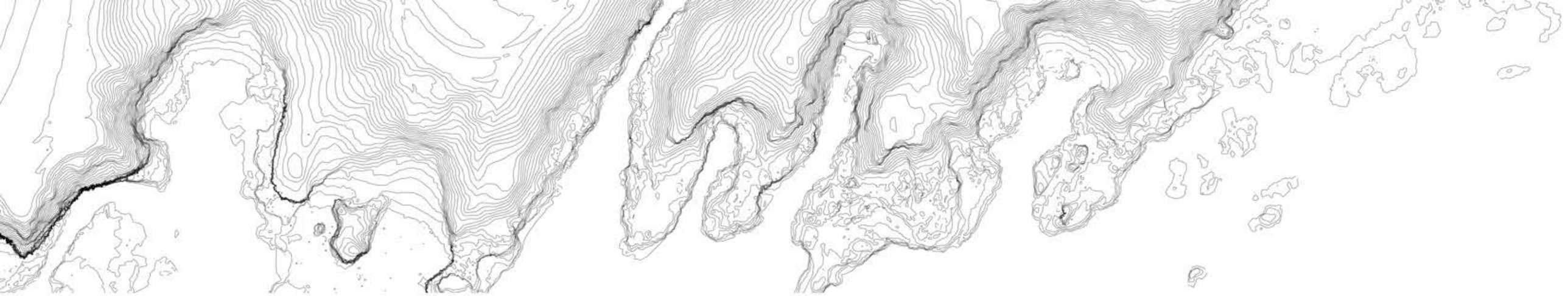
Natural systems and forms must dominate the visitor experience.

DECISION MATRIX FOR PATH TYPOLOGY & ALIGNMENT

Existing Condition Criteria / Circumstance	***"Baseline" trail requirement***
Is there an existing gravel road / track surface?	Gravel Path, upgrade surface
Is there an existing old road alignment with good drainage?	Gravel Path
Is there an existing old road alignment with poor drainage / ponding?	Low Boardwalk along old road alignment
Is it a sensitive habitat zone?	High Boardwalk, span over habitat / burrows, diamond piers
Is it an area without sensitive habitat, and easily accessible for construction?	Gravel Path
Is it an area near sensitive habitat, requiring minimal ground disturbance?	Low Boardwalk, diamond piers
Is it adjacent a high use car park?	Concrete path
Is it a creek/drainage crossing point?	Bridge
Is there a steep crossfall or slope?	Low / High Boardwalk with balustrades if required, minimising any cut/fill earthworks
Is the area prone to ponding / erosion?	Low / High Boardwalk, appropriate footings
Is it a DDA accessible path route?	All path types suitable with appropriate DDA design standards applied
Is it an elevated trail more than 900mm above ground level?	Balustrade required on fall side
Is the trail adjacent a steep batter, in excess of 1:4?	Balustrade required on slope side
Are bikes using the path, and is the path on grade?	Gravel Path, 2m min. width with clear buffer zones as detailed
Is the elevated bike path less than 500mm above ground level?	Low Boardwalk 2.6m min. width as detailed
Is the elevated bike path more than 500mm above ground level?	High Boardwalk, 2.6m min width with partial barrier as detailed

NOTES:

- "Baseline" trail refers to the most economic path choice suitable to the existing condition
- For existing old road alignments refer Figure 9 - Analysis Plan
- Refer details in Section 5 for path typologies and required standards



02 PLANNING & REGULATORY FRAMEWORK

The planning and regulatory framework provides an overview of current policy and planning regulations that apply generally to all Victorian coastal areas and where indicated, to Bass Coast Shire and Phillip Island. Further to the regulatory framework, there are a few key documents which guide the development of the Summerland Peninsula Trails Masterplan, as described in Section 1. The following is a summary of the appropriate planning and regulatory framework which has been reviewed in the development of the Summerland Trails Masterplan.

2.1 Summerland Peninsula Infrastructure & Procurement Master Plan

The Summerland Peninsula Infrastructure and Procurement Master Plan (2012) was established to guide future development within the Summerland Peninsula.

The Summerland Peninsula Trails Masterplan project is a staged outcome of the Summerland Peninsula Infrastructure and Procurement Master Plan, borne out of the following key outcomes of the 2012 Master Plan:

- Infrastructure to achieve greater visitor experience and cater for increased numbers
- Diversifying and dispersing visitors across the Summerland Peninsula through new and upgraded features, trail networks and recreational nodes to increase length of stay and maintain international overnight stay in Victoria
- New access facilities and services that support the use of Summerland Peninsula's beaches as a National Surfing Reserve
- Rehabilitated landscape with new and upgraded recreation facilities, trail networks, cultural heritage features, Interpretation systems and infrastructure which supports a wider range of social and recreational users and other daytime visitors making the site a more diverse, multi-layered visitor destination that invites exploration

The Summerland Peninsula Trails Masterplan has been developed in accordance with the principles set out in the Summerland Peninsula Infrastructure and Procurement Master Plan.

2.2 Phillip Island Nature Parks Design Guidelines

The Nature Parks Design Guidelines is the guiding source of infrastructure development for the Nature Parks, to ensure consistency, quality and infrastructure standards.

The Phillip Island Nature Parks Design Guidelines 2015 Section 4 provides an overview of infrastructure design guidelines appropriate for pedestrian and cycling tracks, roads, car parks, structures, drainage, and all other applicable infrastructure items required for implementing a Trails network within the Summerland Peninsula. Section E4 provides an overview of track planning and design requirements, including a Track Classification System for path development, and material/ structural recommendations. These guidelines also cover relevant Acts, Regulations and Australian Standards for design requirements.

The classification and design of the Summerland Peninsula Trails network encompasses these design and performance requirements, and adheres to siting and design guidelines for locations of viewing platforms at scenic locations.

Further to the above, the Design Guidelines 2015 Section 5 provides a Design Guidelines Checklist, to ensure compliance with the objectives, principles and outcomes described in the Nature Parks Guidelines. The Summerland Peninsula Trails Masterplan is compliant with this Design Checklist.

2.3 Authority / Regulatory Approvals

In establishing the Summerland Trails Masterplan, a number of authority bodies were consulted with in regards to the regulatory framework and authority approvals required for the proposed trail network, including: Department of Environment, Land, Water and Planning (DELWP), Bass Coast Shire Council and VicRoads.

In addition, a heritage consultant (Ecology & Heritage Partners) was engaged to provide a cultural heritage impact statement with respect to the Trails Masterplan.

Based on the above consultation process, the following recommendations will need to be undertaken prior to development works commencing:

2.3.1 Cultural Heritage

The Heritage Consultant has reviewed the Summerland Peninsula Trails Masterplan and has determined that the proposed Trails Masterplan will not impact upon any heritage sites of local significance or any historical sites listed on the VHR or VHI. As such there are no heritage implications under the Planning and Environment Act 1987 or the Heritage Act 1995.

The suitability of the Trails Masterplan has also been assessed against the legislative requirements of the Aboriginal Heritage Act 2006. The proposed alignment of the Trails Masterplan does not impact directly upon any registered Aboriginal places. However, there are other legislative implications under the Aboriginal Heritage Act 2006 which must be taken into consideration.

As the proposed activity - the construction of a walking track with a length exceeding 100 metres – is defined as a high impact activity under the Aboriginal Heritage Regulations 2007 (under r. 44 [1][f]) and a majority of the proposed activity is located within an area of cultural heritage sensitivity (as it is located within Crown coastal land under r. 27) and/or located within 50 m of registered Aboriginal places (under r.22) – a mandatory Aboriginal CHMP will need to be prepared prior to development works commencing.

For more information regarding Cultural Heritage, refer to the Appendix– Cultural Heritage Impact Statement by Ecology & Heritage Partners.

2.3.2 Coastal / Environmental Planning

The Department of Environment, Land, Water and Planning (DELWP) does not generally manage land directly but provides an administrative role in implementing critical legislation such as the Crown Land (Reserves) Act 1978 and the coastal management consent provisions under the Coastal Management Act 1995 (under delegation from the Minister for Environment). DELWP also provides a planning and support function for Committees of Management and Statutory Authorities, including the Nature Parks.

The proposed trails development includes areas of Coastal Crown land, which are governed by the Coastal Management Act 1995.

- The proposal will require consent under the Coastal Management Act 1995.
- Once adequate pre-planning and project development has taken place, an application for consent will need to be submitted. DELWP will assist in this process when appropriate.

DELWP has also confirmed the proposed trails development is within an area where Native Title rights and interests must be considered, as described in the Native Title Act (Cth) 1993. - This process is coordinated by DELWP, and will form part of the Coastal Management Act Consent process. Note: This process is separate from Aboriginal Cultural Heritage.

For more information regarding DELWP recommendations, refer DELWP Letter in Appendix.

2.3.3 Bass Coast Shire Council / Planning Controls

Bass Coast Shire Council manage a range of coastal areas as the appointed Committee of Management under the Crown Land (Reserves) Act 1978. Local Councils also manage Municipal Planning Schemes which provide the administrative framework for land use planning on the coast on private and public land.

The proposed trails development includes areas subject to the 'Public Conservation and Resource Zone' (PCRZ) planning controls, under the Bass Coast Planning Scheme. No overlays apply.

- Written advice regarding planning requirements should be obtained from the Responsible Planning Authority (Bass Coast Shire Council).
- Removal of native vegetation will often trigger a requirement for a planning permit.

Bass Coast Shire Council is the governing body controlling The Boulevard (South Coast Road), and development works within the road reserve are subject to their technical standards and performance requirements. Bass Coast Shire Council have reviewed the Trails Masterplan, and confirm they support the one way operation of The Boulevard from Mandeville Rd to Solent Ave.

The diversion of South Coast Road down Solent Avenue, and the pedestrianisation of the remaining section of the road to the Penguin Parade is as per the Summerland Peninsula Procurement Master Plan (2012).

2.3.4 Native Vegetation / Wildlife

Prior to development works commencing, Bass Coast Shire Council will need to determine whether a planning permit to remove native vegetation is required. For further information regarding this process, refer to DELWP comments in Appendix.

Flora and Fauna Guarantee Act - A Flora assessment that records all species of indigenous flora that will be impacted will be required to determine if a permit under the Flora and Fauna Guarantee Act 1988 will be required.

Wildlife Act – DELWP will provide more information as to whether a permit under the Wildlife Act will be required for these works. This must be confirmed before any development works occur.

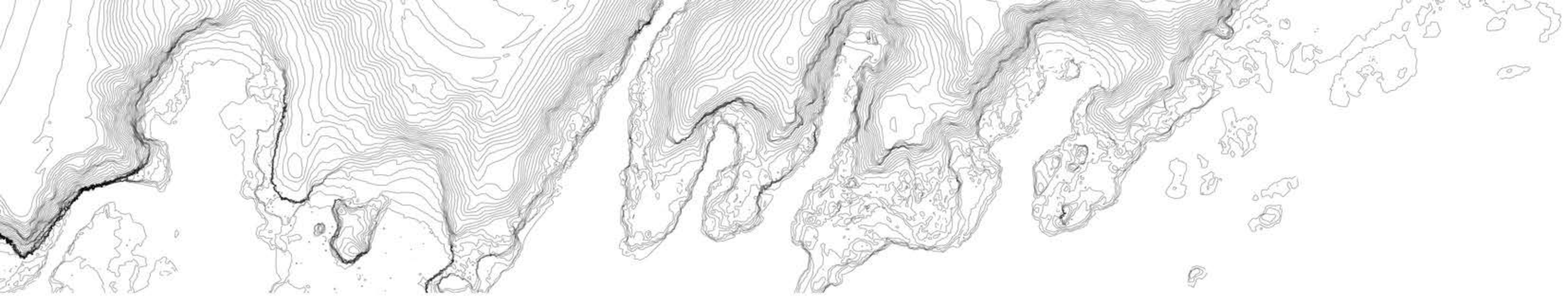
2.3.5 VicRoads

VicRoads is the governing body controlling Ventnor Road, and development works within the road reserve are subject to their technical standards and performance requirements.

VicRoads have recently confirmed a request by Phillip Island Nature Parks, to revise the existing 80km/h regulatory speed limit to 60km/h for the length of Ventnor Rd that extends through the park. This has been approved and the reduced speed limit will be imposed.

Vic Roads have confirmed that taking into consideration the reduced speed, a minimum offset of 2m from the road is acceptable for the future trail network without any type of safety/protective barrier.

Prior to development works commencing, approval from Vic Roads should be sought for works occurring within the Ventnor Road Reserve.



03 ANALYSIS

3.1 Site / User Analysis

3.1.1 Existing Infrastructure

Pedestrian Paths

Currently there are no pedestrian or cycling paths within the peninsula which link the Penguin Parade Visitor Centre to the Nobbies Visitor Centre, to the beaches or the beaches to each other. As a result, visitors who wish to walk around the peninsula, must walk on the side of the road, potentially damaging sensitive habitat. Futher damage is created by tourists who follow wildlife away from the road in order to take a photograph or to get up close to nature.

The Nobbies precinct does have a boardwalk system with lookout points (outside the scope of this document), however it is only connected to the immediate Nobbies Visitor Centre building and is also showing signs of aging.

Roads & Parking

Within the peninsula, parking is provided at the beaches and at the Nobbies Visitors Centre / Penguin Parade Visitors Centre. However, during peak times there are insufficient parking spaces and cars park illegally on the side of the road, damaging wildlife and vegetation. This damage is enhanced as people walk from their car to destinations along the side of the road and nearby Visitor Centres.

Existing Users

The Summerland Peninsula is currently a series of isolated recreation destinations for a variety of users. These groups include:

- Local Visitors - general beach activity, walking, recreational use;
- Penguin parade tourists - The Penguin Parade is the most popular attraction on Phillip Island, with 58% of visitors attending. (Phillip Island Visitor Profile and Satisfaction Report, 2012, p4)
- Surfers - Summerland Beach is considered as the 'birthplace' of surfing on Phillip Island by the local community. It can be one of the few locations to work when other surf spots are blown out or too big. (Surf's up on Phillip Island's National Surfing Reserves).
- Fishers - Rock fishing is popular on the Peninsula but also carries dangers - five people died between 2007 and 2014 while rock fishing (South and North Coast Key Area Plan, p40).

With an upgrade to nearby facilities (such as the existing Penguin Parade Visitor Centre) over the coming years, an increase in visitation to the Peninsula is forecast, further highlighting the need for an integrated Trails network which caters for all user groups.

Tourism

- It is estimated that 91% of visitors to Phillip Island are Victorian, 6% from interstate and 3% from overseas. The majority of the overseas market is from China, North America and Europe. (South and North Coast Key Area Plan, p5). International visitors are significantly more likely to make day trips to the Island and visit the Penguin Parade compared to domestic visitors. (Phillip Island Visitor Profile and Satisfaction Report, 2012, p4)
- The Penguin Parade is ranked as the second most important attraction in Victoria for international visitors to see (Summerland Precinct Strategic Framework Plan p35).
- "The recent trend is for a travel experience to become more interactive and take on a smaller scale. People are seeking to feel a connection to the local people and landscape." (Summerland Precinct Strategic Framework Plan p36)
- "Visitors are seeking varied activities from the same experience" (Summerland Precinct Strategic Framework Plan p36)

3.1.2 Topography & Natural Features

The Summerland Peninsula is a coastal plateau formation on basalt rock that extends out from the western most point of Phillip Island. The Penguins Visitor Centre is the lowest point at approximately 13m ASL and Grant Hill is the highest point at approximately 45m ASL. The South Coast of the peninsula is defined by steep basalt cliffs and dramatic rock formations. The north coast has gentler slopes, sand dunes and wide sandy beaches. Generally the north coast is lower in elevation than the south coast as the site slopes down south to north.

3.1.3 Views & Vistas

There are numerous natural vantage points along both the north and south coasts' of the peninsula. These vantage points provide views over Western Port Bay, and the local beaches and the Nobbies on the north coast and Bass Strait, Woolamai and Pyramid Rock and the rock formations below on the south coast. The vantage points include:

- Sambell Point (North)
- Cowrie Point (North)
- The Blowhole (South)
- Seagull Rock (South)
- Lions Head Bluff (South)
- Phelans Bluff (South)

There is an opportunity to enhance these and other minor unnamed natural vantage points to create a series of linked destinations and experiences for pedestrian visitors.

3.1.4 Drainage & Waterways

Due to the small catchment area on the site there are no waterbodies or creeks that are full all year round. There are, however, several small creek lines which run from the south to the north coast which drain the site in periods of heavy rain. Beyond these catchments on the south coast, water simply sheds off the land into the water below.

Stormwater runoff from the compacted land in the former housing estate impacts habitat and cliff stability. (Environmental Plan 2012-2017). And it is likely that increased storm surges and rain events due to climate change will increase the negative effects of stormwater on the landscape.

During a site inspection it was identified that there are a few areas that experience localised ponding of water during high or prolonged rain events (refer Figure 9 Analysis Plan). These areas should be avoided by the trail system where possible or will require additional drainage infrastructure

3.1.5 Flora & Fauna

Flora

Due to the previous uses of the site, including agriculture, golf course and a housing estate, much of the original ecological diversity of the site is no longer present. There are several large patches of revegetation within the former housing estate on the peninsula. Species include *Allocasurina sp, Leptospermum sp.* and other small shrubs.

On the coastal plateau, west of the Penguin Parade to the Nobbies, the EVC's consist of Grassy Woodlands, Coastal Tussock Grassland and Damp Melaleuca Scrub.

The along the south coast and around the Nobbies the EVCs include Coastal Tussock Grassland, Coastal Headland Scrub, Bird Colony Succulent Herbland and Spray-zone Coastal Shrubland.

Fauna

The peninsula is home to a wide variety of birds, marsupials and reptiles including:

- Little Penguins *Eudyptula minor* – Largest colony in Victoira approximately 32,000
- Australian Fur Seals *Arctocephalus pusillus* – Second largest colony in Australia
- Swamp Wallaby *Wallabia bicolor*
- Copperhead Snake *Austrelaps superbus*
- Cape Barren goose *Cereopsis novaehollandiae*
- Short-tailed Shearwater *Ardenna tenuirostris*
- Crested Terns *Thalasseus bergii*– largest colony in Victoria
- Hooded Plovers *Thinornis cucullatus*

3.1.6 Site Inspection

Tract Consultants undertook a detailed site inspection accompanied with two rangers from Phillip Island Nature Parks for the purpose of establishing an alignment for a future trail network. The step by step investigation of a potential route revealed several key attributes on the site that will allow the trail to be implemented.

Despite the 32,000 penguins that call the peninsula home, the site walk showed that even in areas of high burrow densities (refer Fig 9) there are areas which have significantly less burrows. Typically these are on ground which is more compacted, contains tussock grass or is too flat and too exposed to burrow into.

Another revelation was the rediscovery of the old roads on the site. These roads, which are on the coast side of the current roads, are of suitable grade and compaction to allow the installation of a gravel path with minimal earth work. The compacted ground is also too hard for penguins to burrow into and as a result the alignment of the old road is almost completely free of bird habitat.

Figure 6 Flora plan

Figure 7 Recreational Users Plan

Figure 8 ANALYSIS PLAN

LEGEND

- *Lookout Point*
- *View Line*
- *Secondary View Line*
- *High Cliffs*
- *Strong Winds*
- *Shearwater Habitat*
- *Penguin Habitat*
- *Seasonal Pooling*
- *Drainage Line*
- *Firebreak*
- *Maintenance Access*
- *Remnant Old Road*
- *Road*
- *Gravel Road - Narrow & Potholed*

Figure 9 ANALYSIS PLAN

3.2 Risk Analysis

The development of the Summerland Trails Master Plan has identified a number of risks associated with the delivery of the project works to ensure the future resilience of key project assets and infrastructure. The trail design has been developed in a manner which seeks to mitigate these risks.

3.2.1 Habitat / Environment

The Summerland Peninsula is home to the number one natural wildlife attraction in Australia, the Penguin Parade. The implementation of the trail network is to encourage visitation beyond the Penguin Parade, and capture more diverse and layered eco-tourism and recreational experiences within the Summerland Peninsula.

The Nature Parks operations sustain major research, conservation and education programs, and maintain a range of general recreational assets such as the future trails network. As a not-for-profit organisation, the Nature Parks operations are dependent on commercial revenue predominantly sourced from the Penguin Parade and penguin eco-tourism offerings.

As such, it is critical that any new infrastructure/trail within the Summerland Peninsula does not negatively impact the very assets that the trails are promoting – the environment, the views, the penguins and other significant flora/fauna sites. As part of risk mitigation, key design drivers have been:

- Avoid/Minimise habitat disturbance
- Avoid/Minimise vegetation disturbance
- Avoid/Minimise visual disturbance to coastal scenery

3.2.2 Design Standards / Safety

The Design Guidelines refer to technical design standards and classification systems, and the Summerland Peninsula Trails Masterplan is consistent with these standards.

Further to these standards, there have been a number of specific pedestrian and cycling risks reviewed through the design process in order to provide safe public trails and shared use paths throughout the Summerland Peninsula, these are as follows:

Pedestrian Safety

One of the key objectives of the Trails Masterplan is to disperse visitors across the whole of the peninsula, and promote a pedestrian friendly environment. The trails network has been designed in accordance with relevant standards to ensure pedestrian safety. In areas requiring a greater level of pedestrian control (lookout points, elevated boardwalks over sensitive habitat, paths adjacent cliff edges / steep batters) appropriate design systems have been employed to improve pedestrian safety and mitigate risk.

Refer Section 5.3 - Pedestrian circulation.

Bicycle Safety

One of the key objectives of the Trails Masterplan is to establish a shared use (pedestrian and bicycle) trail from the Penguin Parade Visitor facility to the Nobbies. The establishment of a shared path must comply with relevant safety standards to mitigate risk associated with pedestrian and cycling conflicts. The Trails Master Plan has referenced these design standards (including AustRoads Pedestrian and Cycling standards); and has been designed in consultation with the project Traffic Engineer to enable a one-way reduced width raised shared path boardwalk to minimise environmental/habitat impacts in sensitive locations.

In addition to raised shared path boardwalks, both inland and coastal at-grade gravel tracks have been incorporated to establish cycling loops around the peninsula.

Refer Section 5.4 - Bicycle circulation.

Disabled Access Requirements

One of the key objectives of the Trails Masterplan is to establish a Trails network which is pedestrian friendly, catering to a range of users with different needs and abilities. Disability access requirements have been incorporated in high use trail areas, as well as car park and nominated viewing locations. For these zones, the Trail network is to be compliant with the requirements of the Disability and Discrimination Act and relevant Australian Standards.

Refer Section 5.3 - Pedestrian circulation.

Pedestrian Control crossings along Ventnor Road

VicRoads does not currently support the incorporation of 'zebra' pedestrian crossing treatments along Ventnor Rd at pedestrian crossing points nominated within the Trails Masterplan. However, once the path network has been completed and is in full operation, should a need for a zebra crossing to increase pedestrian safety be identified - supported by the frequency of crossings at this location – then Nature Park should re-examine this option with VicRoads to ensure pedestrian safety.

Appropriate pedestrian and cycling signage should be implemented as part of a precinct wide signage strategy (as part of the development works).

3.2.3 Management Plans

Prior to development works, Nature Parks will need to review their management plans with regards to the proposed Summerland Trail Masterplan, ensuring revisions and updates are implemented to maintain standards, for example:

- Bushfire Evacuation Plan – fire truck accessibility, fire breaks, evacuation routes, emergency assembly points
- Health Emergency Plan – ambulance accessibility, first aid points, defibrillator points, helicopter landing zones, phone access
- Evacuation Plan – police accessibility, evacuation routes, emergency assembly points

3.2.4 Geology / Stability

Throughout the Summerland Peninsula, there are known sites of cliff instability, and zones which incur occasional mudslides and rock falls from the cliff face. Furthermore, erosion and loss of dune stability and habitat are current challenges and are predicted to increase with climate change.

As of 2014, the cliff risk management plan for the southern coast of the Peninsula is to provide no formal access down the cliff face and visitors are warned about the risks involved if they informally access the water level. The Summerland Peninsula Trails Masterplan is consistent with this approach.

The design for the Summerland Peninsula Trails Masterplan has considered the above risks, and has mitigated risk through design measures such as: trail alignment/location, balustrade and handrail additions, and integration of raised boardwalks.

Appropriate risk signage should be implemented as part of a precinct wide signage strategy (as part of the development works) for prohibited zones and areas requiring a greater level of pedestrian control.

3.3 Benchmarking

This section provides a visual benchmarking for a number of projects which individually highlight specific elements which capture the experiential quality of the proposed trail network. Although the construction and materiality may differ to the trails defined in this Trails Master Plan document, these projects highlight the experiential qualities which have been considered for this document, in the manner they interact with and celebrate their surrounding environments.

3.3.1 MacKenzie Falls Gorge Trail

Location: The Grampians, VIC

Date: 2013

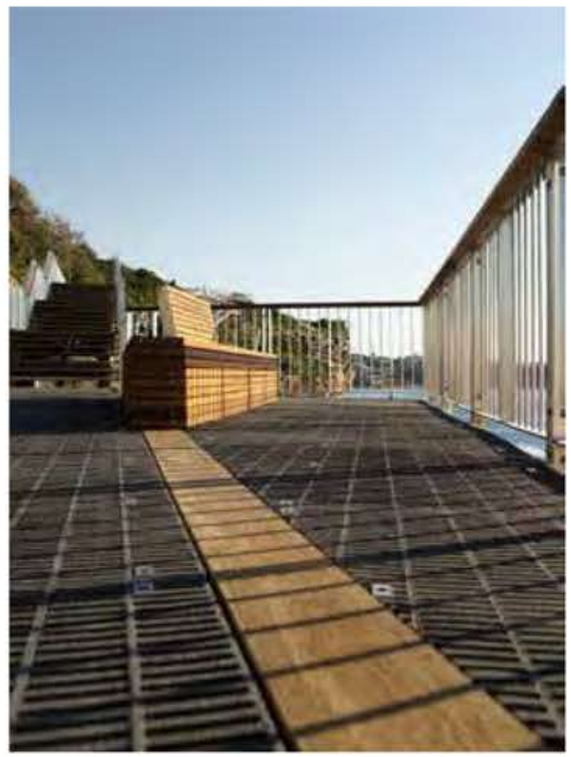
- Upgraded trail designed with simple, contemporary aesthetic and durable materials
- Low visual impact achieved by utilising narrow widths and natural colours and finishes
- Low environmental impact fixing directly to rock
- narrow width to minimise impact on existing landscape setting
- Shape and form of raised walkway works with the existing topography and takes inspiration from adjancent rock forms
- Award winning and highly promoted

3.3.2 Bondi to Bronte Clifftop Walks

Location: Eastern Suburbs Sydney

Date: 2010

- Australia's most heavily trafficked path network
- Installed in a challenging location along a clifftop with limited access.
- Angled viewing platform reflect the forms and shapes of the cliff and orientates the view for the visitor
- Seating integrated into viewing deck - raised deck in centre of viewing structure allows views and avoids additional vertical balustrades
- Structure hidden from view and floating on the landscape
- Balustrades/handrails - steel and timber - durable, recessive, and contemporary, timber for handrails in view zones
- Durable decking materials - timber and fibreglass reinforced plastic;
- Award winning and highly promoted



3.3.3 Narrabeen Lagoon Multi-Use Trail by ASPECT (2011)

Location: Narrabeen, NSW

Date: 2013

- 2.5km of shared use trail
- Low visual impact achieved by utilising a simple material palette and removing visual barriers such as handrails where possible
- Fibreglass Reinforced Plastic decking used
- A series of contemporary seating nodes. Timber decking orientated perpendicular to direction of travel to encourage to slow down at these nodes.

3.3.4 Kosciusko National Park, NSW

Location: Narrabeen, NSW

Date: 2013

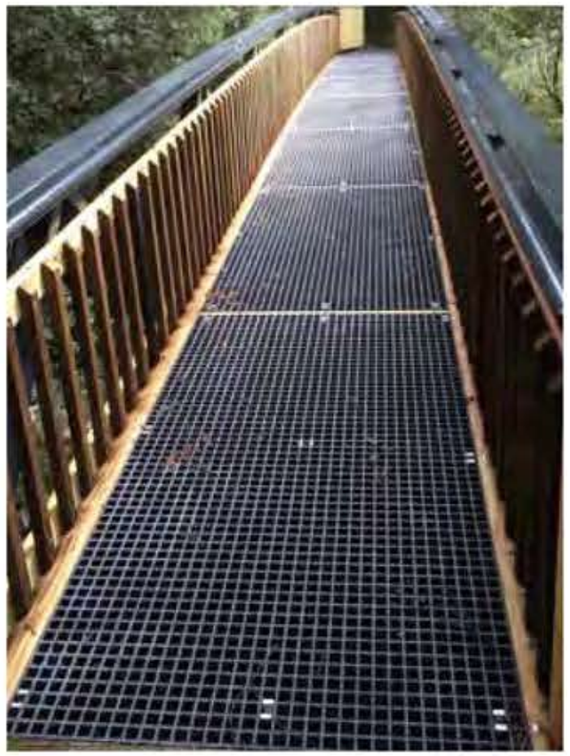
- 13km of raised steel mesh trail
- Ungalvanised, mild steel used due to zinc sensitivity in alpine plants
- Low environmental impact fixing directly to rock
- narrow width to minimise impact on existing landscape setting
- A new ecology has established itself below the walkway as it provides protection for small mamals & marsupials from birds of prey

3.3.5 Cradle Mountain, Tasmania

Location: Tasmania

Date: 2010

- World heritage location with high annual rainfall
- Low, narrow timber boardwalk to minimise damage to sensitive ecology
- Use of boardwalk eliminates the need for infrastructure drainage as required in a traditional gravel path
- Single Span bridge with discreet footings minimises damage to surrounding ecology
- FRP surface provides a high level of grip



3.3.6 Lookouts - Experience through Design

Location: Various

Date: Various

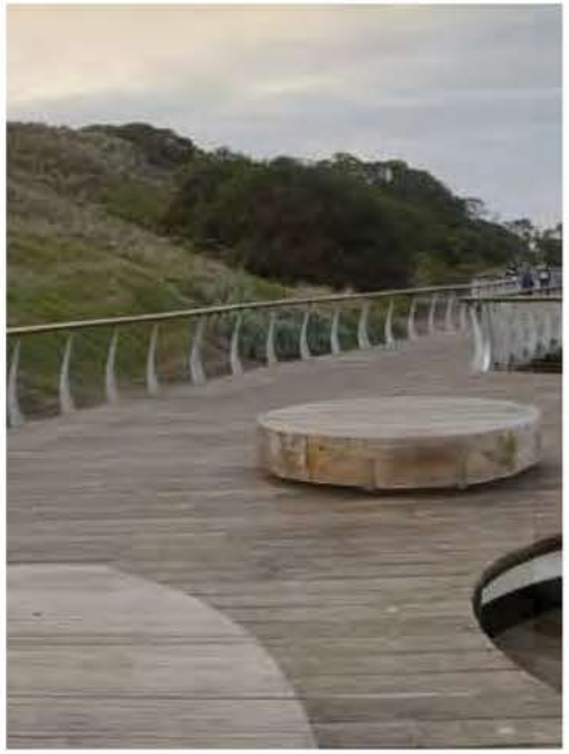
- Heavily designed lookouts heighten the views and add to the visitor experience
- Complex forms can help direct orientation to views and enable people to walk around the lookout not out and back.
- The viewpoint structures become destinations and experiences in themselves
- Simple material palettes do not attempt to compete with the views or landscapes
- Perceived sense of risk and excitement can be designed into the structures whilst ensuring safety is maintained.
- Structures appear to float in the landscape - the sub-structure is minimised and hidden from view
- These viewpoints are highly promoted and attract large numbers of tourists for the experiences they offer

3.3.7 Penguin Parade - Penguin Plus redevelopment

Location: Phillip Island Penguin Parade

Date: 2015

- Designed to consider the natural setting and existing habitat - boardwalks are raised to maintain existing penguin movement paths below
- Secondary Boardwalk is constructed from durable and low-maintenance Fibreglass recycled plastic, with minimal structural footprint to bridge over burrow locations where required
- Durable timber platforms provide seating along boardwalk
- Simple material palettes do not attempt to compete with the views or landscapes
- Structures appear to float in the landscape - the sub-structure is minimised and hidden from view



04 STRATEGIC APPROACH

4.1 Key Destinations

The Summerland Peninsula is comprised of many diverse natural landscpae settings and features. An important key objective of the Trails Master Plan is to provide trail infrastructure which not only caters for increased visitor numbers, but disperses people throughout the peninsula, to experience this diverse landscape through the creation of key destinations and varied visitor experiences which cater for different user groups of varied ability.

Existing attractions / experiences:

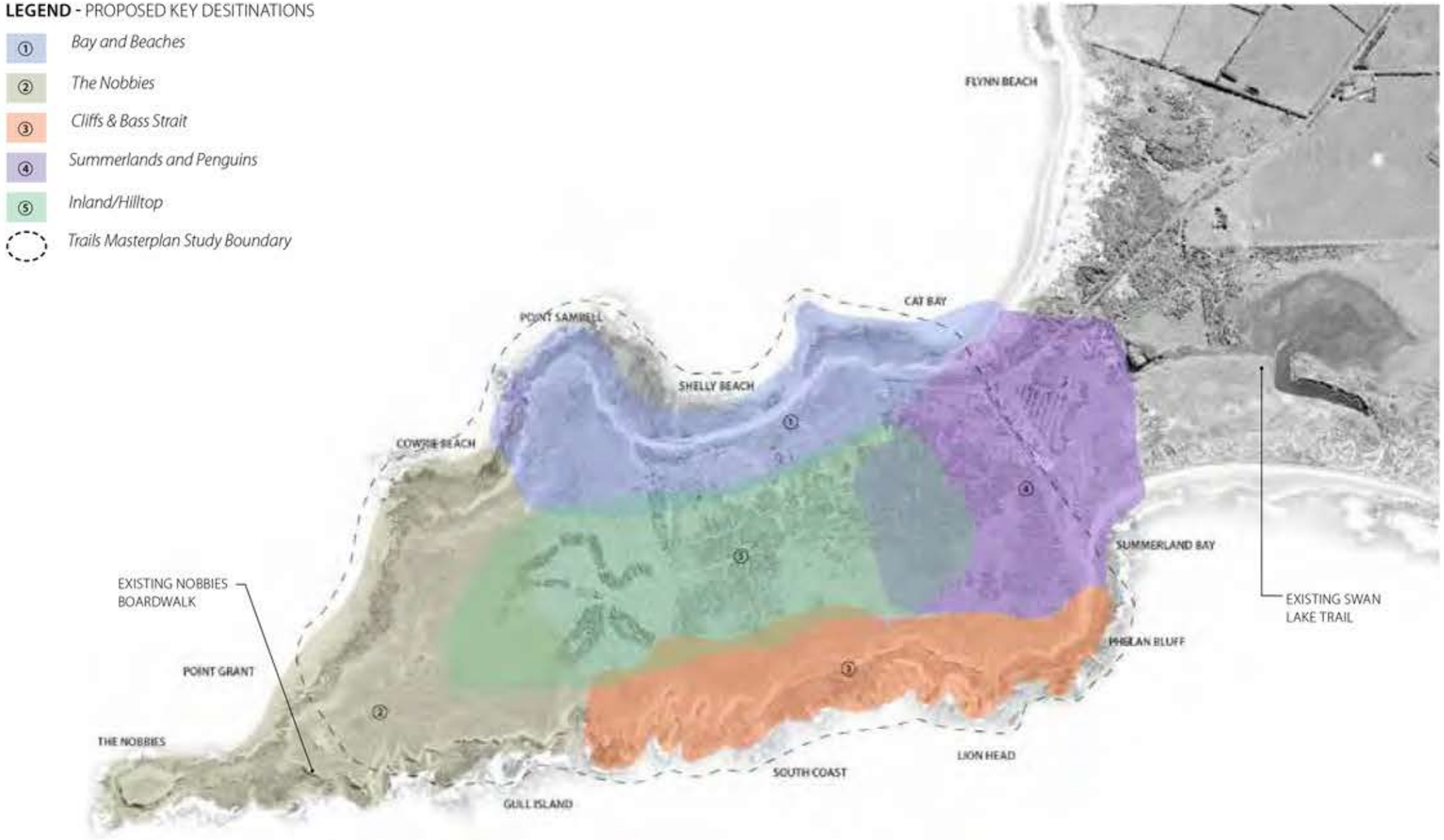
There are a number of existing known attractions throughout the Summerland Peninsula which will be linked by the Trails network to promote further site exploration between each, and encourage longer visits throughout the peninsula. Among these are the following:

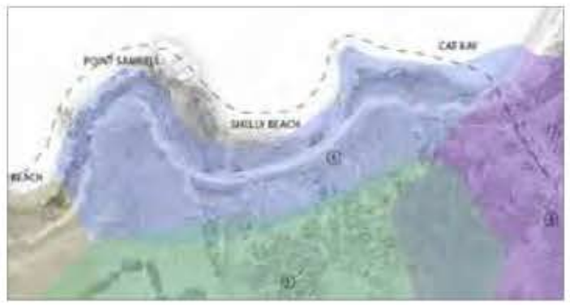
- The Penguin Parade
- The Nobbies
- Northern coast beaches
- Surfing at Summerland Beach
- Rock fishing
- Bird watching

Existing Trails:

There are a number of existing trails within and in close proximity to the Summerland Peninsula which fall outside the study boundary for this document, but nonetheless should be considered in the context of providing a holistic and integrated trail network for visitors. Any upgrades or connects to these should be considered as part of future studies:

- The Nobbies: 700m return timber boardwalk around the Nobbies precinct.
- Swan Lake Trail: 1.3km return compacted granitic sand and board walk





4.1.1 Bays & Beaches

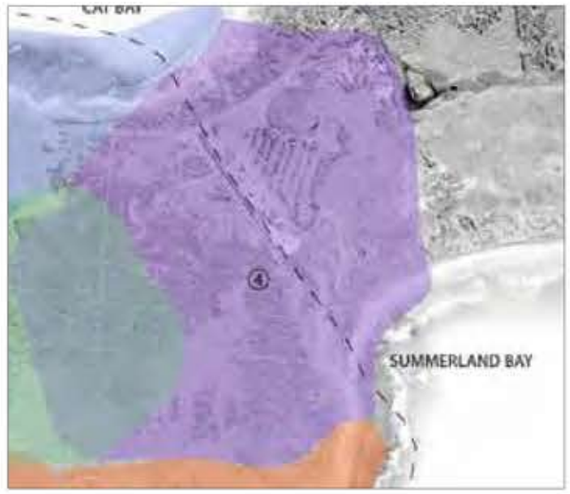
- Key destinations in the wide, sandy, beaches of Shelly Beach & Flynn's Beach
- Key destination at the lookout at Point Sambell, with impressive cliff-top views back over Cat Bay & Flynn's
- The path will traverse multiple creek lines, sensitive habitat, and through low coastal plants.
- Filtered views over Western Port Bay
- Busiest part of the peninsula - popular with surfing, fishing & beach visitors. Can place strain on parking infrastructure

4.1.2 The Nobbies

- The key destination is the Nobbies Visitor Centre and surrounding boardwalks (note: although the Nobbies Visitor Centre precinct itself is outside the scope of this Trails Master Plan document, the precinct is a key destination which will be connected to the peninsula through the trails network)
- Key destination at the highest point on the peninsula Grant Hill
- Key Destination at the Blow Hole look-out
- Key Destination at Gull Island look-out
- Excellent views of the cliffs above both Western Port Bay & Bass Strait and the Nobbies
- The path traverses sensitive penguin habitat, and through low coastal ecologies.

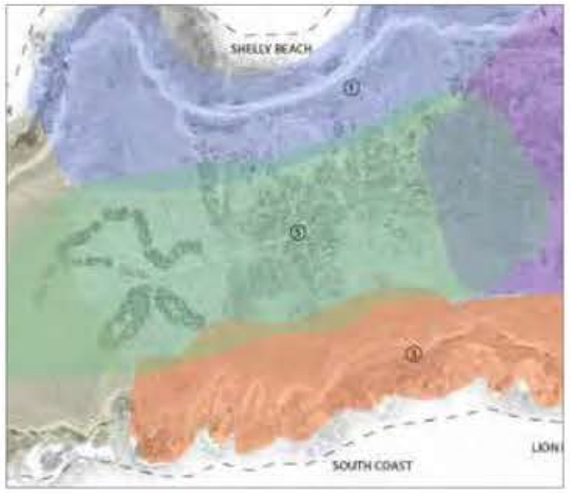
4.1.3 Cliffs and Bass Strait

- Key destinations in the dramatic cliffs
- Key destination at the Lions Head look-out
- Excellent views of the cliffs above both Bass Strait and the narrow channels
- Distant views to Cape Woolamai & Pyramid Rock



4.1.4 Penguins and Summerlands

- Key destinations in the Penguin Visitors Centre
- Excellent views of the Penguin Parade and Summerland Bay
- High use area, popular with surfers, penguin tourists and beach walkers
- Inland trails currently utilised by education groups lead by Nature Parks rangers
- Distant views to Cape Woolamai & Pyramid Rock
- Higher canopy woodland adjacent to coast provides a sheltered contrast to the exposed cliffs and place for exploration

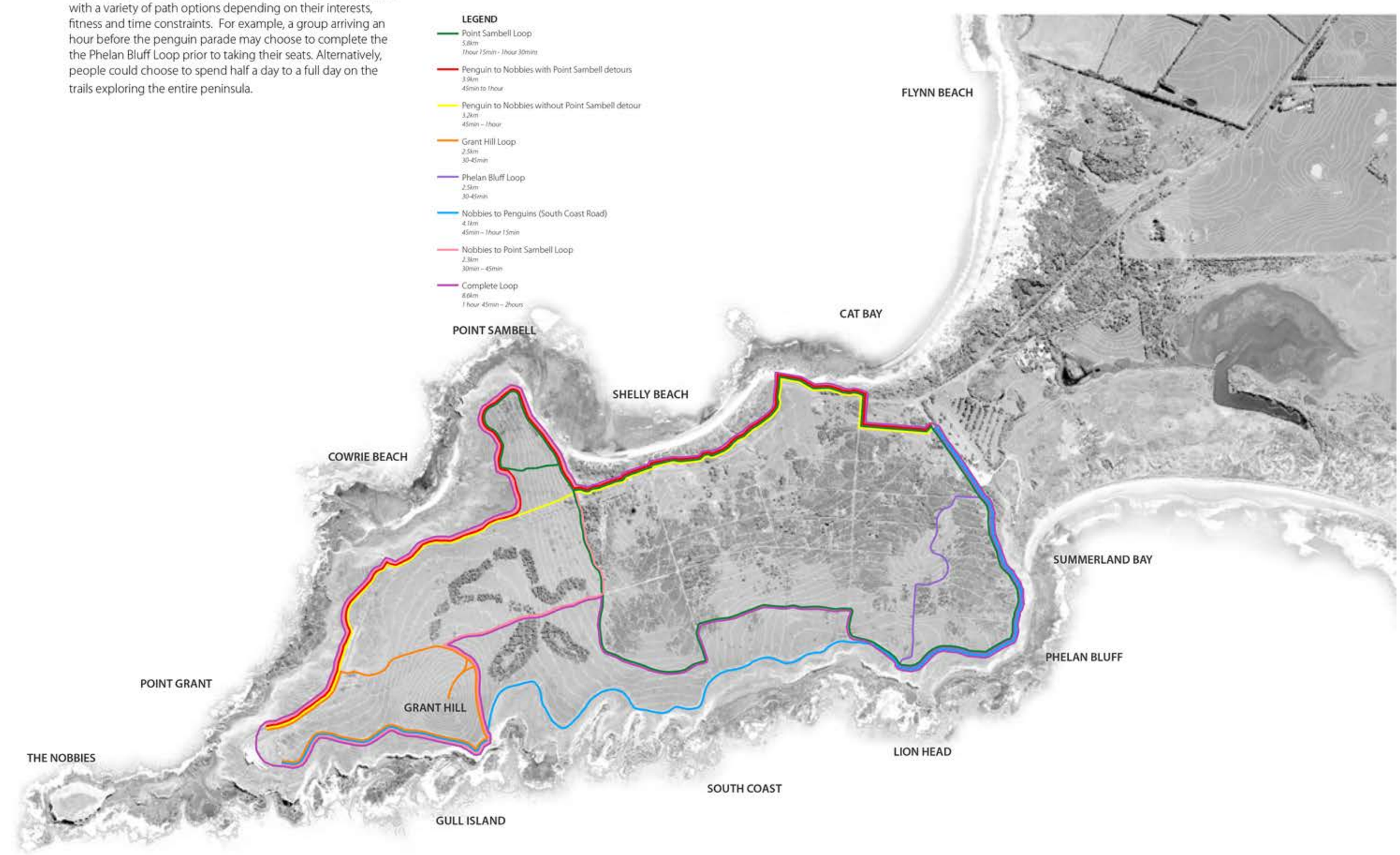


4.1.5 Inland & Hilltop

- Key inland route which links north-south coastlines and key destinations via elevated inland landscape settings
- Key destination at the highest point on the peninsula Grant Hill
- Excellent views of both Western Port Bay & Bass Strait / the Nobbies
- Inland trails currently utilised by education groups lead by Nature Parks rangers
- Higher canopy woodland adjacent to coast provides a sheltered contrast to the exposed cliff environment nearby
- Varied landscape character/settings to coastal environments, addint to the diverse visitor experience
- Use of existing/old access tracks to create new pedestrian/cycling links

4.2 Time Based Walks

The circuit around the Summerland Peninsula will be divided up into a series of time based walks based on the precints and the destinations contained within them. This will provide the visitor with a variety of path options depending on their interests, fitness and time constraints. For example, a group arriving an hour before the penguin parade may choose to complete the the Phelan Bluff Loop prior to taking their seats. Alternatively, people could choose to spend half a day to a full day on the trails exploring the entire peninsula.



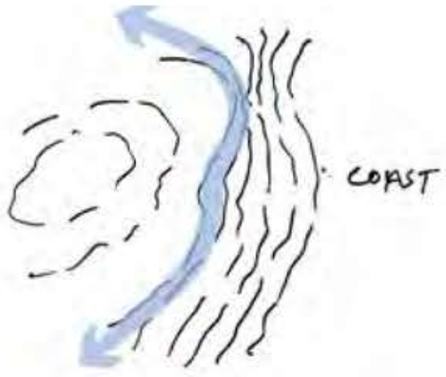
4.3 Design principles

Based on the Key Drivers for the project: Environment and Experience and Cost, the following design principles have been established to guide the development of the trails network in terms of path typology, path alignment, and path location:

4.3.1 Working with topography

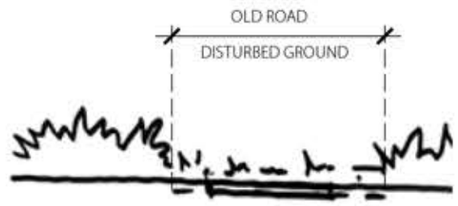
Align the trail along existing contours where possible to maintain shallow path grades (ensure path grades comply with the Design Guidelines, and DDA grade standards where applicable) and reduce any cut/fill requirements:

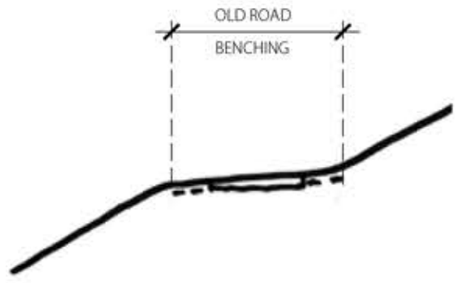
Align the trail along the top of the break in slope where possible, to take advantage of coastal/cliff views:



- Avoid trail gradients steeper than 1:10.
- Incorporate steps along the south coast trail network where grades are in excess of 1:10, where the trail is not a defined cycling route. Avoid steps along the north coast trail network to ensure cyclist compatibility

Align the trail to follow the existing old road alignment where possible, where ground is considered compacted and disturbed, and where the existing road benching facilitates ease of path construction. Gravel path is deemed suitable for these disturbed locations.

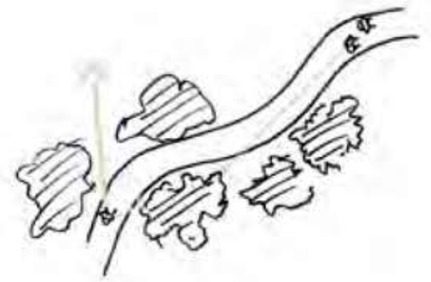




Where trails alignments following the existing old road but are within poor draining areas or natural depressions which may incur ponding, provide low boardwalk in lieu of gravel path:

4.3.2 Trail as Experience

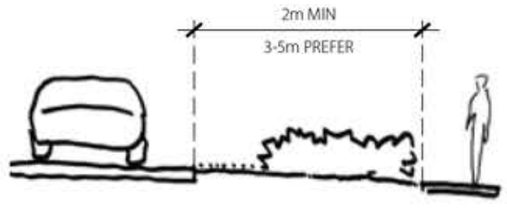
Trail alignment to be curvilinear in form and avoid straight sections, in order to frame views and reduce sightlines where possible to other pedestrians on the trail, adding to the immersive experience (maximum 15m in a straight line):



- Align the trails to reflect pedestrian desire lines, avoiding informal 'off-track' routes created by walkers

Offset trail from road by 2m (min.) to maintain safety standards, however 3 – 5m offset is preferred where possible.

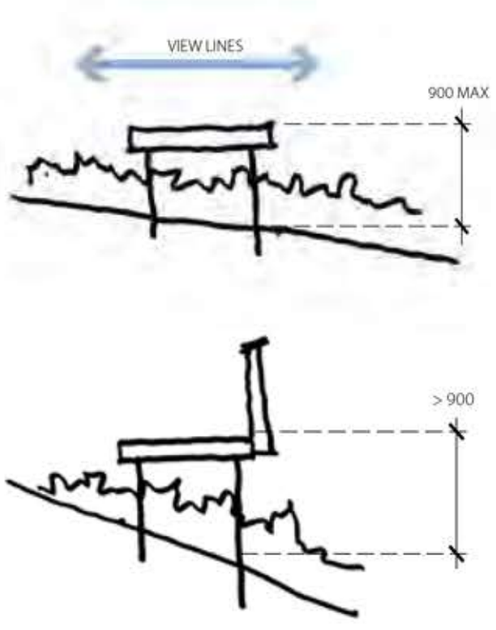
Provide medium height (800 – 1000mm high) buffer vegetation between road and path to assist concealment of trail network from road, however still provide coastal sightlines over



Locate the trail on the coastal side of high vegetation where possible, to maintain sight lines / views to coast, and assist in concealment of new trail infrastructure:

- All high boardwalks/ trail infrastructure is to be max. 900mm off the ground were possible to avoid the requirement for balustrades (reducing visual impact on the environmental setting)

Note: where boardwalks/trail infrastructure is higher than 900mm off the ground, or adjacent slopes greater than 1:4, a balustrade should be provided which meets design standards:

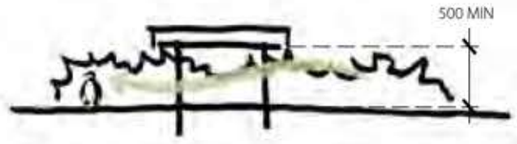


- Boardwalks/ trail infrastructure is to be concealed from the road where possible, by locating the trail downhill of the road where the natural topography will help conceal the trail/structure
- Provide roadside vegetation/tussock to further block trail infrastructure where required

4.3.3 Minimising damage to the environment / habitat

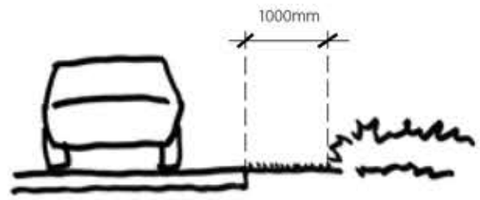
- Align the trail to avoid significant vegetation or habitat locations

Where trails alignments pass through habitat zones, ensure the boardwalk is raised to provide 500mm (350mm minimum) clear offset below structure for penguin movement/habitat below:

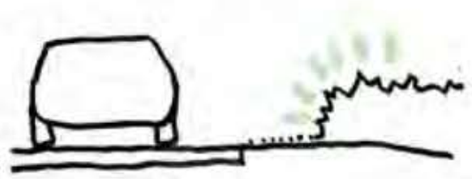


Where trails alignments cross over penguin movement lines, ensure penguins can either cross over or under the path. Where low boardwalks are provided, ensure boardwalk is 250mm max. off ground to allow penguin movement over. Provide penguin "steps" or "ramps" to assist penguin movement over at defined movement routes, where required:

Offset all new vegetation from road by 1m to avoid habitat creation near roadways:



Provide thick/woody vegetation to road side locations where informal roadside parking on shoulders is to be deterred



05 SUMMERLAND PENINSULA TRAILS MASTER PLAN

5.1 Overview - Key Plan

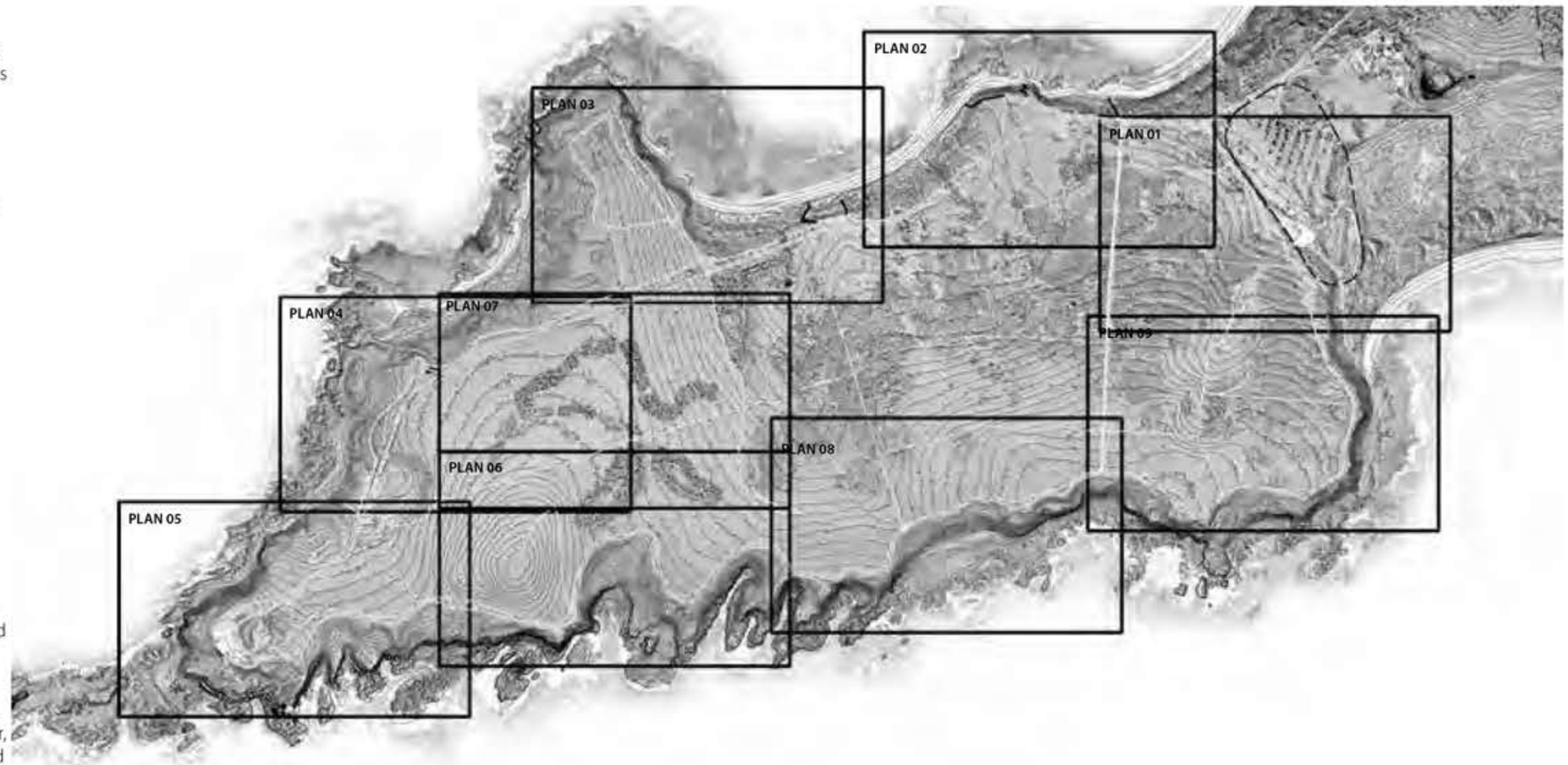
The Summerland Peninsula Trails Master Plan comprises a series of pedestrian trails and loops to and from key visitor locations; as well as shared pedestrian/cycle paths.

The purpose of these trails is to promote pedestrian friendly environments, where visitors are encouraged to explore the peninsula on foot or by bicycle.

As per the philosophy of the previously endorsed Summerland Peninsula Infrastructure and Procurement Master Plan "the intention is that visitors will access multiple recreation and tourism settings from a single car parking location".

The trails link all key destinations as set out in Section 04, and seek to express the inherent nature of each precinct, from the habitat and cultural values, to scenic views and impressive topography. The trail network maintains these values by complying with the set of Design Principles as described in Section 4.1.

Refer to Detail Plans 01 through 09 for the Trails Masterplan (as set out in the Key Plan).



Circulation Objectives

In order to understand the Trails Masterplan, it is important to first understand the circulation objectives for the trail network - refer Sections 5.2 to 5.4 which define the vehicle, pedestrian and cycling objectives for the peninsula.

These objectives help to define where paths are located, and what path typology/materials are selected in specific locations. They set the scene for what modes of circulation are allowed for, and the variety of visitor needs and experiences that are catered for.

5.2 Vehicular circulation objectives

The proposed vehicle circulation routes throughout the Summerland Peninsula are based on one of the main objectives for the precinct – to create a world class environment that encourages exploration of the peninsula by foot or bicycle. These routes are in accordance with the Summerland Peninsula Procurement Master Plan (2012).

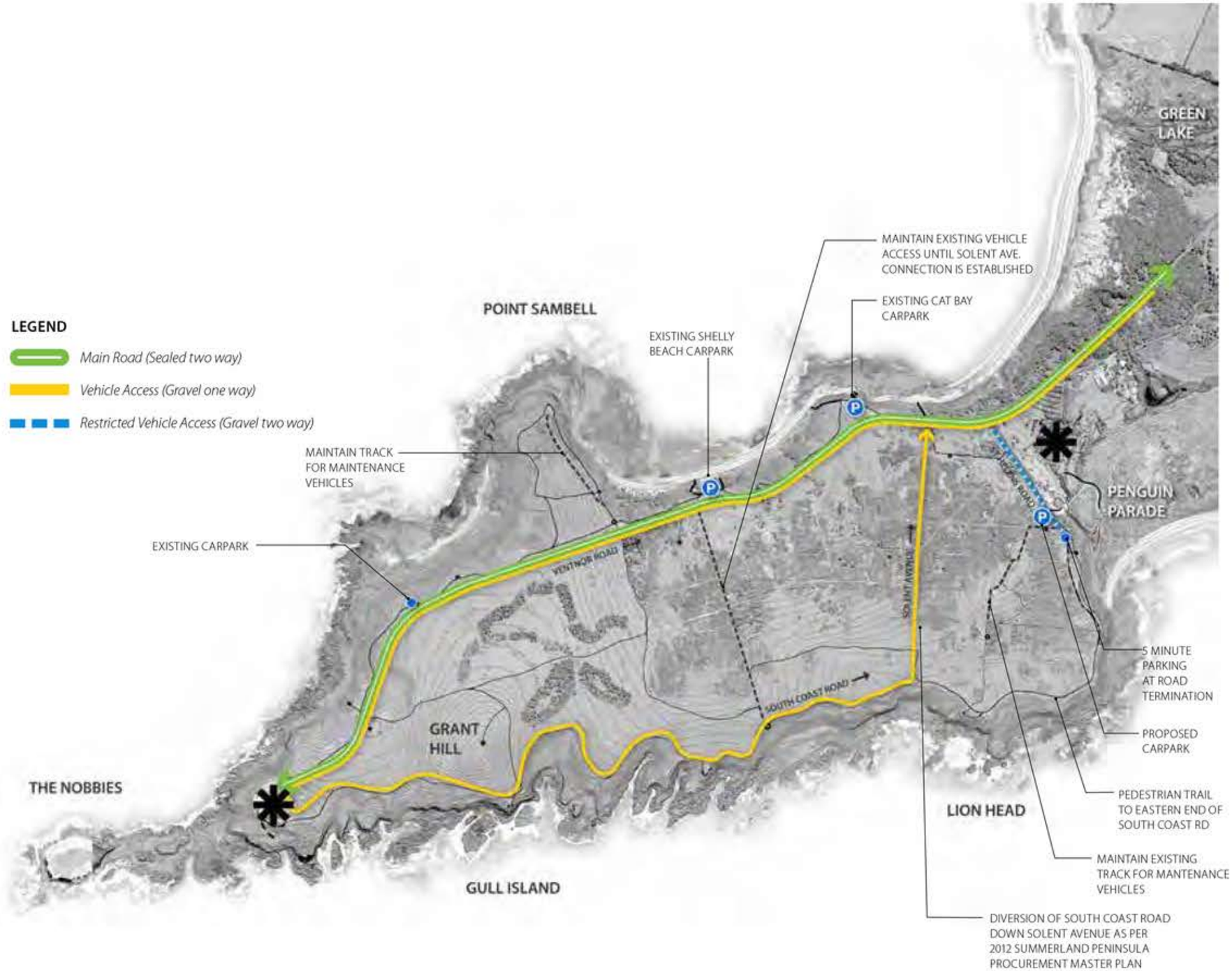
One of the key objectives of the Trails Master Plan is to promote pedestrian friendly environments where visitors are encouraged to park their car at one of the two main visitor centres and explore the peninsula on foot or by bicycle, or through a variety of Ranger guided ecotourism tours. A variety of small and long pedestrian loops have been incorporated into the trail network to cater for varied walking abilities from these major car park nodes. Existing car parks along the northern coast are retained and facilitate direct car access to numerous lookout and beach access locations.

The South Coast Road retains vehicle traffic (albeit one way only) from the Nobbies to Solent Avenue, where traffic (both buses and cars) are diverted up Ventnor Road. This diversion creates an immersive nature based coastal and inland trail network to the Phelan Bluff and Lion Head lookouts, free of vehicle traffic; and further promotes the inherent values and unique qualities of the site.

Parking is discouraged along the South Coast Road to encourage circulation on foot, however visitors are still able to experience the coastal scenery of the South Coast Road from their cars as they current do.

St Helens Rd is closed off to traffic with a loop road at its southern end as shown, with surfers able to park briefly to access a nearby raised platform to observe the surf conditions, and park at the small car park further north opposite the beach access path.

Holistically, these vehicle circulation routes enable a variety of experiences throughout the Summerland Peninsula catering for all - some of the experiences have direct car access, some are a short walk from direct car access, whilst others are a bit more remote and become more of an immersive nature based experience for those on foot or bicycle. This allows the trail system to meet the objectives of the Summerland Peninsula Master Plan by encapsulating the potential of the site for more diverse, layered, and world-class eco-tourism and recreational experiences.



5.3 Pedestrian circulation objectives

The Key objective of the Summerland Peninsula Trails Masterplan, is to provide a network of trails and tracks to encourage and promote visitation throughout the Summerland Peninsula.

The proposed pedestrian trail network disperses visitors across the whole of the peninsula through a series of path loops which cater to a variety of people with varied abilities; and which offer a diversity of experiences:

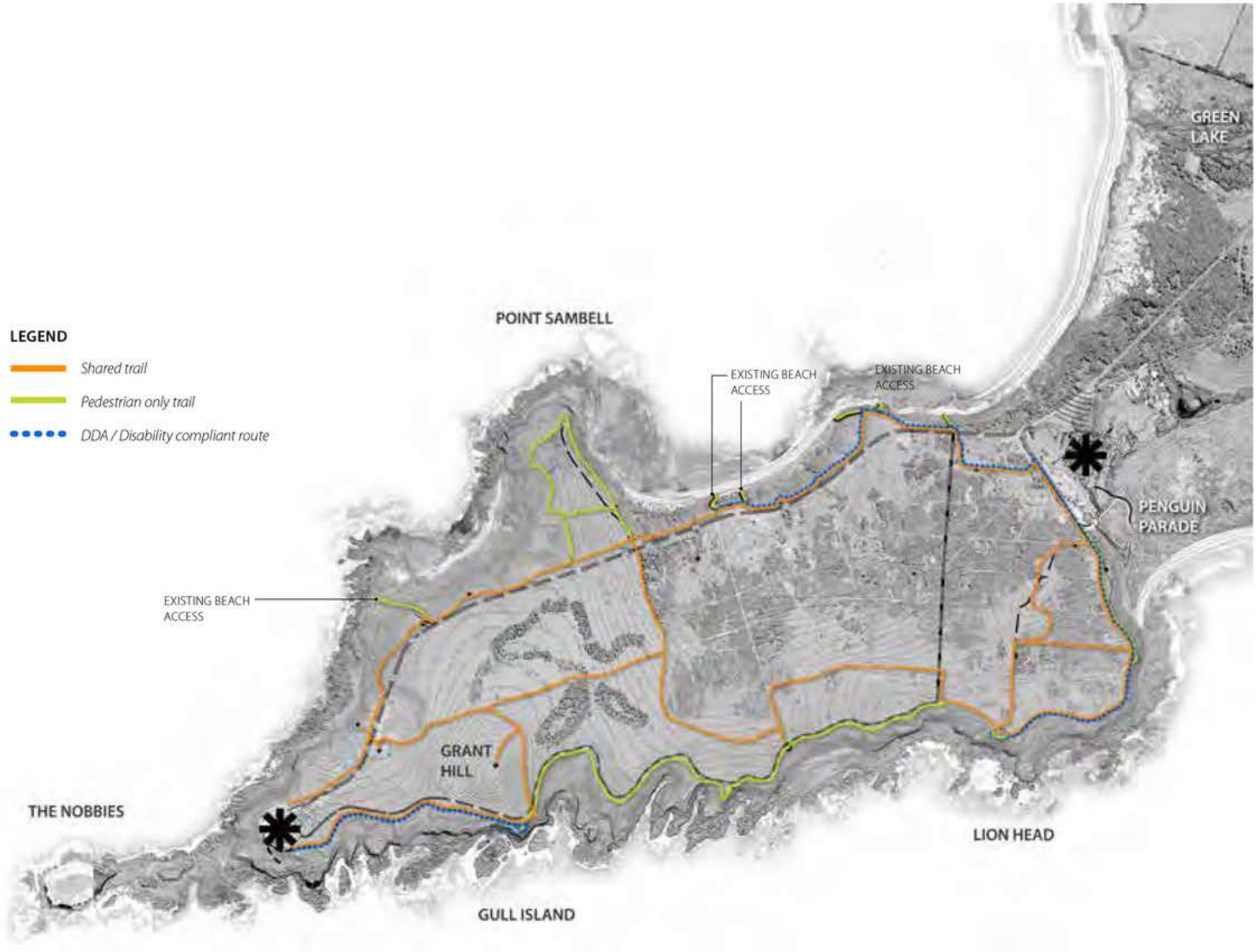
- Short trail loop networks of 1-2 hours walk from each visitor centre;
- Trails which are DDA Compliant for users with restricted mobility – varied routes are provided where possible (as the topography allows), from both of the major visitor centre locations to provide access to the scenic lookouts of Gull Island and Lion Head, as well as to the Shelly Beach car park along the northern coast;
- Elevated boardwalks within sensitive habitat areas and in scenic locations;
- Viewing platforms at scenic lookouts;

One of the key objectives of the trails network is to minimise disturbance on existing habitat, and as such, trail alignments and typologies have been adopted to meet this objective, with raised boardwalks over sensitive habitat, and trails aligned to already disturbed areas such as old roads and management tracks.

Another key objective is to minimise visual impact on the landscape, therefore boardwalk infrastructure has been designed to avoid vertical obstructions where possible (such as balustrades), and where unavoidable, boardwalks are set down within the landscape or hidden by vegetation.

Shared trail networks are provided to cater for shared pedestrian and bicycle use.

Note: Given the fluctuating nature of habitat and burrows within the precinct, a staged process of trail-marking and 'future proofing' management practices will need to be implemented prior to construction to avoid potential delays / re-designs / habitat loss during the construction implementation phase (as per the Staging section of this Master Plan). There may also need to be futher investigations as part of construction process, to review path typologies/alignments in order to minimise habitat loss at the time (if required) - noting that all adjustments will need to be in line with the Trails Masterplan design principles and objectives.



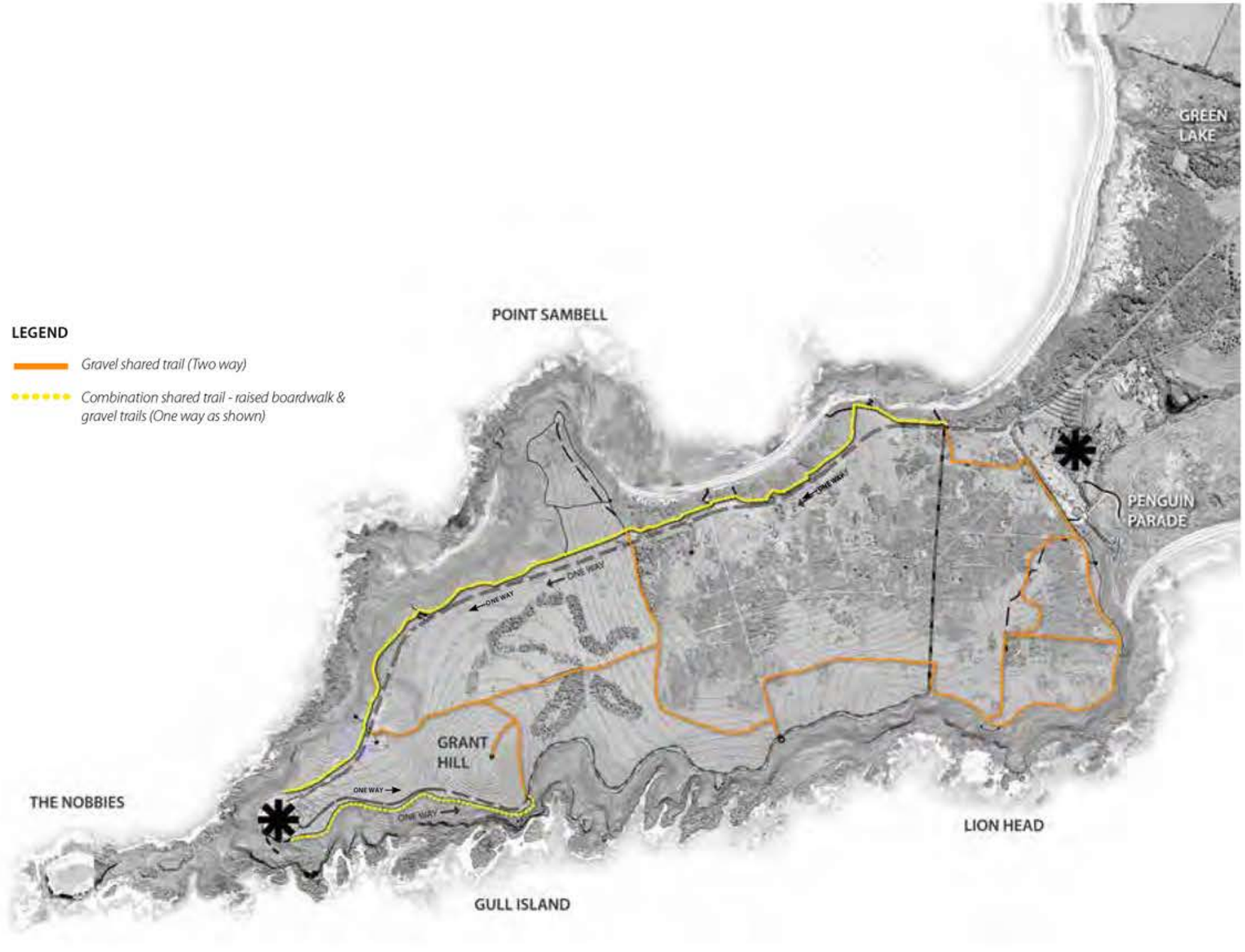
5.4 Bicycle circulation objectives

In order to cater for a range of users, a key objective for the Summerland Masterplan Trails network is to allow a shared path bicycle connection between the Penguin Parade and Nobbies visitor centres.

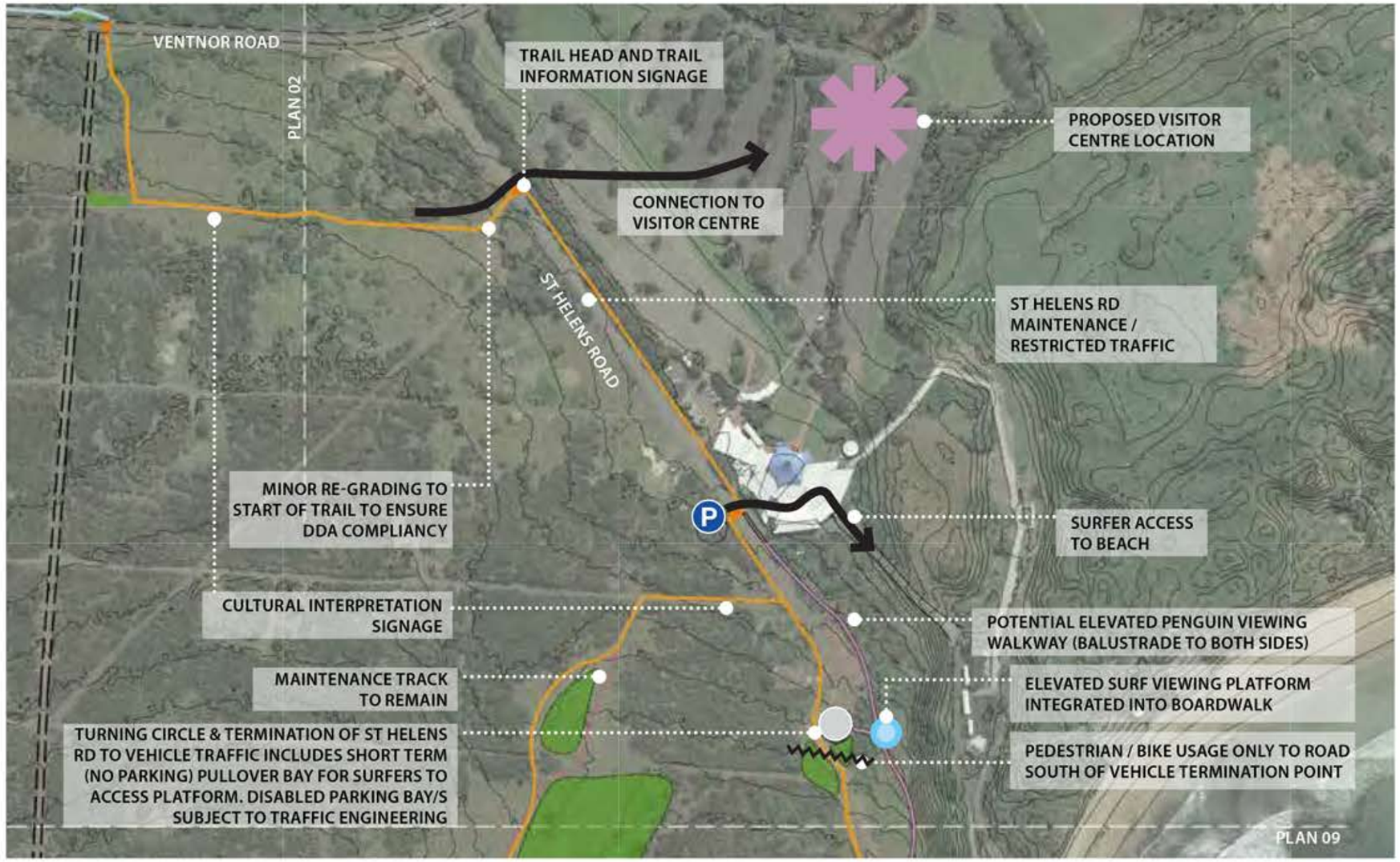
An off-road shared trail (combination boardwalk and gravel path) has been incorporated along the northern coastline, as well as between the Nobbies and Gull Island. Given the proximity of sensitive habitat and undulating typography, the trail varies from raised boardwalk and bridges, to gravel path. These raised boardwalks (2.6m total width) consist of 2m min. width of trafficable circulation for bicycles and pedestrians, and 300mm buffer zones adjacent vertical barriers (safety barriers provided at key locations for bicycle safety). Due to the width and expected cycling numbers, the bicycle route is one-way from the Penguins Parade facility to the Nobbies along the north coast, and one-way between the Nobbies and Gull Island along the south coast.

Additional at-grade gravel shared paths (two-way) are provided throughout inland tracks to provide cycling connections back from the Nobbies to the Penguin Parade Centre via the pedestrianised section of South Coast Road through Lions Head and Phelan Bluff.

Cycling routes and directions will be clearly signed, in particular at pedestrian-only sections of trail, as well as at vehicle-only management tracks.



PLAN 01



LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

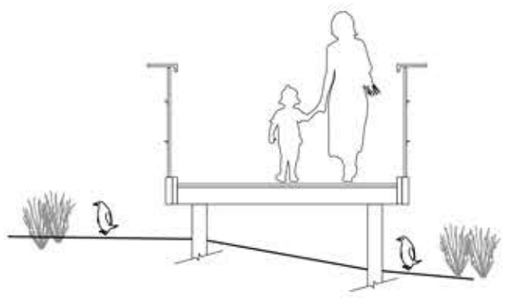
MINOR NODE
A timber and/or F.R.P for rest or minor views

MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION

2.0m GRAVEL PATH

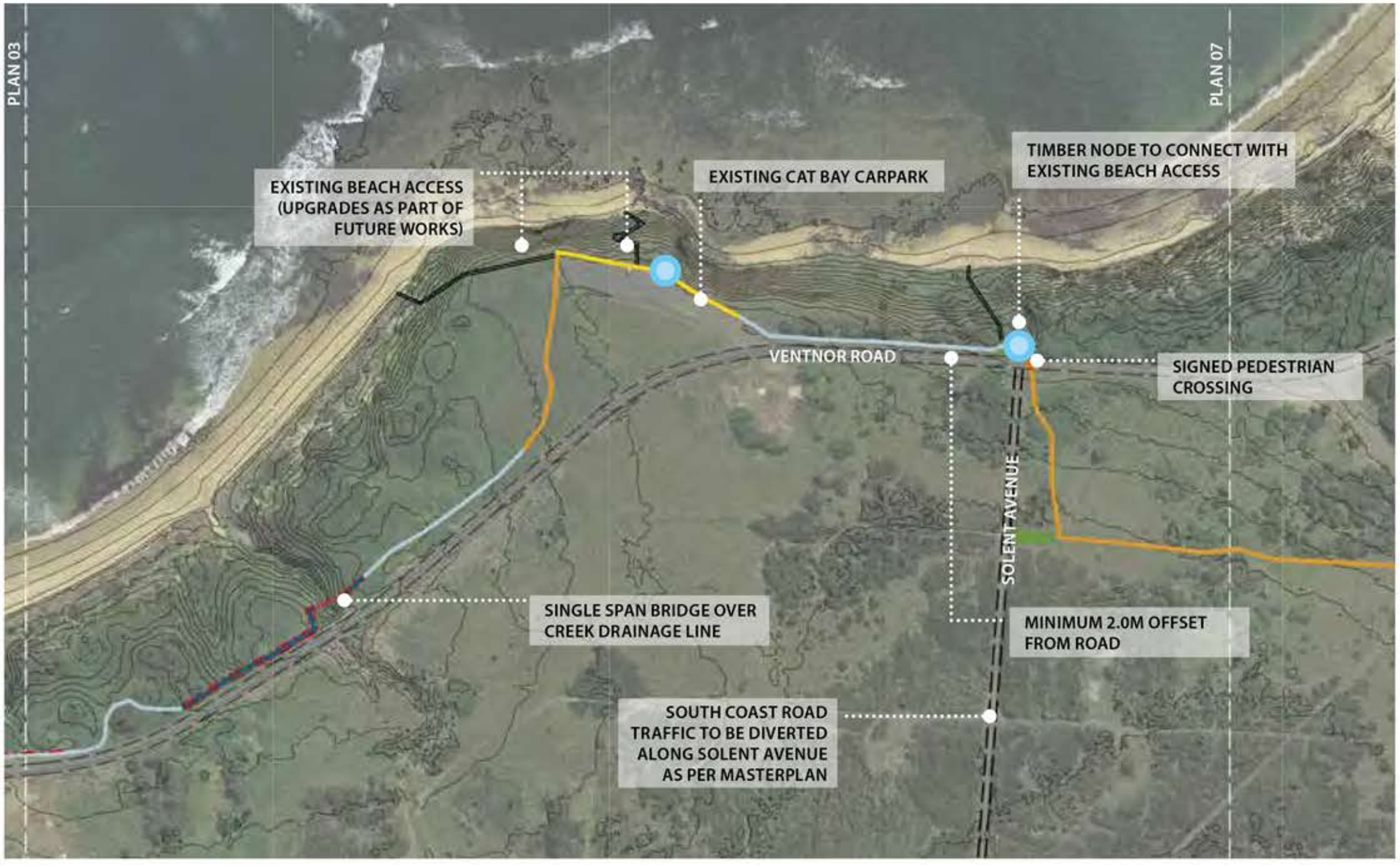
PEDESTRIAN & BIKES



1.8m RAISED WALKWAY WITH BALUSTRADES

PEDESTRIAN ONLY

PLAN 02



LEGEND

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- *2.0m wide gravel path*
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- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

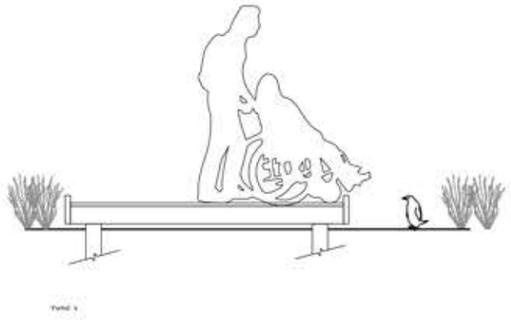
MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION

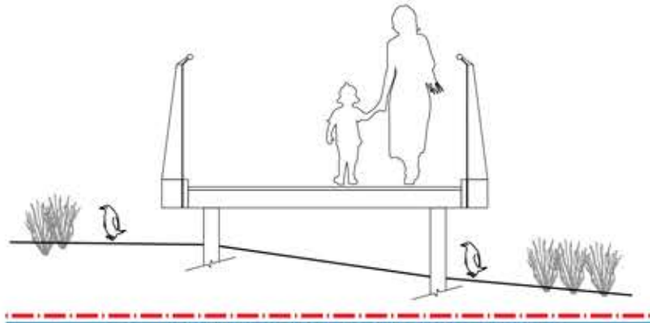


2.6m LOW RAISED WALKWAY

PEDESTRIAN & BIKES

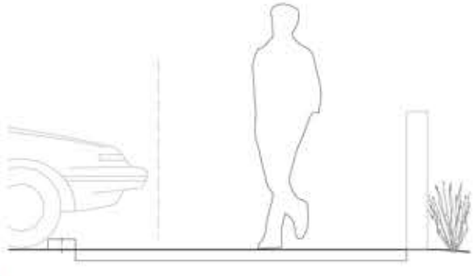
2.0m WIDE GRAVEL PATH

PEDESTRIAN & BIKES



2.6m HIGH RAISED WALKWAY WITH 2 BARRIERS

PEDESTRIAN & BIKES



3.0m COLOURED CONCRETE PATH

PEDESTRIAN & BIKES

PLAN 03

LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

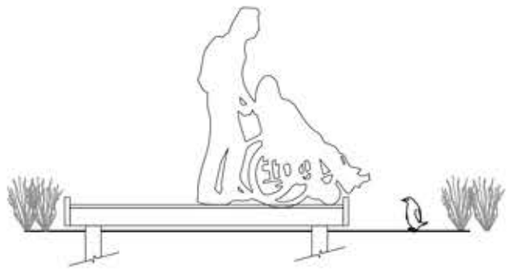
MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

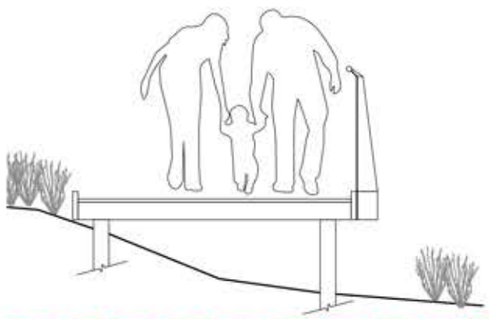
MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION



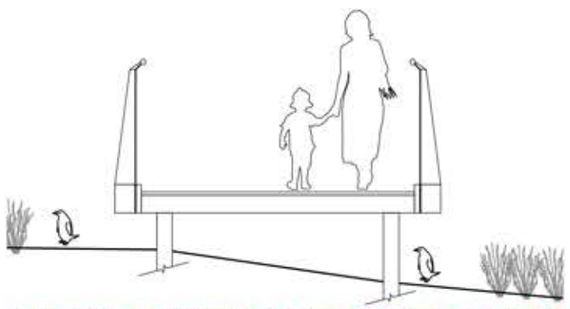
2.6m LOW RAISED WALKWAY

PEDESTRIAN & BIKES



2.6m LOW RAISED WALKWAY WITH BARRIER

PEDESTRIAN & BIKES



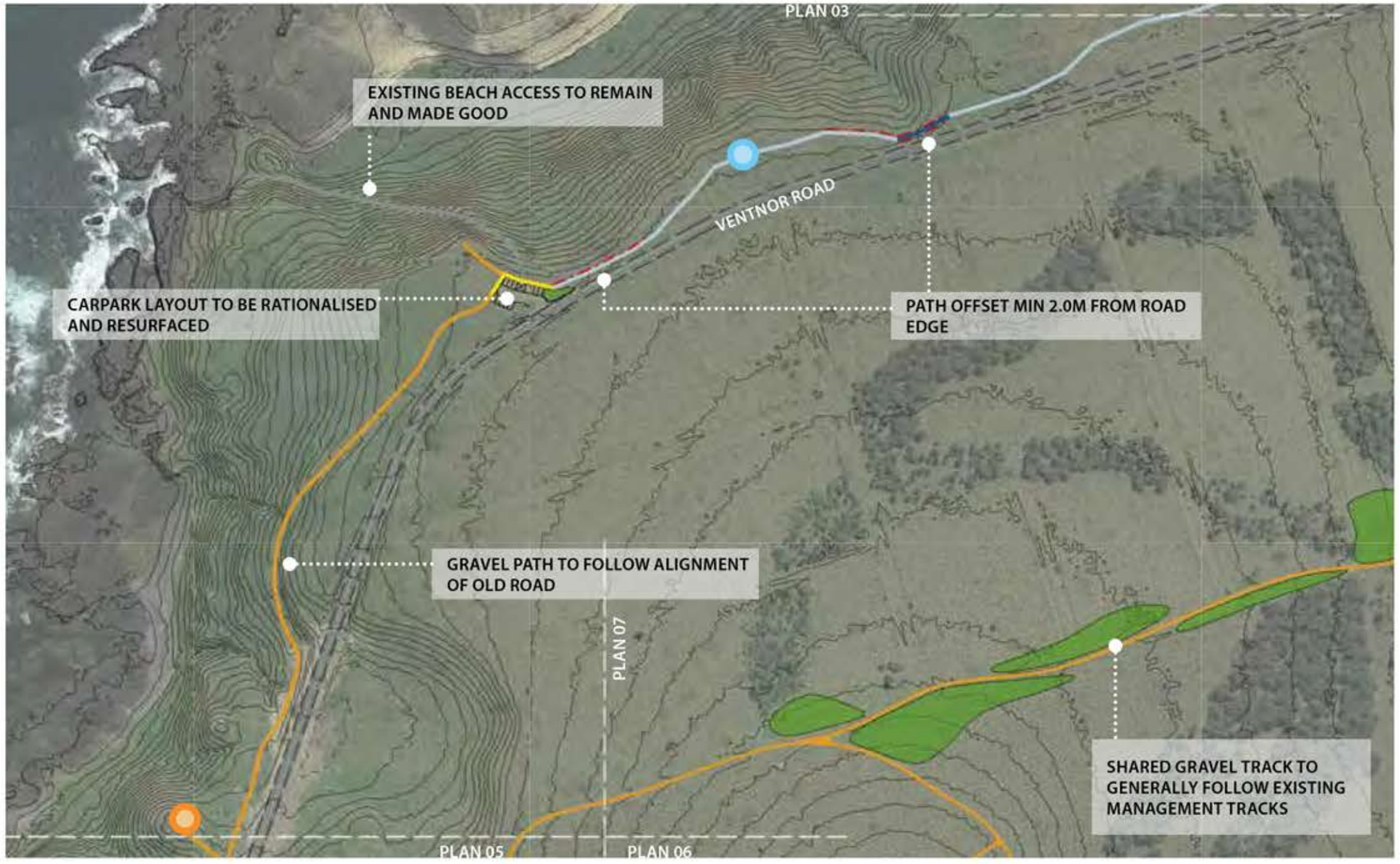
2.6m HIGH RAISED WALKWAY WITH 2 BARRIERS

PEDESTRIAN & BIKES

2.0m GRAVEL PATH

PEDESTRIAN & BIKES

PLAN 04



LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

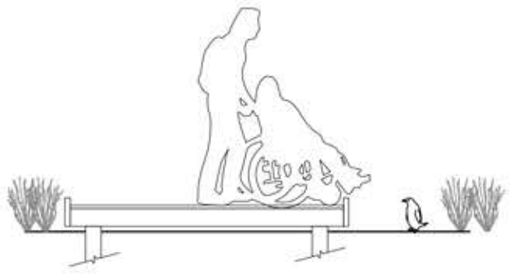
MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

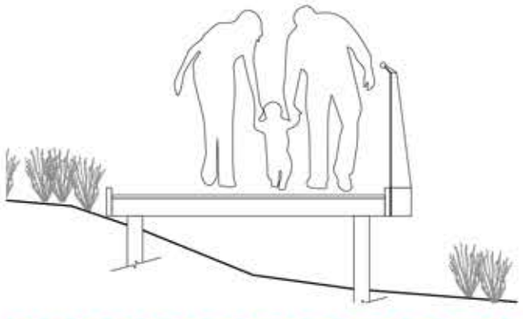
MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION



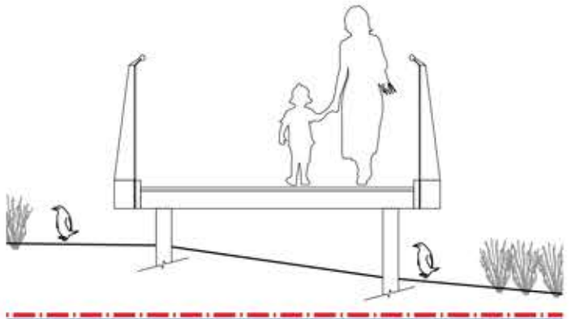
2.6m LOW RAISED WALKWAY

PEDESTRIAN & BIKES



2.6m LOW RAISED WALKWAY WITH BARRIER

PEDESTRIAN & BIKES



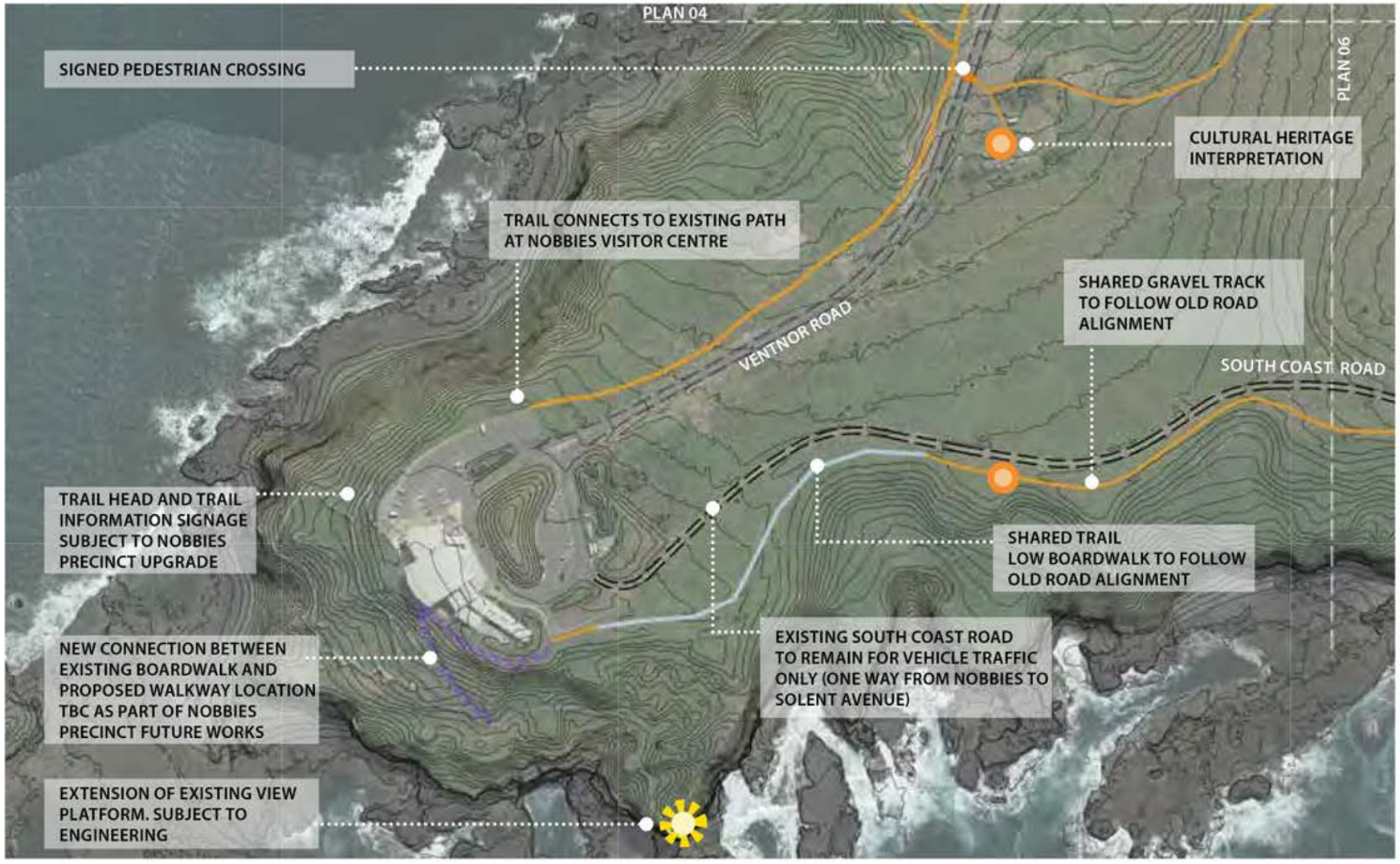
2.6m HIGH RAISED WALKWAY WITH 2 BARRIERS

PEDESTRIAN & BIKES

2.0m GRAVEL PATH

PEDESTRIAN & BIKES

PLAN 05



LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

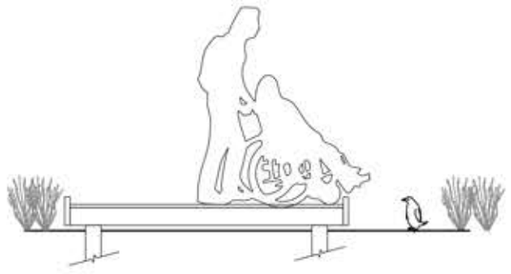
MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION



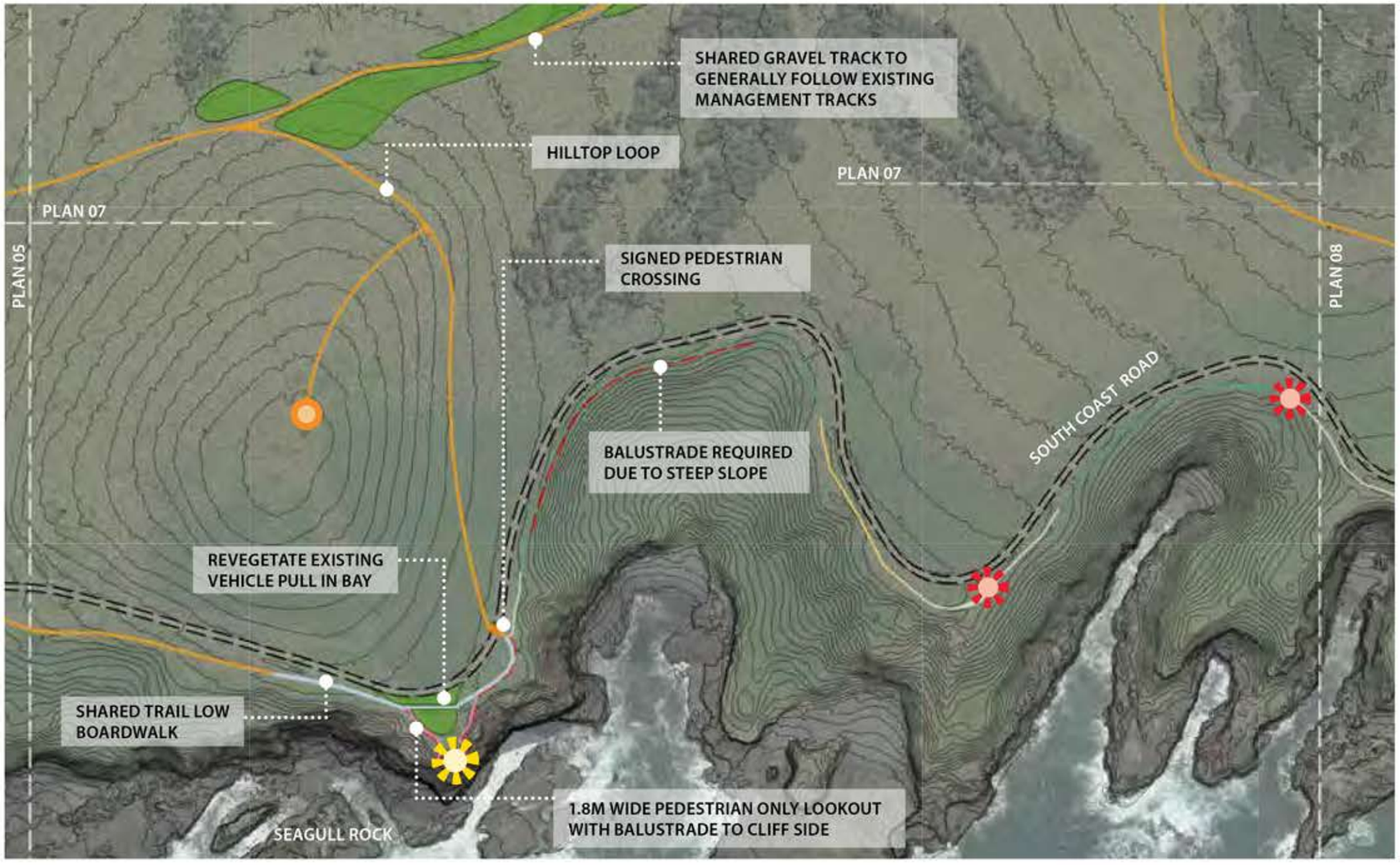
2.6m LOW RAISED WALKWAY

PEDESTRIAN & BIKES

2.0m WIDE GRAVEL PATH

PEDESTRIAN & BIKES

PLAN 06



LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

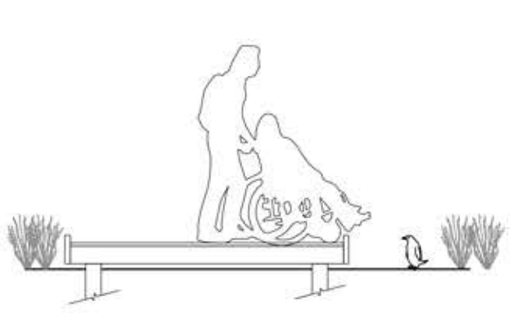
MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

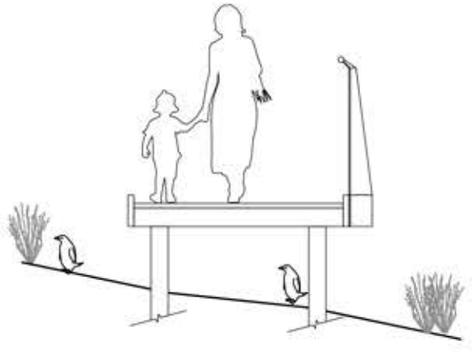
MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION



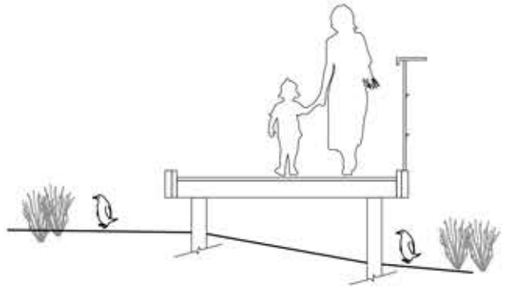
2.6m LOW RAISED WALKWAY

PEDESTRIAN & BIKES



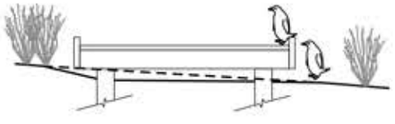
1.2m HIGH RAISED WALKWAY WITH BALUSTRADE

PEDESTRIAN ONLY



1.8m RAISED WALKWAY WITH BALUSTRADE

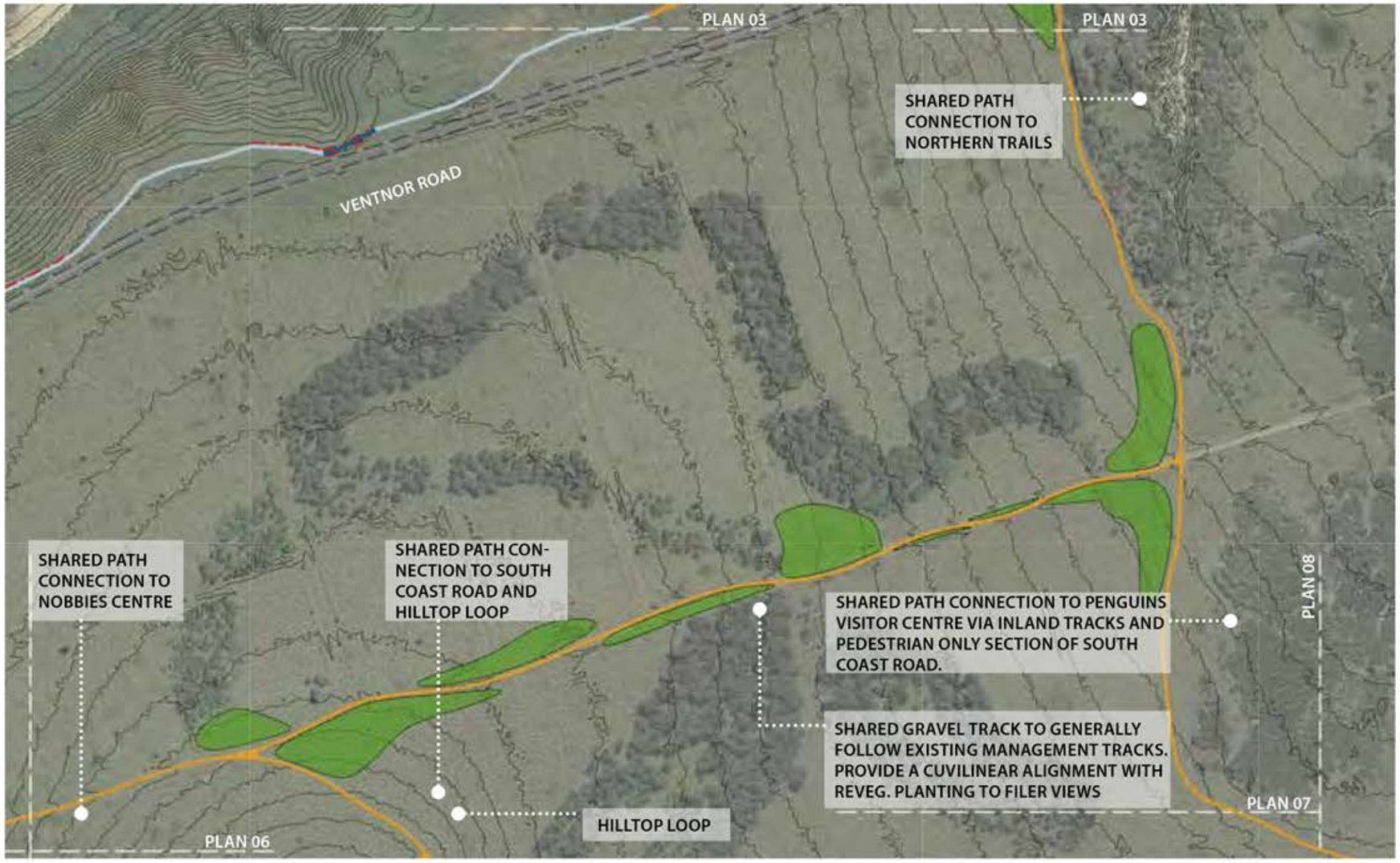
PEDESTRIAN ONLY



1.2m LOW RAISED WALKWAY

PEDESTRIAN ONLY

PLAN 07



LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

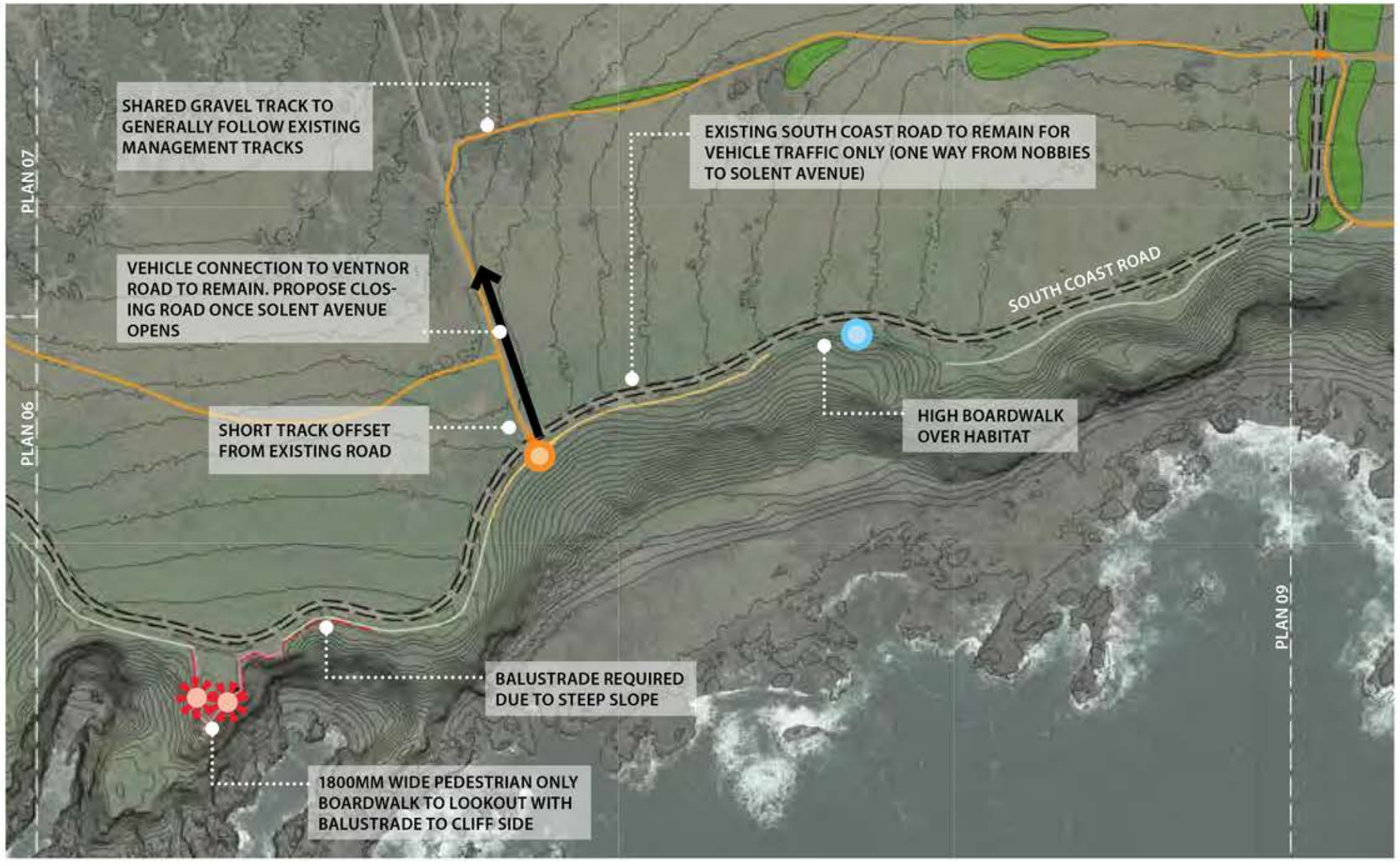
MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION

2.0m GRAVEL PATH

PEDESTRIAN & BIKES

PLAN 08



LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

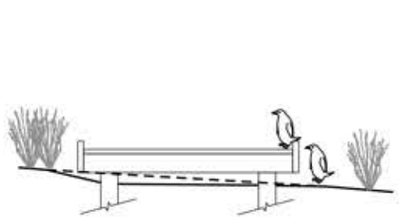
MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

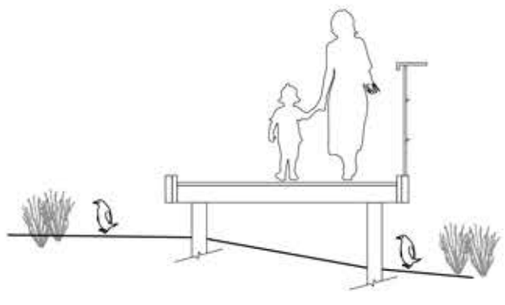
MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION



1.2m LOW RAISED WALKWAY

PEDESTRIAN ONLY

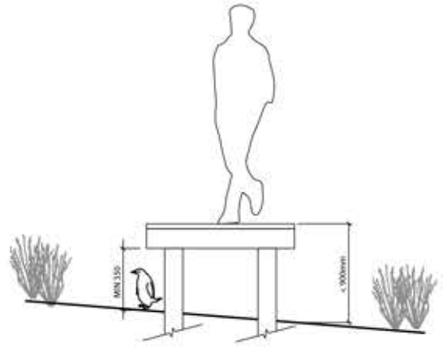


1.8m RAISED WALKWAY WITH BALUSTRADE

PEDESTRIAN ONLY

2.0m WIDE GRAVEL PATH

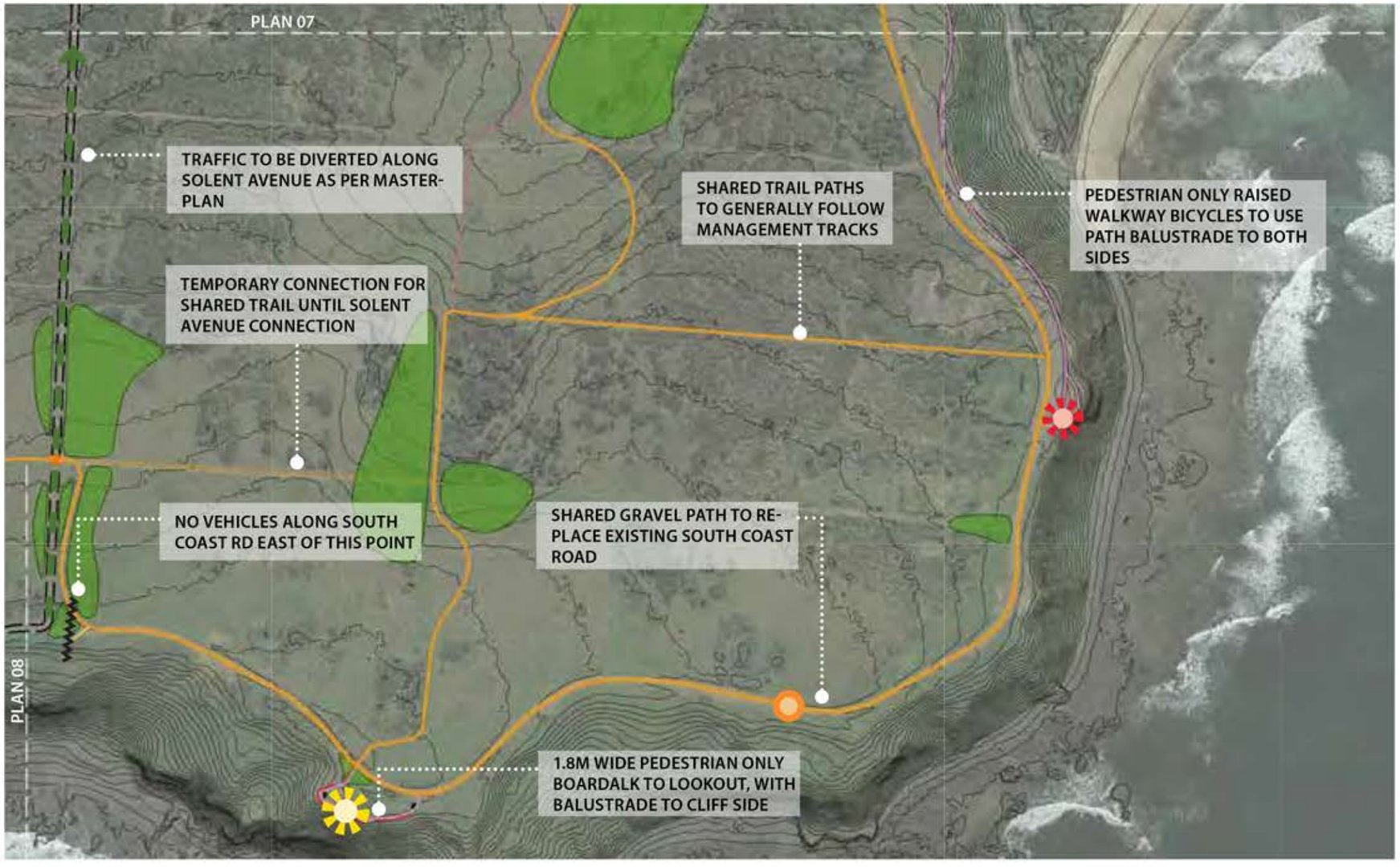
PEDESTRIAN & BIKES



1.2m HIGH RAISED WALKWAY

PEDESTRIAN ONLY

PLAN 09



LEGEND

- *Coloured concrete paving, broom finish*
- *2.6m high raised walkway*
- *2.6m low raised walkway*
- *2.0m wide gravel path*
- *1.8m high raised walkway with balustrade*
- *1.2m high raised walkway*
- *1.2m low raised walkway*
- *1.2m wide gravel path*
- *Single span bridge*
- *1.2m high fence/partial barrier*
- *1.0m high pedestrian balustrade*

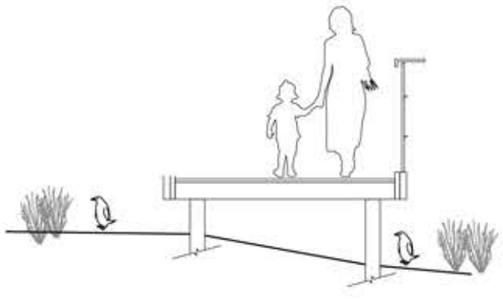
MAJOR VIEWING PLATFORM
Extended walkway away from the cliff edge to provide dramatic views of the coast and cliffs below

PATH THICKENING VIEWING PLATFORM
The raised walkway is widened to accommodate integrated seating into the walkway for major views.

MINOR NODE
A timber and/or F.R.P for rest or minor views

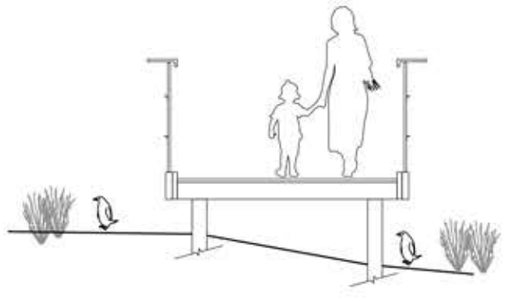
MINOR NODE - GRAVEL
A granitic gravel area at points of interest, or to provide rest points

REVEGETATION



1.8m RAISED WALKWAY WITH BALUSTRADE

PEDESTRIAN ONLY

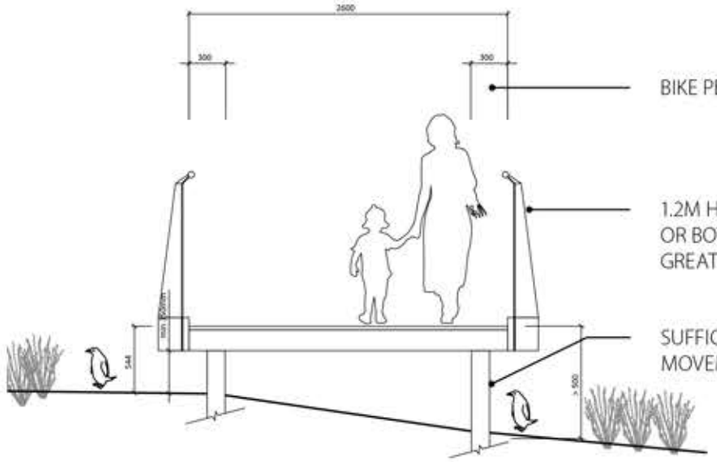


1.8m RAISED WALKWAY WITH BALUSTRADE

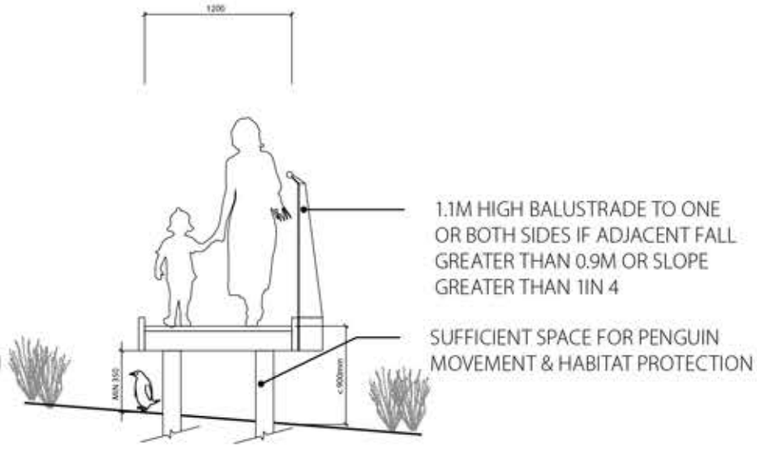
PEDESTRIAN ONLY

2.0m GRAVEL PATH

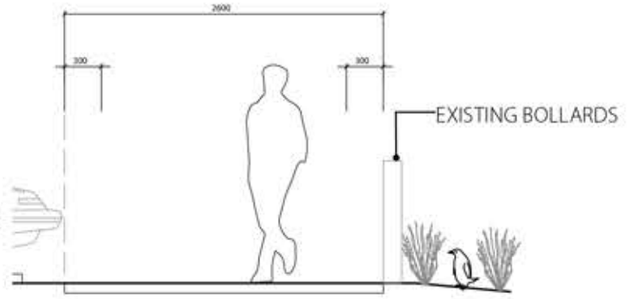
PEDESTRIAN & BIKES



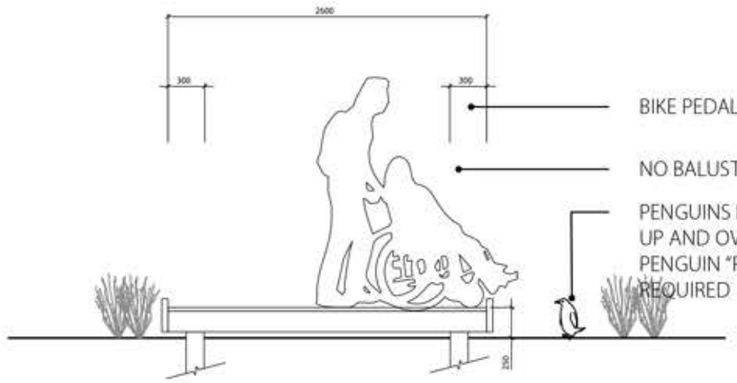
2.6m HIGH RAISED WALKWAY



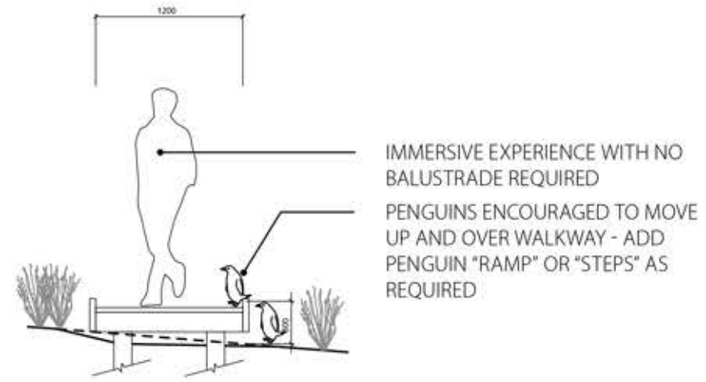
1.2m HIGH RAISED WALKWAY



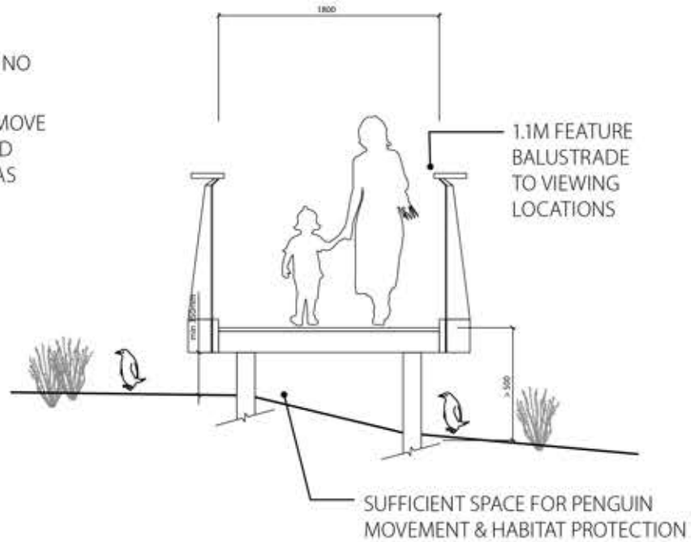
3.0m COLOURED CONCRETE PATH



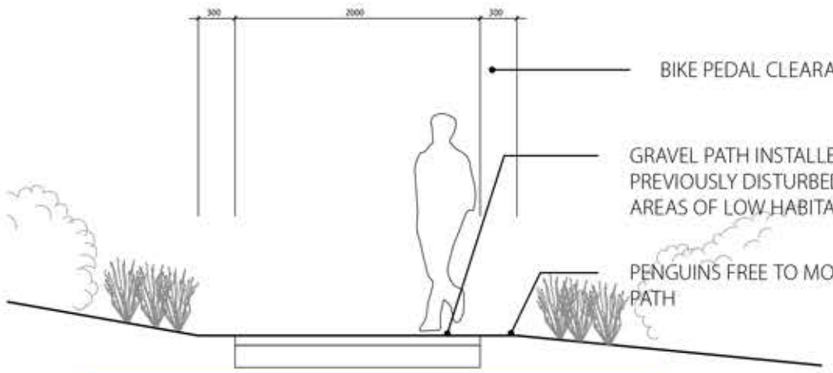
2.6m LOW RAISED WALKWAY



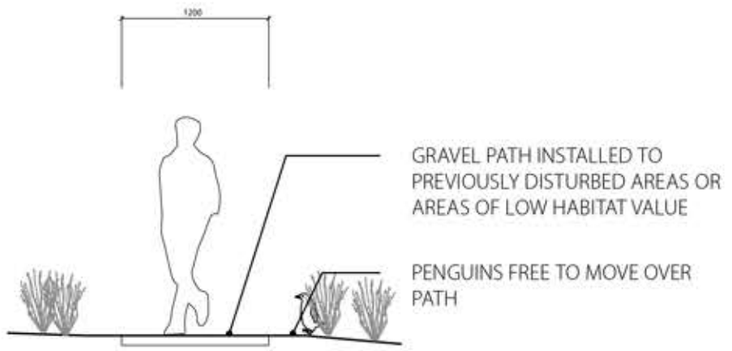
1.2m LOW RAISED WALKWAY



1.8m RAISED WALKWAY WITH BALUSTRADE



2.0m WIDE GRAVEL PATH



1.2m WIDE GRAVEL PATH

5.6 Typical Node Treatments

CANTILEVERED LOOK-OUT

EXTENDING OUT OVER CLIFF EDGE INCREASES DRAMA AND EXTENT OF VIEWS

TRANSPARENT BALUSTRADE

TRANSPARENT, BARRIER TO ORIENT VISITORS VIEWS

RAISED PLATFORM

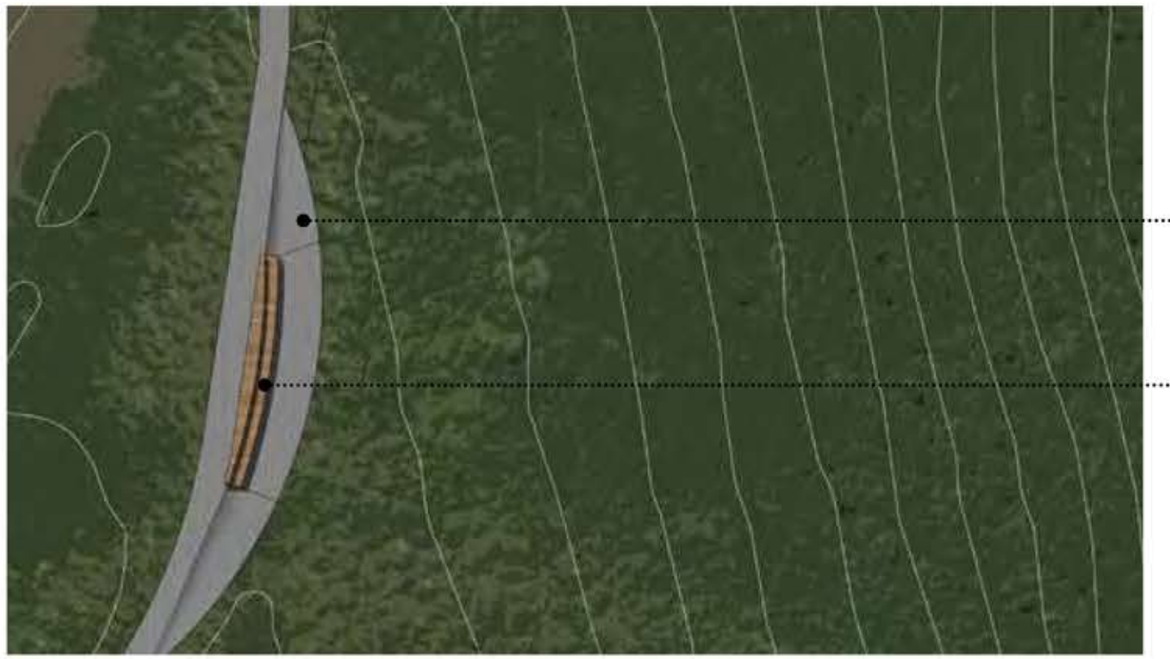
PROVIDES VIEWS ABOVE BALUSTRADE AND HEIGHTENS A FEELING OF RISK AND DARING

VIEWING AREA TO EXTENT OUT FROM CLIFF

FEATURE BALUSTRADE

MAJOR VIEWING PLATFORM - TYPICAL DESIGN TREATMENT

SUBJECT TO FURTHER DESIGN REVIEW



RAMP DOWN

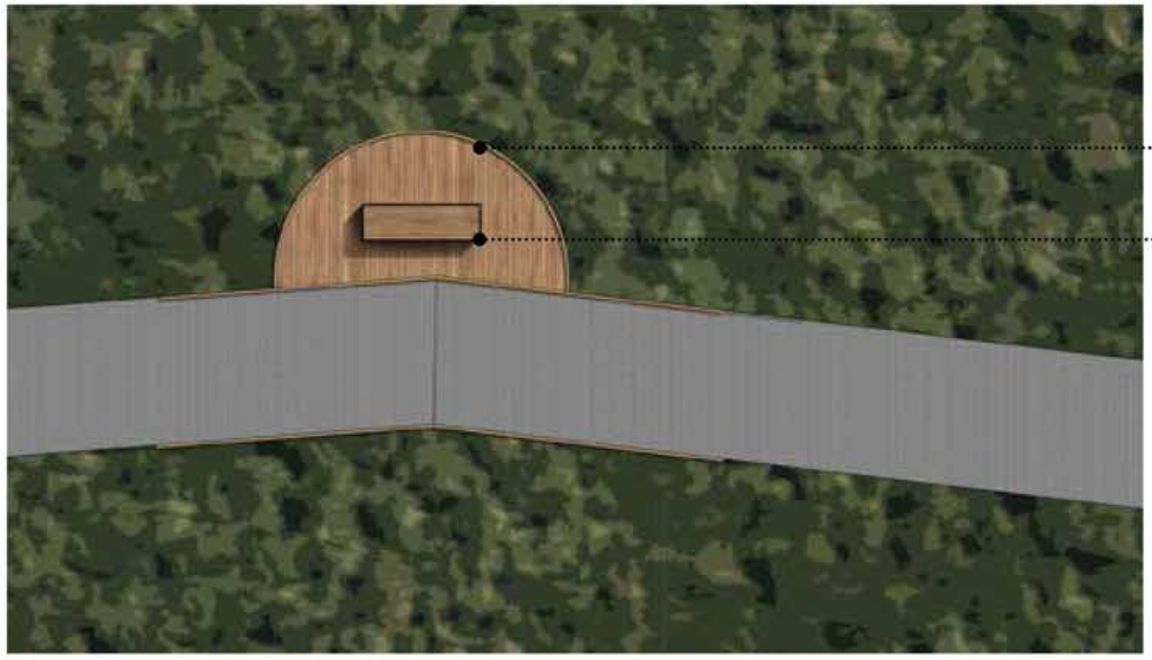
INTEGRATED SEATING

SEATING FOLLOWS THE CURVES OF THE PATH AND TOPOGRAPHY OF THE SITE

TIMBER BENCHES TO BE INTEGRATED INTO PATH

PATH THICKENING VIEWING PLATFORM- TYPICAL DESIGN TREATMENT

SUBJECT TO FURTHER DESIGN REVIEW




CUSTOM TIMBER BENCHES AT SEATING NODES

MINOR TIMBER NODE - TYPICAL DESIGN TREATMENT

SUBJECT TO FURTHER DESIGN REVIEW

5.7 TYPICAL MATERIALS


RONSTAN MESH TO VIEWING NODES


TIMBER POSTS TO ACT AS BIKE RESTS


GALVANISED STEEL BRIDGE TO CREEK CROSSINGS


FRP RAISED WALKWAY

SIGNAGE

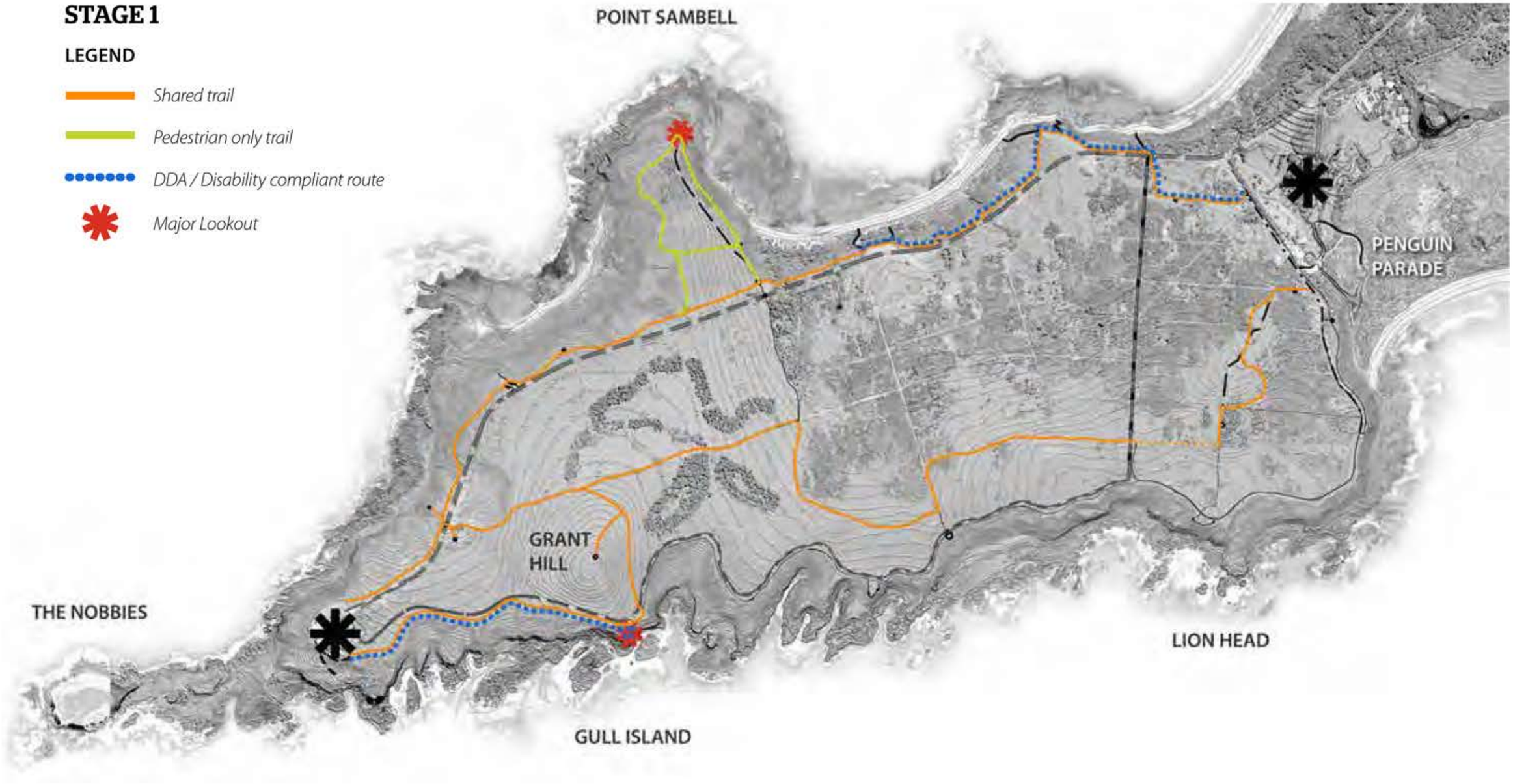
CONTEMPORARY, DURABLE, MINIMAL

06 STAGING OF WORKS

STAGE 1

LEGEND

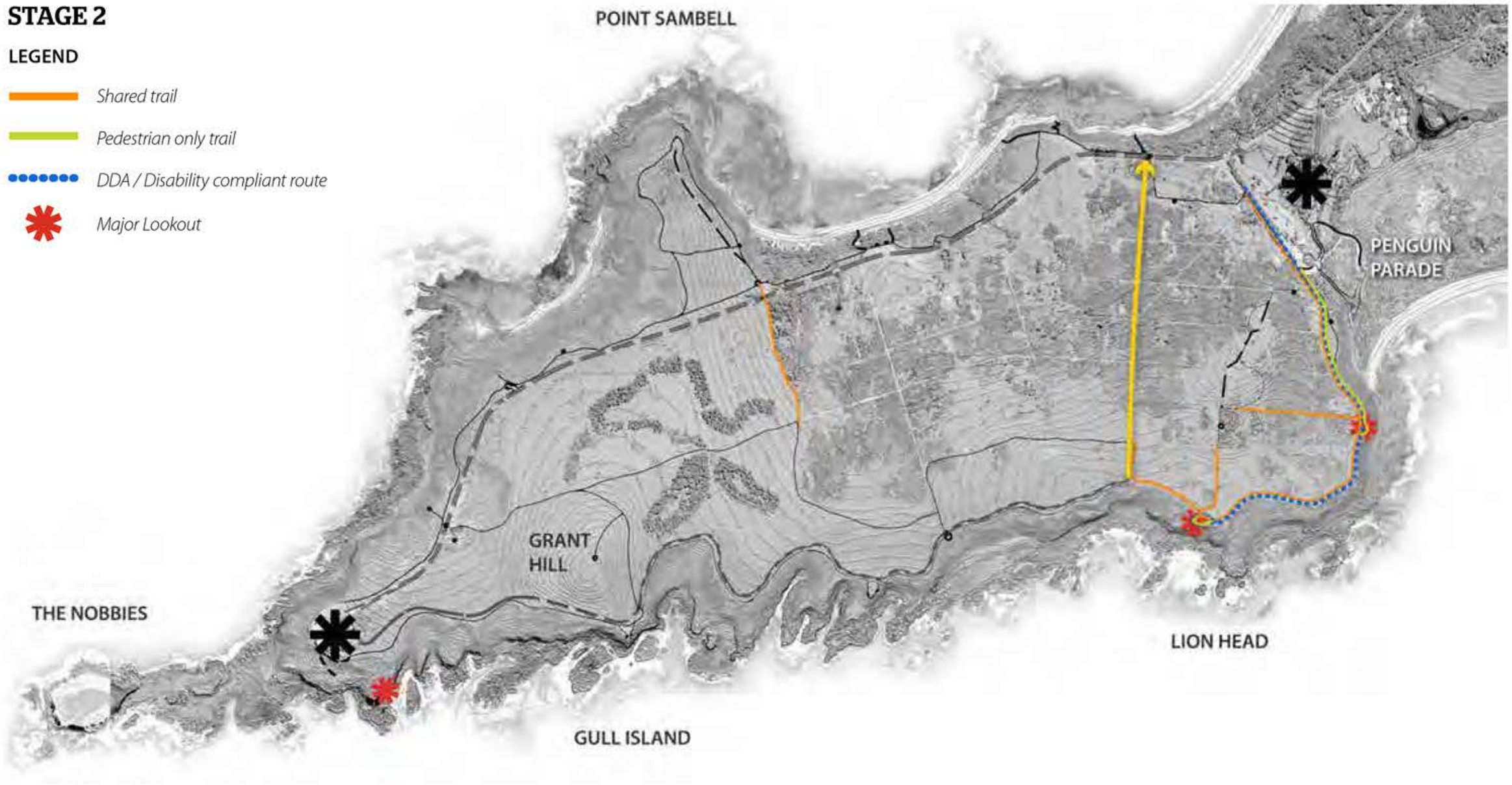
- *Shared trail*
- *Pedestrian only trail*
- *DDA / Disability compliant route*
- *Major Lookout*



STAGE 2

LEGEND

- *Shared trail*
- *Pedestrian only trail*
- *DDA / Disability compliant route*
- *Major Lookout*



STAGE 3

LEGEND

- *Shared trail*
- *Pedestrian only trail*
- *DDA / Disability compliant route*
- *Major Lookout*